GRANITEROCK CAPITOL YARD MODERNIZATION PROJECT AIR QUALITY AND GREENHOUSE GAS EMISSION ASSESSMENT

San José, California

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INTRODUCTION

The purpose of this report is to address air quality and greenhouse gas (GHG) impacts associated with modifications to the Graniterock facility in San José, California. Graniterock currently operates an aggregate processing and recycling facility at the project site. The project would modernize the facility and add new operations including expanded rail operations. Air pollutant and greenhouse gas (GHG) emission sources currently at the site include a concrete plant, construction equipment (i.e., loaders and haul trucks), processing equipment (i.e., crushers, screens, and conveyor belts), truck traffic, worker traffic, and rail traffic, as well as fugitive particulate matter emission sources.

This analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1] Air pollutant and greenhouse gas emissions were computed for construction activities that would occur over several years and operation of the proposed project that would increase over the three project phases.

PROJECT DESCRIPTION

The approximately 22.18-acre project site is located at 120 Granite Rock Way in San José. Graniterock is the owner and operator of this construction materials yard located at 120 Granite Rock Way in San Jose. The Site provides for the manufacturing and distribution of construction materials from aggregate transported to the Site and for the recycling of asphalt and concrete. Graniterock purchased the site and began operations in the early 1970s, including the current rail spur serving the site from the Union Pacific Railroad Company main line. Initial operations included aggregate storage and distribution, and Graniterock also received a permit for an asphalt batch plant. Graniterock then expand its business operations into two additional parcels from the late 1970's and through the early 1980's. Expanded operations were permitted to include a concrete and asphalt recycling operation, a concrete batch plant, construction equipment storage, truck parking, an office building, a QA/QC facility and a maintenance shop. These uses were all consistent with the previous industrial uses on the original Site. Because of declining market demand, the asphalt operation was discontinued in 1995 and removed in order create more space at the Site for other operations. Also, due to the growth of the company over the past few years, a majority of the office staff at the Site was moved to a larger facility offsite and the main office building was removed, with primarily maintenance staff remaining onsite.

The project proposes changes in operations at an existing concrete and asphalt recycling, manufacturing, and distribution facility. Currently, the site serves as a recycling, manufacturing and distribution facility for aggregate, sand, concrete, concrete crushing and recycling, and asphalt crushing and recycling, with the raw materials for the operation originating at its A.R. Wilson Quarry in Aromas, California. Aggregate and sand is transported from the A.R. Wilson Quarry to the Site via both rail and truck, with a majority of the aggregate transported by truck and all of the sand transported by truck. Aggregate, concrete and asphalt products are then produced or recycled at

[1] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

the site and transported by truck to customers throughout the Bay Area and beyond. Figure 1 is an aerial image showing the current site.

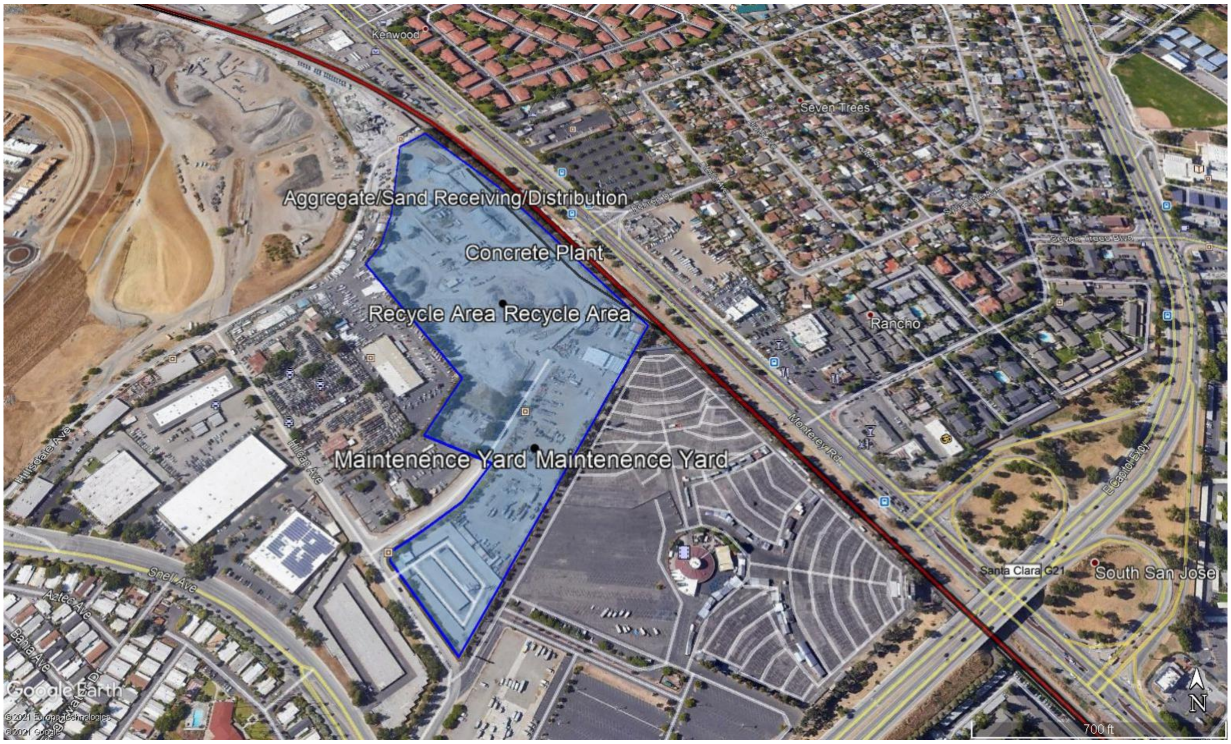

Figure 1. Existing Graniterock Project Site and Operations

The site is currently designated as Combined Industrial/Commercial (CI/C) under the Envision San Jose 2040 General Plan, which allows for a Floor Area Ratio (FAR) of 1 to 12 (up to 24 stories) and "a significant amount of flexibility for the development of a varied mixture of compatible commercial and industrial uses," including manufacturing, in order to maintain "an industrial character." The site is zoned Industrial Park/Planned Development (IP/PD), which is intended for a "wide variety of industrial uses" and which, in combination with a planned development permit, provides for more flexible development regulations consistent with the General Plan.

Consistent with the CI/C designation under the General Plan and zoning designations on the site, the project proposes to expand, modernize and streamline current operations at the existing facility. Construction activities were assumed to occur in three separate phases. Phase 1, which also includes the new rail spur, is anticipated to occur in year 2023, followed by Phase 2 in 2025 and Phase 3 in 2027. The proposed project consists of the following elements constructed in three phases:

Phase 1 Concrete Plant Aggregate Distribution Facility with new Rail Spur

1. The existing rail infrastructure at the site would be lengthened, which would in turn provide for increased and more efficient rail distribution to and from the site, with a corresponding decrease in the number of truck trips from the quarry in Aromas to the San José market.

2. A new rail car offloading system and nine 120-foot tall silos would be constructed to enable aggregate to be offloaded, handled and stored in a fully enclosed environment, instead of the open piles which are utilized now. The project would also include air handling systems to abate dusting from the off-loading and storage operation. Aggregate customers would also be able to drive under the silos 24-hours per day and self-load product on demand.

3. Concrete and asphalt recycling would continue at the site.

4. A new concrete plant would be constructed to replace the existing facility. The new concrete plant would enable aggregate and sand to be conveyed directly from the newly constructed aggregate silos so that all materials could be handled within an enclosed environment.

5. A modern concrete truck washout and reclaiming system would be installed to reclaim left-over concrete, sand and water for reuse.

Phase 2 Cement Terminal and Cementitious Distribution Facility

6. A cementitious[2] rail car unloading, storage and distribution facility would be constructed. As with the aggregate operations, cementitious materials would be handled within a fully enclosed system, combined with air abatement devices to mitigate air and noise emissions. The cementitious operation would be new to the site.

Phase 3 Modern Asphalt Plant

7. The project would seek approval for the construction of a new, modern asphalt facility. Depending upon future market conditions, this facility would be constructed in a later project phase. As with the concrete plant, aggregate would be conveyed directly from the newly constructed aggregate silos to the asphalt plant, so that all materials would be handled within a fully enclosed environment. Recycled asphalt pavement (RAP) would be conveyed from the recycle yard to the asphalt plant.

Additional Project Elements

8. Parking would be constructed to accommodate proposed site operations, including concrete mixer trucks, aggregate trucks and employees operating out of the site.

9. A new materials warehouse and storage facility would be constructed to support existing and proposed site operations.

10. A truck wash system would be installed to abate truck traffic dusting and track-out onto the streets.

[2] Cementitious materials are various materials used in the production of concrete.

11. A new quality assurance/quality control (QA/QC) facility with office space would be constructed to support existing and proposed site operations.

12. The existing maintenance shop and construction equipment storage would be relocated to an off-site location at an existing facility.

13. The entire operations area would be paved replacing the existing unpaved site area during the first phase.

Figure 2 shows the proposed project site plan. Table 1 summarizes the existing and proposed facilities and operations.

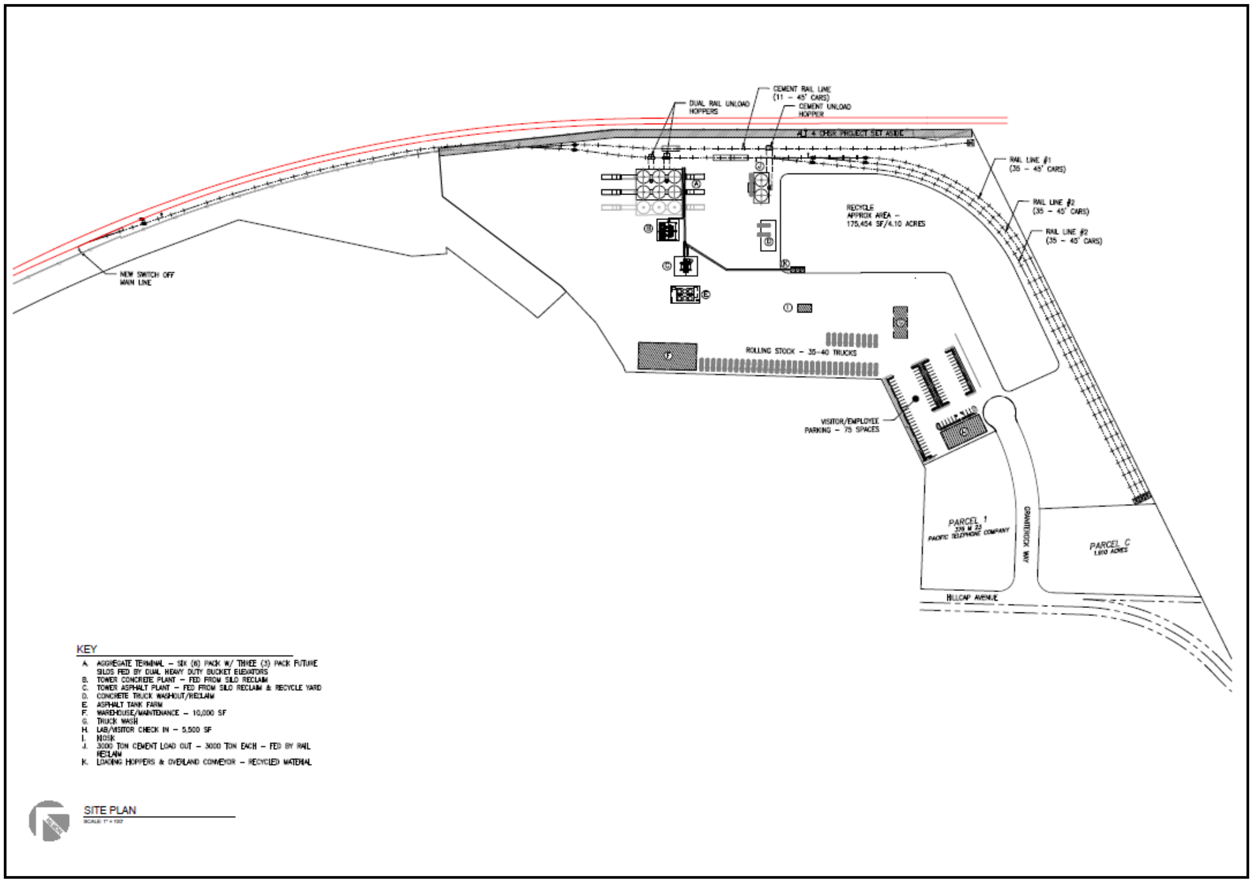

Figure 2. Proposed Site plan

Table 1. Existing and Proposed Operations

Existing Operations	Proposed Operations
<u>Aggregate Distribution Facility</u> Imported: 25,000 tons/year (rail), 125,300 tons/year (truck) Exported: 35,000 tons/year (truck) Used onsite: 115,300 tons/year 25 railcar spur track Rail car unloading capacity: 400 tons/hour Conveyor/Front end loader distribution Open bunker storage	<u>Aggregate Distribution Facility</u> Imported: 1,300,000 tons/year (rail) Exported: 585,000 tons/year (truck) Used onsite: 715,000 tons/year 70 railcar spur track Rail car unloading capacity: 2,000 tons/hour Truck self-loading Nine 5,000-ton storage silos
<u>Asphalt Plant</u> Not currently present onsite	<u>Asphalt Plant</u> Exported: Maximum of 750,000 tons/year (truck) 2 truck lane distribution Six 250-ton silos Six 75-ton liquid asphalt cement (AC) storage tanks Emulsion manufacturing facility and storage tanks
<u>Cementitious Distribution Facility</u> Not currently present onsite	<u>Cementitious Distribution Facility</u> Imported: 100,000 tons/year (truck) Exported: 30,000 tons/year (truck) Used onsite: 70,000 tons/year Rail unloading and silo storage Two 4,000-ton storage silos and one 2000-ton loadout silo
<u>Concrete Plant</u> Exported: 70,000 cubic yards/year (truck) Permitted maximum of 250,500 cubic yards/year (truck) 1 truck lane distribution Concrete wash out	<u>Concrete Plant</u> Exported: 300,000 cubic yards/year (truck) 3 truck lane distribution Concrete wash out and concrete reclaiming system
<u>Recycle Yard</u> Materials: asphalt, concrete, blended (asphalt and concrete) Imported: 650,000 tons/year (truck) Exported: 650,000 tons/year (truck) Used onsite: 0 tons/year	<u>Recycle Yard</u> Materials: asphalt, concrete, blended (asphalt and concrete) Imported: 650,000 tons/year (truck) Exported: 300,000 tons/year (truck) Used onsite: 350,000 tons/year
<u>Equipment Storage and Maintenance Yard</u> Parts delivery for maintenance mobile mechanics Fuel delivery Mobile service vehicle Mobile equipment transport Asphalt grinders transport Small tools	<u>Equipment Storage and Maintenance Yard</u> Not proposed onsite

AIR POLLUTANTS AND CONTAMINANTS

Air pollutants are governed by multiple federal and state standards to regulate and mitigate health impacts. At the federal level, there are six criteria pollutants for which National Ambient Air Quality Standards (NAAQS) have been established: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), suspended particulate matter (PM: $PM_{2.5}$ and PM_{10}), and sulfur dioxide (SO_2). California sets standards, similar to the NAAQS as California Ambient Air Quality Standards (CAAQS). Health effects of the primary criteria pollutants (i.e., the NAAQS) and their potential sources are described below and summarized in Table 2. Note that California includes pollutants or contaminants that are specific to certain industries and not associated with this project. These include hydrogen sulfide and vinyl chloride.

Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO_X). The main sources of ROG and NO_X, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, shortness of breath, and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide

Carbon monoxide is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. While CO transport is limited, it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service (LOS) or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal.

Nitrogen Dioxide

Nitrogen Dioxide is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 also contribute to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO_2 decreases lung function and may reduce resistance to infection. On January 22, 2010 the U.S. Environmental Protection Agency (EPA) strengthened the health-based NAAQS for NO_2.

Sulfur Dioxide

Sulfur dioxide is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels in the region. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

Particulate Matter

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles are those that are larger than 2.5 microns but smaller than 10 microns (PM_{10}). $PM_{2.5}$ refers to fine suspended particulate matter with an aerodynamic diameter of 2.5 microns or less that is not readily filtered out by the lungs. Nitrates, sulfates, dust, and combustion particulates are major components of PM_{10} and $PM_{2.5}$. These small particles can be directly emitted into the atmosphere as by-products of fuel combustion, through abrasion, such as tire or brake lining wear, or through fugitive dust (wind or mechanical erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may transport carcinogens and other toxic compounds that adhere to the particle surfaces and can enter the human body through the lungs.

Lead

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufactures.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the U.S. EPA established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December

1995. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Toxic Air Contaminants (TACs)

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated by the EPA and the California Air Resources Board (CARB). Some examples of TACs include benzene, butadiene, formaldehyde, and hydrogen sulfide. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants.

High volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (distribution centers, truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high volume transit centers, or schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

Table 2. Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter.	• Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO_2)	• Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions.	• Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O_3)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	• Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	• Contaminated soil.	• Impairment of blood functions and nerve con-struction. • Behavioral and hearing problems in children.
Suspended Particulate Matter ($PM_{2.5}$ and PM_{10})	• Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions.	• Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardiorespiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels.	• Aggravation of respiratory diseases (asthma, emphysema).

	• Smelting of sulfur-bearing metal ores. • Industrial processes.	• Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.
Toxic Air Contaminants	• Cars and trucks, especially diesels. • Industrial sources such as chrome platers. • Neighborhood businesses such as dry cleaners and service stations. • Building materials and product.	• Cancer. • Chronic eye, lung, or skin irritation. • Neurological and reproductive disorders.

Source: CARB, 2009. ARB Fact Sheet: Air Pollution and Health, see: https://www.arb.ca.gov/research/health/fs/fs1/fs1.htm accessed May 1, 2018

Odors

Odor impacts are subjective in nature and are generally regarded as an annoyance rather than a health hazard. The ability to detect odors varies considerably among the population and overall is quite subjective, where people may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity. Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word strong to describe the intensity of an odor. Odor intensity depends on the concentration in the air. When an odor sample is progressively diluted, the odor concentration decreases. At some point, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is no longer detectable. The presence of an odor impact is dependent on a number of variables including: 1. Nature of the odor source; 2. Frequency of odor generation (e.g., daily, seasonal, activity-specific); 3. Intensity of odor (e.g., concentration); 4. Distance of odor source to sensitive receptors that aids in dilution; 5. Prevailing wind direction; and 6. Sensitivity of the receptor. BAAQMD responds to odor complaints from the public and considers a source to have a substantial number of odor complaints if the complaint history includes five or more confirmed complaints per year averaged over a 3-year period.

SETTING

The project is in the San Francisco Bay Area Air Basin. The Air Basin includes the counties of San Francisco, Santa Clara, San Mateo, Marin, Napa, Contra Costa, and Alameda, along with the southeast portion of Sonoma County and the southwest portion of Solano County.

This Project is within the jurisdiction of the BAAQMD. Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants, and the number of days during which the region exceeds air quality standards, have fallen dramatically. Exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

Local Climate and Air Quality

Air quality is a function of both local climate and local sources of air pollution. Air quality is the balance of the natural dispersal capacity of the atmosphere and emissions of air pollutants from human uses of the environment. Climate and topography are major influences on air quality.

Climate and Meteorology

During the summer, mostly clear skies result in warm daytime temperatures and cool nights in the Santa Clara Valley. Winter temperatures are mild, except for very cool but generally frost-less mornings. Further inland where the moderating effect of the bay is not as strong, temperature extremes are greater. Rainfall amounts are modest, ranging from 13 inches in the lowlands to 20 inches in the hills. Wind patterns are influenced by local terrain, with a northwesterly breeze in response to the sea breeze infiltrating San Francisco Bay typically developing during the daytime. Winds are usually stronger in the spring and summer. The southerly winds experienced are more common in late fall and winter. The wind rose shown in Figure 3 describes the patterns and frequency of winds at the project site. Wind data were collected from 2013 through 2017.

Air Pollution Potential

Ozone and fine particle pollution, or $PM_{2.5}$, are the major regional air pollutants of concern in the San Francisco Bay Area. Ozone is primarily a problem in the summer, and fine particle pollution in the winter. Most of Santa Clara County is well south of the cooler waters of the San Francisco Bay and far from the cooler marine air which usually reaches across San Mateo County in summer. Ozone frequently forms on hot summer days when the prevailing seasonal northerly winds carry ozone precursors southward across the county, causing health standards to be exceeded. Santa Clara County experiences many exceedances of the $PM_{2.5}$ standard each winter. This is due to the high population density, wood smoke, industrial and freeway traffic, and poor wintertime air circulation caused by extensive hills to the east and west that block wind flow into the region.

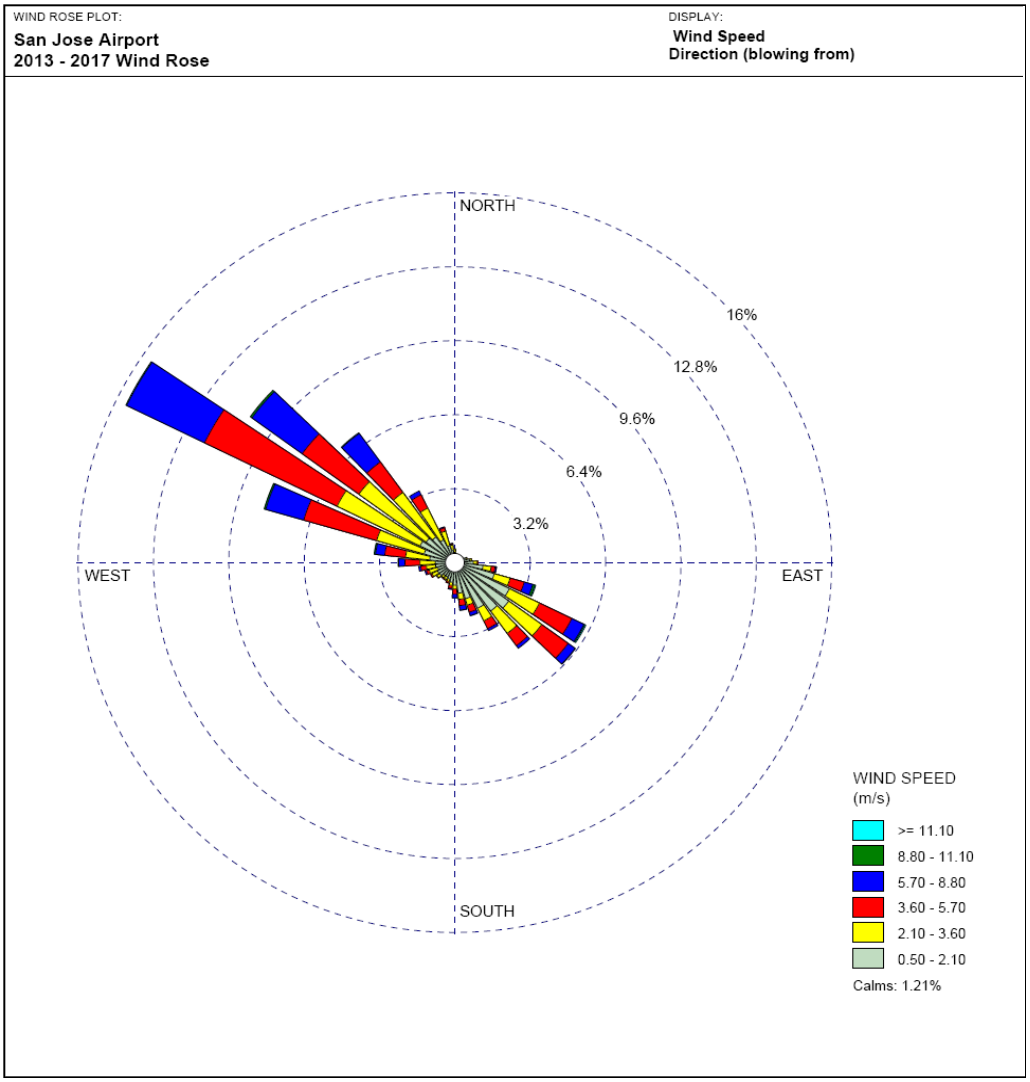

Figure 3. Wind Rose for San Jose International Airport based on Data Processed by BAAQMD

<u>Attainment Status Designations</u>

The CARB is required to designate areas of the state as attainment, nonattainment, or unclassified for all state standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A "nonattainment" designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An "unclassified" designation signifies that data does not support either an attainment or nonattainment status. The California Clean Air Act (CCAA) divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

Table 3 shows the state and federal standards for criteria pollutants and provides a summary of the attainment status for the San Francisco Bay Area with respect to national and state ambient air quality standards.

Table 3. NAAQS, CAAQS, and San Francisco Bay Area Attainment Status

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Attainment
	1-Hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Attainment
Nitrogen Dioxide (NO_2)	Annual Mean	0.030 ppm (57 mg/m^3)	Attainment	0.053 ppm (100 µg/m^3)	Attainment
	1-Hour	0.18 ppm (338 µg/m^3)	Attainment	0.100 ppm	Unclassified
Ozone (O_3)	8-Hour	0.07 ppm (137 µg/m^3)	Nonattainment	0.070 ppm	Nonattainment
	1-Hour	0.09 ppm (180 µg/m^3)	Nonattainment	Not Applicable	Not Applicable
Suspended Particulate Matter (PM_{10})	Annual Mean	20 µg/m^3	Nonattainment	Not Applicable	Not Applicable
	24-Hour	50 µg/m^3	Nonattainment	150 µg/m^3	Nonattainment
Suspended Particulate Matter ($PM_{2.5}$)	Annual Mean	12 µg/m^3	Nonattainment	12 µg/m^3	Unclassified/ Attainment
	24-Hour	Not Applicable	Not Applicable	35 µg/m^3	Nonattainment
Sulfur Dioxide (SO_2)	Annual Mean	Not Applicable	Not Applicable	80 µg/m^3 (0.03 ppm)	Attainment
	24-Hour	0.04 ppm (105 µg/m^3)	Attainment	0.14 ppm (365 µg/m^3)	Attainment
	1-Hour	0.25 ppm (655 µg/m^3)	Attainment	0.075 ppm (196 µg/m^3)	Attainment
Sulfates	24 hours	25 µg/m3	Attainment	Not Applicable	Not Applicable
Hydrogen Sulfide	1 hour	0.03 ppm	Unclassified	Not Applicable	Not Applicable
Visibility Reducing Particles	8 hours	Visibility of 10 miles or more	Unclassified	Not Applicable	Not Applicable
Vinyl Chloride	24 hours	0.01 ppm	Applicable	Not Applicable	Not Applicable
Lead (Pb) is not listed in the above table because it has been in attainment since the 1980s. ppm = parts per million, mg/m^3 = milligrams per cubic meter, µg/m^3 = micrograms per cubic meter					

Source: Bay Area Air Quality Management District, 2017. *Air Quality Standards and Attainment Status.* January 5.

Existing Air Pollutant Levels

BAAQMD monitors air pollution at various sites within the Bay Area. The closest air monitoring station (158 Jackson Street) that monitored O_3, CO, NO, NO_2, PM_{10}, and $PM_{2.5}$ over the past 5 years (2015 through 2019) is in the City of San José. The data shows that during the past few years, the project area has exceeded the state and/or federal O_3, PM_{10}, and $PM_{2.5}$ ambient air quality standards. Table 4 lists air quality trends in data collected at the San José Station for the past 5 years and published by the BAAQMD, which is the most recent time-period available. Ozone standards are exceeded on 0 to 4 days annually in San José and 3 to 15 days throughout the Bay Area. Measured 24-hour PM_{10} and $PM_{2.5}$ concentrations are exceeded on 0 to 6 monitoring days in San José and up to 18 days at any place in the Bay Area (note these levels were influenced by smoke from wildfires).

Table 4. Ambient Air Quality Concentrations from 2015 through 2019

Pollutant	Standard	2015	2016	2017	2018	2019
Ozone						
Max 1-hr concentration		0.094 ppm	0.087 ppm	0.121 ppm	0.078 ppm	0.095 ppm
No. days exceeded: CAAQS	0.090 ppm	0	0	3	0	1
Max 8-hr concentration		0.081 ppm	0.067 ppm	0.099 ppm	0.061	0.081 ppm
No. days exceeded: CAAQS	0.070 ppm	2	0	4	0	2
NAAQS	0.070 ppm	2	0	4	0	2
Carbon Monoxide						
Max 1-hr concentration		2.4 ppm	2.0 ppm	2.1 ppm	2.5 ppm	1.7 ppm
No. days exceeded: CAAQS	20 ppm	0	0	0	0	0
NAAQS	35 ppm	0	0	0	0	0
Max 8-hr concentration		1.8 ppm	1.4 ppm	2.1 ppm	1.3 ppm	2.1 ppm
No. days exceeded: CAAQS	9.0 ppm	0	0	0	0	0
NAAQS	9 ppm	0	0	0	0	0
PM_{10}						
Max 24-hr concentration		58.8 $\mu g/m^3$	41.0 $\mu g/m^3$	69.8 $\mu g/m^3$	121.8 $\mu g/m^3$	77 $\mu g/m^3$
No. days exceeded: CAAQS	50 $\mu g/m^3$	3.0	1	19.2	12.2	4
NAAQS	150 $\mu g/m^3$	0	0	0	0	0
Max annual concentration		21.9 $\mu g/m^3$	18.3 $\mu g/m^3$	21.3 $\mu g/m^3$	23.1 $\mu g/m^3$	19.2 $\mu g/m^3$
No. days exceeded: State	-	-	-	-	-	-
$PM_{2.5}$						
Max 24-hr concentration		49.4 $\mu g/m^3$	22.7 $\mu g/m^3$	49.7 $\mu g/m^3$	133.9 $\mu g/m^3$	27.6 $\mu g/m^3$
No. days exceeded: NAAQS	35 $\mu g/m^3$	2.1	0	6	15.5	0
Annual Concentration		10.6 $\mu g/m^3$	8.3 $\mu g/m^3$	9.5 $\mu g/m^3$	12.8 $\mu g/m^3$	9.1 $\mu g/m^3$
No. days exceeded: CAAQS	12 $\mu g/m^3$	-	-	-	-	-
NAAQS	12 $\mu g/m^3$	-	-	-	-	-
Nitrogen Dioxide						
Max 1-hr concentration		0.049 ppm	0.051 ppm	0.068 ppm	0.083 ppm	0.060 ppm
No. days exceeded: CAAQS	0.18 ppm	0	0	0	0	0
NAAQS	0.10 ppm	0	0	0	0	0
Annual Concentration		0.013 ppm	0.011 ppm	0.012 ppm	0.013 ppm	0.011 ppm
No. days exceeded: CAAQS	0.030 ppm	-	-	-	-	-
NAAQS	0.053 ppm	-	-	-	-	-

Source: Bay Area Air Quality Management District, 2019

Regulatory Framework

Pursuant to the Federal Clean Air Act (FCAA) of 1970, the EPA established the NAAQS. The NAAQS were established for major pollutants, termed “criteria” pollutants. Criteria pollutants are defined as those pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

Both the EPA and the CARB have established ambient air quality standards for common pollutants: CO, O_3, NO_2, SO_2, Pb, and PM. In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. These standards are designed to protect the health and welfare of the public with a reasonable margin of safety. These ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each criteria pollutant.

<u>Federal Air Quality Regulations</u>

At the federal level, the EPA has been charged with implementing national air quality programs. EPA's air quality mandates are drawn primarily from the FCAA, which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The FCAA required EPA to establish primary and secondary NAAQS and required each state to prepare an air quality control plan referred to as a State Implement Plan (SIP). Federal standards include both primary and secondary standards. Primary standards set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.[3] The Federal Clean Air Act Amendments of 1990 (FCAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA has responsibility to review all state SIPs to determine conformity with the mandates of the FCAAA and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area which imposes additional control measures. Failure to submit an approvable SIP or to implement the Plan within the mandated timeframe may result in the application of sanctions on transportation funding and stationary air pollution sources in the air basin.

The 1970 FCAA authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The FCAA Amendments of 1990 changed deadlines for attaining NAAQS as well as the remedial actions required of areas of the nation that exceed the standards. Under the FCAA, state and local agencies in areas that exceed the NAAQS are required to develop SIPs to show how they will achieve the NAAQS by specific dates. The FCAA requires that projects receiving federal funds demonstrate conformity to the approved SIP and local air quality attainment Plan for the region. Conformity with the SIP requirements would satisfy the FCAA requirements.

<u>State Air Quality Regulations</u>

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[3] See: U.S. Environmental Protection Agency, Web: https://www.epa.gov/criteria-air-pollutants/naaqs-table, Accessed 13 August 2020

The CARB is the agency responsible for the coordination and oversight of state and local air pollution control programs in California and for implementing the CCAA, adopted in 1988. The CCAA requires that all air districts in the state achieve and maintain the CAAQS by the earliest practical date. The CCAA specifies that districts should focus on reducing the emissions from transportation and air-wide emission sources and provides districts with the authority to regulate indirect sources.

CARB is also responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. CARB is primarily responsible for statewide pollution sources and produces a major part of the SIP. Local air districts provide additional strategies for sources under their jurisdiction. CARB combines this data and submits the completed SIP to the EPA.

Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing CAAQS (which in many cases are more stringent than the NAAQS), determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

California Clean Air Act

In 1988, the CCAA required that all air districts in the state endeavor to achieve and maintain CAAQS for CO, O_3, SO_2, and NO_2 by the earliest practical date. The CCAA provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the state standards for these pollutants are more stringent than the national standards.

California Air Resources Board Handbook

In 1998, CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines.[4] CARB subsequently developed an Air Quality and Land Use Handbook[5] (Handbook) in 2005 that is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. The 2005 CARB Handbook recommends that planning agencies consider proximity to air pollution sources when considering new locations for "sensitive" land uses, such as residences, medical facilities, daycare centers, schools, and playgrounds.

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

[5] California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April.

Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the Handbook relative to the Plan Area include taking steps to consider or avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day.
- Within 300 feet of gasoline fueling stations (note that new fueling stations utilize enhanced vapor recovery systems that substantially reduce emissions).
- Within 300 feet of dry-cleaning operations (note that dry cleaning with TACs is being phased out and will be prohibited in 2023).

Truck and Bus Regulation

CARB is actively enforcing heavy-duty diesel vehicle regulations that require fleets to replace or retrofit heavy-duty diesel vehicles, with full implementation of the program scheduled for January 1, 2023. Compliance with the program is generally considered vehicles equipped with a 2010 or newer engine model year. As of January 1, 2020, the DMV cannot register any vehicle that does not meet the requirements of the Truck and Bus Regulation.

Other CARB diesel programs affecting heavy-duty diesel vehicles include:

- Idling limits of no more than 5 minutes with special exceptions.
- Emission Control Labels must be affixed to engines of all commercial heavy-duty diesel vehicles, and must be legible as proof the engine, at minimum, meets U.S. federal emissions standards for the engine model year.
- The Periodic Smoke Inspection Program requires owners of California-based fleets of two or more diesel vehicles to perform annual smoke opacity tests and to keep records for at least two years for each vehicle.
- The Heavy-Duty Vehicle Inspection Program uses random roadside inspections to verify that diesel engines do not smoke excessively and are tamper-free.

Off-Road Vehicle and Equipment Regulations

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

Federal off-road equipment engine emission limits for new vehicles, is expected to substantially reduce emissions of DPM and NO_x.

Fleet owners must report the vehicle and engine information for all vehicles within their fleets operating in California. Fleet owners must also report owner information. Fleet owners should report using DOORS, which is CARB's online reporting tool. CARB issues a unique Equipment Identification Number (EIN) that is assigned to each vehicle. The fleet owner must label their vehicles with the EIN.

Other CARB diesel programs affecting off-road vehicles and equipment include:

- Idling limits of no more than 5 minutes with special exceptions.
- Portable engines 50 hp or greater may require a permit or registration to legally operate. BAAQMD is responsible for taking enforcement action against individuals who own or operate portable equipment without a registration or permit.

Bay Area Air Quality Management District

The BAAQMD seeks to attain and maintain air quality conditions in the San Francisco Bay Area Air Basin (SFBAAB) through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. The clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAAQMD also inspects stationary sources and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by law.

Clean Air Plan

The BAAQMD is responsible for developing a Clean Air Plan which guides the region's air quality planning efforts to attain the CAAQS. The BAAQMD's 2017 Clean Air Plan is the latest Clean Air Plan which contains district-wide control measures to reduce ozone precursor emissions (i.e., ROG and NO_X), particulate matter and greenhouse gas emissions. The Bay Area 2017 Clean Air Plan, which was adopted on April 19, 2017 by the BAAQMD's board of directors:

- Updates the Bay Area 2010 Clean Air Plan in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone;
- Provides a control strategy to reduce ozone, particulate matter (PM), air toxics, and greenhouse gases in a single, integrated plan;
- Reviews progress in improving air quality in recent years; and
- Continues and updates emission control measures.

BAAQMD CARE Program

The Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area[6]. The program examines TAC emissions from point sources, area sources and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. The BAAQMD has identified six communities as impacted: Concord, Richmond/San Pablo, Western Alameda County, San José, Redwood City/East Palo Alto, and Eastern San Francisco. Figure 4 shows the most recent CARE area identified for San Jose (based on 2013). The project site is in the southern edge of this area.

Planning Healthy Places

BAAQMD developed a guidebook that provides air quality and public health information intended to assist local governments in addressing potential air quality issues related to exposure of sensitive receptors to exposure of emissions from local sources of air pollutants. The guidance provides tools and recommended best practices that can be implemented to reduce exposures. The information is provided as recommendations to develop policies and implementing measures in city or county General Plans, neighborhood or specific plans, land use development ordinances, or into projects.

BAAQMD California Environmental Quality Act Air Quality Guidelines

The BAAQMD California Environmental Quality Act (CEQA) Air Quality Guidelines[7] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions. In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of their CEQA Guidelines. In May 2011, the updated BAAQMD CEQA Air Quality Guidelines were amended to include a risk and hazards threshold for new receptors and modify procedures for assessing impacts related to risk and hazard impacts. A recent update to the Guidelines was published in May 2017.

Projects that have TAC emissions that could adversely affect sensitive receptors prepare health risk assessments to quantify the potential and, if appropriate, identify mitigation measures to reduce

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[6] See BAAQMD: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program , accessed 2/18/2021.

[7] Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*. May.

impacts. This report includes a health risk assessment that evaluates impacts form temporary project construction, long-term use of stationary equipment, and long-term traffic activity generated by the project.

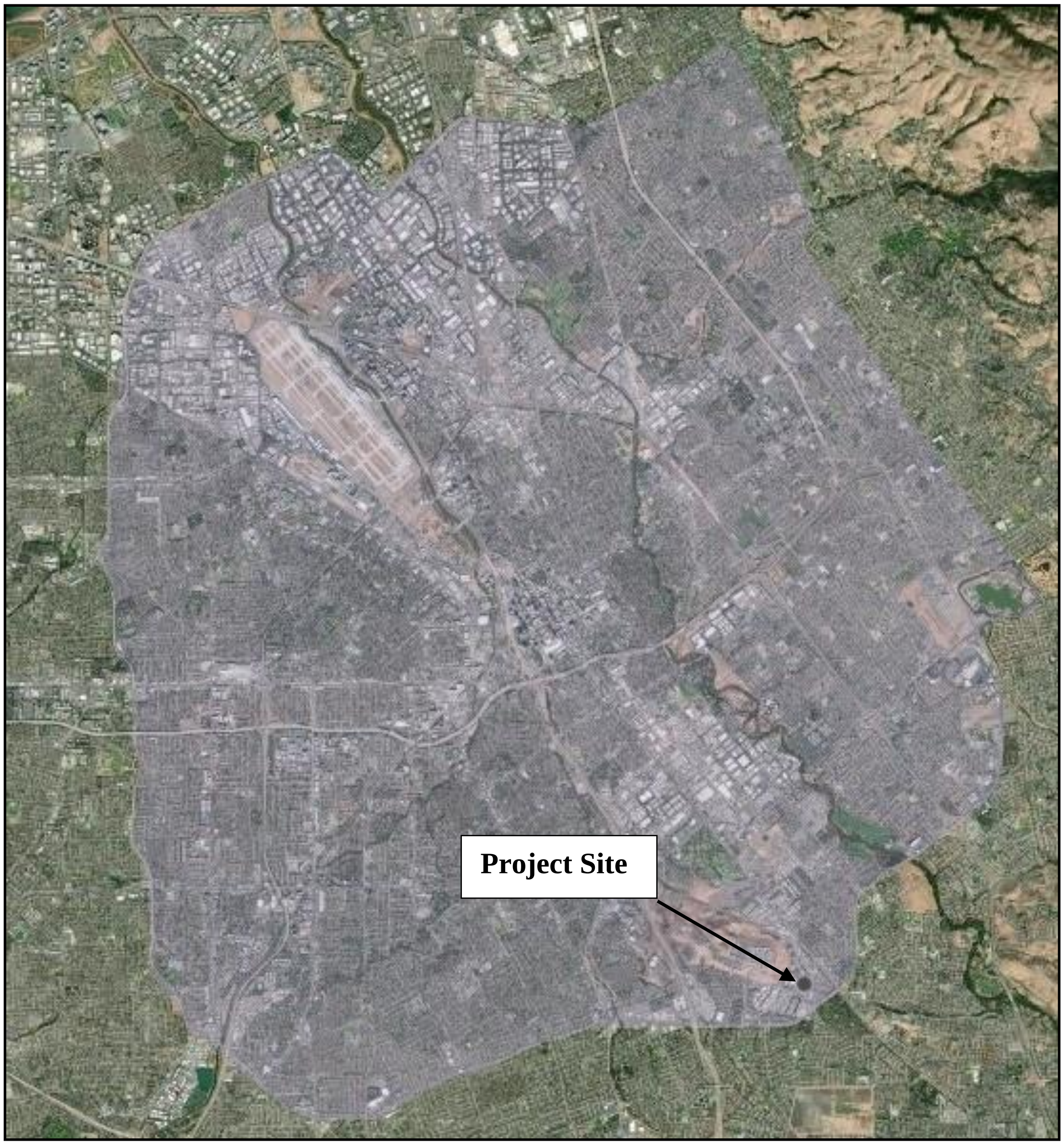


Figure 4. BAAQMD CARE Area in San Jose

BAAQMD Rules and Regulations

As the regional agency for responsible for permitting and enforcement activities from air pollution sources, BAAQMD developed regulations and rules to reduce emissions from these sources. The Air District developed regulations that parallel measures from the Clean Air Plan and creates rules to reduce emissions. Certain emission sources from this project would be subject to BAAQMD Regulations and Rules. The District's rules and regulations that may apply to the project include:

- Regulation 2 – Permits
  - Rule 2-1: General Requirements
  - Rule 2-2: New Source Review
- Regulation 6 – Particulate Matter and Visible Emissions
  - Rule 6-1: General Requirements
- Regulation 7 – Odorous Substances
- Regulation 8 – Organic Compounds
  - Rule 8-5: Storage of Organic Liquids
  - Rule 8-6: Terminals and Bulk Plants
  - Rule 8-15: Emulsified and Liquid Asphalts
- Regulation 9 – Inorganic Gaseous Pollutants
  - Rule 9-1: Sulfur Dioxide
  - Rule 9-8: Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines

Permits

Rule 2-1-301 requires that any person installing, modifying, or replacing any equipment, the use of which may reduce or control the emission of air contaminants, shall first obtain an Authority to Construct (ATC).

Rule 2-1-302 requires that written authorization from the BAAQMD in the form of a Permit to Operate (PTO) be secured before any such equipment is used or operated.

Rule 2-1 lists sources that are exempt from permitting. At the proposed facility, the diesel fuel storage tanks are expected to be exempt from permitting.

New Source Review

Rule 2-2, New Source Review (NSR), applies to all new and modified sources or facilities that are subject to the requirements of Rule 2-1-301. The purpose of the rule is to provide for review of such sources and to provide mechanisms by which no net increase in emissions will result.

Rule 2-2-301 requires that an applicant for an ATC or PTO apply Best Available Control Technology (BACT) to any new or modified source that results in an increase in emissions and has emissions of precursor organic compounds, non-precursor organic compounds, NO_x, SO_2, PM_{10}, or CO of 10.0 pounds or more per highest day. Based on the estimated emissions from the proposed project, BACT will be required for the new asphalt and concrete plants.

Prohibitory Rules

Regulation 6 pertains to particulate matter and visible emissions. This applies to fugitive dust and combustion sources.

Regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds. The limitations of this regulation become applicable when the BAQMD receives odor complaints from ten or more complainants within a 90-day period, alleging that a person has caused odors perceived at or beyond the property line of such person and deemed to be objectionable by the complainants in the normal course of their work, travel or residence. When the limits of this regulation become effective as a result of citizen complaints described above, the limits shall remain effective until such time as no citizen complaints have been received by the BAAQMD for 1 year.

BAAQMD Permit Handbook

In 2018, BAAQMD published their revised *Permit Handbook* to assist the permit application process for applicants and Air District staff.[8] The Handbook provides the standards for determining the project source category and whether a permit can be used by a District engineer for that particular source. In addition, a list of standardized emission factors, Best Available Control Technology (BACT), and Reasonability Available Control Technology (RACT) are provided. Additional requirements could include offsets, prevention of significant deterioration, school notification, and risk screening analysis.

For this project, the source-specific guidance for Asphalt (Hot Mix) facilities and Concrete Batch Plants are relevant. More specifically, permitting guidelines for a batch hot mix asphalt facility and a central concrete batch plant are applicable.

Asphalt (Hot Mix) Facilities: Per the Handbook, "a hot mix asphalt (HMA) facility is an assembly of equipment where aggregates are blended, heated, dried, and mixed with asphalt". HMA facilities can either be batch plants (i.e. asphalt is made in batches) or a drum mix plan (i.e. asphalt mix is prepared through a continuous process). The proposed asphalt plant for the project is a batch mix plant. Air pollution sources from both facility types consist of the dryer, burner-blower exhaust fan, dust collection system, asphalt cement heating and storage, and aggregate and RAP materials handling. Small storage tanks, typically with fixed roofs, are used to store heated liquid asphalts and cements.

District Rules and Regulations

- Subject to Regulation 6-1
- Subject to the Federal NSPS Subpart I for Hot Mix Asphalt Facilities
    - Prohibits the owner/operator from discharging or causing discharge into the atmosphere from any affected facility any gases which: 1) Contain particulate matter opacity, or greater. Because these NSPS

[88] Bay Area Air Quality Management District, Engineering Division, 2018. *Permit Handbook*. October. Web: https://www.baaqmd.gov/permitsSO2/permitting-manuals

requirements are less restrictive than District BACT requirements for HMA plants, new/modified HMA facilities should meet the NSPS for particulate matter of less than of 0.04 grains per dry standard cubic foot (gr/dscf); and 2) Exhibit 20% opacity or lower.

Best Available Control Technology (BACT)
Current BACT for pollutant sources at asphalt plants are specified in the District's BACT/TBACT Workbook. Applicable BACT requirements for an asphalt plant include:

Pollutant	*BACT*
ROG	1. Afterburner with greater than or equal to 0.3 second retention rate at a temperature of greater than or equal to 1,400 degrees Fahrenheit 0.03 pounds per ton of asphaltic concrete produced 2. a) Conveyors and storage silos enclosed and abated by a blue smoke recovery/capture system or vented to a blue smoke filter pack b) Truck loadout operations enclosed on three sides (tunnel) and vented to 1) rotary dryer burner or 2) blue smoke filter pack.
NO_x	12 ppmv at 15 percent O_2 dry [36 ppmv at 3% O_2 dry
SO_2	Natural Gas
CO	*265 ppmv at 15% O_2 Dry [795 ppmv at 3 percent O_2 Dry]*
PM_{10}	*0.01 gr/dscf*

Concrete Batch Plants: The handbook describes concrete batch plants as generally made up a number of sources of air pollution which store, convey, measure, mix, and discharge concrete into trucks for transport to a job site. These generally include the following sources:

- Sand and Aggregate Storage Piles (grouped as one source if they are all in the same general area)
- Cement and Cement Supplement Storage Silos (each silo is a separate source)
- Conveyors (grouped as one source if they are all in the same general area)
- Weigh Hopper
- Batch Mixer

District Rules and Regulations
Particulate sources at concrete batch plants are subject to the operating standards of Regulation 6-1. All but the transfer points of cement and cement supplement into the storage silos are fugitive in nature. Abatement devices include fabric filters or baghouse devices. Fugitive sources include the transfer of sand and aggregate, truck loading, mixer loading, vehicle traffic, and wind erosion from sand and aggregate storage piles. The amount of fugitive emissions generated during the transfer operations depend primarily on the surface moisture content of these materials. Types of controls used may include water sprays, enclosures, and baghouse devices. With these controls of the equipment and good maintenance and wetting of unpaved road surfaces, particulate emissions should comply with the operating standards of Regulation 6-1. Permit conditions are imposed to ensure compliance with Regulation 6-1.

<u>Best Available Control Technology (BACT)</u>
Current BACT for the particulate sources at concrete batch plants are specified in the District's BACT/TBACT Workbook. Applicable BACT requirements for Concrete Batch Plant – greater than or equal to 5 cubic yards per batch include use of BAAQMD approved design and operation and achieved in practice control methods of use of water sprays for aggregate handling, aggregate storage piles, and site road surfaces; and enclosure and venting of cement handling and storage to baghouse with an outlet grain loading of less than or equal to 0.01 gr/dscf.

<u>City of San José</u>

San José Envision 2040 General Plan

The San José Envision 2040 General Plan includes goals, policies, and actions to reduce exposure of the City's sensitive population to exposure of air pollution and toxic air contaminants or TACs. The following goals, policies, and actions are applicable to the proposed project and this assessment:

Applicable Goals – Air Pollutant Emission Reduction

Goal MS-10 Minimize emissions from new development.

Applicable Policies – Air Pollutant Emission Reduction

MS-10.1 Assess projected air emissions from new development in conformance with the BAAQMD CEQA Guidelines and relative to state and federal standards. Identify and implement feasible air emission reduction measures.

MS-10.2 Consider the cumulative air quality impacts from proposed developments for proposed land use designation changes and new development, consistent with the region's Clean Air Plan and state law.

MS-10.3 Promote the expansion and improvement of public transportation services and facilities, where appropriate, to both encourage energy conservation and reduce air pollution.

Applicable Goals – Toxic Air Contaminants

Goal MS-11 Minimize exposure of people to air pollution and toxic air contaminants such as ozone, carbon monoxide, lead, and particulate matter.

Applicable Policies – Toxic Air Contaminants

MS-11.2 For projects that emit toxic air contaminants, require project proponents to prepare health risk assessments in accordance with BAAQMD-recommended procedures as part of environmental review and employ effective mitigation to reduce possible health risks to a less than significant level. Alternatively, require new projects (such as, but not limited to, industrial, manufacturing, and processing facilities) that are sources of TACs to be located an adequate distance from residential areas and other sensitive receptors.

MS-11.5 Encourage the use of pollution absorbing trees and vegetation in buffer areas between substantial sources of TACs and sensitive land uses.

Actions – Toxic Air Contaminants

MS-11.7 Consult with BAAQMD to identify stationary and mobile TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.

MS-11.8 For new projects that generate truck traffic, require signage which reminds drivers that the state truck idling law limits truck idling to five minutes.

Sensitive Receptors

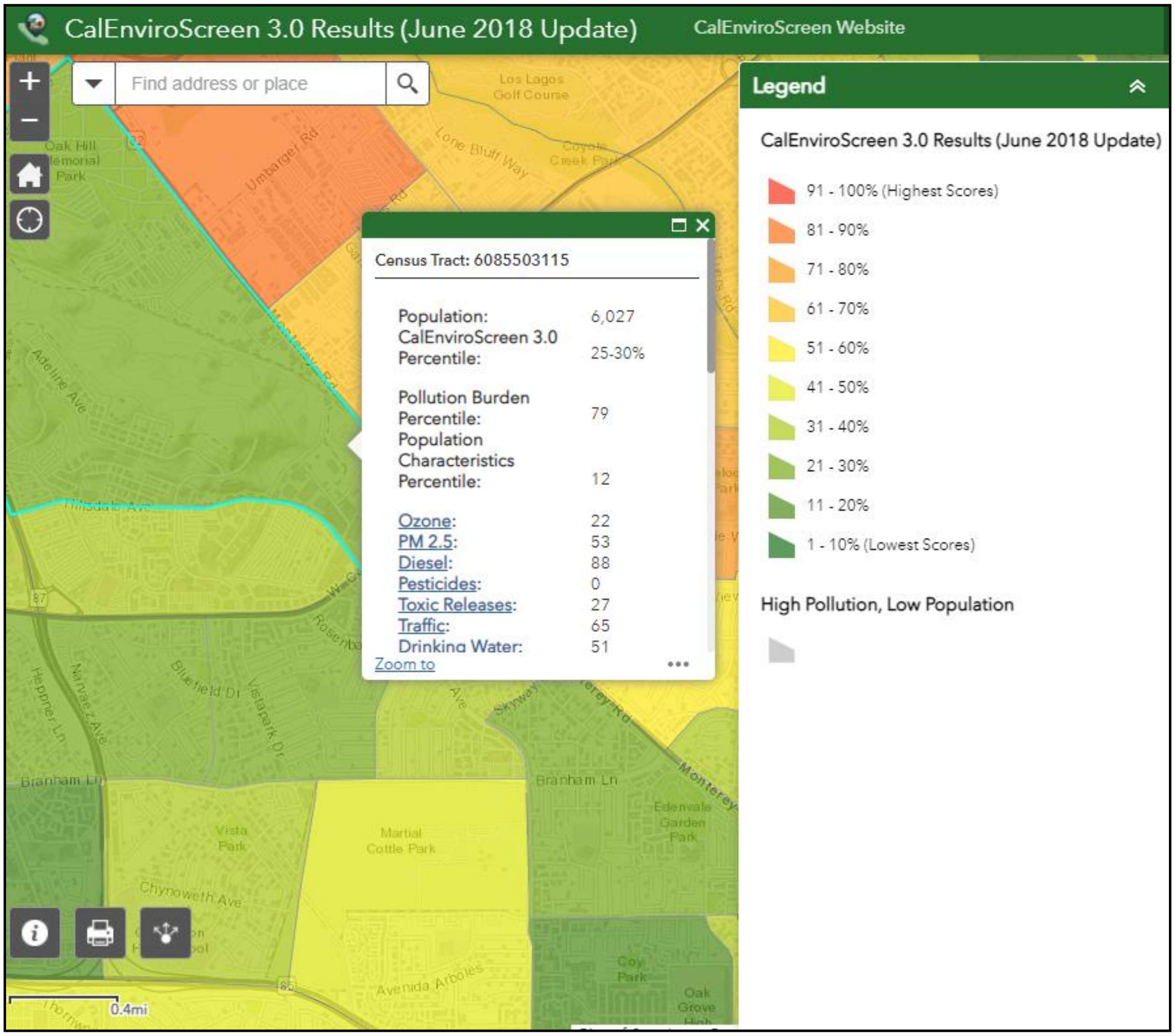
There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptors to the project site are located about 300 feet north of the Site adjacent to Monterey Road. Other nearby residential receptors are south of the Site adjacent to Snell Avenue. Additional residential receptors are at farther distances north and south of the Site.

Cal EPA and OEHHA developed the CalEnviroScreen, which is a science-based mapping tool that helps identify California communities that are most affected by many sources of pollution, and that are often especially vulnerable to pollution's effects[9]. CalEnviroScreen uses environmental, health, and socioeconomic information to produce a numerical score for each census tract in the State. Figure 5 shows the portion of the State that contains the project. The CalEnviroScreen 3.0 Results indicate the project site is within the shading that indicates 31-40%, where 100% is the highest score and areas of 1-10% have the lowest scores. Areas immediately east of the site have a greater

[9] OEHHA 2019. See https://oehha.ca.gov/media/downloads/calenviroscreen/fact-sheet/ces30factsheetfinal.pdf accessed 3/3/2021.

pollution burden, where scores reach 61 to 80%. In terms of air pollution ranked on a scale of 1 to 100, the census tract containing the project and surrounding area ranks 22 for ozone, 53 for $PM_{2.5}$ and 88 for DPM.

Figure 5. CalEnviroScreen 3.0 Results for the Project Site and Surrounding Areas.



Greenhouse Gas Emissions

Setting

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. The most common GHGs are carbon dioxide (CO_2) and water vapor but there are also several others, most importantly methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO_2, CH_4, and N_2O are byproducts of fossil fuel combustion.
- N_2O is associated with agricultural operations such as fertilization of crops.
- CH_4 is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with CO_2 being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO_2 equivalents (CO_2e).

An expanding body of scientific research supports the theory that global climate change is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

Recent Regulatory Actions for GHG Emissions

Executive Order S-3-05 – California GHG Reduction Targets

Executive Order (EO) S-3-05 was signed by Governor Arnold Schwarzenegger in 2005 to set GHG emission reduction targets for California. The three targets established by this EO are as follows: (1) reduce California's GHG emissions to 2000 levels by 2010, (2) reduce California's GHG emissions to 1990 levels by 2020, and (3) reduce California's GHG emissions by 80 percent below 1990 levels by 2050.

Assembly Bill 32 – California Global Warming Solutions Act (2006)

Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05, which has a target of reducing GHG emissions 80 percent below 1990 levels.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 million metric tons (MMT) of CO_2e as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector- or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast, in light of the economic downturn, to 545 MMT of CO_2e. Two GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507 MMT of CO_2e. Thus, an estimated reduction of 80 MMT of CO_2e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

Executive Order B-30-15 & Senate Bill 32 GHG Reduction Targets – 2030 GHG Reduction Target

In April 2015, Governor Brown signed EO B-30-15, which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed Senate Bill (SB) 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*. [10] While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

SB 32 was passed in 2016, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. CARB is currently working on a second update to the Scoping Plan to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The proposed Scoping Plan Update was published on January 20, 2017 as directed by SB 32 companion legislation AB 197. The mid-term 2030 target is considered critical by CARB on the path to obtaining an even deeper GHG emissions target of 80 percent below 1990 levels by 2050, as directed in Executive Order S-3-05. The Scoping Plan outlines the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure, providing a blueprint to continue driving down GHG emissions and obtain the statewide goals.

The new Scoping Plan establishes a strategy that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-term goal). Key features of this plan are:

- Cap and Trade program places a firm limit on 80 percent of the State's emissions;
- Achieving a 50-percent Renewable Portfolio Standard by 2030 (currently at about 29 percent statewide);
- Increase energy efficiency in existing buildings;
- Develop fuels with an 18-percent reduction in carbon intensity;
- Develop more high-density, transit-oriented housing;

[10] California Air Resource Board, 2017. *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Targets.* November. Web: https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf

- Develop walkable and bikable communities;
- Greatly increase the number of electric vehicles on the road and reduce oil demand in half;
- Increase zero-emissions transit so that 100 percent of new buses are zero emissions;
- Reduce freight-related emissions by transitioning to zero emissions where feasible and near-zero emissions with renewable fuels everywhere else; and
- Reduce "super pollutants" by reducing methane and hydrofluorocarbons or HFCs by 40 percent.

In the updated Scoping Plan, CARB recommends statewide targets of no more than 6 metric tons CO_2e per capita (statewide) by 2030 and no more than 2 metric tons CO_2e per capita by 2050. The statewide per capita targets account for all emissions sectors in the State, statewide population forecasts, and the statewide reductions necessary to achieve the 2030 statewide target under SB 32 and the longer-term State emissions reduction goal of 80 percent below 1990 levels by 2050.

Executive Order B-55-18 – Carbon Neutrality

In 2018, a new statewide goal was established to achieve carbon neutrality as soon as possible, but no later than 2045, and to maintain net negative emissions thereafter. CARB and other relevant state agencies are tasked with establishing sequestration targets and create policies/programs that would meet this goal.

Senate Bill 375 – California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan planning organizations (e.g. Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

Senate Bill 350 - Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Senate Bill 100 – Current Renewable Portfolio Standards

In September 2018, SB 100 was signed by Governor Brown to revise California's RPS program goals, furthering California's focus on using renewable energy and carbon-free power sources for its energy needs. The bill would require all California utilities to supply a specific percentage of their retail sales from renewable resources by certain target years. By December 31, 2024, 44 percent of the retails sales would need to be from renewable energy sources, by December 31, 2026 the target would be 40 percent, by December 31, 2017 the target would be 52 percent, and by December 31, 2030 the target would be 60 percent. By December 31, 2045, all California utilities would be required to supply retail electricity that is 100 percent carbon-free and sourced from eligible renewable energy resource to all California end-use customers.

California Building Standards Code – Title 24 Part 11 & Part 6

The California Green Building Standards Code (CALGreen Code) is part of the California Building Standards Code under Title 24, Part 11.[11] The CALGreen Code encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable to residential and non-residential developments. The most recent CALGreen Code (2019 California Building Standard Code) was effective as of January 1, 2020.

The California Building Energy Efficiency Standards (California Energy Code) is under Title 24, Part 6 and is overseen by the California Energy Commission (CEC). This code includes design requirements to conserve energy in new residential and non-residential developments, while being cost effective for homeowners. This Energy Code is enforced and verified by cities during the planning and building permit process. The current energy efficiency standards (2019 Energy Code) replaced the 2016 Energy Code as of January 1, 2020. Under the 2019 standards, single-family homes are predicted to be 53 percent more efficient than homes built under the 2016 standard due more stringent energy-efficiency standards and mandatory installation of solar photovoltaic systems. For nonresidential developments, it is predicted that these buildings will use 30 percent less energy due to lightening upgrades.[12]

<u>Federal and Statewide GHG Emissions</u>

The U.S. EPA reported that in 2018, total gross nationwide GHG emissions were 6,676.6 million metric tons (MMT) carbon dioxide equivalent (CO_2e).[13] These emissions were lower than peak levels of 7,416 MMT that were emitted in 2007. CARB updates the statewide GHG emission inventory on an annual basis where the latest inventory includes 2000 through 2017 emissions.[14] In 2017, GHG emissions from statewide emitting activities were 424 MMT. The 2017 emissions have decreased by 14 percent since peak levels in 2004 and are 7 MMT below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 MT per person to 10.7 MT per person in 2017. The most recent Bay Area emission inventory was computed

[11] See: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen#:~:text=CALGreen%20is%20the%20first%2Din,to%201990%20levels%20by%202020.

[12] See: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf

[13] United States Environmental Protection Agency, 2020. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2018*. April. Web: https://www.epa.gov/sites/production/files/2020-04/documents/us-ghg-inventory-2020-main-text.pdf

[14] CARB. 2019. *2019 Edition, California Greenhouse Gas Emission Inventory: 2000 – 2017*. Web: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf

for the year 2011.[15] The Bay Area GHG emissions were 87 MMT. As a point of comparison, statewide emissions were about 444 MMT in 2011

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA and these significance thresholds were contained in the District's 2011 CEQA Air Quality Guidelines. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were the subject of litigation in California Building Industry Association v. Bay Area Air Quality Management District (2015) 62 Cal. 4th 369 and were mostly upheld. BAAQMD updated the CEQA Air Quality Guidelines in 2017. The version of the thresholds published on the District's website is shown in Table 5[16]. Impacts above these thresholds are considered significant.

[15] BAAQMD. 2015. *Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011*. January. Web: http://www.baaqmd.gov/~/media/files/planning-and-research/emission-inventory/by2011_ghgsummary.pdf accessed Nov. 26, 2019.

[16] BAAQMD. 2021. See https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/tools/ceqa-guidelines-may-2017-thresholds-table-pdf.pdf?la=en Accessed 2/18/2021.

Table 5. BAAQMD CEQA Significance Thresholds

<table>
<tr><th rowspan="2">Criteria Air Pollutant</th><th>Construction Thresholds</th><th colspan="2">Operational Thresholds</th></tr>
<tr><th>Average Daily Emissions (lbs./day)</th><th>Average Daily Emissions (lbs./day)</th><th>Annual Average Emissions (tons/year)</th></tr>
<tr><td>ROG</td><td>54</td><td>54</td><td>10</td></tr>
<tr><td>NO_x</td><td>54</td><td>54</td><td>10</td></tr>
<tr><td>PM_{10}</td><td>82 (Exhaust)</td><td>82</td><td>15</td></tr>
<tr><td>$PM_{2.5}$</td><td>54 (Exhaust)</td><td>54</td><td>10</td></tr>
<tr><td>CO</td><td>Not Applicable</td><td colspan="2">9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)</td></tr>
<tr><td>Fugitive Dust</td><td>Construction Dust Ordinance or other Best Management Practices</td><td colspan="2">Not Applicable</td></tr>
<tr><th>Health Risks and Hazards</th><th>Single Sources Within 1,000-foot Zone of Influence</th><th colspan="2">Combined Sources (Cumulative from all sources within 1,000-foot zone of influence)</th></tr>
<tr><td>Excess Cancer Risk</td><td>10 per one million</td><td colspan="2">100 per one million</td></tr>
<tr><td>Hazard Index</td><td>1.0</td><td colspan="2">10.0</td></tr>
<tr><td>Incremental annual $PM_{2.5}$</td><td>0.3 $\mu g/m^3$</td><td colspan="2">0.8 $\mu g/m^3$</td></tr>
<tr><th colspan="4">Odors</th></tr>
<tr><td>Odors</td><td>None</td><td colspan="2">5 confirmed complaints per year averaged over three years</td></tr>
<tr><th colspan="4">Greenhouse Gas Emissions</th></tr>
<tr><td>Land Use Projects – direct and indirect GHG emissions</td><td>None</td><td colspan="2">Compliance with a Qualified GHG Reduction Strategy OR
1,100 (660)* metric tons annually OR
4.6 (2.6) *MT CO2e/SP/yr (residents+employees)</td></tr>
<tr><td>GHGs –Stationary Sources</td><td>None</td><td colspan="2">10,000 metric tons annually</td></tr>
<tr><td colspan="4">*BAAQMD does not have a recommended post-2020 GHG threshold. Therefore, a level that is 40 percent lower than the 2020 threshold (AB32) was applied.</td></tr>
</table>

Source: Bay Area Air Quality Management District, 2017

AIR QUALITY AND GHG ANALYSIS METHODLOGY

This air quality and GHG emissions analysis evaluated proposed construction and operational activities based on the annual average quantities of processed materials expected from each process. Emissions are computed for the different processes (e.g., asphalt plant, concrete plant), material storage, truck traffic, train activity, off-road equipment usage and fugitive dust. Emission calculations for construction, specific processes and activities associated with baseline conditions (existing conditions) and for the proposed project are discussed in the following sections. Details of the computations are provided in Attachment 1 for Construction Emissions Computations using CalEEMod, Attachment 2 for Baseline (Existing) Emissions Calculations and Attachment 3 for Proposed Project Emissions Calculations.

Construction Activity Emissions

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction of the project. The project land use types and size for each phase, and anticipated construction schedule were input to CalEEMod. CalEEMod computes emissions for construction equipment usage, area-source evaporative emissions, haul trucks, vendor trucks and worker traffic. Emissions are based on the inputs to the model that include land use type and size, schedule and forecasted construction activity that includes quantities of exported and imported material. The applicant provided the anticipated construction schedule and activity information.

CalEEMod bases the construction equipment emissions by equipment type, quantity, size (in horsepower) load factor (average fraction of full horsepower equipment operates), average hours per workday equipment operates and the number of workdays. CalEEMod assigns default emissions rates that are based on an estimated Statewide fleet average. The user can then specify engine standards or other controls that would apply to equipment in the mitigation tab. Construction activity entered into CalEEMod was based on the schedule and activity projected by the applicant. ***Attachment 1*** includes the projected construction activity for each phase as well as the CalEEMod output files.

CalEEMod provides default estimates of worker and vendor trips. Worker trips are passenger autos (light-duty autos or light-duty trucks) and vendors are medium and heavy-duty trucks that presumably deliver materials and equipment to construction sites. CalEEMod estimates default haul truck trips based on estimates of materials imported or exported during demolition, site preparation or grading phases. The user can modify the trip tab to add haul trips during other phases such as concrete for building construction and asphalt deliveries during paving. Note that CalEEMod default vendor trip rates during building construction likely reflect concrete deliveries.

The latest version of the CalEEMod model is based on the older version of the CARB EMFAC2014 motor vehicle emission factor model. This model has been superseded by the EMFAC2017 model; however, CalEEMod has not been updated to include EMFAC2017. The construction traffic information was combined with EMFAC2017 motor vehicle emissions factors. EMFAC2017 provides aggregate emission rates in grams per mile for each vehicle type. The vehicle mix for this study was based on CalEEMod default assumptions, where worker trips are assumed to be comprised of light-duty autos (EMFAC category LDA) and light duty trucks (EMFAC category LDT1and LDT2). Vendor trips are comprised of delivery and large trucks (EMFAC category MHDT and HHDT) and haul trips, including cement trucks, are comprised of large trucks (EMFAC category HHDT). Travel distances are based on CalEEMod default lengths, which are 10.8 miles for worker travel, 7.3 miles for vendor trips, and 20 miles for hauling (demolition material export and soil import/export). Since CalEEMod does not address cement or asphalt trucks, these were treated as vendor travel distances. Each trip was assumed to include an idle time of 5 minutes. Emissions associated with vehicle starts were also included. On-road emission rates in Santa Clara County for the construction years were used.

Phase 1 – Construction

Phase 1 modeling included two CalEEMod scenarios: Phase 1 facility construction and Phase 1 rail improvements. Phase 1 building construction of the Concrete Plant Aggregate Distribution Facility was based on a 20,000 sf "General Heavy Industry" land use of 12 acres along with 522,700 sf "Other Asphalt Surfaces." Construction activity was modeled to begin in May 2022 and last through September 2023. Phase 1 rail improvements construction was based on a 3,000 sf "General Heavy Industry" land use of 3 acres along with 65,000 sf "Other Asphalt Surfaces." Construction activity was modeled to begin in May 2022 and last through April 2023. In addition to "Vendor" trips, the modeling included hauling of 55 trips during demolition, 3,000 trips during building construction, and 1,600 asphalt delivery trips.

Phase 2 Construction

Phase 2 building construction of the Concrete Plant/Cementitious Storage facility modeling was based on a 30,000 sf "General Heavy Industry" land use on 3 acres along with 3,000 sf "Other Asphalt Surfaces." Import material included 480 asphalt truck trips. Construction activity was modeled to begin in October 2024 and last through December 2024.

Phase 3 Construction

The modern asphalt plant would be constructed at Phase 3 as a 30,000-sf "General Heavy Industry" land use of 3 acres along with 139,680 sf "Other Asphalt Surfaces." Import material included 480 asphalt truck trips. Construction activities were modeled to begin in May 2026 and last through June 2027.

Facility Operation Emissions

The existing facility produces emissions from a number of different sources, both directly and indirectly. These include direct emissions from the existing concrete plant and from combustion sources on site that include mobile and portable off-road equipment and truck activity. There are fugitive particulate matter emissions from the handling/processing/storage of sand and aggregate. Trucks and train delivering or removing material from the site result in indirect emissions.

The proposed project would modernize the facility by paving the entire site which is currently entirely unpaved, enclosing material handling/storage and transfer operations and expand rail service to reduce the reliance on trucks to transport material to the site. The proposed project would expand the production of the facility and add new processes. These include the new concrete plant, an aggregate storage and distribution facility, a new cement terminal with cementitious storage and a new modern asphalt plant. The new aggregate storage and distribution facility and cementitious storage and distribution facility would include new rail spurs and fully enclose aggregate and cementitious materials transfer systems for offloading aggregate and cementitious materials from rail cars. Aggregate and cementitious materials would be stored in storage silos. Annual average and average daily emissions of criteria air pollutants and TACs were calculated for the emission sources listed below and their associated activities. Annual average greenhouse gas emissions from these sources were also calculated. Annual average project emissions were based on maximum annual production levels, material throughputs, and other activity data and assuming all sources were fully operational in the year 2024. Average daily emissions were calculated based on the annual average emissions and expected annual days of operation.

- Aggregate Distribution Facility
- Asphalt Plant
- Cementitious Distribution Facility
- Concrete Plant
- Rail Activity
- Recycle Yard
- Other Facility Traffic

The first phase of the project is anticipated to occur in year 2024. The earliest year that activity could reach intended maximum production levels with build-out of all three phases was assumed to be 2027. By analyzing maximum operational conditions in 2024, the maximum emissions on an annual and average daily basis are conservatively predicted. Emissions rates from on-site equipment and vehicles are anticipated to decrease in the future as newer or retrofitted vehicles and equipment with lower emissions rates are utilized. Hence, future operations would have lower emissions than those that would occur in 2027 and later years when using 2024 emission rates.

Off-Road Equipment

The project currently uses off-road mobile equipment (e.g., front-end loaders and an excavator) for various activities in the recycle yard, to handle imported aggregate and sand, and to transfer this material to the concrete plant feed hopper. For the proposed project one loader and one excavator would be used for recycle yard activities. Additionally, the processing equipment in the recycle yard (feeder, crushers, screen, and conveyors) is powered by a 300 horsepower (hp) diesel fueled engine. Exhaust emissions from off-road equipment were developed based on a list of equipment and expected annual hours of use provided by the applicant. This equipment was assumed to generally operate about 8 hours per day for 240 or 250 days per year, depending on where the equipment is operating. Emission rates for this activity were based on emission factors for off-road equipment used with the CalEEMod model. In calculating DPM emissions it was assumed that 100 percent of the PM10 emissions related to exhaust were DPM. The CalEEMod model was used to compute emissions for general classes of equipment, such as those used in the maintenance yard for existing conditions.

On-Road Vehicles

The existing facility currently generates truck traffic and future operations, while relying on rail to import sand and aggregate, will continue to generate truck traffic. Exhaust emissions from on-road vehicles at the site (water truck, service trucks, haul trucks, and employee vehicles) were computed using the CARB EMFAC2021 on-road mobile source emissions model. EMFAC2021 settings included the “annual” period for vehicles in Santa Clara County. Vehicle types selected included light-duty trucks for workers, heavy-duty diesel trucks (HHDT) for haul trucks, and a mix of light heavy-duty diesel trucks (LHDT) and HHDT for delivery and maintenance vehicles. The proposed project will use a vacuum sweeper truck, which is assumed to be a HHDT, to reduce the potential for dust generation since the site will be entirely paved. Particulate matter emissions included emissions processes provided by EMFAC2021 (i.e., exhaust, tire wear and brake wear) along with reentrained roadway dust emissions. Particulate matter entrained dust emissions from vehicles traffic on paved roads were calculated using CARB emission calculation procedures.[17] A control effectiveness of 80 percent was assumed for use of the vacuum sweeper in reducing particulate matter emissions from on-site road travel. A vehicle speed of 10 miles per hour was used to calculate emissions for vehicles traveling on site, except for the project vacuum truck which was assumed to travel at 5 mph, and emission factors from EMFAC2021 based on the aggregate speeds of vehicles in Santa Clara County were used to compute emissions when traveling on off-site roadways. Trucks were assumed to idle on site for 5 minutes per trip. Emissions from traffic activity were computed for each process/activity, using specific inputs for those processes.

All project travel ways and process areas would be paved. However, existing (baseline conditions) on-site travel occur on unpaved roadways. Fugitive dust emissions of PM10 and PM2.5 were calculated for existing vehicle travel over on-site unpaved roads and other unpaved areas. US EPA AP-42[18] emission factors for vehicle travel on unpaved roads (AP-42 Section 13.2.2) and information on road silt content and vehicle weight were used to calculate emissions. An unpaved road silt content of 8.3% was used (from AP-42 Table 13.2.2-1 for stone quarrying and processing, haul road mean silt content)

Fugitive Particulate Matter Emissions

In addition to fugitive emissions from traffic, there would be a number of processes or activities that generate other fugitive emissions. Particulate matter emissions from the recycle material processing equipment were calculated using material processing rates and EPA’s AP-42 emission factors for Crushed Stone Processing (AP-42 Section 11.19-2). Fugitive dust emissions from sand and

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[17] CARB, 2018. *Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust*. Revised and updated, March 2018.
[18] U.S. EPA’s AP-42 5th Edition Compilation of Emission Factors – Volume 1

aggregate handling (e.g., truck loading) were calculated using EPA emission factors for aggregate handling and storage piles (AP-42 Section 13.2.4). Fugitive emissions from storage piles were calculated using a BAQMD emission factor from the BAAQMD Permit Handbook[19], Section 11.5 for Concrete Batch Plants.

Asphalt Plant

Emissions of criteria pollutants, TACs, and GHGs would occur at the Asphalt Plant. There are four main emission source categories at an asphalt plant: (1) material handling and storage, (2) drying and mixing, (3) HMA storage and handling, and (4) asphalt oil storage and heating.

Raw materials for asphalt production include aggregate, RAP, powdered filler material, and asphalt oil. Particulate matter emissions (PM10 and PM2.5) from the cold feed material (aggregate and RAP) conveyed to the Asphalt Plant were calculated using EPA AP-42 Section 11.19.2 emission factors for conveying and using Section 13.2.4 emission factors for material transfer. Particulate matter emissions from hot feed material transfer after the dryer are ducted to the main dust collector for the dryer and are included in the dryer dust collector particulate matter emissions. Emissions from filler material silo filling using pneumatic trucks would be controlled with a silo dust collector. Emissions were calculated using a proposed outlet grain loading of 0.005 gr/dscf and other dust collector information provided by the applicant.

In addition to, and as a result of, ROG and particulate matter emissions from hot mix asphalt produced at the asphalt plant "blue smoke" emissions can occur. When the heated asphalt product is loaded into a storage silo or when it is delivered from the storage silo to an asphalt haul truck, a cloud of smoke can occur when the mixture is first exposed air. This is commonly known as blue smoke because it has a blue tinge when viewed in the sunlight. Most of this blue smoke is vaporized asphalt and possibly partially oxidized asphalt (particularly when the asphalt is "hot mix" paving asphalt delivered at more than 300 degrees F). It is the blue smoke that carries much of the characteristic asphalt odor. Blue smoke is typically released from hot mix asphalt during handling at transfer points, silo filling, and truck loading. According to EPA tests, 94 percent of the compounds present in blue smoke are VOCs (ROG)[20]. Blue smoke can also occur during tank filling of liquid asphalt tanks when the heated asphalt vapors in the tank head space are displaced by the liquid asphalt filling the tank.

Blue smoke control methods applied to asphalt plant components entail collecting and transporting hydrocarbon-laden air. Individual pieces of any blue smoke control system must all work together to form a scavenger system. This involves:

- Sealing all material transfer points to trap blue smoke,
- Ductwork to transport smoke from collection points (silo tops and truck loadout zone) to the chosen disposal method,
- Utilizing separate scavenger fans to convey captured emissions through the ductwork, and

[19] Bay Area Air Quality Management District, Engineering Division, 2018. *Permit Handbook*. October. Web: https://www.baaqmd.gov/permitsSO2/permitting-manuals

[20] ASTEC Technical Paper T-143, Hot Mix Blue Smoke Emissions", 2002.

- Installing dampers within the ductwork to control airflow.

For liquid asphalt storage tanks, equipping the tank vents with condensers is typically used to control ROG, and blue smoke, emissions.

The natural gas fired rotary dryer would generate criteria, TAC, and GHG emissions from the combustion of natural gas and from the aggregate drying process. Emissions of NOx, CO, PM10 and PM2.5 from natural gas combustion in the dryer burner were calculated using combustion emission levels provided by the applicant. Emissions of ROG from the dryer were computed using an emission factor from AP-42 Section 11.1, Table 11.1-6. Dryer emissions would be controlled by a dust collector which also controls dry feed emissions from the hot screen, bucket elevator, and aggregate transfer from storage bins to the mixers. The dryer NOx, CO, and particulate matter emission levels would be consistent with BACT emission levels for this type of asphalt dryer. Dryer emissions based on these emission levels provide a conservative estimate of potential emissions from the Asphalt Plant. TAC emissions from the dryer include volatile organic TACs, polycyclic aromatic hydrocarbons (PAHs), and metallic TACs. TAC emissions were calculated using emission factors from Section 11.1 of AP-42.

Criteria pollutants (PM10, PM2.5, ROG, and CO), TACs and GHG emissions from HMA storage and handling, which include HMA silo filling, truck loading, and fugitive emissions from the HMA once loaded into trucks, were calculated using emission factors from Section 11.1 of AP-42. Emissions from the HMA drag conveyors and HMA silo filling emissions would be controlled by collecting and routing the emissions to the rotary burner where they would be combusted and directed to the dryer dust collector. It was assumed that the particulate matter component of these emissions would be reduced by at least 95 percent and ROG and organic TACs would be reduced by at least 30 percent. For HMA truck loading, emissions would be minimized by utilizing a truck loading shroud system to capture emissions while loading the trucks and directing these emissions to the dryer dust collector. Currently, any emissions reduction associated with the proposed emission controls for truck loading are not included in the emission calculations.

Liquid asphalt would be stored in aboveground electrically heated fixed-roof storage tanks. The asphalt is heated to between 300 to 325 degrees F to maintain it in a liquid state. Standing and working loss emissions of ROG emissions from the heated asphalt storage tanks were calculated using the EPA Tanks program, version 4.09d. TAC emissions from the storage tanks were calculated using speciation profile information for asphalt storage tank emissions in Section 11.1 of AP-42. ROG emissions from the storage tanks would be controlled using vent condensers. Vent condensers are expected to provide 95 percent control of ROG emissions.

<u>Rail Activity</u>

The facility would include rail emissions from diesel-powered locomotives associated with the import of aggregate, sand, and cementitious materials to the facility. Emissions for train travel, in units of grams per gallon (g/gal), were calculated following the CARB methodology for the Vision

2.1 locomotive inventory in California[21] (Vision inventory). The Vision inventory contains emission factors specific to California's line-haul locomotive fleet, which were combined with fuel productivity factors in terms of gross ton-mile traveled per gallon of fuel (GTM/gal) for locomotives in the San Francisco Bay Area Air Basin and locomotive trip distances to estimate emission rates for the project locomotives. Emission factors for train idling emissions, in units of grams per hour (g/hour), were calculated based on EPA data[22] and emission factors[23] and a recent Environmental Impact Report which addressed waste hauling by rail from the Bay Area to the Ostrom Landfill in Yuba County[24].

A dedicate project owned switching locomotive would be used at the project site to position delivered railcars over the unloading pits and manage unloaded railcars on the new rail spur tracks. The proposed new locomotive would meet EPA Tier 4 emission standards. Emissions for the switching locomotive were computed using emission factors from a BAAQMD/CARB demonstration project for use of a Tier 4 Genset switching locomotive[25]. The emission factors were provided in terms of grams per horsepower hour (g/hp-hr) for operation in different locomotive engine operating modes (notches) and duration of operation in each engine mode. Expected operating conditions of the switching locomotive were provided by the applicant. The switching locomotive was assumed to operate for 10 hours per day over a 16 hour operational period. These emissions were estimated assuming use of a Tier 4 locomotive similar to the one used in the BAAQMD/CARB demonstration project.

Cementitious Distribution Facility

Operations at the Cementitious Distribution Facility would involve the receiving, handling, storage, and distribution of cementitious materials in powder form. All material handling equipment would be pneumatic or equipment that is fully enclosed. Emissions from this facility would be controlled using dust collectors. Dust collector emissions used at the proposed facility were calculated using a proposed outlet grain loading of 0.005 gr/dscf for all dust collectors and other dust collector information provided by the applicant.

Concrete Plant

Emissions of particulate matter and TACs from the existing and proposed concrete plants were calculated using emission factors for central mix concrete plants from EPA AP-42 Section 11.12 for Concrete Batching and from the source-specific guidance in the BAAQMD Permit Handbook[26], Section 11.5 for Concrete Batch Plants. Fugitive dust emissions from travel on unpaved areas,

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[21] CARB 2016. Vision 2.1 Locomotive Module. Available at: http://www.arb.ca.gov/planning/vision/downloads.htm
[22] USEPA 1998. Locomotive Emission Standards Regulatory Support Document. Available at: https://www3.epa.gov/otaq/documents/420r98101.pdf
[23] USEPA 2009. Emission Factors for Locomotives (EPA-420-F-09-025), April 2009.
[24] Recology Ostrom Road Projects. Draft Environmental Impact Report (State Clearinghouse No. 2015122071). Yuba County Planning Department. May 2018.
[25] CARB 2015, AQIP Grant Number G10-AQIP-13, Construction and Demonstration of an NRE N-ViroMotive Tier 4
[26] Bay Area Air Quality Management District, Engineering Division, 2018. *Permit Handbook*. October. Web: https://www.baaqmd.gov/permitsSO$_2$/permitting-manuals

material transfer, and wind erosion from storage piles at the existing plant were calculated using the emission methods described above for fugitive particulate matter. Emissions from dust collectors at the existing plant were calculated using emission factors from AP-42, Section 11.2. For the proposed plant, unpaved road fugitive dust emissions were not included since all project areas will be paved, materials stored in silos, and transferred to the plant in covered conveyors. Dust collector emissions used at the proposed plant were calculated using a proposed outlet grain loading of 0.005 gr/dscf for all dust collectors and other dust collector information provided by the applicant.

Recycle Yard

Emission activities at the existing and proposed Recycle Yards are essentially the same. These include receiving recycle materials by truck, processing these materials (crushing, screening, and conveying), storage in piles, and loading processed materials into trucks for export. The primary differences between the existing and proposed Recycle Yards are that the proposed Recycle Yard will be paved and less material will be exported since more processed recycle material will be used on site by the new asphalt plant. Emissions from the Recycle Yards were calculated using the methods described above for on-road and off-road vehicles and equipment, and fugitive particulate matter, including material processing equipment.

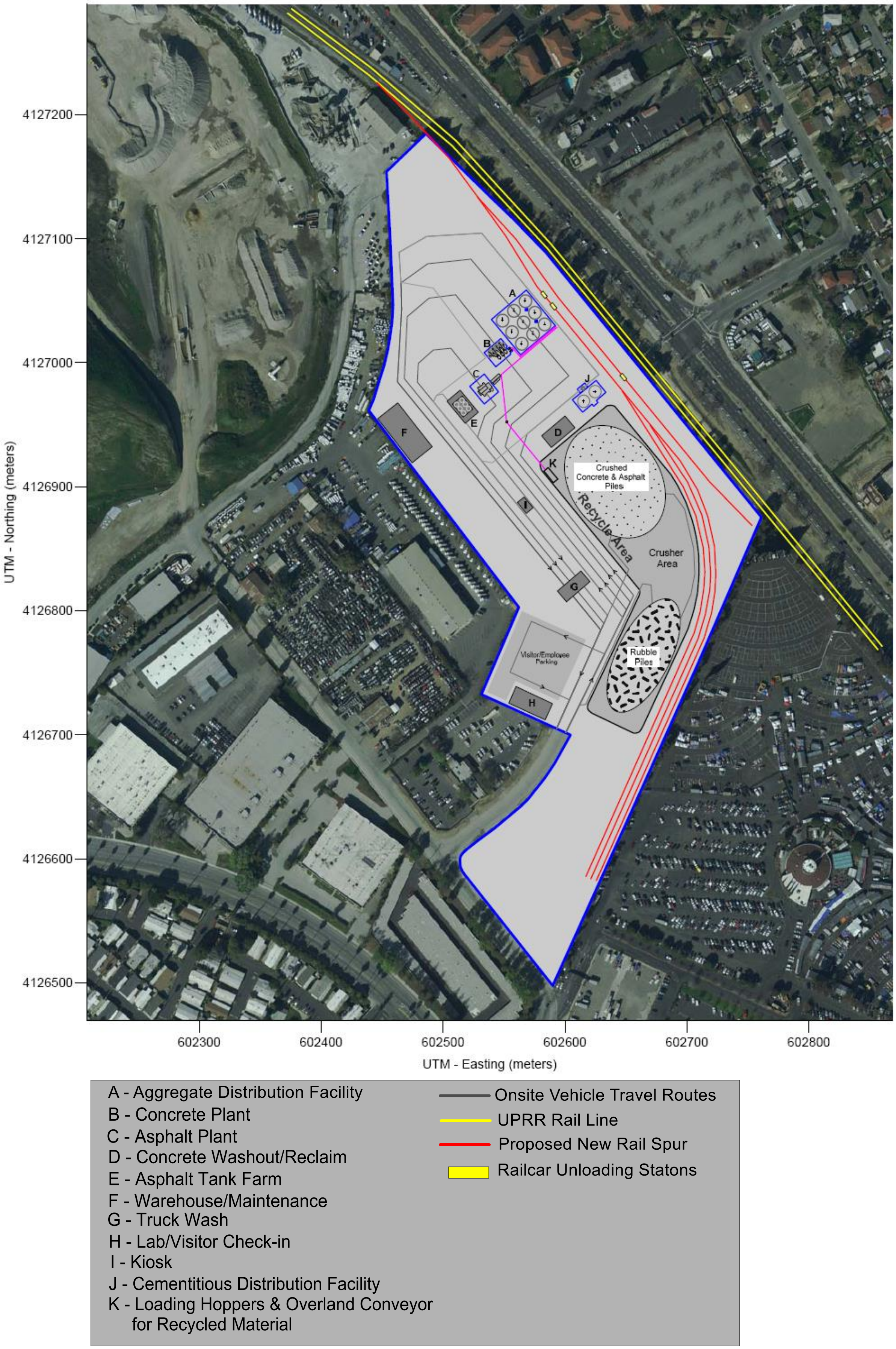
TAC Emissions

TAC emissions are emitted from activities at the existing site and would be emitted from activities at the proposed project site. The majority of TAC emissions would be in the form of diesel particulate matter (DPM) from trucks, rail locomotives, on-road and off-road diesel fueled vehicles and equipment. DPM was considered to be the PM10 fraction of diesel exhaust emitted from diesel powered engines. Other TACs would be emitted from the asphalt and concrete plants. These TACs include volatile organic compounds, polycyclic organic hydrocarbons (PAH), and metallic TACs. Emissions of the non-DPM TACs were calculated using EPA AP-42 and BAAQMD emission factors for asphalt and concrete plants.

Proposed Project Facility Processes/Activity Inputs

Figure 6 shows the plot of the Proposed Project along with locations of sources or process/activity areas. The blue outline is the site boundary, while the yellow lines represent the UPRR line and the red lines represent the proposed rail spur.

Figure 6 Proposed Project Activity Areas/Emissions Sources



Aggregate Distribution Facility

The site currently receives aggregate from the A.R. Wilson Quarry in Aromas, California via railcar by the Union Pacific Rail Road (UPRR). The railcars are delivered between the hours of 12:00 AM and 5:00 AM and stored on an onsite spur track with a 25-railcar capacity located in the northern portion of the site along Monterey Road. The railcars are then unloaded by employees during the day and the aggregate is stockpiled in open piles. This aggregate is sold to customers and loaded into haul trucks or is used on site to make concrete, which is then sold to customers.

For the proposed project, a new railcar offloading system and nine 120-foot tall storage silos would be constructed in the northern portion of the site to enable aggregate and sand to be offloaded, handled, and stored in a fully enclosed environment, instead of the open piles which are utilized now. The project would also include air handling systems to abate dusting from the off-loading and storage operation. Aggregate customers would also be able to drive under the silos 24-hours per day and self-load product on demand.

Currently there is a single railcar unloading operation capable of unloading a railcar at the rate of 400 tons/hour. In order to increase the unloading rate and efficiency of the facility, a double railcar unloading operation will take its place capable of unloading at a combined rate of 2,000 tons/hour. The onsite spur track would be expanded to the eastern portion of the site to accommodate up to 70 railcars. Graniterock would move the railcars within the site with its own private locomotive to position the cars over the rail discharge hoppers above an underground pit conveyor in an enclosed discharge pit tunnel. The railcars would then be moved out of the way for the next set of railcars. This operation is anticipated to happen continuously between the hours of 3:00 AM to 7:30 PM.

From the discharge pit tunnel the material would be transferred to one of two bucket elevators for distribution via enclosed conveyors to the storage silos. Emissions from the rail unloading pit, bucket elevators, and storage silos are controlled using dust collectors at the bucket elevators and on each storage silo. The stored aggregate and sand is either conveyed to the new Concrete Plant and Asphalt Plant in enclosed conveyors or loaded into trucks. Three truck loading lanes would be located underneath the storage silos and truck loading would occur using loadout chutes to minimize emissions.

Under existing conditions, the site has limited capacity due to the space constraints of storing aggregate in open piles. As a result, only a portion of Graniterock's aggregate distribution occurs via rail, and many customers in the San Francisco Bay Area receive aggregate directly from the A.R. Wilson Quarry via truck. By increasing the efficiency and throughput of the internal rail configuration and aggregate distribution facility, the project intends to allow for more aggregate to enter the San Francisco Bay Area market via railcars instead of trucks. Overall, the annual throughput of the aggregate distribution facility would increase from 150,300 tons/year to 1,300,000 tons/year, with about 715,000 tons/year used onsite to produce asphalt and concrete and about 585,000 tons/year exported commercially. Emission modeling inputs are shown in Table 6.

Table 6. Aggregate Distribution Facility Emission Modeling Inputs

Process/Activity	Value	Comments
Annual Days of Operation (days/year)	260	Provided by applicant
Hours of Operation - Typical (hours/day)	17	Provided by applicant
Hours of Operation - Maximum (hours/day)	24	Provided by applicant
Annual Material Received (tons/year)	1,300,000	Provided by applicant
Aggregate Received by Rail (tons/year)	823,000	Provided by applicant
Sand Received by Rail (tons/year)	477,000	Provided by applicant
Number of Aggregate/Sand Storage Silos	9	Provided by applicant
Storage Silo Capacity (tons), per silo	5,000	Provided by applicant
Aggregate Moisture Content (%)	4.4	Provided by applicant
Sand Moisture Content (%)	8	Provided by applicant
Aggregate & Sand used by Asphalt and Cement Plants (tons/year)	715,000	Calculated
Aggregate & Sand Exported Off-Site (tons/year)	585,000	Calculated
Aggregate/Sand Truck Load (tons)	20	Provided by applicant
Annual Trucks - Aggregate & Sand Export (trucks/year)	29,250	Calculated
Average One-Way Truck Travel Distance (miles)	7.5	Provided by applicant
Rail Deliveries per Year	162	Provided by applicant
Rail Trip Distance from A.R. Wilson Quarry (miles)	37	Measured from Google Earth
Railcars per Delivery	70	Provided by applicant
Locomotives used per Delivery	2	Provided by applicant
Locomotive Model	UPRR	Provided by applicant
Locomotive Weight (tons)	204	CARB (2016)[27]
Locomotive Idle Time at Site (minutes)	60	Provided by applicant
Empty Rail Car Weight (tons)	27.8	Provided by applicant
Railcar Capacity (tons)	115	Provided by applicant
Aggregate Load per Rail Delivery (tons)	8,050	Calculated
Number of Railcar Unloading Stations	2	Provided by applicant
Single Railcar Unloading Rate (tons/hour)	1,000	Provided by applicant
Single Railcar Unloading Time (minutes)	5.0	Provided by applicant
Total Unloading Time per Delivery (hours)	5.8	Calculated

Cementitious Distribution Facility

The project would construct a new cementitious[28] rail car unloading, storage and distribution facility in the northern portion of the site. Cementitious materials would be handled within a full enclosed system, combined with air abatement devices to mitigate air and noise emissions. The annual throughput of the cementitious distribution facility would be 100,000 tons/year, with about 70,000 tons/year used onsite to produce concrete and 30,000 tons/year exported commercially. The material used on site would be transported to the concrete plant using pneumatic bulk material trucks.

[27] ARB Technology Assessment: Freight Locomotives (2016)
[28] Cementitious materials are various materials used in the production of concrete.

Cementitious material will be transported to the site via rail by UPRR. The material would originate from outside the Bay Area. The incoming railcars would be bottom-discharge hopper railcars and would discharge their material within a sealed environment using boot-lift rail connectors and be conveyed via airslide conveyors to a bucket elevator which would carry the materials to the top of the storage silos. Coming off the elevator, material would discharge via fluidized conveyor to a fluidized distribution box, where the material is transferred to the silos. From the silos material will be transferred to a bucket elevator to feed a loadout bin. Emissions from the silos and loadout bin transfer operations would be controlled using dust collectors. Trucks receiving cementitious materials would be filled under the loadout bin using a loading spout with an integral dust collector. Emission modeling inputs are shown in Table 7.

Table 7. Cementitious Distribution Facility Emission Modeling Inputs

Process/Activity	Value	Comments
Annual Days of Operation (days/year)	240	Provided by applicant
Hours of Operation - Typical (hours/day)	10	Provided by applicant
Hours of Operation - Maximum (hours/day)	18	Provided by applicant
Annual Material Received (tons/year)	100,000	Provided by applicant
Material Received by Rail (tons/year)	100,000	Provided by applicant
Number of Storage Silos	2	Provided by applicant
Storage Silo Capacity (tons), per silo	4,000	Provided by applicant
Truck Loadout Silo (tons)	200	Provided by applicant
Material used On-Site (tons/year)	70,000	Calculated
Material Exported Off-Site (tons/year)	30,000	Calculated
Pneumatic Truck Load (tons)	20	Provided by applicant
Annual Trucks - Pneumatic Trucks On-Site use (trucks/year)	3,500	Calculated
Annual Trucks - Pneumatic Trucks Off-Site Export (trucks/year)	1,500	Calculated
Average One-Way Truck Travel Distance (miles)	30	Provided by applicant
Rail Deliveries per Year	100	Provided by applicant
One-way Train Trip Distance (miles)	57	Estimated travel between the San Joaquin County Line and project site in San Jose.
Railcars per Delivery	10	Provided by applicant
Locomotives used per Delivery	1	Provided by applicant
Locomotive Model	UPRR	Provided by applicant
Locomotive Weight (tons)	204	CARB (2016)
Locomotive Idle Time at Site (minutes)	20	Provided by applicant
Empty Rail Car Weight (tons)	30	Provided by applicant
Cement Weight per Railcar (tons)	100	Provided by applicant
Cementitious Load per Rail Delivery (tons)	1,000	Calculated
Number of Railcar Unloading Stations	1	Provided by applicant
Single Railcar Unloading Time (minutes)	45	Provided by applicant
Total Unloading Time per Delivery (hours)	7.5	Calculated

Concrete Plant

A new ready-mix concrete plant would be constructed in the central portion of the site to replace the existing facility on the site. Ready-mix operations involve mixing of aggregate and sand with cement and water to manufacture ready-mix concrete. The new concrete plant would enable aggregate to be conveyed directly from the newly constructed silos associated with the aggregate distribution facility so that all materials could be handled within an enclosed environment. The conveyor will discharge into surge hoppers that feed directly into a single bucket elevator. The bucket elevator will carry the material to the top of enclosed vertical storage bins. The weigh bins will discharge into three separate weigh hoppers. Each hopper will be located above a mixer. Trucks will fill nine powder (cement and cement supplement) storage silos, located at mixer level. Silos will discharge via screw conveyors into three powder weigh batchers adjacent to the mixers. The powder weigh batchers will discharge into the mixers by way of screw conveyors. The aggregate, powder, and water weigh hoppers will feed the output mixers. Once mixing is complete, the ready-mix product will be discharged out of the mixer into gob hoppers located below the mixers, where it will be held until the ready-mix trucks are ready to accept the product.

The powder materials for the concrete plant will come from the Cementitious Distribution Facility. Dry bulk pneumatic trucks will be used to transport the material from the Cementitious Distribution Facility to the Concrete Plant. A modern concrete truck washout and reclaiming system would be installed to reclaim left-over concrete, sand and water for reuse. The Concrete Plant, will be contained within a 110 foot tall building enclosed on all four sides. The base of the building will be open on two sides to allow concrete trucks to enter and exit the facility for loading.

The maximum annual throughput of the proposed concrete plant would increase from the existing production level of 70,000 cubic yards per year to 300,000 cubic yards per year. Emission modeling inputs are shown in Table 8.

Table 8. Concrete Plant Emission Modeling Inputs

Process/Activity	Value	Comments
Annual Days of Operation (days/year)	300	Provided by applicant
Hours of Operation - Typical (hours/day)	12	Provided by applicant
Hours of Operation - Maximum (hours/day)	24	Provided by applicant
Annual Concrete Production (cu yds/year)	300,000	Provided by applicant
Maximum Hourly Concrete Production Rate (cu yds/hour)	400	Provided by applicant
Aggregate Received from Aggregate Distribution Facility (tons/year)	279,750	Calculated
Sand Received from Aggregate Distribution Facility (tons/year)	214,200	Calculated
Aggregate Transfer Conveyor from Aggregate Distribution Facility (tons/hour)	400 - 600	Provided by applicant
Aggregate Moisture Content (%)	4.4	Provided by applicant
Sand Moisture Content (%)	8	Provided by applicant
Number of Cement & Other Powder Storage Silos	9	Provided by applicant
Storage Silo Capacity (tons)	100	Provided by applicant

Cement Received by Pneumatic Truck (tons/year)	73,650	Calculated
Cement Supplement (Fly Ash) Received by Pneumatic Truck (tons/year)	10,950	Calculated
Cement/Fly Ash Truck Load (tons)	20	Provided by applicant
Annual Truck Loads - Cement/Fly Ash Import (trucks/year)	4,230	Calculated
Concrete Truck Capacity (cu. yds)	9	Provided by applicant
Annual Truck Loads - Concrete Export (trucks/year)	33,333	Calculated
Average One-Way Truck Travel Distance (miles)	9	Provided by applicant

Asphalt Plant

The project would construct a new asphalt plant in the central portion of the site. The asphalt plant would be a batch mixed plant using a counter flow natural gas fired rotary drum dryer. Aggregate for the asphalt plant would be conveyed directly from the newly constructed silos associated with the aggregate distribution facility so that all materials would be handled within a fully enclosed environment. RAP material would be similarly conveyed in covered conveyors from the recycle yard to the asphalt plant. Aggregate is transferred to the rotary dryer to heat the aggregate and reduce the moisture content to near zero. The hot aggregate is screened and graded and transferred to storage hoppers after drying. Aggregates and RAP are discharged from the hoppers into a weigh hopper, along with heated asphalt oil and powder filler material as needed. The weigh hopper discharges directly into the mixer. The finished HMA is discharged from the mixer to an enclosed conveyor which then transfers the HMA to the elevated storage silos. Stored material is dropped directly into trucks through clamshell gates in the bottom of each silo. The Asphalt Plant, excluding the drum dryer, baghouse structure and dryer baghouse exhaust stack, will contained within a 101-foot tall building enclosed on all four sides. The base of the building will be open on two sides to allow asphalt trucks to enter and exit the facility for loading. The annual throughput of the asphalt plant would be 750,000 tons/year. Emission modeling inputs are shown in Table 9.

Table 9. Asphalt Plant Emission Modeling Inputs

Process/Activity	Value	Comments
Asphalt Plant Type	Batch mix using counter flow drum dryer	Provided by applicant
Asphalt Dryer Size (cubic feet)	222	Provided by applicant
Asphalt Dryer Fuel Type	Natural gas	Provided by applicant
Number of Mixers	2	Provided by applicant
Annual Days of Operation (days/year)	260	Provided by applicant
Hours of Operation - Typical (hours/day)	12	Provided by applicant
Hours of Operation - Maximum (hours/day)	24	Provided by applicant
Maximum Annual Hot Mix Asphalt (HMA) Production (tons/year)	750,000	Provided by applicant
Maximum Hourly Hot Mix Asphalt Production (tons/hour)	540	Provided by applicant
Drum Dryer Emission Level - NOx (ppmvd @ 15% O_2)	12	Provided by applicant

Drum Dryer Emission Level - CO (ppmvd @ 15% O_2)	265	Provided by applicant
Drum Dryer Emission Level - VOC (lb/ton)	0.0082	EPA AP-42 Section 11.1
Drum Dryer Emission Level - PM (grains/dscf)	<= 0.01	Provided by applicant
Approx. Amount of Aggregate and RAP Transferred to Asphalt Plant (ton/year)	652,500	Calculated
Approx. Amount of Filler Material for Asphalt (ton/year)	56,250	Calculated
Liquid Asphalt used by Asphalt Plant (tons/year)	41,250	Calculated
Assumed Maximum Percent RAP used for Asphalt Production (%)	35	Calculated
RAP Transfer Conveyor from Recycle Yard Capacity (tons/hour)	265	Provided by applicant
Aggregate Transfer Conveyor from Aggregate Distribution Facility (tons/hour)	400 - 600	Provided by applicant
Aggregate/RAP Moisture Content (%)	4.4	Provided by applicant
Asphalt Silos - Hourly HMA Filling Rate (tons/hour)	300	Provided by applicant
Asphalt Silos - Hourly HMA Loading Rate to Trucks (tons/hour)	300	Provided by applicant
HMA Truck Load (tons)	14	Provided by applicant
Annual Trucks - HMA Export (trucks/year)	53,571	Calculated
Average One-Way Truck Travel Distance (miles)	10	Provided by applicant
Number of Liquid Asphalt Storage Tanks	6	Provided by applicant
Liquid Asphalt Storage Tank Capacity (tons)	75	Provided by applicant
Heating Method for Liquid Asphalt Tanks	Electric	Provided by applicant
Liquid Asphalt Truck Load (tons)	20	Provided by applicant
Annual Liquid Asphalt Trucks - Import (trucks/year)	2,063	Provided by applicant
Average One-Way Liquid Asphalt Truck Travel Distance (miles)	30	Estimated

Recycle Yard

Currently, a recycle yard consisting of open-air piles of recycled construction materials such as asphalt and concrete is located in the central portion of the site. These materials are delivered via truck, sorted and processed on-site, and exported via truck to the end users. Under the proposed project, the recycle yard would shift to the eastern portion of the site and receive the same amount of materials (650,000 tons/year). However, instead of exporting all the materials as is the practice under existing conditions, the project would utilize 350,000 tons/year for onsite asphalt, resulting in a reduction in export of recycled materials. Emission modeling inputs are shown in Table 10.

Table 10. Recycle Yard Emission Modeling Inputs

Process/Activity	Value	Comments
Recycle Area Size (acres)	4.10	Provided by applicant
Total Area of Storage Piles (acres)	2.5	Provided by applicant
Annual Days of Operation (days/year)	240	Provided by applicant
Hours of Operation - Typical (hours/day)	9	Provided by applicant

Hours of Operation - Maximum (hours/day)	24	Provided by applicant
Recycle Material Processing Hours - Typical (hours/day)	5	Provided by applicant
Annual Material Received-Broken Asphalt (tons/year)	350,000	Provided by applicant
Annual Material Received-Broken Concrete (tons/year)	200,000	Provided by applicant
Annual Material Received-Mixed Loads Asphalt & Concrete (tons/year)	100,000	Provided by applicant
Annual Material Received - Total (tons/year)	650,000	Provided by applicant
Recycle Material Processed (tons/year)	650,000	Provided by applicant
Processed Material Exported Off-Site (tons/year)	300,000	Provided by applicant
Processed Material Used On-Site (tons/year)	350,000	Provided by applicant
Concrete/Asphalt Truck Load (tons)	20	Provided by applicant
Annual Trucks - Recycle Materials Import (trucks/year)	32,500	Calculated
Annual Trucks - Processed Materials Export (trucks/year)	15,000	Calculated
Average One-Way Truck Import/Export Travel Distance (miles)	20	Provided by applicant
Material Moisture Content (%)	4.4	Provided by applicant
Unpaved Road Silt Content (%)	8.3	AP-42 Table 13.2.2-1 for stone quarrying and processing, haul road

Ancillary Facilities

A new 10,000 square-foot materials warehouse and storage facility would be constructed in the western portion of the site to support existing and proposed site operations. Additionally, a new 5,500 square-foot quality assurance/quality control (QA/QC) facility with office space would be constructed in the southern portion of the site to support existing and proposed site operations.

Baseline Facility Processes/Activity Inputs

Figure 7 shows the aerial of the Existing Project along with locations of sources or process/activity areas. The blue outline is the site boundary. Much of the entire 22-acre site is unpaved. While watering is used to control emissions, there are fugitive emissions from vehicle travel and equipment disturbance, open-air loading and unloading operations, and wind erosion. The existing spur runs along the northeastern site boundary and has the capacity to handle about 25 railcars. Graniterock currently receives material via railcar and truck. There are currently 28 employees or visitors that come to the site each day. Annual average and average daily emissions were calculated for the baseline year of 2020 based on 2020 production rates, material throughputs, other activity data, and associated operational schedules.

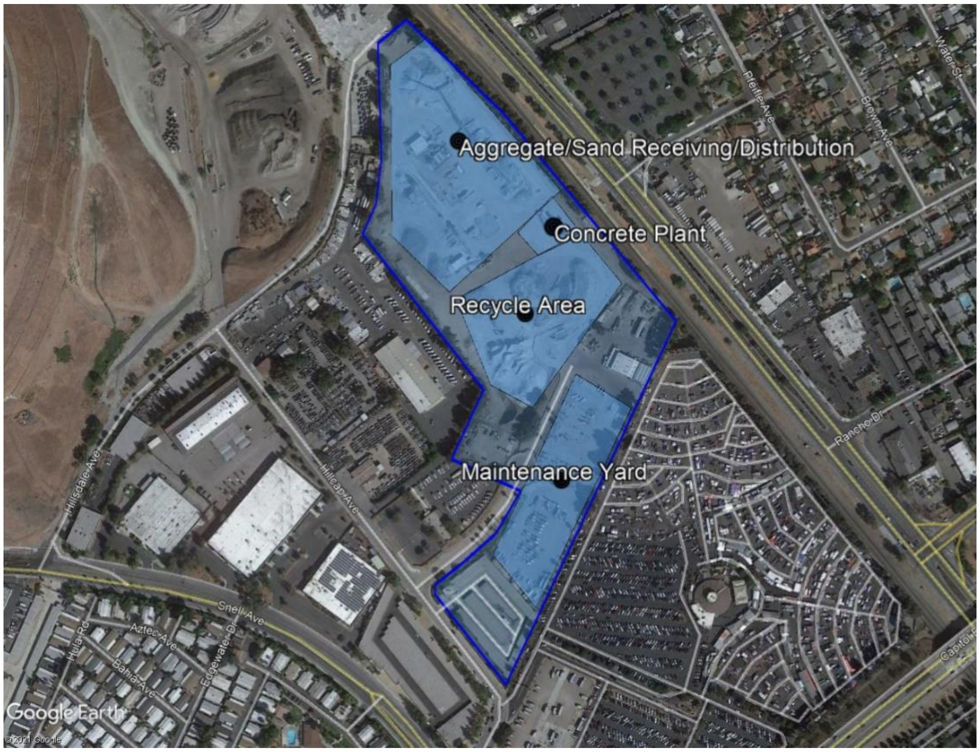


Figure 7. Baseline Facility Activity Areas

Aggregate/Sand Receiving, Storage & Truck Loading

Aggregate and sand is received by rail and truck and stored in open piles at the northern portion of the site. Aggregate from the A.R. Wilson Quarry in Aromas, California is transported to the site by UPRR. There are about 25 deliveries of aggregate per year with 10 railcars per delivery. Currently there is a single railcar unloading station capable of unloading a railcar at the rate of 400 tons/hour. Aggregate is unloaded from bottom dump railcars to an unloading pit discharge hopper then conveyed to open storage piles by either a radial stacker or a tripper conveyor system. Additional sand and aggregate from the A.R. Wilson Quarry is brought to the site by truck. A portion of the aggregate and sand is used by the existing concrete plant and the remainder is exported commercially.

All truck and equipment travel within the existing site is over unpaved areas. Trucks coming to the site to pick up sand and aggregate also travel over unpaved areas while at the site. A front-end loader is used to manage material stockpiles and load trucks receiving stored materials. Emission modeling inputs for the baseline Aggregate/Sand Receiving, Storage & Truck Loading Area are shown in Table 11.

Table 11 Baseline Aggregate/Sand Receiving. Storage & Truck Loading Area Emission Modeling Inputs

Process/Activity	Value	Comment
Annual Days of Operation (days/year)	250	Provided by applicant
Days per Week Operation - Typical (days/week)	5	Provided by applicant
Hours of Operation - Typical (hours/day)	9	Provided by applicant
Hours of Operation - Maximum (hours/day)	24	Provided by applicant
Total Area of Storage Piles (acres)	1.2	Estimated from aerial image
Annual Aggregate/Sand Received (tons/year)	150,300	Provided by applicant
Aggregate Received by Rail (tons/year)	25,000	Provided by applicant
Aggregate Received by Truck (tons/year)	65,300	Provided by applicant
Sand Received by Truck (tons/year)	60,000	Provided by applicant
Aggregate/Sand Truck Import Trip Distance - from A.R. Wilson Quarry (miles)	45	Provided by applicant
Aggregate & Sand used by Cement Plant (tons/year)	115,300	Provided by applicant
Aggregate & Sand Exported Off-Site by Truck (tons/year)	35,000	Provided by applicant
Aggregate Exported Off-Site by Truck (tons/year)	25,000	Provided by applicant
Sand Exported Off-Site by Truck (tons/year)	10,000	Provided by applicant
Aggregate/Sand Truck Load (tons)	20	Provided by applicant
Annual Truck Loads - Aggregate Export (trucks/year)	1,250	Provided by applicant
Annual Truck Loads - Sand Export (trucks/year)	500	Provided by applicant
Average One-Way Aggregate/Sand Export Truck Travel Distance (miles)	7.5	Provided by applicant
Rail Deliveries per Year	25	Provided by applicant
Locomotive Model	UPRR	Provided by applicant
Locomotive Weight (tons)	204	CARB (2016)[29]
Rail Trip Distance from A.R. Wilson Quarry (miles)	37	Measured from Google Earth
Railcars per Delivery	10	Provided by applicant
Locomotives used per Delivery	1	Provided by applicant
Locomotive Idle Time at Site (minutes)	30	Provided by applicant
Empty Rail Car Weight (tons)	27.8	Provided by applicant
Railcar Capacity (tons)	100	Provided by applicant
Aggregate Load per Rail Delivery (tons)	1,000	Calculated
Number of Railcar Unloading Stations	1	Provided by applicant
Single Railcar Unloading Rate (tons/hour)	400	Provided by applicant
Single Railcar Unloading Time (minutes)	15	Calculated
Total Unloading Time per Delivery (hours)	2.5	Calculated
Aggregate Material Moisture Content (%)	4.4	Provided by applicant
Sand Moisture Content (%)	8	Provided by applicant

Concrete Plant

A ready-mix concrete plant near the center of the site is permitted by the BAAQMD to produce a maximum of 250,500 cubic yards per year. Actual concrete production has been less than the

[29] ARB Technology Assessment: Freight Locomotives (2016)

permitted maximum quantity. For 2020 baseline conditions 70,000 cubic yards of concrete was produced. Operation of the concrete is essentially the same as described above for the proposed project with the exceptions of the following. All access areas surrounding the plant are unpaved. The aggregate and sand used by the concrete plant is delivered from open storage piles to a transfer hopper at the plant by a front-end loader. From the hopper the material is conveyed to four elevated open storage bins. The existing plant uses a single mixer and has one truck loading bay. Emissions modeling inputs for the baseline Concrete Plant are shown in Table 12.

Table 12 Baseline Concrete Plant Modeling Inputs

Process/Activity		Value	Comment
	Annual Days of Operation (days/year)	250	Provided by applicant
	Hours of Operation - Typical (hours/day)	8	Provided by applicant
	Hours of Operation - Maximum (hours/day)	12	Provided by applicant
	Annual Concrete Production (cu yds/year)	70,000	Provided by applicant
	Maximum Hourly Concrete Production Rate (cu yds/hour)	120	Provided by applicant
	Total Area of Aggregate & Sand Storage Piles (acres)	0.75	Provided by applicant
	Aggregate Received by Truck (tons/year)	65,300	Calculated
	Sand Received by Truck (tons/year)	50,000	Calculated
	Aggregate/Sand Truck Load (tons)	20	Provided by applicant
	Annual Truck Loads - Aggregate Import (trucks/year)	3,265	Calculated
	Annual Truck Loads - Sand Import (trucks/year)	2,500	Calculated
	Aggregate Material Moisture Content (%)	4.4	Provided by applicant
	Sand Moisture Content (%)	8	Provided by applicant
	Cement Received by Pneumatic Truck (tons/year)	17,200	Calculated
	Cement Supplement (Fly Ash) Received by Pneumatic Truck (tons/year)	2,600	Calculated
	Cement/Fly Ash Truck Load (tons)	20	Provided by applicant
	Annual Truck Loads - Cement/Fly Ash Import (trucks/year)	990	Calculated
	Number of Cement & Other Powder Storage Silos	2	Provided by applicant
	Concrete Truck Capacity (cu. yds)	9	Provided by applicant
	Annual Truck Loads - Concrete Export (trucks/year)	7,778	Calculated
	Average One-Way Truck Travel Distance (miles)	9	Provided by applicant

Recycle Yard

The current recycling operations as the site operate under a permit from the BAAQMD for the processing equipment (crushing of construction materials) which includes a maximum daily processing limitation of 10,000 tons per day. Recycling operations normally process materials at a lower rate than the maximum allowed processing rate. The Recycle Yard currently processes up to 650,000 cubic yards of material per year of construction materials (i.e., asphalt and concrete). All current recycling operations occur in unpaved areas. Recyclable materials are delivered via truck, sorted and processed on-site using portable crushing and conveying equipment, and exported via truck to the end users. Typically, a front-end loader and excavator operate in the Recycle Yard area. Modeling inputs for the baseline Recycle Plant are shown in Table 13.

Table 13 Baseline Recycle Plant Modeling Inputs

Process/Activity		Value	Comment
	Recycle Area Size (acres)	4.55	Provided by applicant
	Total Area of Storage Piles (acres)	2.5	Provided by applicant
	Annual Days of Operation (days/year)	240	Provided by applicant
	Hours of Operation - Typical (hours/day)	9	Provided by applicant
	Hours of Operation - Maximum (hours/day)	24	Provided by applicant
	Recycle Material Processing Hours - Typical (hours/day)	5	Provided by applicant
	Annual Material Received-Broken Asphalt (tons/year)	300,000	Provided by applicant
	Annual Material Received-Broken Concrete (tons/year)	350,000	Provided by applicant
	Annual Material Received - Total (tons/year)	650,000	Provided by applicant
	Recycle Material Processed (tons/year)	650,000	Provided by applicant
	Processed Material Exported Off-Site (tons/year)	650,000	Provided by applicant
	Concrete/Asphalt Truck Load (tons)	20	Provided by applicant
	Annual Trucks - Recycle Materials Import (trucks/year)	32,500	Calculated
	Annual Trucks - Processed Materials Export (trucks/year)	32,500	Calculated
	Average One-Way Truck Import/Export Distance (miles)	20	Provided by applicant
	Material Moisture Content (%)	4.4	Provided by applicant
	Unpaved Road Silt Content (%)	8.3	AP-42 Table 13.2.2-1

Equipment Storage and Maintenance Yard

The eastern portion of the project site is currently utilized for equipment storage and maintenance. These operations would be removed from the site, and the area would be utilized for the relocated recycle yard and the new rail spur. Emissions from existing activities include truck trips, short-term equipment operation to load or unload equipment on to trucks and fugitive dust from the unpaved surfaces. These emissions were modeled using CalEEMod. The model computed emissions assuming 365-day operation and these were adjusted downward to account for the number of days the yard actually operates per year. Construction modeling inputs are shown in Table 14.

Table 14 Equipment Storage and Maintenance Yard Modeling Inputs

Process/Activity	Value	Comments
Equipment Yard Size (acres)	3.0	Estimated for CalEEMod
Total Unpaved Area (acres)	3.0	Estimated for CalEEMod
Annual Days of Operation (days/year)	260	Provided by applicant
Truck trips (trips per day)	110	Traffic Report
Qty. Construction Equipment (loading or unloading per day)	50	Estimated with applicant
Equipment operation time (minutes unloading or loading)	15	Estimated with applicant

GHG Emissions Analysis Methodology

Greenhouse gas emissions associated with the development of the proposed project were also computed. The BAAQMD CEQA Air Quality Guidelines provide guidance for calculating project emissions[30]. Emissions from area sources, mobile sources and electricity usage are recommended by BAAQMD. Area and mobile source emissions were modeled, as recommended by BAAQMD. Emissions from sources that are permitted by BAAQMD but subject to permitting are reported separately. The following sources of GHG emissions were identified as part of this project:

- On-site operation of off-road equipment (e.g., construction type equipment and locomotives)
- On-site vehicle travel (e.g., truck and worker traffic)
- Off-site vehicle travel (e.g., truck and worker traffic)
- On-site processes
- Electricity usage to power the different plants and conveyors
- Electricity associated with warehouse and office buildings
- Natural gas associated with warehouse and office buildings
- Outdoor water usage associated with different plants, operations and dust control
- Indoor water usage associated with warehouse and office buildings
- Solid waste associated with warehouse and office buildings

While there may be other minor sources of GHG emissions, these sources account for most emission currently occurring and new emissions that will occur at the facility.

<u>Vehicle Travel and Equipment Exhaust Emissions</u>

GHG emissions from vehicle travel, both on and off site, along with off-road mobile equipment operation were computed using the same modeling techniques as conducted for the criteria air pollutants.

<u>Stationary Equipment</u>

Stationary equipment consists of major components of the aggregate distribution facility, concrete plant, recycle yard processing equipment, and asphalt plant, which would be permitted by BAAQMD. However, other than the asphalt plant and portable equipment used at the Recycle Plant, this equipment does not emit CO_2 directly to the atmosphere since the facility plans to utilize electric power to operate this equipment.

<u>Indirect Emissions from Electricity Usage</u>

Indirect emissions of CO_2 would occur because of electricity consumption. Graniterock provided electricity usage for existing (baseline) conditions and Proposed Project projections. For existing and future buildings, CalEEMod was used to predict electricity based on building type and square footage. Pacific Gas and Electricity (PG&E) provides electricity to Graniterock. In order to compute these emissions, CalEEMod was used to combine PG&E emissions factors and electricity consumption rates. CalEEMod has a default emission factor of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. PG&E published in 2019 emissions rates for 2010 through 2018, which showed the emission rate for delivered electricity had been reduced to 206 pounds CO_2 per megawatt of electricity delivered in the year 2018.[31]

<u>Indirect Emissions from Water Usage</u>

[30] California Air Pollution Control Officers Association, 2008, *CEQA & Climate Change*, January.
[31] PG&E, 2019. *Corporate Responsibility and Sustainability Report*. Web:
https://www.pgecorp.com/corp_responsibility/reports/2019/en02_climate_change.html

Emissions from water usage were predicted using CalEEMod. Graniterock provided existing water usage as well as projections associated with the new plant equipment and operations. Water usage provided by Graniterock was assumed to be outdoor water. Indoor water, which is eventually treated, was estimated by CalEEMod based on building types and sizes.

Indirect Emissions from Solid Waste

CalEEMod along with the existing and new building types and sizes was used to estimate emissions from solid waste generated by the facility. Emissions computed were based on default conditions for the building types and sizes entered into CalEEMod.

Community Risk Methodology for Construction and Operation

The existing Graniterock facility operations and the proposed project will emit air pollutants, many of which are classified as TACs. TAC emissions associated with the existing operations (baseline conditions) and the proposed project are detailed in Attachments 2 and 3. Health risk and hazards caused by changes to emissions of air pollutants and TACs from the proposed project relative to baseline conditions were addressed by calculating increased cancer risk, the increase in annual $PM_{2.5}$ concentrations and computing the Hazard Index (HI) for non-cancer health risks. The risk impacts from the project are the combination of risks from construction and operation sources. The increased risks were assessed by modeling the health impacts from baseline conditions and the Proposed Project and calculating the change in impacts for the Proposed Project by subtracting the calculated health impacts at baseline conditions from the Proposed Project health impacts. Project sources include on-site construction activity, construction truck hauling, changes in rail activity, changes in traffic, particularly truck traffic, changes in on-site off-road equipment operation, removal of the maintenance yard, addition of a new concrete plant, addition of an asphalt plant, and addition of aggregate and cementitious distribution facilities . Since the existing site is currently unpaved and the Proposed Project would pave the entire site and store aggregate and cementitious materials in storage silos, there would be a substantial reduction in fugitive PM10 and PM2.5 emissions, which were accounted for in the health risk modeling for PM2.5 impacts.

Dispersion modeling is used to calculate TAC concentrations at sensitive receptor locations from project TAC emissions. Modeling allows the estimation of both short-term and long-term average concentrations in air for use in a risk assessment, accounting for site-specific terrain and meteorological conditions. Health risks potentially associated with the estimated TAC concentrations at sensitive receptors were characterized in terms of increased cancer risks, or comparison with reference exposure levels for non-cancer health effects.

To evaluate the increased cancer risks from a project, a 30-year exposure period is typically used, per BAAQMD guidance,[32] with the residential sensitive receptors being exposed to both project construction and operation emissions during this timeframe. The project increased cancer risk is computed by summing the project construction cancer risk and operation cancer risk contributions.

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

Unlike, the increased maximum cancer risk, the annual $PM_{2.5}$ concentration and chronic HI values are not additive but based on the annual maximum values for the entirety of the project, while the acute HI values are based on the maximum modeled short-term concentrations. The project's maximally exposed individual (MEI) is identified as the sensitive receptor that is most impacted by the project's construction and operation.

The health risk assessment (HRA) for exposure to TACs requires the application of a risk characterization model to the exposures results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[33] These guidelines incorporate methods designed to provide for enhanced protection of children, as required by State law. CARB has provided additional guidance on implementing OEHHA's recommended methods.[34] This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[35] Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer and non-cancer health risks may be due to inhalation and non-inhalation exposure pathways, depending on the types of TACs being evaluated. DPM is the primary TAC of concern for cancer risks from the operation of existing facility and from construction and operation of the Proposed Project. The exposure pathway for cancer and non-cancer risks from DPM is from inhalation exposure. DPM is emitted from off-road construction equipment, locomotives, heavy duty diesel fueled trucks, and from the diesel fueled engine used for the Recycle Yard processing equipment. Cancer and non-cancer inhalation health risks for the existing facility and Proposed Project DPM emissions were calculated using the methods described below.

In addition to DPM, the project would emit other TACs from the existing and proposed Concrete Plants, the proposed Asphalt Plant, and the proposed Cementitious Distribution Facility. These include organic TAC compounds, polycyclic organic hydrocarbons (PAHs), and metallic TACs. Many of these TACs have cancer and non-cancer health risks from both inhalation and non-inhalation exposure pathways. As such, for these TACs a multi-pathway exposure assessment was conducted using the CARB's Hotspots Analysis and Reporting Program Version 2 (HARP2) model to calculate cancer risks and non-cancer risks at nearby sensitive receptors. The BAAQMD risk assessment options in HARP2 were used for all analyses.[36] Descriptions of the methodology used by the HARP2 model for inhalation and non-inhalation exposure pathways can be found in the OEHHA risk assessment guidelines[37] and the HAPR2 User Manual[38]. The calculated health risks from DPM and other non-

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[33] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.
[34] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[35] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

[36] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.
[37] [37] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.
[38] CARB, 2015. *User Manual for the Hotspots Analysis and Reporting Program Air Dispersion Modeling and Risk Assessment Tool Version 2*. March 17, 2015.

DPM TACs were added together to obtain total health risks from all TACs. The sensitive receptor with the greatest health risks was identified as the MEI.

The Asphalt Plant would have emissions of organic TAC compounds, PAHs, and metallic TACs, while the existing and proposed Concrete Plants and Cementitious Distribution Facility would have emissions of metallic compounds.

DPM Inhalation Cancer Risk

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

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways).

Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day). As recommended by the BAAQMD for residential exposures, 95^{th} percentile breathing rates are used for the third trimester and infant exposures, and 80^{th} percentile breathing rates for child and adult exposures.

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

Functionally, cancer risk for each age group is calculated using the following parameters and formulas:

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

Where:

CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

Where:

C_{air} = concentration in air (μg/m^3)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

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The cancer risks for each age group are then summed to get the total cancer risk.

The health risk parameters used in this evaluation are summarized in Table 15.

Table 15 Health Risk Parameters for Cancer Risk Computations

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

Non-Cancer Hazards

Non-cancer health risk is usually determined by comparing the predicted level of exposure to a chemical to the level of exposure that is not expected to cause any adverse effects (reference exposure level), even to the most susceptible people. Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur. For DPM, the chronic inhalation REL is 5 micrograms per cubic meter (μg/m^3). Currently, there is no DPM REL for acute health effects.

Annual $PM_{2.5}$ Concentrations

While not a TAC, fine particulate matter (PM2.5) has been identified by the BAAQMD as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under the California Environmental Quality Act (CEQA). The thresholds of significance for PM2.5 (project level and cumulative) are in terms of an increase in the annual average concentration. When considering PM2.5 impacts, the contribution from all sources of PM2.5 emissions should be included. For projects with potential impacts from nearby local roadways, the PM2.5 impacts should include those from vehicle exhaust emissions, PM2.5 generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust on the roads.

Modeled Sensitive Receptors

Receptors for this assessment the sensitive receptors evaluated were existing residences within a 1,000 foot distance from the project site. There are no nearby schools within 1,000 feet of the project site. The receptor locations used for this analysis are shown in Figure 8. Residential receptors are assumed to include all receptor groups (i.e. infants, children, and adults) with almost continuous exposure to project emissions. Based on the exposure parameters used, these are considered the most sensitive receptors.

Community Risks from Project Construction

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to PM2.5. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and PM2.5. The CalEEMod model provided total annual PM10 exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles. The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length half a mile was used to represent vehicle travel while at or near the construction site.

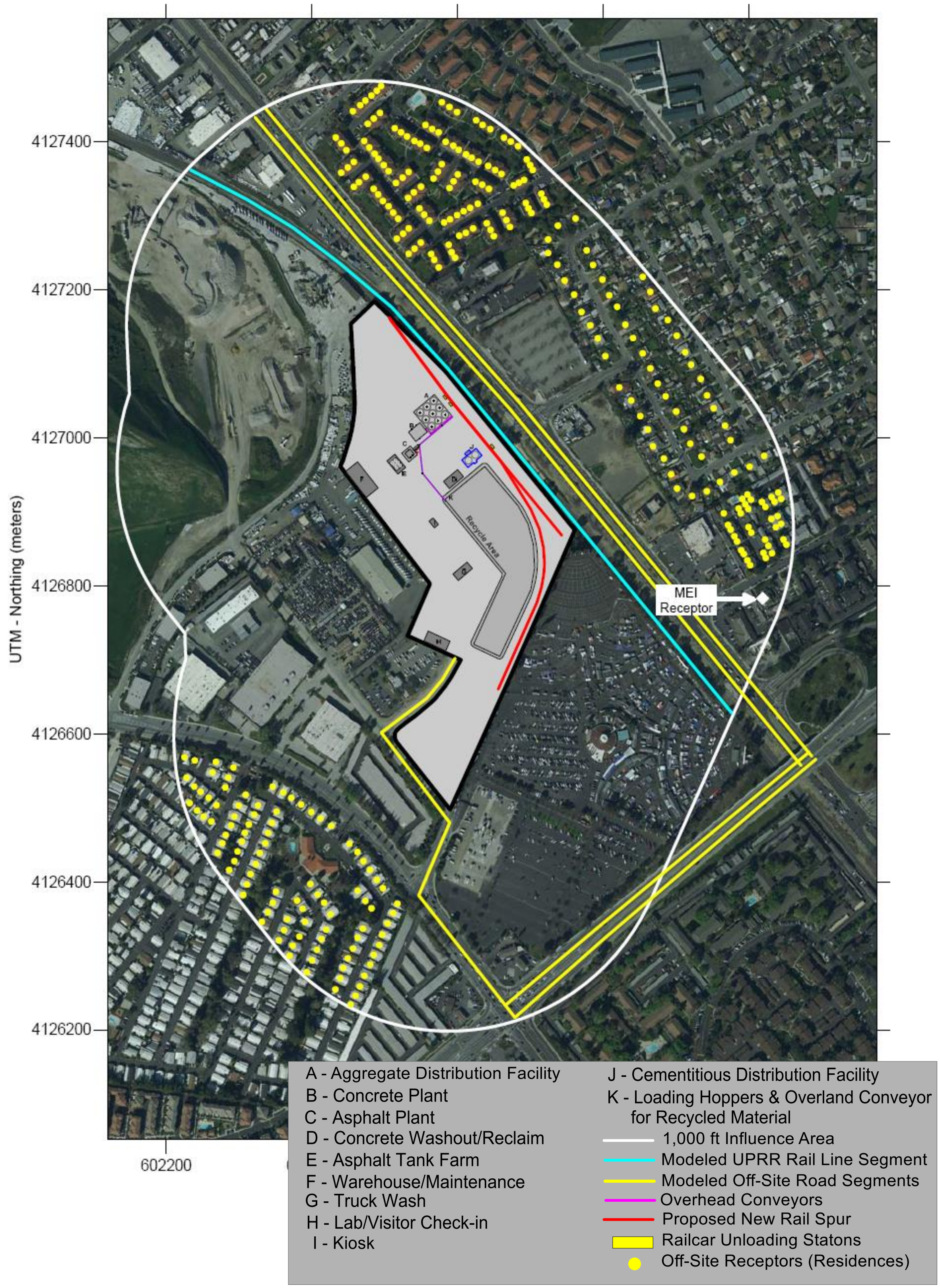

Figure 8 Proposed Project Site Activity Areas/Emissions Sources and Off-Site Receptors

Community Risks from Proposed Project and Baseline Operation

Potential health impacts from the existing facility baseline operation and the proposed project would be due to emissions of DPM, other TACs, and PM2.5. Health risk evaluations for operational emissions from the existing facility and proposed projects were conducted that evaluated potential health effects to nearby sensitive receptors. Dispersion modeling was performed to calculate DPM, TAC, and PM2.5 concentrations at sensitive receptors. Using these modeled concentrations, health risks at sensitive receptors were calculated using the methods described above.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict DPM, TAC and PM2.5 concentrations at sensitive receptors (residences) in the vicinity of the project area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[39] Modeling was used to evaluate impacts from project construction, the proposed project, and baseline conditions.

AERMOD Inputs and Meteorological Data

The modeling used a 5-year meteorological data set (2013-2017) from the San José International Airport prepared for use with the AERMOD model by the BAAQMD. This airport is approximately 6.5 miles northwest of the project site. Annual TAC and PM2.5 concentrations were computed using the model. DPM and PM2.5 concentrations were calculated at nearby sensitive receptor locations (residences). Receptor heights of 5 feet (1.5 meters) were used to represent the breathing heights of residences. The modeling was referenced in NAD 83 UTM coordinates and used USGS 10-meter resolution terrain elevation data.

Construction Sources

Project construction is expected to occur in phases over a 7-year period (2022 – 2027). For each year of construction activity construction emissions of DPM and PM2.5 from construction equipment and vehicles were calculated, along with fugitive PM2.5 dust emissions generated during construction. These emissions were modeled as area sources with the AERMOD model for each year of construction.

Emission from construction activities at the project site were grouped into two categories: exhaust emissions of DPM and fugitive PM2.5 dust emissions. For each year of construction modeled, the modeling utilized two area sources to represent the on-site construction emissions, one for exhaust emissions and one for fugitive dust emissions. To represent the construction equipment exhaust emissions, an area source with an emission release height of 20 feet (6 meters) was used for each year modeled.[40] The 20-foot (6 meters) release height used for the modeling construction equipment

[39] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.
[40] California Air Resource Board, 2007. *Proposed Regulation for In-Use Off-Road Diesel Vehicles, Appendix D: Health Risk Methodology*. April. Web: https://ww3.arb.ca.gov/regact/2007/ordiesl07/ordiesl07.htm

exhaust DPM emissions is a conservative estimate of the overall plume height and incorporates both the release height from the construction equipment (i.e., the height of the exhaust pipe) and plume rise after it leaves the exhaust pipe. Plume rise is due to both the high temperature of the exhaust and the high velocity of the exhaust gas. It should be noted that when modeling an area source, plume rise is not calculated by the AERMOD dispersion model as it would do for a point source (exhaust stack). Therefore, the release height from an area source used to represent emissions from sources with plume rise, such as construction equipment, is based on the height that the exhaust plume is expected to achieve, not just the height of the top of the exhaust pipe.

For modeling fugitive PM2.5 emissions, a near-ground level release height of 7 feet (2 meters) was used for the area sources. Fugitive dust emissions at construction sites come from a variety of sources, including truck and equipment travel, grading activities, truck loading (with loaders) and unloading (rear or bottom dumping), loaders and excavators moving and transferring soil and other materials, etc. All of these activities result in fugitive dust emissions at various heights at the point(s) of generation. Once generated, the dust plume will tend to rise as it moves downwind across the site and exit the site at a higher elevation than when it was generated. For all these reasons, a 7-foot release height was used as the average release height across the construction site. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources.

Construction emissions were modeled as occurring daily between 7:00 a.m. to 4:00 p.m. The emission rates used for dispersion modeling were calculated using the total annual construction emissions computed using CalEEMod (based on construction occurring 5 days per week) and dividing by 9 hours per day for 365 days (i.e., normalizing the emissions to an annualized pound per hour emission rate over the period being modeled). The dispersion modeling was conducted assuming emissions would occur 9 hours per day using the variable emission option in the U.S. EPA AERMOD dispersion model.

Operational Sources

Emission sources for baseline and the proposed project emissions were modeled with the AERMOD modeling using area, volume, and point source representations. Details of the emission source representations and associated emission rates and source parameters are provided in Attachment 4. Model runs were conducted for the following scenarios:

- Baseline Operation – PM2.5 emission sources
- Baseline Operation – DPM emission sources
- Proposed Project Operation – PM2.5 emission sources
- Proposed Project Operation – DPM emission sources
- Proposed Project Operation – TAC (non-DPM) emission sources

Baseline Operation PM2.5 and DPM emissions sources: Emissions from off-site and on-site locomotive operation and off-site vehicle travel were modeled as line volume sources. Roadways within the 1,000 foot influence area that were modeled include Granite Rock Way, Hillcap Avenue, Hillsdale Avenue, traffic on Capitol Expressway east of Hillsdale Avenue, and northbound and southbound traffic on Monterey Road. Emissions from on-site vehicle travel were modeled as an area source. Emissions from material receiving, handling, and storage at the aggregate facility were modeled as and area source. Emissions from material handling at the concrete plant were modeled as an area source. Emissions from the recycle area activities, which include fugitive dust, off-road mobile sources, and processing equipment, were combined and modeled as an area source. Emissions from the equipment storage and maintenance yard were modeled as an area source.

Proposed Project Operation PM2.5 emission sources: PM2.5 emissions from off-site and on-site locomotive operation and off-site vehicle travel were modeled as line volume sources. Roadways within the 1,000 foot influence area that were modeled include Granite Rock Way, Hillcap Avenue, Hillsdale Avenue, traffic on Capitol Expressway east of Hillsdale Avenue, and northbound and southbound traffic on Monterey Road. Emissions from on-site vehicle travel were modeled as four area sources.

At the Aggregate Distribution Facility, emissions from aggregate unloading from rail cars were modeled as two area sources. Aggregate transfer and storage emissions would be controlled by dust collectors and were modeled as eleven point sources. Truck loading from the storage silos were modeled as nine volume sources.

At the Cementitious Distribution Facility, all material receiving, handling, storage and truck loadout emissions would be controlled using dust collectors. Four point sources were used to represent these dust collectors.

At the Concrete Plant, all emission sources other than the aggregate and sand conveyors bringing materials to the plant would be contained within a 110-foot tall building enclosed on all four sides. The base of the building will be open on two sides to allow concrete trucks to enter and exit the facility for loading. There would be two sets of vents on two sides of the building near the top of the building where emissions would be vented to the atmosphere. These vents were modeled as four volume sources. For the material conveyors, there would be four transfer points along the conveyors. Each transfer point was modeled as a volume source.

At the Asphalt Plant, emission sources other than the main baghouse stack, transfer points along the aggregate and RAP conveyors, and asphalt loadout to trucks would be contained within a 101-foot tall building enclosed on all four sides. The base of the building will be open on two sides to allow asphalt trucks to enter and exit the facility for loading. There would be two sets of vents on two sides of the building near the top of the building where emissions would be vented to the atmosphere. These vents were modeled as four volume sources. Emissions from the aggregate and RAP conveyors were modeled using three volume sources for each conveyor system to represent the conveyor transfer points. Emissions from truck loading from the silos were modeled as two volume sources, one at the truck entrance and one at the truck exit of the asphalt plant building. Emissions from a 63-foot tall asphalt plant baghouse stack were modeled as a point source.

For the Recycle Area, emissions from the recycle area activities, which include fugitive dust, off-road mobile sources, and processing equipment, were combined and modeled as an area source.

Proposed Project Operation DPM emission sources: DPM emissions for the proposed project would be from off-site and on-site locomotive activity, on-and off-site diesel vehicle travel, and emissions from off-road mobile and portable equipment operating in the Recycle Area. DPM emissions from off-site and on-site locomotive operation and off-site vehicle travel were modeled as line volume sources. Roadways within the 1,000 foot influence area that were modeled include Granite Rock Way, Hillcap Avenue, Hillsdale Avenue, traffic on Capitol Expressway east of Hillsdale Avenuue, and northbound and southbound traffic on Monterey Road. Emissions from on-site vehicle travel were modeled as four area sources. DPM exhaust emissions from off-road equipment were modeled as an area source in the Recycle Area.

Proposed Project Operation TAC (non-DPM) emission sources: Non-DPM TAC emission sources include the main asphalt plant baghouse stack, with emissions from the dryer and emissions vented from silo filling operations, truck loadout from the silos, liquid asphalt storage tanks, dust collectors at the Cementitious Materials Distribution Facility, and building vents at the Concrete Plant. Modeling of these emission sources with AERMOD was used to provide normalized concentrations at sensitive receptor locations based on unit emission values (X/Q) from the sources. The normalized concentrations were then used by the HARP2 model along with the emission rates for the individual TAC emissions from each source to calculate ground level TAC concentrations and associated health risks at each receptor location. The emission source configurations used for this modeling were the same as identified above for the DPM source modeling for those sources with non-DPM TAC emissions.

Odor Analysis

Diesel exhaust from construction equipment, mobile trucks and rail locomotives and air emissions from the asphalt plant will contain small quantities of odorous substances. Graniterock currently produces emissions associated with diesel-powered equipment, aggregate processing, recycling of concrete and asphalt and UPRR train activity. There are no confirmed odor complaints documented for the facility. The Proposed Project would include an asphalt plant that will incorporate modern technology designed to reduce emissions, including emissions of odorous organic compounds, by capturing emissions from handling the produced HMA and silo filling then routing these emissions to the dryer burner combustion zone to reduce concentrations of odorous substances. Additionally, filing trucks with HMA can be a source of odor compounds. Emissions from truck loading would be captured and controlled. BAAQMD identifies potential odor impacts from asphalt plants that are located within 2 miles of odor-sensitive receptors.

A qualitative analysis is provided that describes potential odor emissions, wind conditions in the area, record of recorded odor complaints received by BAAQMD for similar operations, and BAAQMD authority to limit odorous emissions from the facility. The BAAQMD CEQA Air Quality Guidelines identify the steps to address odor impacts:

Disclose of Odor Parameters. This step describes the source in terms of the type, frequency odors are emitted, distance between source and receptors, meteorological conditions that could lead to odors (typically wind flow orientation).

Screening Distances. The screening distance for an Asphalt Plant is 2 miles. This odor screening distances is not an absolute threshold, rather an indicator that further analysis is required. The Lead Agency is to make the determination based on consideration of the other parameters listed in this process to comprehensively evaluate potential odor impacts.

Complaint History. In this case, since there is no existing asphalt plant at the facility (or other odor source), a complaint history from similar facilities was obtained from BAAQMD. These surrogate odor complaints are evaluated for their distance from source to receptor, and then compared with the distance from the proposed project to receptors. Odor complaints from the surrogate odor source are considered substantial if the complaint history includes more than five confirmed complaints per year averaged over a 3-year period. Differences between the proposed Asphalt Plant and similar sources with complaint histories are evaluated.

AIR QUALITY IMPACTS AND MITIGATION MEASURES

Impact: **Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?**

The Bay Area is considered a non-attainment area for ground-level ozone and PM2.5 under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM10 under the California Clean Air Act, but not the federal act. The area has attained both State and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and PM10, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NO_X), PM10, and PM2.5 and apply to both construction period and operational period impacts.

This section summarizes criteria air pollutant emissions from the project, broken down by each emission component. Details of the emission calculations and equipment lists are provided in ***Attachment 1*** for construction, ***Attachment 2*** for existing or baseline operation and ***Attachment 3*** for Proposed Project Operation.

Construction Period Emissions

Table 16 summarizes the construction emissions. ***Attachment 1*** provides the emissions modeling computations and assumptions. As previously described, construction would occur over three phases that would be constructed beginning in 2022 and last until 2027 when the project becomes fully operational. Note that the average daily and annual emissions reflect the number of days of construction for each year, as indicated in the table.

Table 16. Construction Emissions

Construction Phase/Year	ROG	NOx	PM10 Exhaust	PM2.5 Exhaust
	Annual Emission in Tons			
Phase 1 2022	0.34	3.29	0.18	0.14
Phase 1 2023	0.46	2.33	0.13	0.10
Phase 2 2024	0.03	0.32	0.01	0.01
Phase 2 2025	0.31	1.11	0.05	0.04
Phase 3 2026	0.11	1.04	0.05	0.04
Phase 3 2027	0.25	0.59	0.03	0.02
	Average Daily Emission in Pounds			
Phase 1 2022 – 175 workdays	3.92	37.60	2.01	1.64
Phase 1 2023 – 225 work days	4.13	20.75	1.19	0.92
Phase 2 2024 – 47 workdays	1.46	13.77	0.62	0.57
Phase 2 2025 – 212 workdays	2.94	10.45	0.45	0.41

Phase 3 2026 – 175 workdays	1.29	11.90	0.56	0.47
Phase 3 2027 – 124 workdays	4.03	9.54	0.46	0.38
BAAQMD Thresholds	*54 lbs/day*	*54 lbs/day*	*82 lbs/day*	*54 lbs/day*
Exceed Threshold?	*No*	*No*	*No*	*No*

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM10 and PM2.5. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. San Jose General Policy MS-10.1specifies that projects should Assess projected air emissions from new development in conformance with the BAAQMD CEQA Guidelines and relative to state and federal standards and identify and implement feasible air emission reduction measures requires construction projects to implement these measures as follows:

Construction projects shall implement the following best management practices that are required of all projects:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48

hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

The measures above are consistent with BAAQMD-recommended basic control measures for reducing construction related fugitive particulate matter that are contained in the BAAQMD CEQA Air Quality Guidelines.

Baseline Operational Emissions

Table 17 summarizes the emissions associated with each of the baseline operations described above. ***Attachment 2*** provides the emissions modeling computations and assumptions. Existing operations at the Graniterock facility are considered as baseline conditions. Note that the average daily and annual emissions reflect the number of days the facility operates per year. As previously described, these conditions include the following operations:

Aggregate/Sand Receiving-Storage-Export. Graniterock currently receives aggregate and sand via truck and railcar and stockpiled outdoors (uncontrolled). Railcars are unloaded by a single railcar unloading station and conveyed to the stockpiles. The annual throughput of the aggregate distribution facility would increase from 150,300 tons/year.

Concrete Plant. Graniterock currently operates an unenclosed concrete plant that produces 70,000 tons per year.

Recycle Yard. Graniterock currently operates an open-air recycle yard that receives, processes, and exports 650,000 tons/year of concrete and asphalt materials. The yard is unpaved.

Maintenance Yard. The eastern portion of the Graniterock facility is utilized for equipment storage and maintenance. Construction-type equipment is dropped off and picked up regularly by trucks. This equipment is also tested and maintained requiring frequent short-term operation. Truck traffic occurs throughout the day.

Rail Emissions. Rail emissions currently occur as aggregate is imported to the facility.

Other Facility Traffic. Truck traffic is computed for each process identified above. Other facility traffic includes workers, deliveries and miscellaneous trips.

Table 17. Baseline Emissions

Activity/Processing Areas	NOx	CO	ROG	PM10 total	PM2.5 total
	Average daily emissions in pounds				
Aggregate/Sand Receiving-Storage-Export	7.16	1.87	0.442	38.54	4.38
Concrete Plant	24.69	2.10	0.590	23.34	4.07
Recycle Yard	113.99	20.51	4.215	157.84	20.34
Maintenance Yard	31.19	10.46	1.597	2.58	1.19
Rail Emissions	2.18	0.54	0.101	0.05	0.05
Other Facility Traffic	0.23	2.40	0.053	1.51	0.16
Baseline Total lbs./day	**179.4**	**37.9**	**7.0**	**223.9**	**30.2**
	Annual Emissions in tons				
Aggregate/Sand Receiving-Storage-Export	0.90	0.23	0.055	1.13	0.19
Concrete Plant	3.09	0.26	0.074	2.94	0.52
Recycle Yard	13.68	2.46	0.506	19.21	2.55
Maintenance Yard	4.05	1.36	0.208	0.34	0.15
Rail Emissions	0.27	0.07	0.013	0.01	0.01
Other Facility Traffic	0.04	0.36	0.008	0.23	0.02
Baseline Total tons/year	**22.0**	**4.7**	**0.9**	**23.8**	**3.4**

<u>Proposed Project Operational Period Emissions</u>

Table 18 summarizes the emissions associated with each of the Proposed Project operations described above. ***Attachment 3*** provides the emissions modeling computations and assumptions. Note that the average daily and annual emissions reflect the number of days the facility expects to operate each activity per year. As previously described, these conditions include the following operations:

> <u>Aggregate Distribution Facility</u>. A new railcar offloading system and nine 120-foot tall silos would be constructed in the northern portion of the site to enable aggregate to be offloaded, handled, and stored in a fully enclosed environment, instead of the open piles which is the baseline condition. The project would also include air handling systems to abate dusting from the off-loading and storage operation. Aggregate customers would also be able to drive under the silos 24-hours per day and self-load product on demand in a controlled environment. Annual throughput would increase to 1,300,000 tons/year, with 715,000 tons/year used onsite to produce asphalt and concrete and 585,000 tons/year exported commercially.
>
> <u>Concrete Plant</u>. A new concrete plant would be constructed in the central portion of the site to replace the existing facility on the site. The new concrete plant would enable aggregate and sand to be conveyed directly from the newly constructed aggregate silos associated so that all materials could be handled within an enclosed environment. A modern concrete truck washout and reclaiming system would be installed to reclaim left-over concrete, sand and

water for reuse. The maximum annual throughput of the concrete plant would increase from to 300,000 tons/year.

Recycle Yard. The recycle yard would shift to the eastern portion of the site and receive the same amount of materials (650,000 tons/year). However, instead of exporting all the materials as is the practice under existing conditions, the project would utilize 350,000 tons/year for onsite asphalt and concrete processing, resulting in a reduction in export of recycled materials. The Recycle Yard, like all other portions of the Proposed Project would be paved.

Maintenance Yard. The maintenance yard would be eliminated under the Proposed Project.

Cementitious Distribution Facility. The project would construct a new cementitious unloading, storage and distribution facility at the northern portion of the site. Materials would be imported by rail car. Cementitious materials would be handled within a fully enclosed system, combined with abatement devices to control air emissions. The annual throughput of the cementitious distribution facility would be 100,000 tons/year, with 70,000 tons/year used onsite to produce concrete and 30,000 tons/year exported commercially.

Asphalt Plant. The project would construct a new asphalt plant in the central portion of the site. Aggregate would be conveyed directly from the newly constructed silos associated with the aggregate distribution facility for the asphalt manufacturing operation, so that all materials would be handled within a fully enclosed environment. RAP material would also be conveyed from the Recycle Yard in covered conveyors. The annual throughput of the asphalt plant would be 750,000 tons/year.

Rail Emissions. A new double railcar aggregate and sand unloading operation will replace the current aggregate rail loading facility and would be capable of unloading at a combined rate of 2,000 tons/hour. Additionally, a separate railcar loading station would be provided for unloading railcars with cementitious materials. The onsite spur track would be expanded to the eastern portion of the site to accommodate up to 70 railcars. Graniterock would move the railcars within the site with its own private switching locomotive to position the cars over the unloading pits and then move them out of the way for the next set of railcars.

Other Facility Traffic. Truck traffic is computed for each process identified above. There would be other facility traffic that includes workers, deliveries and miscellaneous trips.

Table 18. Proposed Project Emissions

Activity/Processing Areas	NOx	CO	ROG	PM10 total	PM2.5 total
	Average daily emissions in pounds				
Aggregate Distribution Facility	12.42	0.71	0.205	9.14	2.94
Asphalt Plant	48.63	266.15	44.47	33.39	20.56
Cementitious Distribution Facility	1.87	0.09	0.022	1.29	0.89
Concrete Plant	14.28	0.80	0.23	8.16	2.68
Recycle Yard	49.58	11.24	1.92	43.31	7.00
Rail Emissions	84.66	24.96	3.73	1.79	1.65
Maintenance/Delivery Trucks	0.32	0.03	0.01	0.08	0.02
Other Facility Traffic	0.92	5.62	0.12	1.00	0.17
Proposed Project Total lbs./day	**212.7**	**309.6**	**50.7**	**98.2**	**35.9**
	Annual Emissions in tons				
Aggregate Distribution Facility	1.61	0.09	0.027	1.19	0.38
Asphalt Plant	6.32	34.60	5.784	4.34	2.67
Cementitious Distribution Facility	0.22	0.01	0.003	0.16	0.11
Concrete Plant	2.12	0.12	0.03	1.38	0.40
Recycle Yard	5.95	1.35	0.23	4.85	0.95
Rail Emissions	10.53	21.98	3.27	0.22	0.21
Maintenance/Delivery Trucks	0.05	0.00	0.00	0.01	0.00
Other Facility Traffic	0.14	0.84	0.02	0.15	0.03
Proposed Project Total tons/year	**26.9**	**59.0**	**9.4**	**12.3**	**4.7**

Net Project Emissions from the Proposed Project

The Proposed Project would result in construction emissions that would begin in 2022 and continue intermittently through 2026, as the project is constructed in three phases. Phase 1 of the project that includes the new Aggregate Distribution Facility, rail spur, and the new Recycle Yard would begin operation in 2024. Phase 2 construction would begin in or around 2024 and continue into 2025 to construct the Cementitious Distribution Facility and Concrete Plant, while Phase 1 operation occurs. Phase 3 construction of the Asphalt Plant would begin around 2025 while Phase 1 and 2 are operational. Full build-out of the Proposed Project would occur in 2027. Table 19 summarizes the net emissions associated with each phase of the project. Net emissions are the Proposed Project minus the Baseline conditions.

Net emissions in the San Francisco Bay Area Air Basin associated with the proposed project operating in 2020 are shown in Table 19. As shown in Table 19, the net increase in NOx emissions associated with the Proposed Project would not exceed significance thresholds. The Proposed Project would result in a net decrease in PM10 emissions. Baseline conditions have relatively high fugitive particulate matter emissions since the entire site is currently unpaved and many of the existing operations occur in open air with less available control measures. There would be a net increase in NOx, CO, PM2.5, and ROG emissions, however, they would be below the significance thresholds. Much of the increase in PM2.5 and ROG emissions would be associated with the Asphalt Plant.

Table 19. Net Emissions with Proposed Project (Project minus Baseline)

Condition	NOx	CO	ROG	PM10 total	PM2.5 total
	Average daily emissions in pounds				
Phase 1	(31.5)	4.7	(1.0)	(168.5)	(18.4)
Phase 1 + 2	(15.4)	5.6	(0.8)	(159.1)	(14.8)
Full Build	33.2	271.7	43.7	(125.7)	5.7
Significance Threshold	*54*	--	*54*	*82*	*54*
Exceed Threshold?	*No*	--	*No*	*No*	*No*
	Annual Emissions in tons				
Phase 1	(3.7)	19.5	2.7	(17.4)	(1.9)
Phase 1 + 2	(1.4)	19.6	2.7	(15.9)	(1.4)
Full Build	4.9	54.2	8.5	(11.5)	1.3
Significance Threshold	*54*	--	*54*	*82*	*54*
Exceed Threshold?	*No*	--	*No*	*No*	*No*

Impact: GHG Emissions

Impacts with respect to GHG emissions were addressed by computing emissions for construction, baseline operation and proposed operation. Emissions caused by the project are compared against significance thresholds. This section summarizes criteria air pollutant emissions from the project, broken down by each emission components. Details of the emission calculations and equipment lists are provided in ***Attachment 1*** for construction, ***Attachment 2*** for existing or baseline operation and ***Attachment 3*** for Proposed Project Operation.

<u>Construction Period Emissions</u>

Table 20 summarizes the construction emissions. ***Attachment 1*** provides the emissions modeling computations and assumptions. As previously described, construction would occur over three phases that would be constructed beginning in 2022 and last until 2027 when the project becomes fully operational. There are no significance threshold that are applicable to construction GHG emissions.

Table 20. **Proposed Project Construction GHG Emissions**

Construction Phase/Year	CO2e (metric tons/year)
Phase 1 - 2022	717
Phase 1 - 2023	645
Phase 2 – 2024	56
Phase 2 – 2025	217
Phase 3 – 2026	239
Phase 3 - 2027	145
Total	**2,019**

Baseline Operational Emissions

Table 21 summarizes GHG emissions associated with each of the baseline operations. ***Attachment 2*** provides the emissions modeling computations and assumptions. Existing operations at the Graniterock facility are considered as baseline conditions. Note that annual emissions reflect the number of days the facility operates per year. Baseline GHG emissions are considered to be non-stationary sources and these emissions are not directly emitted by sources permitted by BAAQMD[41]. Approximately 92 percent of the Baseline GHG emissions would be from trucks, while most of the remaining emissions are from off-road equipment that currently operate in the Recycle Plan and Aggregate/San Receiving area.

Table *21*.. ***Baseline GHG Emissions***

Activity/Processing Areas	CO2e (metric tons/year)
Aggregate/Sand Receiving-Storage-Export	314
Concrete Plant	1,418
Recycle Yard	4,745
Maintenance Yard	1,028
Rail Emissions	24
Other Facility Traffic	51
Land Use (electricity, nat. gas, water, waste)	21
Baseline Total	**7,600**

Proposed Project Operation

Total emissions for full build, by operation/activity, of the Proposed Project are summarized in Table 22. ***Attachment 3*** provides the emissions modeling computations and assumptions. Note that the annual emissions reflect the number of days the facility proposes to operate each activity per year.

[41] Stationary equipment refers to equipment that has emissions that is regulated by BAAQMD.

Emissions would increase over time as different portions of the project are constructed, brought online and production increases to the maximum throughput levels used in this analysis.

Table* 22.. *Proposed Project GHG Emissions

Activity/Processing Areas	CO2e (metric tons/year)
Aggregate Distribution Facility	857
Asphalt Plant	
Stationary	12,640
Non-Stationary	2,210
Cementitious Distribution Facility	154
Concrete Plant	1,152
Recycle Yard	3,669
Rail Emissions	1,125
Maintenance/Delivery Trucks	31
Other Facility Traffic	186
Land Use (electricity, nat. gas, water, waste)	265
Proposed Project Total	**22,291**
Proposed Project Stationary Sources	**12,640**
Proposed Project Non-Stationary Sources	**9,651**

GHG emissions associated with the asphalt plant would make up 67 percent of the total emissions from the Proposed Project. Of these emissions, 85 percent (or 57 percent of Proposed Project) emissions would be associated with the Batch Plant. The Asphalt Batch Plant would need to obtain a BAAQMD permit, therefore, those emissions are considered as "Stationary" under the BAAQMD CEQA Air Quality Guidelines.

Of the approximately 12,000 metric tons of non-stationary emissions, truck travel makes up 66 percent of those emissions. Train hauling makes up about 10 percent of the emissions.

Net Project Emissions from the Proposed Project

Baseline emissions would phase out as construction of the Proposed Project begins. The Proposed Project would result in construction emissions that would begin in 2022 and continue intermittently through 2026, as the project is constructed in three phases. Phase 1 of the project, which includes the new Aggregate Distribution Facility, rail spur, and the new Recycle Yard would begin operation in 2024. Phase 3, Asphalt Plant, would become operational in late 2026 or 2027. Full build-out of the Proposed Project would occur in 2027. Table 23 summarizes the net emissions associated with each phase of the project for non-stationary sources. Net emissions are the Proposed Project minus the Baseline conditions.

Table* 23.. *Net GHG Emissions for Non-Stationary Sources

	Condition	CO2e (metric tons/year)
	Phase 1	(1,894)
	Phase 1 + 2	588
	Full Build	**1,887**
	Significance Threshold	*660*
	Exceed Threshold?	***Yes***

Net GHG emissions from Stationary sources are shown in Table 24. The Asphalt Batch Plant, constructed as Phase 3, would have the only stationary source emissions.

Table* 24.. *Net GHG Emissions) for Stationary Sources

Condition	CO2e (metric tons/year)
Phase 1	0
Phase 1 + 2	0
Full Build	12,640
Significance Threshold	*10,000*
Exceed Threshold?	***Yes***

When Phase 1 of the Proposed Project becomes operational, GHG emissions would be below Baseline conditions and below the significance threshold of 660 metric tons per year. While the Aggregate Distribution Facility would result in increases in GHG emissions from increased rail emissions and truck activity, these would be offset by decreased emissions for the Recycle Plant, Concrete Plant and the removal of the maintenance yard. At Phase 2, the Cementitious Distribution Facility and Concrete Plant would become operational and GHG emissions would increase substantially. With Phase 3, the Asphalt Plant would be operating and non-stationary emissions would increase due to the increase in truck traffic. Non-stationary GHG emissions would exceed the significance threshold by 1,887 metric tons per year. Stationary GHG emissions from the Asphalt Batch Plant would exceed the significance threshold by 2,640 metric tons. Combined, GHG emissions from the Proposed Project would exceed the GHG thresholds by 4,527 metric tons per year at full build out conditions.

Mitigation Measure GHG-1: Develop and implement a GHG Reduction Plan.

Prior to the operation of Phase 3, a GHG emissions inventory shall be developed and used to implement a GHG reduction plan that includes the proper elements would reduce emissions to below the significance level of 660 metric tons GHG for non-stationary sources and 10,000 metric tons per year for stationary sources. Elements of this plan may include, but would not be limited to, the following:

- Use of on-road and off-road vehicles and construction equipment and switching locomotives with lower GHG-emitting engines, such as electric or hybrid equipment.
- Explore use of clean truck fleet.

- Commitment to use carbon-free electricity provided by Silicon Valley Clean Energy, which could reduce GHG emissions by about 200 metric tons per year.

- Installation of solar power systems or other renewable electric generating systems that provide electricity to power on-site equipment and possibly provide excess electric power.

- Limit annual production, as GHG emissions would be proportional to annual production in tons.

- Construct onsite or fund off-site carbon sequestration projects (such as a forestry or wetlands projects for which inventory and reporting protocols have been adopted). If the project develops an off-site project, it must be registered with the Climate Action Reserve or otherwise approved by the BAAQMD in order to be used to offset Project emissions.

- Purchase of carbon credits to offset Project annual emissions. Carbon offset credits must be verified and registered with The Climate Registry, the Climate Action Reserve, or another source approved by the California Air Resources Board or BAAQMD. The preference for offset carbon credit purchases include those that can be achieved as follows: 1) within the County; 2) within the San Francisco Bay Area Air Basin; 3) within the State of California; then 4) elsewhere in the United States. Provisions of evidence of payments, and funding of an escrow-type account or endowment fund would be overseen by the City.

- Application of applicable GHG reduction strategies that could be subsequently adopted by the City as part of a qualified GHG reduction plan. These strategies have the ability to reduce project GHG impacts if any such plan includes the effect of the project operations.

- Reduction targets for each phase of the project implemented.

The project GHG Reduction Plan would be developed every five years and approved by the City.

Impact: Expose sensitive receptors to substantial pollutant concentrations?

Project impacts related to increased health risk occur by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity or by significantly exacerbating existing cumulative TAC impacts. This project would introduce new sources of TACs during construction (i.e. on-site construction and truck hauling emissions) and operation (i.e. new asphalt and concrete plants, new aggregate and cementitious material distribution facilities, and increased locomotive and truck traffic).

Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. During project operation, the project would substantially change current operations by eliminating TAC and air pollutant sources and introducing new sources. Therefore, project impacts to existing sensitive receptors were addressed for temporary construction activities and operational project impacts. There are also several sources of existing TACs and localized air pollutants in the vicinity of the project. The impact of these existing sources of TAC was also assessed in terms of the cumulative risk that includes the project contribution.

Per BAAQMD guidance, the exposure duration for evaluating cancer risk is 30 years. Cancer and non-cancer risks were evaluated for baseline conditions (existing facility operation), construction of the proposed project, and operation of the proposed project. In addition, since the total proposed project health risks are due to the combined health risk from construction and project operation, the total project health risks were calculated. Two scenarios were evaluated when assessing total project health risks. This was done because for residential exposures, typically, the main contributor to the overall 30-year cancer risk is from exposure to TACs during the third trimester of pregnancy and to infants less than two years old due to their higher sensitivity to carcinogens. Therefore, when calculating cancer risks, the time when exposure begins (first year of exposure) is an important consideration particularly when TAC concentrations may vary over time, such as occurs during phased project operation or when construction TAC concentrations are lower than those that would occur once the project starts operation.

In this case, construction is expected to occur over a period beginning in 2022 and continue through 2027 and initial project operation is expected to begin in 2024. As such, two scenarios were considered when calculating the total health risks from the project. The first scenario assumed that the 30 year exposure period begins when construction started in 2022 and the project begins operation in 2024. The second scenario evaluated assumed that the 30 year exposure period begins in 2024 with the start of project operation and construction continues during the first four years of project operation (i.e., 2024 through 2027). The scenario resulting in the highest cancer risk was then used for calculating the net change in health risks from the proposed project compared to the baseline health risks.

Table 25 summarizes the health risk impacts from construction of the project, operation of the project, the total project health risks (construction plus operation) for the two scenarios described above, baseline health risks, and the change in health risks for the proposed project (total health risks) compared to baseline health risks. The total project health risk scenario with the highest cancer risk was the second scenario where the 30-year exposure period begins in 2024 with the start of project operation and construction continues to occur for four years from 2024 through 2027.

As shown in the table, the proposed project would result in a net reduction in cancer risk and PM2.5 concentrations and a small increase in non-cancer health risks (acute and chronic hazard index). The increased non-cancer risks would not exceed the BAAQMD single-source thresholds. The primary reasons for the reduced cancer risks from baseline conditions is from removal of the equipment storage and maintenance yard at the project site and from a reduction in the use of off-road equipment for the proposed project. PM2.5 impacts would be significantly reduced since the existing facility site is unpaved and the proposed project would pave the entire site and aggregate and cementitious materials would be stored in enclosed storage silos instead of open storage piles. Thus eliminating on-site fugitive PM2.5 emissions from equipment and vehicle travel, material handling and storage, and wind erosion.

For this project, the sensitive receptor identified in the table as the MEI is the location where the maximum cancer and non-cancer risks and PM2.5 concentrations occurred from project construction and operation, and where also the project MEI.

Table 25. Community Risk Impacts at the Location of the Project MEI

Source/Scenario	Maximum Cancer Risk (per million)	Chronic Hazard Index	Acute Hazard Index	PM2.5 Concentration ($\mu g/m^3$)
Project Construction - Unmitigated (7-year exposure beginning in 2022)	4.4	0.003	-	0.03
Project Operation (30-year exposure beginning in 2024)	16.2	0.09	0.14	0.52
Project Construction plus Operation (30-year exposure beginning in 2022)	13.0	0.10	0.14	0.52
Project Construction plus Operation (30-year exposure beginning in 2024)	17.4	0.10	0.14	0.52
Baseline Operation (30-year exposure beginning in 2020)	28.2	0.01	-	0.90
Maximum Project Construction plus Operation Minus Baseline Operation	(10.8)	0.09	0.14	(0.38)
Net Change in Impact	(10.8)	0.09	0.14	(0.38)
BAAQMD Single-Source Threshold	***10***	***1.0***	***1.0***	***0.3***
Exceed Threshold? Unmitigated Mitigated	*No* *No*	*No* *No*	*No* *No*	*No* *No*

Impact: Cumulative Community Risks of all TAC Sources at the Offsite Project MEI

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of a project site (i.e., influence area). These sources include rail lines, freeways or highways, busy surface streets, and stationary sources identified by BAAQMD.

A review of the project area and based on provided traffic information indicates that traffic on Monterey Road/State Route 82 (S.R. 82) and Capitol Expressway would exceed 10,000 vehicles per day. Other nearby streets are assumed to have less than 10,000 vehicles per day. The Union Pacific Railroad (UPRR) runs along the northeast boundary of the project site. A review of BAAQMD's stationary source map website identified eight stationary sources with the potential to affect the project MEI. Figure 9 shows the location of the sources affecting the MEI. Community risk impacts from these sources upon the MEI reported in Table 26. Details of the modeling and community risk calculations are included in *Attachment 5.*

Railroad – UPRR

The UPRR line is located approximately 375 feet south of the MEI. The UPRR line is used for CalTrain service between San Jose and Gilroy, Amtrak, and freight service, which generates TAC and $PM_{2.5}$ emissions from diesel locomotives. There are about 12 trains that use this rail line on a daily basis.[42] BAAQMD provided raster files with cancer risk and PM2.5 values for all highways/freeways, high volume roadways (ADT > 30,000), and rail lines within the Bay Area. The risk values shown in the raster files were modeled in AERMOD in 20x20-meter grid cells. These raster files were used to screen the UPRR risks and hazards upon the MEI. The rail line screening level impacts are listed in Table 26. Refined modeling of the rail line would have resulted in even lower risk values. Note that BAAQMD has found that non-cancer hazards were found to be minimal, so an HI value was not included.

Highways and Roadways– Monterey Road/S.R. 82 and Capitol Expressway

BAAQMD also provides raster files that were used to obtain the risk and hazard screening levels for traffic on Monterey Road (i.e., S.R. 82) and Capitol Expressway upon the MEI. The MEI is approximately 225 feet northeast of S.R. 82 and 275 feet northwest of Capitol Expressway. As noted above, refined modeling of the highway and roadway would have resulted in even lower risk values and that BAAQMD has found that non-cancer hazards were found to be minimal, so an HI value was not included. The S.R. 82 and Capitol Expressway screening levels are listed in Table 26.

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[42] U.S. Department of Transportation, Federal Railroad Administration, U.S. DOT Crossing Inventory Form for crossing 750136G, accessed April 13, 2021. Web: https://safetydata.fra.dot.gov/OfficeofSafety/PublicSite/Crossing/XingLocResults.aspx?state=06&countycity=3340,&railroad=&reportinglevel=ALL&radionm=City&street=skyway&xingtype=3&xingstatus=1&xingpos=1

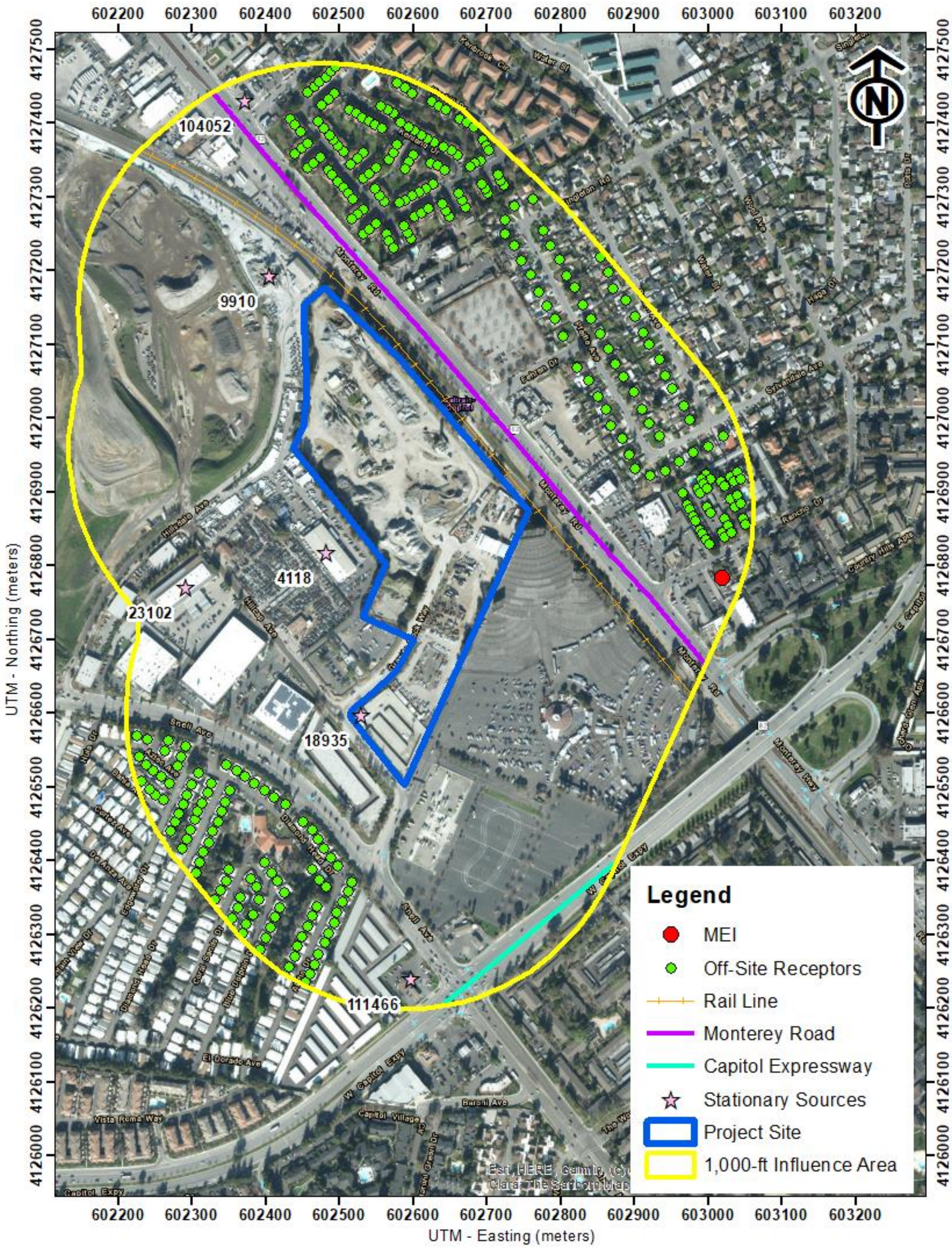

Figure 5 **Project Site, MEI, and Nearby TAC and $PM_{2.5}$ Sources**

BAAQMD Permitted Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2018* GIS website,[43] which identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for new OEHHA guidance. Eight sources were identified using this tool with two sources being diesel generators, three sources being gas dispensing facilities, one being a coating operation, one being woodworking equipment, and one being cement equipment. A Stationary Source Information Form (SSIF) containing the identified sources was prepared and submitted to BAAQMD. BAAQMD provided updated emissions data and risk values.[44] After further review, two sources (#651 and #111370) were found to be part of the existing project site and would be removed or re-evaluated by BAAQMD once the new proposed project is operational, therefore they were not included in the stationary source analysis. The new emissions would be part of the project analysis that is presented in this report. It was noted that there was a quarry northwest of the project site that did not seem to have stationary source data on BAAQMD's website. A request was submitted to BAAQMD to obtain emissions data from this adjacent quarry, but BAAQMD did not have data of this facility.[45] No emissions or impacts from this facility are presented in the report. However, that facility is over 2,000 feet from the MEI receptor.

The screening level risks and hazards provided by BAAQMD for the stationary sources were adjusted for distance from the source to the project MEI receptor using BAAQMD's *Distance Adjustment Multiplier Tool for Diesel Internal Combustion Engines, Gasoline Dispensing Facility, and Generic Equipment*.

The screening values for Plant #9910 indicated that the concrete plant would have total PM2.5 concentration exceeding the cumulative-source significant threshold of 0.8 $\mu g/m^3$. Therefore, dispersion modeling for this source was conducted that utilized local meteorological data from San Jose International Airport, as was used for the assessment of project risks.

The PM2.5 emission rate was developed based on the source's total PM2.5concentration screening value, using BAAQMD's *Risk and Hazards Emissions Screening Calculator*. CARB's PM2.5 speciation profile fraction for "Asphaltic Concrete Batch Plant" was applied to the calculated fugitive dust emissions rate.[46] In AERMOD, an area source was developed to represent the source's fugitive dust emissions. To represent the source's fugitive dust emissions, an emission release height of 7 feet (2 meters) was used for the area source. The source height reflects the height of the source's rock stockpiles and truck load activities. Emissions from the concrete plant were distributed throughout the modeled area source. The emissions were modeled as if the plant operated 24 hours per day. ***Attachment 5*** to this report includes the emission calculations used for Plant #9910 area source modeling and emission calculations.

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[43] BAAQMD, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65
[44] Correspondence with Areana Flores, MSc, Environmental Planner, BAAQMD, October 8, 2020.
[45] Correspondence with Areana Flores, MSc, Environmental Planner, BAAQMD, November 11, 2020.
[46] https://ww3.arb.ca.gov/ei/speciate/pmsizeprofile14dec18.zip

Summary of Cumulative Risks at the Project MEI

Table 26 reports both the project and cumulative community risk impacts at the sensitive receptor most affected by project construction and operation (i.e., the project MEI). The project would not have an exceedance with respect to community risk caused by project construction and operation activities, since the net increase in the maximum unmitigated cancer risk and PM2.5 concentration would not exceed the BAAQMD single-source thresholds. The combined unmitigated annual PM2.5concentration would exceed the BAAQMD cumulative-source threshold. However, the cumulative cancer risk and annual PM2.5 concentrations would decrease with the proposed project.

Table 26. Cumulative Community Risk Impacts at the Location of the Project MEI

Source	Maximum Cancer Risk (per million)	PM2.5 Concentration ($\mu g/m^3$)	Hazard Index
Project Impacts			
Project Construction plus Operation (30-year exposure beginning in 2024)	17.4	0.52	0.14
Baseline Operation (30-year exposure beginning in 2020)	(28.2)	0.90	0.01
Net Project Increase	(10.8)	(0.38)	0.13
BAAQMD Single-Source Threshold	*10*	*0.3*	*1.0*
Exceed Threshold? Unmitigated Mitigated	*No* *No*	*No* *No*	*No* *No*
Cumulative Sources			
BAAQMD Raster UPRR Screening Levels	4.28	0.01	-
BAAQMD Raster Monterey Road/S.R.82 Screening Levels	15.41	0.28	-
BAAQMD Raster Capitol Expressway Screening Levels	13.76	0.19	-
Mission City Millwork, Co (Facility ID #4118, Generic), MEI at +1,000 feet	-	0.01	-
Concrete ReadyMix, Inc (Facility ID #9910, Generator), MEI at +1,000 feet	0.01	0.24	-
Verizon Wireless (Capitol Monterey) (Facility ID #18935, Generator), MEI at +1,000 feet	0.05	-	-
Caliber Collision Center (Facility ID #23102, Generic), MEI at +1,000 feet	<0.01	<0.01	-
Rotten Robbie #53 (Facility ID #104052, Gas Station), MEI at +1,000 feet	0.33	-	<0.01
Capitol Beacon (Facility ID #111466, Gas Station), MEI at +1,000 feet	0.27	-	<0.01
Combined Sources (with No Project)	62.32	1.64	0.03
Combined Sources (with Project)	51.52	1.26	0.16
BAAQMD Cumulative Source Threshold	*100*	*0.8*	*10.0*
Exceed Threshold?	*No*	*Yes*	*No*

Impact: **Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?**

Aggregate processing and concrete plants are not considered as sources of odors by BAAQMD, in that they are not listed in their table of odor screening distances. However, asphalt plants are considered potential odor sources if they are located within 2 miles of a sensitive receptor. The closest receptor to the site is about 300 feet from the project site.

Diesel exhaust from construction equipment, mobile trucks and rail locomotives and air emissions from the asphalt plant will contain small quantities of odorous substances. Graniterock currently produces emissions associated with diesel-powered equipment, aggregate processing, recycling of concrete and asphalt and UPRR train activity. There are no recorded odor complaints for the facility.

The Proposed Project would include an asphalt plant that would emit a number of hydrocarbon compounds which are considered to be odorous. Emissions of odorous compounds would be reduced by implementation of BACT as required by the BAAQMD. Blue smoke is the leading cause of odor complaints at asphalt facilities[47].As previously discussed , for the proposed asphalt plant emissions from the dryer, silo loading, truck loadout, and liquid asphalt storage would be abated using BACT. Silo loading emissions would be captured and sent to the dryer combustion chamber, reducing organic emissions, blue smoke, and odors. Emissions from truck loading would be reduced by utilizing a truck loading shroud system to capture emissions while loading the trucks and venting these emissions to the dryer baghouse, controlling blue smoke and fugitive particulate emissions. For controlling organic emissions and blue smoke from the heated liquid asphalt tanks, the tank vents would be equipped with condensers. Dryer emissions would be vented to a baghouse, along with emissions from other equipment and processes, reducing particulate matter emissions. The BAAQMD has previously concluded that these types of controls would reduce or eliminate nuisance odors and complaints to the BAAQMD. Additionally, odor complaints to the BAAQMD would require actions by the facility to further mitigate odors[48]. Impacts related to odors would be considered ***less than significant***.

[47] BAAQMD, 2016. *Dutra Materials, Dutra Haystack Landing Asphalt Facility. BAAQMD CEQA Findings, Supporting Facts and Statement of Overriding Considerations*, Draft.
[48] *Ibid*.

Attachment 1

Construction Emissions

	Uncontrolled GraniteRock Construction Criteria Air Pollutants							
	Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	PM2.5 Fugitive	**CO2e**	
Phase	Year	Tons					MT	
	Construction Equipment - CalEEMod							
Phase 1	2022	0.20	1.95	0.09	0.09	0.09	270	
	Rail - 2022	*0.09*	*0.73*	*0.04*	*0.04*	*0.03*	*116*	
	2023	0.38	1.49	0.07	0.07	0.07	248	
	Rail - 2023	*0.04*	*0.32*	*0.02*	*0.01*	*0.01*	*56*	
Phase 2	2024	0.03	0.32	0.01	0.01	0.02	53	
	2025	0.31	1.09	0.05	0.04	0.02	205	
Phase 3	2026	0.10	0.94	0.04	0.04	0.04	172	
	2027	0.24	0.52	0.02	0.02	0.02	99	
	EMFAC							
Phase 1	2022	0.06	0.61	0.05	0.02		331	
	2023	0.05	0.53	0.05	0.02		341	
Phase 2	2024	0.00	0.00	0.00	0.00		3	
	2025	0.00	0.02	0.00	0.00		12	
Phase 3	2026	0.01	0.10	0.01	0.00		67	
	2027	0.01	0.07	0.01	0.00		46	
	Total Construction Emissions by Year							
	2022	0.34	3.29	0.18	0.14		717	
	2023	0.46	2.33	0.13	0.10		645	
	2024	0.03	0.32	0.01	0.01		56	
	2025	0.31	1.11	0.05	0.04		217	
	2026	0.11	1.04	0.05	0.04		239	
	2027	0.25	0.59	0.03	0.02		145	
		Total Construction Emissions						
	Tons	1.5	8.7	0.4	0.4		2,019	
	Pounds/Workdays	*Average Daily Emissions*					Workdays	
	2022	3.92	37.60	2.01	1.64			175
	2023	4.13	20.75	1.19	0.92			225
	2024	1.46	13.77	0.62	0.57			47
	2025	2.94	10.45	0.45	0.41			212
	2026	1.29	11.90	0.56	0.47			175
	2027	4.03	9.54	0.46	0.38			124

GraniteRock Operational Criteria Air Pollutants							
Unmitigated	ROG	NOX	Total PM10	Total PM2.5			
Year	Tons Per Year						
Total							
	Existing Use Emissions						
Total							
	Net Annual Operational Emissions						
Tons/year	0.00	0.00	0.00	0.00			
	Average Daily Emissions						
Pounds Per Day	0.00	0.00	0.00	0.00			

Category	**GraniteRock CO2e**				
	Project	Existing	Project	Existing	
Area					
Energy					
Mobile					
Waste					
Water					
Mobile - Exhaust					
TOTAL		0	0	0	
Net GHG Emissions		0		0.0	
Service Population					
Per Capita Emissions		#DIV/0!		#DIV/0!	

	Mitigated GraniteRock Construction Criteria Air Pollutants							
	Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	PM2.5 Fugitive	**CO2e**	
Phase	Year	Tons					MT	
	Construction Equipment - CalEEMod							
Phase 1	2022		1.11	0.01	0.01	0.03		
	Rail - 2022		*0.81*	*0.01*	*0.01*	*0.02*		
	2023		1.17	0.01	0.01	0.00		
	Rail - 2023		*0.38*	*0.00*	*0.00*	*0.01*		
Phase 2	2024		0.06	0.01	0.01	0.02		
	2025		0.43	0.05	0.04	0.02		
Phase 3	2026		0.31	0.00	0.00	0.02		
	2027		0.21	0.00	0.00	0.01		
	EMFAC							
Phase 1	2022		0.61	0.05	0.02			
	2023		0.53	0.05	0.02			
Phase 2	2024		0.00	0.00	0.00			
	2025		0.02	0.00	0.00			
Phase 3	2026		0.10	0.01	0.00			
	2027		0.07	0.01	0.00			
	Total Construction Emissions by Year							
	2022	0.00	2.53	0.06	0.03		0	
	2023	0.00	2.08	0.06	0.03		0	
	2024	0.00	0.06	0.01	0.01		0	
	2025	0.00	0.45	0.05	0.04		0	
	2026	0.00	0.41	0.01	0.01		0	
	2027	0.00	0.28	0.01	0.00		0	
		Total Construction Emissions						
	Tons	0.0	5.8	0.2	0.1		0	
	Pounds/Workdays	*Average Daily Emissions*					Workdays	
	2022	0.00	28.93	0.68	0.40			175
	2023	0.00	18.47	0.51	0.28			225
	2024	0.00	2.60	0.62	0.57			47
	2025	0.00	4.20	0.45	0.42			212
	2026	0.00	4.72	0.15	0.09			175
	2027	0.00	4.55	0.14	0.08			124

GraniteRock Operational Criteria Air Pollutants							
Unmitigated	ROG	NOX	Total PM10	Total PM2.5			
Year	Tons Per Year						
Total							
	Existing Use Emissions						
Total							
	Net Annual Operational Emissions						
Tons/year	0.00	0.00	0.00	0.00			
	Average Daily Emissions						
Pounds Per Day	0.00	0.00	0.00	0.00			

Category	**GraniteRock CO2e**				
	Project	Existing	Project	Existing	
Area					
Energy					
Mobile					
Waste					
Water					
Mobile - Exhaust					
TOTAL		0	0	0	
Net GHG Emissions		0		0.0	
Service Population					
Per Capita Emissions		#DIV/0!		#DIV/0!	

GraniteRock

Summary of Construction Traffic Emissions (EMFAC2017)

LAND USE	Pollutants YEAR	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
							Tons					*Metric Tons*
Criteria Pollutants												
Phase 1	*2022*	0.062	0.608	0.638	0.003	0.199	0.046	0.245	0.030	0.022	0.052	331
	2022 - Con	0.045	0.455	0.462	0.002	0.144	0.033	0.177	0.022	0.016	0.037	243
	2022 - Rail	0.017	0.154	0.176	0.001	0.056	0.013	0.068	0.008	0.006	0.014	88
	2023	0.052	0.529	0.623	0.003	0.211	0.046	0.257	0.032	0.020	0.052	341
	2023 - Con	0.045	0.470	0.546	0.003	0.184	0.040	0.225	0.028	0.018	0.045	300
	2023 - Rail	0.007	0.059	0.078	0.000	0.027	0.006	0.032	0.004	0.002	0.006	40
Phase 2	*2024*	0.001	0.003	0.006	0.000	0.002	0.000	0.003	0.000	0.000	0.001	3
	2025	0.002	0.015	0.027	0.000	0.010	0.002	0.012	0.001	0.001	0.002	12
Phase 3	*2026*	0.009	0.104	0.117	0.001	0.045	0.010	0.055	0.007	0.004	0.011	67
	2027	0.006	0.073	0.081	0.000	0.032	0.007	0.039	0.005	0.003	0.008	46
Toxic Air Contaminants (1 Mile Trip Length)												
Phase 1	*2022*	0.045	0.195	0.248	0.001	0.020	0.005	0.026	0.003	0.003	0.006	53.958
	2022 - Con	0.033	0.146	0.181	0.000	0.015	0.004	0.019	0.002	0.002	0.004	40
	2022 - Rail	0.013	0.049	0.067	0.000	0.006	0.001	0.007	0.001	0.001	0.002	14
	2023	0.044	0.192	0.261	0.001	0.022	0.005	0.027	0.003	0.002	0.006	55.764
	2023 - Con	0.039	0.170	0.229	0.000	0.019	0.005	0.024	0.003	0.002	0.005	49
	2023 - Rail	0.006	0.021	0.031	0.000	0.003	0.001	0.003	0.000	0.000	0.001	6
Phase 2	*2024*	0.000	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
	2025	0.002	0.006	0.011	0.000	0.001	0.000	0.001	0.000	0.000	0.000	2
Phase 3	*2026*	0.008	0.038	0.051	0.000	0.005	0.001	0.006	0.001	0.001	0.001	11
	2027	0.006	0.026	0.035	0.000	0.003	0.001	0.004	0.000	0.000	0.001	8

Granite Rock Construciton Phase 1

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	20.00	1000sqft	12.00	20,000.00	0
Other Asphalt Surfaces	522.70	1000sqft	0.00	522,700.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction only

Land Use - Estimated for construction default values

Construction Phase - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment -

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Trips and VMT - added 1,500 cement loads (3000 trips). 800 asphalt loads (1,600 trips). Vendor trip distance

Demolition - 2,000 tons to be recycled on site under existing operations

Grading - Based on provided construciton information and CalEEMod default

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblLandUse	LotAcreage	0.46	12.00
tblLandUse	LotAcreage	12.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	0
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	55.00	0.00
tblTripsAndVMT	VendorTripNumber	89.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	0.00
tblTripsAndVMT	WorkerTripNumber	228.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	46.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.196	1.9466	1.6596	3.08E-03	0.2068	0.0922	0.2991	0.0891	0.0858	0.1749	0	268.0602	268.0602	0.0755	0	269.9483
2023	0.3757	1.4883	1.7423	2.86E-03	0	0.0727	0.0727	0	0.0683	0.0683	0	246.5148	246.5148	0.0607	0	248.0327
Maximum	**0.3757**	**1.9466**	**1.7423**	**3.08E-03**	**0.2068**	**0.0922**	**0.2991**	**0.0891**	**0.0858**	**0.1749**	**0**	**268.0602**	**268.0602**	**0.0755**	**0**	**269.9483**

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					
2022	0.0559	1.1100	1.9434	3.0800e-003	0.0807	7.3700e-003	0.0880	0.0347	7.3700e-003	0.0421	0.0000	268.0599	268.0599	0.0755	0.0000	269.9479
2023	0.2687	1.1677	1.9263	2.8600e-003	0.0000	8.4200e-003	8.4200e-003	0.0000	8.4200e-003	8.4200e-003	0.0000	246.5145	246.5145	0.0607	0.0000	248.0324
Maximum	**0.2687**	**1.1677**	**1.9434**	**3.0800e-003**	**0.0807**	**8.4200e-003**	**0.0880**	**0.0347**	**8.4200e-003**	**0.0421**	**0.0000**	**268.0599**	**268.0599**	**0.0755**	**0.0000**	**269.9479**

	ROG	**NOx**	**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	**43.24**	**33.69**	**-13.75**	**0.00**	**61.00**	**90.42**	**74.05**	**61.01**	**89.75**	**79.22**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	**Start Date**	**End Date**	**Maximum Unmitigated ROG + NOX (tons/quarter)**	**Maximum Mitigated ROG + NOX (tons/quarter)**
1	**5-1-2022**	**7-31-2022**	1.1927	0.5401
2	**8-1-2022**	**10-31-2022**	0.5691	0.3761

3	**11-1-2022**	**1-31-2023**	0.5540	0.3761
4	**2-1-2023**	**4-30-2023**	0.5072	0.3638
5	**5-1-2023**	**7-31-2023**	0.5292	0.3814
6	**8-1-2023**	**9-30-2023**	0.3667	0.2909
		Highest	1.1927	0.5401

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2022	5/27/2022	5	20	
2	Site Preparation	Site Preparation	5/28/2022	6/10/2022	5	10	
3	Grading	Grading	6/11/2022	7/22/2022	5	30	
4	Building Construction	Building Construction	7/23/2022	9/15/2023	5	300	
5	Utilities	Trenching	7/28/2023	9/7/2023	5	30	
6	Paving	Paving	9/16/2023	10/13/2023	5	20	
7	Architectural Coating	Architectural Coating	10/14/2023	11/10/2023	5	20	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 90

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 30,000; Non-Residential Outdoor: 10,000; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	2	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41

Site Preparation	Rubber Tired Dozers		2	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes		2	8.00	97	0.37
Grading	Crawler Tractors		1	8.00	212	0.43
Grading	Excavators		2	8.00	158	0.38
Grading	Graders		1	8.00	187	0.41
Grading	Rubber Tired Dozers		1	8.00	247	0.40
Grading	Scrapers		2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes		2	8.00	97	0.37
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		1	8.00	130	0.42
Paving	Paving Equipment		2	8.00	132	0.36
Paving	Rollers		2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes		1	8.00	97	0.37
Architectural Coating	Air Compressors		1	6.00	78	0.48
Utilities	Excavators		1	8.00	158	0.38
Utilities	Tractors/Loaders/Backhoes		1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Utilities	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.9100e-003	0.0000	5.9100e-003	8.9000e-004	0.0000	8.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0241	0.2449	0.1815	3.4000e-004		0.0119	0.0119		0.0109	0.0109	0.0000	29.5432	29.5432	9.5500e-003	0.0000	29.7821
Total	**0.0241**	**0.2449**	**0.1815**	**3.4000e-004**	**5.9100e-003**	**0.0119**	**0.0178**	**8.9000e-004**	**0.0109**	**0.0118**	**0.0000**	**29.5432**	**29.5432**	**9.5500e-003**	**0.0000**	**29.7821**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

<u>Mitigated Construction On-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3000e-003	0.0000	2.3000e-003	3.5000e-004	0.0000	3.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4500e-003	0.1176	0.2158	3.4000e-004		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	29.5432	29.5432	9.5500e-003	0.0000	29.7820
Total	**5.4500e-003**	**0.1176**	**0.2158**	**3.4000e-004**	**2.3000e-003**	**5.5000e-004**	**2.8500e-003**	**3.5000e-004**	**5.5000e-004**	**9.0000e-004**	**0.0000**	**29.5432**	**29.5432**	**9.5500e-003**	**0.0000**	**29.7820**

<u>Mitigated Construction Off-Site</u>

	ROG	NOx	CO	SO2	Fugitive 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

<u>Unmitigated Construction On-Site</u>

	ROG	NOx	CO	SO2	Fugitive 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					0.0629	0.0000	0.0629	0.0334	0.0000	0.0334	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0121	0.1310	0.0668	1.5000e-004		5.9100e-003	5.9100e-003		5.4400e-003	5.4400e-003	0.0000	13.1443	13.1443	4.2500e-003	0.0000	13.2506
Total	**0.0121**	**0.1310**	**0.0668**	**1.5000e-004**	**0.0629**	**5.9100e-003**	**0.0688**	**0.0334**	**5.4400e-003**	**0.0388**	**0.0000**	**13.1443**	**13.1443**	**4.2500e-003**	**0.0000**	**13.2506**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					0.0245	0.0000	0.0245	0.0130	0.0000	0.0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6300e-003	0.0448	0.0863	1.5000e-004		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	13.1443	13.1443	4.2500e-003	0.0000	13.2506
Total	**2.6300e-003**	**0.0448**	**0.0863**	**1.5000e-004**	**0.0245**	**2.4000e-004**	**0.0248**	**0.0130**	**2.4000e-004**	**0.0133**	**0.0000**	**13.1443**	**13.1443**	**4.2500e-003**	**0.0000**	**13.2506**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1381	0.0000	0.1381	0.0548	0.0000	0.0548	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0618	0.6728	0.4703	1.0500e-003		0.0279	0.0279		0.0257	0.0257	0.0000	92.1306	92.1306	0.0298	0.0000	92.8756
Total	**0.0618**	**0.6728**	**0.4703**	**1.0500e-003**	**0.1381**	**0.0279**	**0.1660**	**0.0548**	**0.0257**	**0.0805**	**0.0000**	**92.1306**	**92.1306**	**0.0298**	**0.0000**	**92.8756**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					0.0538	0.0000	0.0538	0.0214	0.0000	0.0214	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.3202	0.6135	1.0500e-003		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	92.1305	92.1305	0.0298	0.0000	92.8755
Total	**0.0171**	**0.3202**	**0.6135**	**1.0500e-003**	**0.0538**	**1.7200e-003**	**0.0556**	**0.0214**	**1.7200e-003**	**0.0231**	**0.0000**	**92.1305**	**92.1305**	**0.0298**	**0.0000**	**92.8755**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0981	0.8979	0.9409	1.5500e-003		0.0465	0.0465		0.0438	0.0438	0.0000	133.2420	133.2420	0.0319	0.0000	134.0400
Total	**0.0981**	**0.8979**	**0.9409**	**1.5500e-003**		**0.0465**	**0.0465**		**0.0438**	**0.0438**	**0.0000**	**133.2420**	**133.2420**	**0.0319**	**0.0000**	**134.0400**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0307	0.6275	1.0277	1.5500e-003		4.8600e-003	4.8600e-003		4.8600e-003	4.8600e-003	0.0000	133.2419	133.2419	0.0319	0.0000	134.0399
Total	**0.0307**	**0.6275**	**1.0277**	**1.5500e-003**		**4.8600e-003**	**4.8600e-003**		**4.8600e-003**	**4.8600e-003**	**0.0000**	**133.2419**	**133.2419**	**0.0319**	**0.0000**	**134.0399**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1455	1.3306	1.5026	2.4900e-003		0.0647	0.0647		0.0609	0.0609	0.0000	214.4194	214.4194	0.0510	0.0000	215.6946
Total	**0.1455**	**1.3306**	**1.5026**	**2.4900e-003**		**0.0647**	**0.0647**		**0.0609**	**0.0609**	**0.0000**	**214.4194**	**214.4194**	**0.0510**	**0.0000**	**215.6946**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0494	1.0094	1.6533	2.4900e-003		7.8300e-003	7.8300e-003		7.8300e-003	7.8300e-003	0.0000	214.4191	214.4191	0.0510	0.0000	215.6943
Total	**0.0494**	**1.0094**	**1.6533**	**2.4900e-003**		**7.8300e-003**	**7.8300e-003**		**7.8300e-003**	**7.8300e-003**	**0.0000**	**214.4191**	**214.4191**	**0.0510**	**0.0000**	**215.6943**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Utilities - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.1000e-003	0.0463	0.0823	1.2000e-004		2.2700e-003	2.2700e-003		2.0900e-003	2.0900e-003	0.0000	10.9091	10.9091	3.5300e-003	0.0000	10.9973
Total	**5.1000e-003**	**0.0463**	**0.0823**	**1.2000e-004**		**2.2700e-003**	**2.2700e-003**		**2.0900e-003**	**2.0900e-003**	**0.0000**	**10.9091**	**10.9091**	**3.5300e-003**	**0.0000**	**10.9973**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	2.0000e-003	0.0545	0.0939	1.2000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	10.9091	10.9091	3.5300e-003	0.0000	10.9973
Total	**2.0000e-003**	**0.0545**	**0.0939**	**1.2000e-004**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**10.9091**	**10.9091**	**3.5300e-003**	**0.0000**	**10.9973**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9200e-003	0.0985	0.1393	2.1000e-004		4.9700e-003	4.9700e-003		4.5800e-003	4.5800e-003	0.0000	18.6331	18.6331	6.0300e-003	0.0000	18.7837
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.9200e-003**	**0.0985**	**0.1393**	**2.1000e-004**		**4.9700e-003**	**4.9700e-003**		**4.5800e-003**	**4.5800e-003**	**0.0000**	**18.6331**	**18.6331**	**6.0300e-003**	**0.0000**	**18.7837**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	3.4600e-003	0.0932	0.1608	2.1000e-004		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	18.6330	18.6330	6.0300e-003	0.0000	18.7837
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.4600e-003**	**0.0932**	**0.1608**	**2.1000e-004**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**18.6330**	**18.6330**	**6.0300e-003**	**0.0000**	**18.7837**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.8 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2133					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**0.2152**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.2133					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4000e-004	0.0106	0.0183	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**0.2139**	**0.0106**	**0.0183**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Granite Rock Phase 1 Construction - Rail Spurs

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	65.00	1000sqft	0.00	65,000.00	0
Other Non-Asphalt Surfaces	3.00	Acre	3.00	130,680.00	0

1.2 Other Project Characteristics

Urbanization Urban | **Wind Speed (m/s)** 2.2 | **Precipitation Freq (Days)** 58

Climate Zone 4 | **Operational Year** 2024

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr) 0 | **CH4 Intensity (lb/MWhr)** 0 | **N2O Intensity (lb/MWhr)** 0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction analysis only

Land Use - Based on provided construction information

Construction Phase - Based on provided construction information

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Grading - Based on provided construction information

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Trips and VMT - EMFAC2017 Post-Model

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblLandUse	LotAcreage	1.49	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	0
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblTripsAndVMT	VendorTripNumber	32.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	82.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0851	0.7349	0.8575	1.36E-03	0.0319	0.0376	0.0695	0.0154	0.0359	0.0513	0	115.5333	115.5333	0.0232	0	116.1128

2023	0.0373	0.3171	0.4268	6.60E-04	0	0.0153	0.0153	0	0.0147	0.0147	0	56.1995	56.1995	0.0108	0	56.4705
Maximum	**0.0851**	**0.7349**	**0.8575**	**1.36E-03**	**0.0319**	**0.0376**	**0.0695**	**0.0154**	**0.0359**	**0.0513**	**0**	**115.5333**	**115.5333**	**0.0232**	**0**	**116.1128**

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					
2022	0.0268	0.5752	0.9019	1.3600e-003	0.0143	5.1800e-003	0.0195	6.9400e-003	5.1800e-003	0.0121	0.0000	115.5332	115.5332	0.0232	0.0000	116.1127
2023	0.0129	0.2890	0.4487	6.6000e-004	0.0000	2.5800e-003	2.5800e-003	0.0000	2.5800e-003	2.5800e-003	0.0000	56.1994	56.1994	0.0108	0.0000	56.4704
Maximum	**0.0268**	**0.5752**	**0.9019**	**1.3600e-003**	**0.0143**	**5.1800e-003**	**0.0195**	**6.9400e-003**	**5.1800e-003**	**0.0121**	**0.0000**	**115.5332**	**115.5332**	**0.0232**	**0.0000**	**116.1127**

	ROG	**NOx**	**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	**67.53**	**17.85**	**-5.16**	**0.00**	**55.00**	**85.35**	**73.95**	**54.96**	**84.64**	**77.72**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	**Start Date**	**End Date**	**Maximum Unmitigated ROG + NOX (tons/quarter)**	**Maximum Mitigated ROG + NOX (tons/quarter)**
1	**5-1-2022**	**7-31-2022**	0.3072	0.1995
2	**8-1-2022**	**10-31-2022**	0.3084	0.2422
3	**11-1-2022**	**1-31-2023**	0.3009	0.2422
4	**2-1-2023**	**4-30-2023**	0.2561	0.2188
		Highest	0.3084	0.2422

2.2 Overall Operational

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2022	5/27/2022	5	20	
2	Site Preparation	Site Preparation	5/28/2022	6/1/2022	5	3	
3	Grading	Grading	6/2/2022	6/9/2022	5	6	
4	Building Construction	Building Construction	6/10/2022	4/13/2023	5	220	
5	Paving	Paving	4/14/2023	4/27/2023	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 9

Acres of Paving: 3

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	0	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	1	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	1	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37

Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	6.00	132	0.36
Paving	Rollers	1	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 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	3.2900e-003	0.0335	0.0448	6.0000e-005		1.8000e-003	1.8000e-003		1.6600e-003	1.6600e-003	0.0000	5.4656	5.4656	1.7700e-003	0.0000	5.5098

Total	**3.2900e-003**	**0.0335**	**0.0448**	**6.0000e-005**		**1.8000e-003**	**1.8000e-003**		**1.6600e-003**	**1.6600e-003**	**0.0000**	**5.4656**	**5.4656**	**1.7700e-003**	**0.0000**	**5.5098**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3900e-003	0.0271	0.0468	6.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	5.4656	5.4656	1.7700e-003	0.0000	5.5098
Total	**1.3900e-003**	**0.0271**	**0.0468**	**6.0000e-005**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**5.4656**	**5.4656**	**1.7700e-003**	**0.0000**	**5.5098**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.0300e-003	0.0000	9.0300e-003	4.9700e-003	0.0000	4.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5000e-003	0.0157	8.7300e-003	2.0000e-005		7.6000e-004	7.6000e-004		7.0000e-004	7.0000e-004	0.0000	1.5353	1.5353	5.0000e-004	0.0000	1.5477
Total	**1.5000e-003**	**0.0157**	**8.7300e-003**	**2.0000e-005**	**9.0300e-003**	**7.6000e-004**	**9.7900e-003**	**4.9700e-003**	**7.0000e-004**	**5.6700e-003**	**0.0000**	**1.5353**	**1.5353**	**5.0000e-004**	**0.0000**	**1.5477**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.0600e-003	0.0000	4.0600e-003	2.2300e-003	0.0000	2.2300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1000e-004	5.4000e-003	0.0103	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.5353	1.5353	5.0000e-004	0.0000	1.5477
Total	**3.1000e-004**	**5.4000e-003**	**0.0103**	**2.0000e-005**	**4.0600e-003**	**3.0000e-005**	**4.0900e-003**	**2.2300e-003**	**3.0000e-005**	**2.2600e-003**	**0.0000**	**1.5353**	**1.5353**	**5.0000e-004**	**0.0000**	**1.5477**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0228	0.0000	0.0228	0.0105	0.0000	0.0105	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7100e-003	0.0740	0.0418	1.0000e-004		3.0700e-003	3.0700e-003		2.8300e-003	2.8300e-003	0.0000	8.8174	8.8174	2.8500e-003	0.0000	8.8887
Total	**6.7100e-003**	**0.0740**	**0.0418**	**1.0000e-004**	**0.0228**	**3.0700e-003**	**0.0259**	**0.0105**	**2.8300e-003**	**0.0133**	**0.0000**	**8.8174**	**8.8174**	**2.8500e-003**	**0.0000**	**8.8887**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Fugitive Dust					0.0103	0.0000	0.0103	4.7000e-003	0.0000	4.7000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7000e-003	0.0281	0.0554	1.0000e-004		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	8.8174	8.8174	2.8500e-003	0.0000	8.8887
Total	**1.7000e-003**	**0.0281**	**0.0554**	**1.0000e-004**	**0.0103**	**1.6000e-004**	**0.0104**	**4.7000e-003**	**1.6000e-004**	**4.8600e-003**	**0.0000**	**8.8174**	**8.8174**	**2.8500e-003**	**0.0000**	**8.8887**

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0736	0.6116	0.7623	1.1800e-003		0.0320	0.0320		0.0307	0.0307	0.0000	99.7150	99.7150	0.0181	0.0000	100.1666

Total	**0.0736**	**0.6116**	**0.7623**	**1.1800e-003**		**0.0320**	**0.0320**		**0.0307**	**0.0307**	**0.0000**	**99.7150**	**99.7150**	**0.0181**	**0.0000**	**100.1666**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0234	0.5146	0.7894	1.1800e-003		4.8800e-003	4.8800e-003		4.8800e-003	4.8800e-003	0.0000	99.7148	99.7148	0.0181	0.0000	100.1665
Total	**0.0234**	**0.5146**	**0.7894**	**1.1800e-003**		**4.8800e-003**	**4.8800e-003**		**4.8800e-003**	**4.8800e-003**	**0.0000**	**99.7148**	**99.7148**	**0.0181**	**0.0000**	**100.1665**

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0343	0.2880	0.3847	6.0000e-004		0.0139	0.0139		0.0133	0.0133	0.0000	50.5603	50.5603	9.0200e-003	0.0000	50.7857
Total	**0.0343**	**0.2880**	**0.3847**	**6.0000e-004**		**0.0139**	**0.0139**		**0.0133**	**0.0133**	**0.0000**	**50.5603**	**50.5603**	**9.0200e-003**	**0.0000**	**50.7857**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0119	0.2608	0.4001	6.0000e-004		2.4700e-003	2.4700e-003		2.4700e-003	2.4700e-003	0.0000	50.5602	50.5602	9.0200e-003	0.0000	50.7856
Total	**0.0119**	**0.2608**	**0.4001**	**6.0000e-004**		**2.4700e-003**	**2.4700e-003**		**2.4700e-003**	**2.4700e-003**	**0.0000**	**50.5602**	**50.5602**	**9.0200e-003**	**0.0000**	**50.7856**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.9300e-003	0.0291	0.0421	6.0000e-005		1.4500e-003	1.4500e-003		1.3300e-003	1.3300e-003	0.0000	5.6392	5.6392	1.8200e-003	0.0000	5.6848
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.9300e-003**	**0.0291**	**0.0421**	**6.0000e-005**		**1.4500e-003**	**1.4500e-003**		**1.3300e-003**	**1.3300e-003**	**0.0000**	**5.6392**	**5.6392**	**1.8200e-003**	**0.0000**	**5.6848**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0500e-003	0.0282	0.0486	6.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	5.6392	5.6392	1.8200e-003	0.0000	5.6848
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0500e-003**	**0.0282**	**0.0486**	**6.0000e-005**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**5.6392**	**5.6392**	**1.8200e-003**	**0.0000**	**5.6848**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Granite Rock Construction Phase II - Cementitious Storage

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	30.00	1000sqft	0.00	30,000.00	0
Other Asphalt Surfaces	3.00	Acre	3.00	130,680.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction only

Land Use - Best estimates from CalEEMod based on approximate site acreage

Construction Phase - Estimated schedule based on CalEEMod defaults plus trenching

Off-road Equipment - Based on provided construction equipment list

Off-road Equipment - Based on provided construction equipment list

Off-road Equipment - Based on provided construction equipment list

Off-road Equipment - Based on provided construction equipment list

Off-road Equipment - Based on provided construction equipment list

Off-road Equipment - Based on provided construction equipment list

Off-road Equipment - Based on provided construction equipment list

Trips and VMT - EMFAC2017 Post-Model

Demolition - Based on provided construction equipment list

Grading - use defaults

Construction Off-road Equipment Mitigation - Tier 4f and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblLandUse	LotAcreage	0.69	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	0
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	10.00	0.00
tblTripsAndVMT	VendorTripNumber	26.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	67.00	0.00

tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.0339	0.3202	0.3175	6.00E-04	0.0337	0.0142	0.0479	0.0157	0.0132	0.0289	0	52.5156	52.5156	0.0137	0	52.8577
2025	0.3092	1.092	1.3665	2.38E-03	0	0.0456	0.0456	0	0.0431	0.0431	0	203.7187	203.7187	0.0448	0	204.838
Maximum	**0.3092**	**1.092**	**1.3665**	**2.38E-03**	**0.0337**	**0.0456**	**0.0479**	**0.0157**	**0.0431**	**0.0431**	**0**	**203.7187**	**203.7187**	**0.0448**	**0**	**204.838**

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					
2024	7.2400e-003	0.0387	0.3608	6.0000e-004	0.0152	9.4000e-004	0.0161	7.0500e-003	9.4000e-004	7.9900e-003	0.0000	52.5155	52.5155	0.0137	0.0000	52.8577
2025	0.2164	0.2070	1.4969	2.3800e-003	0.0000	3.5400e-003	3.5400e-003	0.0000	3.5400e-003	3.5400e-003	0.0000	203.7184	203.7184	0.0448	0.0000	204.8377
Maximum	**0.2164**	**0.2070**	**1.4969**	**2.3800e-003**	**0.0152**	**3.5400e-003**	**0.0161**	**7.0500e-003**	**3.5400e-003**	**7.9900e-003**	**0.0000**	**203.7184**	**203.7184**	**0.0448**	**0.0000**	**204.8377**

	ROG	**NOx**	**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	34.80	82.60	-10.32	0.00	55.01	92.50	78.97	54.98	92.04	83.97	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	10-28-2024	1-27-2025	0.4609	0.0676
2	1-28-2025	4-27-2025	0.3744	0.0734
3	4-28-2025	7-27-2025	0.3786	0.0743
4	7-28-2025	9-30-2025	0.2704	0.0530
		Highest	0.4609	0.0743

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	10/28/2024	11/22/2024	5	20	
2	Site Preparation	Site Preparation	11/23/2024	11/27/2024	5	3	
3	Grading	Grading	11/28/2024	12/5/2024	5	6	
4	Utility/Foundation	Trenching	11/28/2024	12/11/2024	5	10	
5	Building Construction	Building Construction	12/6/2024	10/9/2025	5	220	
6	Paving	Paving	10/10/2025	10/23/2025	5	10	
7	Architectural Coating	Architectural Coating	10/24/2025	11/6/2025	5	10	

Acres of Grading (Site Preparation Phase): 1.5

Acres of Grading (Grading Phase): 9

Acres of Paving: 3

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 45,000; Non-Residential Outdoor: 15,000; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	0	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73

Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	0	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	1	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	2	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	6.00	132	0.36
Paving	Rollers	1	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Utility/Foundation	Excavators	1	8.00	158	0.38
Utility/Foundation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Grading	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utility/Foundation	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0700e-003	0.0000	1.0700e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1239	0.1228	2.3000e-004		5.6700e-003	5.6700e-003		5.3100e-003	5.3100e-003	0.0000	20.1547	20.1547	5.0300e-003	0.0000	20.2806
Total	**0.0133**	**0.1239**	**0.1228**	**2.3000e-004**	**1.0700e-003**	**5.6700e-003**	**6.7400e-003**	**1.6000e-004**	**5.3100e-003**	**5.4700e-003**	**0.0000**	**20.1547**	**20.1547**	**5.0300e-003**	**0.0000**	**20.2806**

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					

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.8000e-004	0.0000	4.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6900e-003	0.0116	0.1395	2.3000e-004		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	20.1547	20.1547	5.0300e-003	0.0000	20.2806
Total	**2.6900e-003**	**0.0116**	**0.1395**	**2.3000e-004**	**4.8000e-004**	**3.6000e-004**	**8.4000e-004**	**7.0000e-005**	**3.6000e-004**	**4.3000e-004**	**0.0000**	**20.1547**	**20.1547**	**5.0300e-003**	**0.0000**	**20.2806**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.8300e-003	0.0000	9.8300e-003	5.0500e-003	0.0000	5.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7900e-003	0.0191	0.0105	3.0000e-005		7.8000e-004	7.8000e-004		7.2000e-004	7.2000e-004	0.0000	2.4076	2.4076	7.8000e-004	0.0000	2.4270
Total	**1.7900e-003**	**0.0191**	**0.0105**	**3.0000e-005**	**9.8300e-003**	**7.8000e-004**	**0.0106**	**5.0500e-003**	**7.2000e-004**	**5.7700e-003**	**0.0000**	**2.4076**	**2.4076**	**7.8000e-004**	**0.0000**	**2.4270**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.4200e-003	0.0000	4.4200e-003	2.2700e-003	0.0000	2.2700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4000e-004	1.4500e-003	0.0137	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.4076	2.4076	7.8000e-004	0.0000	2.4270
Total	**3.4000e-004**	**1.4500e-003**	**0.0137**	**3.0000e-005**	**4.4200e-003**	**4.0000e-005**	**4.4600e-003**	**2.2700e-003**	**4.0000e-005**	**2.3100e-003**	**0.0000**	**2.4076**	**2.4076**	**7.8000e-004**	**0.0000**	**2.4270**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0228	0.0000	0.0228	0.0105	0.0000	0.0105	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	5.8600e-003	0.0613	0.0390	1.0000e-004		2.4800e-003	2.4800e-003		2.2800e-003	2.2800e-003	0.0000	8.8134	8.8134	2.8500e-003	0.0000	8.8846
Total	**5.8600e-003**	**0.0613**	**0.0390**	**1.0000e-004**	**0.0228**	**2.4800e-003**	**0.0253**	**0.0105**	**2.2800e-003**	**0.0127**	**0.0000**	**8.8134**	**8.8134**	**2.8500e-003**	**0.0000**	**8.8846**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					0.0103	0.0000	0.0103	4.7000e-003	0.0000	4.7000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2300e-003	5.3300e-003	0.0480	1.0000e-004		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	8.8133	8.8133	2.8500e-003	0.0000	8.8846
Total	**1.2300e-003**	**5.3300e-003**	**0.0480**	**1.0000e-004**	**0.0103**	**1.6000e-004**	**0.0104**	**4.7000e-003**	**1.6000e-004**	**4.8600e-003**	**0.0000**	**8.8133**	**8.8133**	**2.8500e-003**	**0.0000**	**8.8846**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Utility/Foundation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6200e-003	0.0143	0.0275	4.0000e-005		6.8000e-004	6.8000e-004		6.2000e-004	6.2000e-004	0.0000	3.6380	3.6380	1.1800e-003	0.0000	3.6674
Total	**1.6200e-003**	**0.0143**	**0.0275**	**4.0000e-005**		**6.8000e-004**	**6.8000e-004**		**6.2000e-004**	**6.2000e-004**	**0.0000**	**3.6380**	**3.6380**	**1.1800e-003**	**0.0000**	**3.6674**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	5.1000e-004	2.2000e-003	0.0313	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.6380	3.6380	1.1800e-003	0.0000	3.6674
Total	**5.1000e-004**	**2.2000e-003**	**0.0313**	**4.0000e-005**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**3.6380**	**3.6380**	**1.1800e-003**	**0.0000**	**3.6674**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0113	0.1016	0.1176	2.0000e-004		4.5400e-003	4.5400e-003		4.2900e-003	4.2900e-003	0.0000	17.5020	17.5020	3.8500e-003	0.0000	17.5981
Total	**0.0113**	**0.1016**	**0.1176**	**2.0000e-004**		**4.5400e-003**	**4.5400e-003**		**4.2900e-003**	**4.2900e-003**	**0.0000**	**17.5020**	**17.5020**	**3.8500e-003**	**0.0000**	**17.5981**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	2.4800e-003	0.0181	0.1282	2.0000e-004		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	17.5019	17.5019	3.8500e-003	0.0000	17.5981
Total	**2.4800e-003**	**0.0181**	**0.1282**	**2.0000e-004**		**3.0000e-004**	**3.0000e-004**		**3.0000e-004**	**3.0000e-004**	**0.0000**	**17.5019**	**17.5019**	**3.8500e-003**	**0.0000**	**17.5981**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1177	1.0588	1.3130	2.2900e-003		0.0441	0.0441		0.0417	0.0417	0.0000	196.4587	196.4587	0.0428	0.0000	197.5298

Total	0.1177	1.0588	1.3130	2.2900e-003		0.0441	0.0441		0.0417	0.0417	0.0000	196.4587	196.4587	0.0428	0.0000	197.5298

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0279	0.2029	1.4392	2.2900e-003		3.4200e-003	3.4200e-003		3.4200e-003	3.4200e-003	0.0000	196.4584	196.4584	0.0428	0.0000	197.5295
Total	**0.0279**	**0.2029**	**1.4392**	**2.2900e-003**		**3.4200e-003**	**3.4200e-003**		**3.4200e-003**	**3.4200e-003**	**0.0000**	**196.4584**	**196.4584**	**0.0428**	**0.0000**	**197.5295**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.0300e-003	0.0275	0.0444	7.0000e-005		1.2600e-003	1.2600e-003		1.1600e-003	1.1600e-003	0.0000	5.9834	5.9834	1.8600e-003	0.0000	6.0299
Paving	3.9300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9600e-003**	**0.0275**	**0.0444**	**7.0000e-005**		**1.2600e-003**	**1.2600e-003**		**1.1600e-003**	**1.1600e-003**	**0.0000**	**5.9834**	**5.9834**	**1.8600e-003**	**0.0000**	**6.0299**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.9000e-004	3.4100e-003	0.0486	7.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	5.9834	5.9834	1.8600e-003	0.0000	6.0299
Paving	3.9300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.7200e-003**	**3.4100e-003**	**0.0486**	**7.0000e-005**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**5.9834**	**5.9834**	**1.8600e-003**	**0.0000**	**6.0299**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.8 Architectural Coating - 2025

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Archit. Coating	0.1837					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.5000e-004	5.7300e-003	9.0500e-003	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	1.2766	1.2766	7.0000e-005	0.0000	1.2784
Total	**0.1845**	**5.7300e-003**	**9.0500e-003**	**1.0000e-005**		**2.6000e-004**	**2.6000e-004**		**2.6000e-004**	**2.6000e-004**	**0.0000**	**1.2766**	**1.2766**	**7.0000e-005**	**0.0000**	**1.2784**

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.1837					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5000e-004	6.4000e-004	9.1600e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.2766	1.2766	7.0000e-005	0.0000	1.2784
Total	**0.1838**	**6.4000e-004**	**9.1600e-003**	**1.0000e-005**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**1.2766**	**1.2766**	**7.0000e-005**	**0.0000**	**1.2784**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Granite Rock Construction Phase III - Asphalt Plant

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	30.00	1000sqft	3.20	30,000.00	0
Other Asphalt Surfaces	139.68	1000sqft	0.00	139,680.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2027
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction only

Land Use - Best estimates from CalEEMod based on approximate site acreage

Construction Phase - Estimated schedule based on CalEEMod defaults plus trenching

Off-road Equipment - Based on provided construction equipment list

Off-road Equipment - Based on provided construction equipment list

Off-road Equipment - Based on provided construction equipment list

Off-road Equipment - Based on provided construction equipment list

Off-road Equipment - Based on provided construction equipment list

Off-road Equipment - Based on provided construction equipment list

Off-road Equipment - Based on provided construction equipment list

Off-road Equipment - Based on provided construction equipment list

Trips and VMT - EMFAC2017 Post-Model

Demolition - Based on provided construction equipment list

Grading - use defaults

Construction Off-road Equipment Mitigation - Tier 4f and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblLandUse	LotAcreage	0.69	3.20
tblLandUse	LotAcreage	3.21	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	0
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	VendorTripNumber	28.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	71.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00

tblTripsAndVMT	WorkerTripNumber	14.00	0.00	

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	0.1031	0.9374	1.1068	1.99E-03	0.0426	0.0392	0.0818	0.0219	0.0369	0.0588	0	171.4102	171.4102	0.0394	0	172.3949
2027	0.2434	0.5186	0.6661	1.15E-03	0	0.0218	0.0218	0	0.0206	0.0206	0	98.3446	98.3446	0.0221	0	98.8973
Maximum	**0.2434**	**0.9374**	**1.1068**	**1.99E-03**	**0.0426**	**0.0392**	**0.0818**	**0.0219**	**0.0369**	**0.0588**	**0**	**171.4102**	**171.4102**	**0.0394**	**0**	**172.3949**

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					
2026	0.0241	0.1622	1.2343	1.9900e-003	0.0192	3.0100e-003	0.0222	9.8500e-003	3.0100e-003	0.0129	0.0000	171.4100	171.4100	0.0394	0.0000	172.3947
2027	0.1994	0.0957	0.7309	1.1500e-003	0.0000	1.7100e-003	1.7100e-003	0.0000	1.7100e-003	1.7100e-003	0.0000	98.3445	98.3445	0.0221	0.0000	98.8971
Maximum	**0.1994**	**0.1622**	**1.2343**	**1.9900e-003**	**0.0192**	**3.0100e-003**	**0.0222**	**9.8500e-003**	**3.0100e-003**	**0.0129**	**0.0000**	**171.4100**	**171.4100**	**0.0394**	**0.0000**	**172.3947**

	ROG	**NOx**	**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	**35.50**	**82.28**	**-10.84**	**0.00**	**54.99**	**92.26**	**76.95**	**55.00**	**91.79**	**81.65**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2026	7-31-2026	0.4047	0.0613
2	8-1-2026	10-31-2026	0.3827	0.0751
3	11-1-2026	1-31-2027	0.3827	0.0751
4	2-1-2027	4-30-2027	0.3702	0.0726
5	5-1-2027	7-31-2027	0.2699	0.2034
		Highest	0.4047	0.2034

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2026	5/28/2026	5	20	
2	Site Preparation	Site Preparation	5/29/2026	6/4/2026	5	5	
3	Grading	Grading	6/5/2026	6/16/2026	5	8	
4	trenching/foundation	Trenching	6/5/2026	6/18/2026	5	10	
5	Building Construction	Building Construction	6/17/2026	5/4/2027	5	230	
6	Paving	Paving	5/5/2027	5/28/2027	5	18	
7	Architectural Coating	Architectural Coating	5/29/2027	6/23/2027	5	18	

Acres of Grading (Site Preparation Phase): 2.5

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 45,000; Non-Residential Outdoor: 15,000; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38

Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	2	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	6.00	132	0.36
Paving	Rollers	1	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
trenching/foundation	Excavators	1	8.00	158	0.38
trenching/foundation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT

Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
trenching/foundation	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2026

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0111	0.1012	0.0990	2.0000e-004		4.4300e-003	4.4300e-003		4.1500e-003	4.1500e-003	0.0000	17.4176	17.4176	4.1300e-003	0.0000	17.5209
Total	**0.0111**	**0.1012**	**0.0990**	**2.0000e-004**	**0.0000**	**4.4300e-003**	**4.4300e-003**	**0.0000**	**4.1500e-003**	**4.1500e-003**	**0.0000**	**17.4176**	**17.4176**	**4.1300e-003**	**0.0000**	**17.5209**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

<u>Mitigated Construction On-Site</u>

	ROG	NOx	CO	SO2	Fugitive 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3100e-003	0.0100	0.1161	2.0000e-004		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	17.4176	17.4176	4.1300e-003	0.0000	17.5209
Total	**2.3100e-003**	**0.0100**	**0.1161**	**2.0000e-004**	**0.0000**	**3.1000e-004**	**3.1000e-004**	**0.0000**	**3.1000e-004**	**3.1000e-004**	**0.0000**	**17.4176**	**17.4176**	**4.1300e-003**	**0.0000**	**17.5209**

<u>Mitigated Construction Off-Site</u>

	ROG	NOx	CO	SO2	Fugitive 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2026

<u>Unmitigated Construction On-Site</u>

	ROG	NOx	CO	SO2	Fugitive 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					0.0164	0.0000	0.0164	8.4200e-003	0.0000	8.4200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7300e-003	0.0286	0.0171	5.0000e-005		1.1400e-003	1.1400e-003		1.0500e-003	1.0500e-003	0.0000	4.0126	4.0126	1.3000e-003	0.0000	4.0451
Total	**2.7300e-003**	**0.0286**	**0.0171**	**5.0000e-005**	**0.0164**	**1.1400e-003**	**0.0175**	**8.4200e-003**	**1.0500e-003**	**9.4700e-003**	**0.0000**	**4.0126**	**4.0126**	**1.3000e-003**	**0.0000**	**4.0451**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					7.3700e-003	0.0000	7.3700e-003	3.7900e-003	0.0000	3.7900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6000e-004	2.4200e-003	0.0229	5.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	4.0126	4.0126	1.3000e-003	0.0000	4.0450
Total	**5.6000e-004**	**2.4200e-003**	**0.0229**	**5.0000e-005**	**7.3700e-003**	**7.0000e-005**	**7.4400e-003**	**3.7900e-003**	**7.0000e-005**	**3.8600e-003**	**0.0000**	**4.0126**	**4.0126**	**1.3000e-003**	**0.0000**	**4.0450**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2026

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0300e-003	0.0506	0.0403	9.0000e-005		2.0600e-003	2.0600e-003		1.9000e-003	1.9000e-003	0.0000	8.2358	8.2358	2.6600e-003	0.0000	8.3024
Total	**5.0300e-003**	**0.0506**	**0.0403**	**9.0000e-005**	**0.0262**	**2.0600e-003**	**0.0283**	**0.0135**	**1.9000e-003**	**0.0154**	**0.0000**	**8.2358**	**8.2358**	**2.6600e-003**	**0.0000**	**8.3024**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					0.0118	0.0000	0.0118	6.0600e-003	0.0000	6.0600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1500e-003	4.9800e-003	0.0523	9.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	8.2358	8.2358	2.6600e-003	0.0000	8.3023
Total	**1.1500e-003**	**4.9800e-003**	**0.0523**	**9.0000e-005**	**0.0118**	**1.5000e-004**	**0.0119**	**6.0600e-003**	**1.5000e-004**	**6.2100e-003**	**0.0000**	**8.2358**	**8.2358**	**2.6600e-003**	**0.0000**	**8.3023**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 trenching/foundation - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5000e-003	0.0128	0.0275	4.0000e-005		5.7000e-004	5.7000e-004		5.2000e-004	5.2000e-004	0.0000	3.6396	3.6396	1.1800e-003	0.0000	3.6690
Total	**1.5000e-003**	**0.0128**	**0.0275**	**4.0000e-005**		**5.7000e-004**	**5.7000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**3.6396**	**3.6396**	**1.1800e-003**	**0.0000**	**3.6690**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	5.1000e-004	2.2000e-003	0.0313	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.6396	3.6396	1.1800e-003	0.0000	3.6690
Total	**5.1000e-004**	**2.2000e-003**	**0.0313**	**4.0000e-005**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**3.6396**	**3.6396**	**1.1800e-003**	**0.0000**	**3.6690**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Building Construction - 2026

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	0.0827	0.7443	0.9230	1.6100e-003		0.0310	0.0310		0.0293	0.0293	0.0000	138.1046	138.1046	0.0301	0.0000	138.8576
Total	**0.0827**	**0.7443**	**0.9230**	**1.6100e-003**		**0.0310**	**0.0310**		**0.0293**	**0.0293**	**0.0000**	**138.1046**	**138.1046**	**0.0301**	**0.0000**	**138.8576**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0196	0.1426	1.0117	1.6100e-003		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003	0.0000	138.1044	138.1044	0.0301	0.0000	138.8574
Total	**0.0196**	**0.1426**	**1.0117**	**1.6100e-003**		**2.4000e-003**	**2.4000e-003**		**2.4000e-003**	**2.4000e-003**	**0.0000**	**138.1044**	**138.1044**	**0.0301**	**0.0000**	**138.8574**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Building Construction - 2027

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	0.0513	0.4613	0.5720	1.0000e-003		0.0192	0.0192		0.0182	0.0182	0.0000	85.5860	85.5860	0.0187	0.0000	86.0526
Total	**0.0513**	**0.4613**	**0.5720**	**1.0000e-003**		**0.0192**	**0.0192**		**0.0182**	**0.0182**	**0.0000**	**85.5860**	**85.5860**	**0.0187**	**0.0000**	**86.0526**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0121	0.0884	0.6270	1.0000e-003		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	85.5859	85.5859	0.0187	0.0000	86.0525
Total	**0.0121**	**0.0884**	**0.6270**	**1.0000e-003**		**1.4900e-003**	**1.4900e-003**		**1.4900e-003**	**1.4900e-003**	**0.0000**	**85.5859**	**85.5859**	**0.0187**	**0.0000**	**86.0525**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Paving - 2027

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	5.0700e-003	0.0470	0.0779	1.2000e-004		2.1600e-003	2.1600e-003		2.0000e-003	2.0000e-003	0.0000	10.4607	10.4607	3.3200e-003	0.0000	10.5436
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.0700e-003**	**0.0470**	**0.0779**	**1.2000e-004**		**2.1600e-003**	**2.1600e-003**		**2.0000e-003**	**2.0000e-003**	**0.0000**	**10.4607**	**10.4607**	**3.3200e-003**	**0.0000**	**10.5436**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4200e-003	6.1500e-003	0.0875	1.2000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	10.4607	10.4607	3.3200e-003	0.0000	10.5436
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4200e-003**	**6.1500e-003**	**0.0875**	**1.2000e-004**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**10.4607**	**10.4607**	**3.3200e-003**	**0.0000**	**10.5436**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.8 Architectural Coating - 2027

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Archit. Coating	0.1856					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5400e-003	0.0103	0.0163	3.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3011
Total	**0.1871**	**0.0103**	**0.0163**	**3.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3011**

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

Archit. Coating	0.1856					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	1.1600e-003	0.0165	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3011
Total	**0.1858**	**1.1600e-003**	**0.0165**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3011**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Attachment 2

Existing-Baseline Emissions

Attachment 2: Baseline (Existing) Emissions Calculations

Table A2-1

Graniterock Emissions Summary - Baseline Conditions

Baseline Emissions Summary

Activity/Processing Areas	Average Daily Emissions (lbs/day)					Annual Emissions (tons/year)						CO2e
	NOx	CO	ROG	PM10	PM2.5	NOx	CO	ROG	PM10	PM2.5	CO2	(MT/year)
Aggregate/Sand Receiving-Storage-Export												
Process Emissions	-	-	-	0.22	0.06	-	-	-	0.03	0.01	-	-
Off-Road Mobile Equipment Emissions	4.41	1.64	0.37	0.15	0.13	0.55	0.20	0.05	0.02	0.02	75.6	68.6
Fugitive Dust Emissions	-	-	-	33.92	3.68	-	-	-	0.55	0.10	-	-
Truck Travel - On-Site Emissions	0.58	0.05	0.020	4.07	0.44	0.07	0.01	0.002	0.51	0.06	13.8	12.5
Truck Travel - Off-Site Emissions	2.18	0.19	0.05	0.17	0.07	0.27	0.02	0.01	0.02	0.01	134.3	121.8
Subtotal	*7.16*	*1.87*	*0.44*	*38.54*	*4.38*	*0.90*	*0.23*	*0.06*	*1.13*	*0.19*	*223.7*	*203*
Concrete Plant												
Aggregate/Sand Transfer Emissions	-	-	-	0.19	0.03	-	-	-	0.02	0.004	-	-
Cement & Supplement Silo Filling Emissions	-	-	-	0.07	0.01	-	-	-	0.01	0.001	-	-
Process Emissions	-	-	-	0.94	0.14	-	-	-	0.12	0.02	-	-
Fugitive Dust Emissions	-	-	-	4.15	1.40	-	-	-	0.54	0.18	-	-
Truck Travel - On-Site Emissions	3.35	0.26	0.11	16.29	1.84	0.42	0.032	0.014	2.04	0.23	75.7	68.7
Truck Travel Off-Site Emissions	21.34	1.84	0.48	1.70	0.65	2.67	0.23	0.06	0.21	0.08	1,316.1	1,193.9
Subtotal	*24.69*	*2.10*	*0.59*	*23.34*	*4.07*	*3.09*	*0.26*	*0.07*	*2.94*	*0.52*	*1,391.8*	*1,263*
Recycle Yard												
Process Emissions	-	-	-	13.72	1.06	-	-	-	1.65	0.13	-	-
Off-Road Mobile Equipment Emissions	14.28	11.99	1.78	0.52	0.50	1.71	1.44	0.21	0.06	0.06	414.8	376.3
Fugitive Dust Emissions	-	-	-	24.74	4.02	-	-	-	3.23	0.59	-	-
Truck Travel - On-Site Emissions	16.97	1.37	0.58	112.26	12.25	2.04	0.16	0.07	13.47	1.47	384.5	348.8
Truck Travel - Off -Site Emissions	82.74	7.14	1.86	6.59	2.50	9.93	0.86	0.22	0.79	0.30	4,899.0	4,444.4
Subtotal	*114.0*	*20.5*	*4.2*	*157.8*	*20.3*	*13.68*	*2.46*	*0.51*	*19.21*	*2.55*	*5,698.3*	*5,170*
Maintenance Yard												
Off-Road Equipment Emissions	7.00	5.51	0.66	0.37	0.34	0.91	0.72	0.09	0.05	0.04	104.8	*95*
Truck Travel Emissions	24.19	4.96	0.94	2.21	0.85	3.15	0.64	0.12	0.29	0.11	1,028.1	*933*
Subtotal	*31.19*	*10.46*	*1.60*	*2.58*	*1.19*	*4.05*	*1.36*	*0.21*	*0.34*	*0.15*	*1,132.9*	*1,028*
Rail Emissions												
Locomotive Emissions	2.18	0.539	0.101	0.049	0.045	0.273	0.067	0.013	0.006	0.006	26.0	24
Other Facility Traffic												
Employee Travel - On-Site Emissions	0.003	0.041	0.002	1.36	0.14	0.0005	0.0062	0.0003	0.20	0.02	1.1	1.0
Employee Travel - Off-Site Emissions	0.23	2.36	0.05	0.15	0.03	0.03	0.35	0.01	0.02	0.00	60.6	55.0
Subtotal	*0.23*	*2.40*	*0.05*	*1.51*	*0.16*	*0.04*	*0.36*	*0.01*	*0.23*	*0.02*	*61.8*	*56*
Land Use												
From CalEEMod	-	-	-	-	-	-	-	-	-	-	*22.9*	*21*
Total	**179.4**	**37.9**	**7.0**	**223.9**	**30.2**	**22.0**	**4.7**	**0.9**	**23.8**	**3.4**	**8,535**	**7,763**

Table A2-2

Graniterock Sand and Aggregate Import/Export, Storage & Handling Emissions - Baseline Conditions
PM10 and PM2.5 Emissions

Aggregate & Sand Import/Export Information

Aggregate Imported by Rail (ton/yr) =	25,000
Aggregate Imported by Truck (ton/yr) =	65,300
Sand Imported by Truck (ton/yr) =	60,000
Total Aggregate & Sand Imported (ton/yr) =	150,300
Aggregate Exported by Truck (ton/yr) =	25,000
Sand Exported by Truck (ton/yr) =	10,000
Total Aggregate & Sand Exported (ton/yr) =	35,000
Annual Operation Days (days/yr) =	250

Aggregate - Rail to Storage Pile Transfer Equipment Rate Information

Rail Unloading and Aggregate Transfer (ton/yr) =	25,000
Rail Deliveries per Year	25
Aggregate per Train Delivery (tons)	1,000
Hourly Process rate (ton/hr) =	400
Average Daily Process Rate (ton/day)	1,000
Days to Process Annual Amount =	25
Average Hours per day Unloading (hrs) =	2.5

Aggregate Rail Unloading Transfer Equipment Emissions - Baseline Conditions

		Process Rate			Operation		PM10 Emissions				PM2.5 Emissions			
Equipment Type	Percent of Annual Input	Daily (ton/day)	Hourly (ton/hr)	Number of Transfers	Annual (days/yr)	Daily (hours/day)	Emission Factor (lb/ton)	Hourly (lb/hr)	Average Daily (lb/day)	Annual (ton/yr)	Emission Factor (lb/ton)	Hourly (lb/hr)	Average Daily (lb/day)	Annual (ton/yr)
Unloading Equipment														
Rail Aggregate Unloading to Pit Conveyor	100%	1,000	400	1	25	2.5	0.00026	0.104	0.026	0.003	0.00008	0.034	0.0084	0.0010
Conveyor to Radial Stacker	25%	250	400	1	25	2.5	0.00110	0.440	0.028	0.003	0.00031	0.124	0.0078	0.0010
Radial Stacker Conveyor	25%	250	400	1	25	2.5	0.00110	0.440	0.028	0.003	0.00031	0.124	0.0078	0.0010
Radial Stacker - Drop to Piles	25%	250	400	1	25	2.5	0.00055	0.222	0.014	0.002	0.00008	0.034	0.0021	0.0003
Conveyor to Tripper Conveyor	75%	750	400	1	25	2.5	0.00110	0.440	0.083	0.010	0.00031	0.124	0.0233	0.0029
Tripper Conveyor - Drop to Piles	75%	750	400	1	25	2.5	0.00055	0.222	0.042	0.005	0.00008	0.034	0.0063	0.0008
Aggregate/Sand Storage Areas Processing Emissions								***1.9***	***0.22***	***0.03***		***0.47***	***0.06***	***0.01***

PM10 and PM2.5 From Recycle Yard - Fugitive Emission Sources

Aggregate/Sand Storage Areas Fugitive Emission Sources - Baseline Conditions

	Operation						Emission Factors			PM10 Emissions			PM2.5 Emissions		
	Process Rate	Process Rate Units	No. of Equip.	Daily Hours (hours/day)	Days per Year	Total Annual Hours (hours/yr)	PM10 Emission Factor	PM2.5 Emission Factor	Emission Factor Units	Average Hourly (lb/hr)	Average Daily (lb/day)	Annual Average (ton/yr)	Average Hourly (lb/hr)	Average Daily (lb/day)	Annual Average (ton/yr)
Truck Unloading/Loading															
Haul Truck Unloading - sand	240	tons/day	-	9	250	2,250	0.00024	0.000036	lb/ton	0.006	0.58	0.007	0.001	0.009	0.001
Haul Truck Unloading - aggregate	261	tons/day	-	9	250	2,250	0.00055	0.000084	lb/ton	0.016	1.45	0.018	0.002	0.219	0.003
Haul Truck Loading from piles (via loader) - sand	40	tons/day	1	9	250	2,250	0.00024	0.000036	lb/ton	0.001	0.10	0.001	0.0002	0.015	0.0002
Haul Truck Loading from piles (via loader) - aggregate	100	tons/day	1	9	250	2,250	0.00055	0.000084	lb/ton	0.006	0.55	0.007	0.001	0.084	0.001
Loaders - Loader Travel															
Aggregate/Sand Storage Area -Travel/Pile Maintenance	2.0	mile/day	1	9	250	2,250	1.02	0.102	lb/VMT	0.226	20.32	0.254	0.023	2.032	0.025
Truck Loading	1.0	mile/day	1	9	250	2,250	1.02	0.102	lb/VMT	0.113	10.16	0.127	0.011	1.016	0.013
Wind Erosion	1.5	acres	-	24	365	8,760	0.51	0.204	lb/acre/day	0.032	0.77	0.140	0.01	0.31	0.06
Aggregate/Sand Storage Areas Fugitives										***-***	***33.92***	***0.55***	***-***	***3.68***	***0.10***
Total Aggregate/Sand Storage Area Fugitive & Rail Unloading Equipment Emissions										**-**	**34.1**	**0.58**	**-**	**3.7**	**0.11**

Table A2-3

Graniterock Sand and Aggregate Import/Export, Storage & Handling - Baseline Conditions

Emissions Factors Used For Processing and Fugitive PM10 & PM2.5 Emissions

	PM10 Emission Factors			PM2.5 Emission Factors				
Emission Source	**Uncontrolled**	**% Control**	**Controlled**	**Uncontrolled**	**Fraction of PM10**	**Controlled**	**Units**	**Reference**
Feed Hopper	0.000016	70%	0.000005	0.000003	0.20	0.000001	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing)
Primary Crushing	-	-	0.00054	-	-	0.00010	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing) - tertiary crushing (estimate for primary crusher)
Secondary Crushing	-	-	0.00054	-	-	0.00010	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing) - tertiary crushing (estimate for secondary crusher)
Fines Crushing	0.015	-	0.0012	-	-	0.00007	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing) - Fines Crushing
Screening	0.0087	-	0.00074	-	-	0.00005	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing) - Screening
Fines Screening	0.072	-	0.0022	-	-	0.00005	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing) - Fines screening
Conveyor Transfer Points	0.0011	-	0.000046	0.00031	-	0.000013	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing) - Conveyor transfer point
Aggregate - Unloading/Loading/stockpiling*	0.00055	70%	0.00017	0.000084	-	0.000025	lb/ton	11/06 AP-42 Section 13.2.4 (Aggregate handling and Storage Piles) - Material drop operations
Sand - Unloading/Loading/stockpiling*	0.00024	70%	0.00007	0.000036	-	0.000011	lb/ton	11/06 AP-42 Section 13.2.4 (Aggregate handling and Storage Piles) - Material drop operations
Aggregate - Rail Car Unloading**	0.00026		-	0.000039		-		11/06 AP-42 Section 13.2.4 (Aggregate handling and Storage Piles) - Material drop operations
Conveyor Transfer + Stockpiling	0.0017	70%	0.00116	-	-	0.000019	lb/ton	drop to conveyor & loadout drop to pile
Wind Erosion - Active Storage Piles***	1.7	70%	0.51	0.68	0.40	0.204	lb/acre/	BAAQMD Permit Handbook, Section 11.7 Crushing and Grinding, October 23, 2018

Note: * Controlled emission factor assumes 70% control effectiveness for use of watering

** Emission factor for bottom-dump rail cars. Calculated using AP-42 material drop equation with the wind speed at a height of 1 meter

*** Controlled emission factor assumes 70% control effectiveness for use of 3-sided enclosures and periodic watering.

On-Site Equipment Travel on Unpaved Areas Emission Factors

Equipment Type	**Average Weight (tons)**	**Silt Content (%)**	**PM10 Uncontrolled Factor (lb/VMT)**	**PM10* Controlled Factor (lb/VMT)**	**PM2.5 Uncontrolled Factor (lb/VMT)**	**PM2.5* Controlled Factor (lb/VMT)**
Cat 966 Loaders	56.3	8.3	3.39	1.02	0.34	0.10

Note: * Controlled emission factor assumes 70% control effectiveness for watering and reduced speed

Vehicle/Process/Emission Factor Information		
Loader Capacity - 966 Loaders	3	cubic yards
Haul Truck Capacity (tons) =	20	per truck
Unloaded Haul Truck Weight (tons) =	15	
Average Haul Truck Wt. (load & no load)	25	tons
Annual No. Import Trucks (baseline) =	32,500	trucks/year
Annual No. Export Trucks (baseline) =	32,500	trucks/year
Annual No. Import Trucks (proposed) =	32,500	trucks/year
Annual No. Export Trucks (proposed) =	15,000	trucks/year
Average wind speed (mph) at 10 meter height	6.8	San Jose Airport data
Average wind speed (mph) at 1.0 meter height	3.8	Calculated at 1.0 meter for neutral atmosphere
No. days with precip. > 0.01 inch	58	San Jose Airport
Aggregate Material Moisture Content (%) =	4.4	Applicant
Sand Material Moisture Content (%) =	8	Applicant
Unpaved Road Silt Content (%)	8.3	AP-42 Table 13.2.2-1 for stone quarry haul road
Paved Access Road Silt Loading (g/m2) =	8.2	AP-42 sL value for paved quarry road

Unpaved Road Dust Emission factors from US EPA Compilation of Emission Factors, Volume I:
Stationary Point and Area Sources, Section 13.2.2 Unpaved Roads (11/2006)

$PM10 = 1.5 \times (s/12)^{0.9} \times (W/3)^{0.45} \times [(365-P)/365]$

$PM2.5 = 0.15 \times (s/12)^{0.9} \times (W/3)^{0.45} \times [(365-P)/365] \times C$

PM10 = PM10 emissions in grams per VMT
PM2.5 = PM2.5 emissions in grams per VMT
s = surface material silt content (%)
(value for s from AP-42 Table 13.2.2-1 stone quarrying and processing, haul road mean silt content)
W = mean vehicle weight (tons)
P = number of days in a year with at least 0.01 inch of precipitation
(value used for P is the Santa Clara County average)
C = conversion factor for pounds to grams

Table A2-4

Graniterock Rail Emissions - 2020 Baseline Conditions
Annual and Average Daily Emissions From UPRR Train Hauling - Aggregates

Material Hauling information

Annual Quantity Material Hauled by Rail	25,000	tons
Quantity Material Hauled per Train	1,000	tons
Number of Train Loads per Year	25	trains/year
One-way Train Trip Distance[a]	37	miles
Train Idle Time at Site	30	minutes
Days of Facility Operation per Year	250	days

Train Information

Empty Rail Car Weight[b]	27.8	tons
Aggregate Weight per Rail Car	100	tons
Locomotive Weight[c]	204	tons
Number of Locomotives	1	locomotives/train
Cars per Train	10	cars/train
Train - Gross Ton Weight - Unloaded	482	tons
Train - Gross Ton Weight - Loaded	1,482	tons
Average Gross Ton Weight	982	tons
Fuel Productivity Factor[d]	800	gross ton miles/gallon (GTM/gal)

Emissions From Train Travel[e]

Pollutant	Fleet Average Emission Factor (g/gallon)	Average GTW (tons)	Train Roundtrip Distance (miles)	Fuel Productivity Factor (GTM/gallon)	Train Loads per Year	Emission per Train Load (pounds)	Annual Emissions (pounds/year)	Annual Emissions (tons/year)	Average Daily Emissions (lb/day)
NOx	106.79	982	74	800	25	21.4	535	0.27	2.1
CO	26.62	982	74	800	25	5.3	133	0.07	0.5
ROG	4.84	982	74	800	25	1.0	24	0.01	0.1
PM10	2.41	982	74	800	25	0.5	12	0.01	0.0
PM2.5	2.22	982	74	800	25	0.4	11	0.01	0.0
CO_2	10206	982	74	800	25	2043.3	51,083	25.5	-

Train Idle Emissions[f]

Pollutant	Fleet Average Emission Factor (g/hour)	Idle[g] Time per Load (hours)	Train Loads per Year	Annual Emissions (pounds/year)	Annual Emissions (tons/year)	Average Daily Emissions (lb/day)
NOx	418.12	0.5	25	11.52	0.006	0.05
CO	54.30	0.5	25	1.50	0.001	0.01
ROG	34.29	0.5	25	0.94	0.000	0.00
PM10	9.14	0.5	25	0.25	0.000	0.00
PM2.5	8.99	0.5	25	0.25	0.000	0.00
CO_2	33,552	0.5	25	925	0.46	3.70

Total Train Hauling Emissions (travel + idle)

Pollutant	Annual Emissions (tons/year)	Average Daily Emissions (lb/day)
NOx	0.273	2.18
CO	0.067	0.54
ROG	0.013	0.10
PM10	0.006	0.05
PM2.5	0.006	0.05
CO_2	26.0	-

Notes:
a Estimated travel between the Graniterock AR Wilson Quarry and project site in San Jose.
b Empty car weight provided by applicant.
c Locomotive weight was estimated based on ARB Technology Assessment: Freight Locomotives (2016)
d Fuel Productivity (GTM/gal). An average value was calculated based on the GTM/gal values for the Bay Area in 2011 (ARB 2014) and adjusted for increased fuel efficiency in 2020 (2016 ARB Vision 2.1, Locomotive Module)
e Train running emission factors and fleet mix are for SF Bay Area from the California Air Resources Board (CARB) Vision 2.1 Locomotive Inventory Database, ARB. 2016. Vision 2.1 Locomotive Module. Available at: http://ww2.arb.ca.gov/resources./documents/vision-scenario-planning.
f Locomotive idle emission factors for ROG, CO, NOx, PM10, and PM2.5 developed based on ARB 2016. Vision 2.1 Locomotive Module and EPA 1998..
g Train idling time assumptions provided by applicant.

References:

2016. Vision 2.1 Locomotive Module. Available at: http://www.arb.ca.gov/planning/vision/downloads.htm
ARB. 2016. Technology Assessment: Freight Locomotives
USEPA. 1998. Locomotive Emission Standards Regulatory Support Document. Available at: https://www3.epa.gov/otaq/documents/420r98101.pdf
USEPA 2009. Emission Factors for Locomotives (EPA-420-F-09-025), April 2009.

Table A2-5

Graniterock - Rail Emission Factors Calculations - Baseline Conditions 2020
Rail Hauling Aggregates

2020 CARB Locomotive Tier Distribution and Emission Factors

Locomotive Tier Level	Percent[a] in Fleet (%)	Locomotive Emission Factors (g/gal)[b]					
		PM10	PM2.5	ROG	NOx	CO	CO2
Tier 0r	33.9%	4.16	3.83	7.55	149.76	26.62	10,206
Tier 1r	11.9%	4.16	3.83	7.3	139.36	26.62	10,206
Tier 2r	20.6%	1.66	1.53	3.27	102.96	26.62	10,206
Tier 3	17.7%	1.66	1.53	3.27	102.96	26.62	10,206
Tier 4	15.9%	0.31	0.29	1.01	20.8	26.62	10,206
Total	100.0%						
Fleet Average Emission Factors		2.59	2.39	4.84	110.09	26.62	10206
Adjustment Factor [c]		0.93	0.93	1	0.97	1	1
Adjusted Emission Factors		2.41	2.22	4.84	106.79	26.62	10206

2020 CARB Locomotive Tier Distribution and Emission Factors for Locomotives Idling

Locomotive Tier Level	Percent[a] in Fleet (%)	Idle Emission Factors (g/hour)[d]					
		PM10	PM2.5	ROG	NOx	CO	CO2
Tier 0r	33.9%	21	21	72	777	95	33,552
Tier 1r	11.9%	11	10	36	376	49	33,552
Tier 2r	20.6%	3.4	3.3	13	296	30	33,552
Tier 3	17.7%	3.4	3.3	13	296	30	33,552
Tier 4	15.9%	0.64	0.62	3.9	60	30	33,552
Total	100.0%						
Fleet Average Emission Factors		9.83	9.67	34.29	431.06	54.30	33552
Adjustment Factor [c]		0.93	0.93	1	0.97	1	1
Adjusted Emission Factors		9.14	8.99	34.29	418.12	54.30	33552

a Tier distribution for SF Bay Area from the California Air Resources Board (CARB) 2016 Vision 2.1 Locomotive Inventory Database
b Train running emission factors and fleet mix are from the California Air Resources Board (CARB) Vision 2.1 Locomotive Inventory Database
ARB. 2016. Vision 2.1 Locomotive Module. Available at: http://ww2.arb.ca.gov/resources./documents/vision-scenario-planning.
c Emission adjustment factors from the California Air Resources Board (CARB) Vision 2.1 Locomotive Inventory Database
d Locomotive idle emission factors are developed based on locomotive data from USEPA 1998 Locomotive Emission Standards Regulatory Support Document,
USEPA 2009 Emission Factors for Locomotives (EPA-420-F-09-025), April 2009, and Recology Ostrom Road Projects,
Draft Environmental Impact Report (State Clearinghouse No. 2015122071). Yuba County Planning Department. May 2018.
Yuba County Planning Department. May 2018.

Table A2-6

Graniterock Concrete Plant Emissions - Baseline Conditions
PM10 and PM2.5 Emissions From Concrete Plant Operation

Baseline Quantity of Concrete Produced (cu yds/yr) =	70,000
Annual Operation (days/yr) =	250
Max. Hourly Production Rate (yd/hr) =	120

Composition of Concrete

Material	lb/yd	Max. ton/hr	ton/yr
Course Aggregate	1865	111.9	65,275
Sand	1428	85.68	49,980
Cement	491	29.46	17,185
Cement Supplement	73	4.38	2,555
Water	167	10.02	5,845
Total Concrete	4,024	241	140,840

Emissions from Concrete Batching - PM10

Process	PM10 (lb/ton)	Controlled (lb/ton)	PM10 (lb/yr)	Average lb/day	Annual (tons/year)
Aggregate delivery to ground storage(1)	0.00055	0.00017	36.16	0.145	0.018
Sand delivery to ground storage(2)	0.00024	0.00007	11.99	0.048	0.006
Aggregate transfer to conveyors(1)*	0.00055	0.00017	10.85	0.043	0.005
Sand transfer to conveyor(2)*	0.00024	0.00007	3.60	0.014	0.002
Aggregate transfer to elevated storage(1)*	0.00055	0.00017	10.85	0.043	0.005
Sand transfer to elevated storage(2)*	0.00024	0.00007	3.60	0.014	0.002
Cement delivery to Silo (controlled)(3)		0.00034	5.84	0.023	0.003
Cement supplement delivery to silo (controlled)(3)		0.00490	12.52	0.050	0.006
Weigh hopper loading(3,4)*	0.00280	0.00084	96.81	0.387	0.048
Central Mix loading (controlled)(5,6)		0.00550	108.57	0.434	0.054
PM10 Process Emissions from Concrete Batching (lb/yr) =			**300.78**	**1.20**	**0.150**

* water spray efficiency (BAAQMD Permit Handbook, Section 11.5) = 70%

(1) Emission factor calculated using AP-42 Section 13.2.4 Eq. for material transfer with moisture = 4.4% and wind speed = 6.8 mph.

(2) Emission factor calculated using AP-42 Section 13.2.4 Eq. for material transfer with moisture = 8% and wind speed = 6.8 mph.

(3) Emission factors obtained from AP-42, Table 11.12-2.

(4) Emission factor for lb of pollutant per ton of aggregate and sand.

(5) Emission factor for lb of pollutant per ton of cement and cement supplement.

Emissions from Concrete Batching - PM2.5

Process	PM2.5 (lb/ton)(1)	Controlled (lb/ton)	PM2.5 (lb/yr)	Average lb/day	Annual (tons/year)
Aggregate delivery to ground storage	0.00008	0.000025	5.42	0.022	0.003
Sand delivery to ground storage	0.00004	0.000011	1.80	0.007	0.001
Aggregate transfer to conveyors*	0.00008	0.000025	1.63	0.007	0.001
Sand transfer to conveyor*	0.00004	0.000011	0.54	0.002	0.000
Aggregate transfer to elevated storage*	0.00008	0.000025	1.63	0.007	0.001
Sand transfer to elevated storage*	0.00004	0.000011	0.54	0.002	0.000
Cement delivery to Silo (controlled)		0.000051	0.88	0.004	0.000
Cement supplement delivery to silo (controlled)		0.000735	1.88	0.008	0.001
Weigh hopper loading*	0.00042	0.000126	14.52	0.058	0.007
Central Mix loading (controlled)		0.000825	16.29	0.065	0.008
PM2.5 Process Emissions from Concrete Batching (lb/yr) =			**45.12**	**0.18**	**0.023**

* water spray efficiency (BAAQMD Permit Handbook, Section 11.5) = 70%

(1) Emission factors obtained by using speciation profile in PM3431 which states PM2.5 = 15% of PM10 (BAAQMD Permit Handbook, Section 11.5)

Fugitive Emissions - PM10

Emissions from Unpaved Roads - PM10 (Loader)

			lb/day	tpy
Emission Factor of Unpaved Roads (lb/VMT)[(1)] =	3.39			
# VMT/yr	928			
Abatement Efficiency (%) =	70%			
PM10 Emissions from Unpaved Roads (lb/yr) =	943.06		3.8	0.47

(1) Emission factor from AP-42 Sec 13.2.2 Unpaved Roads with silt content = 8.3%, loader wt = 56.3 tons, and 58 days/yr with ppt >0.01 in.

Emissions from Storage Piles - PM10

			lb/day	tpy
Emission Factor of Storage Piles (lb/acre/day)[(2)]	1.7			
Area of Storage Piles (acres) =	0.75			
Abatement Efficiency (%) =	70%			
# Days Storage Piles Exist =	365			
PM10 Emissions from Storage Piles (lb/yr) =	139.61		0.4	0.07

[(2)] Emission factor from BAAQMD Permit Handbook, Section 11.5

Total Fugitive PM10 Emissions

			lb/day	tpy
Total Fugitive PM10 Emissions (lb/yr) =	1082.7			
Total Fugitive PM10 Emissions (TPY) =	0.54		4.2	0.54

Fugitive Emissions - PM2.5

Emissions from Unpaved Roads - PM2.5 (Loader)

			lb/day	tpy
Emission Factor of Unpaved Roads (lb/VMT)[(1)] =	0.34			
# VMT/yr	928			
Abatement Efficiency (%) =	70			
PM10 Emissions from Unpaved Roads (lb/yr) =	312.15		1.2	0.16

(1) Emission factor from AP-42 Sec 13.2.2 Unpaved Roads with silt content = 8.3%, loader wt = 56.3 tons, and 58 days/yr with ppt >0.01 in.

Emissions from Storage Piles - PM2.5

			lb/day	tpy
Emission Factor of Storage Piles (lb/acre/day)	0.68			
Area of Storage Piles (acres) =	0.75			
Abatement Efficiency (%) =	70			
# Days Storage Piles Exist =	365			
PM2.5 Emissions from Storage Piles (lb/yr) =	55.85		0.2	0.03

Total Fugitive PM2.5 Emissions

			lb/day	tpy
Total Fugitive PM2.5 Emissions (lb/yr) =	368.0			
Total Fugitive PM2.5 Emissions (TPY) =	0.54		1.4	0.18

Total Process & Fugitive PM10 Emissions

			lb/day	tpy
Total PM10 Emissions (lb/yr) =	1383.44			
Total PM10 Emissions (TPY) =	0.69		5.4	0.692

Total Process & Fugitive PM2.5 Emissions

			lb/day	tpy
Total PM2.5 Emissions (lb/yr) =	413.11			
Total PM2.5 Emissions (TPY) =	0.21		1.6	0.207

Table A2-7

Graniterock Concrete Plant Emissions - Baseline Conditions

TAC Emissions From Concrete Plant Operation

TAC Emission Factors

Pollutant	Silo Fill (lb/ton) Cement	Silo Fill (lb/ton) Cement Supp	Central Mix (lb/ton) Cement & Cement Supp
Arsenic	4.24E-09	1.00E-06	1.87E-08
Beryllium	4.86E-10	9.04E-08	
Cadmium	4.86E-10	1.98E-10	7.10E-10
Chromium (hexavalent)	4.14E-09	1.74E-07	1.81E-08
Lead	1.09E-08	5.20E-07	3.66E-08
Manganese	1.17E-07	2.56E-07	3.78E-06
Nickel	4.18E-08	2.28E-06	2.48E-07
Phosphorus		3.54E-06	1.20E-06
Selenium		7.24E-08	

Pollutant (PM3431)	Speciation lb/ton
Chlorine	0.4
Manganese	2.4
Sulfate	84.2

Source: Emission factors from BAAQMD Permit Handbook, Section 11.5

TAC Emissions

Pollutant	Total Annual (lb/yr)	Hourly Max (lb/hr)
Arsenic	3.00E-03	5.14E-06
Beryllium	2.39E-04	4.10E-07
Cadmium	2.29E-05	3.92E-08
Chromium (hexavalent)	8.75E-04	1.50E-06
Lead	2.24E-03	3.84E-06
Manganese	7.73E-02	1.32E-04
Nickel	1.14E-02	1.96E-05
Phosphorus	3.27E-02	5.61E-05
Selenium	1.85E-04	3.17E-07

Pollutant	Total Annual (lb/yr)	Hourly Max (lb/hr)
Chlorine	6.02E-02	1.03E-04
Manganese	3.61E-01	6.19E-04
Sulfate	1.27E+01	2.17E-02

Table A2-8

Graniterock Recycle Yard Emissions - Baseline Conditions
PM10 and PM2.5 Emissions From Recycle Yard - Material Processing Equipment And Fugitive Emission Sources

Recycle Yard Production/Import/Export Information

Recycle Concrete Imported (ton/yr) =	350,000
Recycle Asphalt Imported (ton/yr)	300,000
Total Recycle Material Imported (ton/yr) =	650,000
Processed Recycle Material Exported (ton/yr) =	650,000

Recycle Material Process Equipment Production Rate Information

Total Recycle Material Processed (ton/yr) =	650,000
Hourly Process rate (ton/hr) =	542
Average Daily Process Rate (ton/day)	2,708
Days to Process Annual Amount =	240
Average Hours per day Processing (hrs) =	5

Recycle Material Processing Equipment Emissions - Baseline Conditions

Equipment Type	Percent of Input	Process Rate (ton/hr)	Number of Transfers	Daily Operation (hours)	PM10 Emissions: Emission Factor (lb/ton)	PM10 Emissions: Hourly (lb/hr)	PM10 Emissions: Average Daily (lb/day)	PM10 Emissions: Annual (ton/yr)	Emission Factor (lb/ton)	PM2.5 Emissions: Hourly (lb/hr)	PM2.5 Emissions: Average Daily (lb/day)	PM2.5 Emissions: Annual (ton/yr)
Processing Plant												
Feed Hopper	100%	542	1	5	0.000005	0.003	0.013	0.002	0.000001	0.001	0.003	0.0003
Vibrating Feeder	100%	542	1	5	0.00074	0.401	2.004	0.241	0.00005	0.027	0.135	0.0163
Jaw Crusher	100%	542	1	5	0.00054	0.293	1.463	0.176	0.00010	0.054	0.271	0.0325
Conveyors	100%	542	4	5	0.00005	0.0997	0.498	0.060	0.000013	0.028	0.141	0.0169
Screen (3 Deck)	100%	542	1	5	0.00074	0.401	2.004	0.241	0.00005	0.027	0.135	0.0163
Cone Crusher	100%	542	1	5	0.00054	0.293	1.463	0.176	0.00010	0.054	0.271	0.0325
Stacking Conveyor /Loadout	100%	542	2	5	0.00116	1.2542	6.271	0.753	0.000019	0.021	0.103	0.0124
Recycle Area Processing Emissions						***2.7***	***13.72***	***1.65***		***0.21***	***1.06***	***0.13***

Graniterock Recycle Yard Emissions - Baseline Conditions
PM10 and PM2.5 From Recycle Yard - Fugitive Emission Sources

Recycle Area Fugitive Emission Sources - Baseline Conditions

	Operation: Process Rate	Operation: Process Rate Units	Operation: No. of Equip.	Operation: Daily Hours (hours/day)	Operation: Days per Year	Operation: Total Annual Hours (hours/yr)	Emission Factors: PM10 Emission Factor	Emission Factors: PM2.5 Emission Factor	Emission Factors: Emission Factor Units	PM10 Emissions: Ave Hourly (lb/hr)	PM10 Emissions: Ave Daily (lb/day)	PM10 Emissions: Annual Average (ton/yr)	PM2.5 Emissions: Ave Hourly (lb/hr)	PM2.5 Emissions: Ave Daily (lb/day)	PM2.5 Emissions: Annual Average (ton/yr)
Truck Unloading/Loading															
Truck Unloading - asphalt & concrete	2,708	tons/day	-	9	240	2,160	0.00055	0.00008	lb/ton	0.17	1.50	0.18	0.03	0.23	0.027
Haul Truck Loading from storage piles (via loader)	2,708	ton/day	1	9	240	2,160	0.00055	0.00008	lb/ton	0.17	1.50	0.18	0.03	0.23	0.027
Loaders - Loader Travel															
Recycle Area - Loader travel	10.0	mile/day	1	9	240	2,160	1.02	0.10	lb/VMT	1.13	10.16	1.22	0.11	1.02	0.12
Truck Loading Areas/Pile Maintenance Travel	5.0	mile/day	1	9	240	2,160	1.02	0.10	lb/VMT	0.56	5.08	0.61	0.06	0.51	0.06
Other Off-Road Equipment															
Excavator	451	ton/hr	1	9	240	2,160	0.00055	0.00008	lb/ton	0.25	2.25	0.27	0.04	0.34	0.041
Wind Erosion	2.5	acres	-	24	365	8,760	1.70	0.680	lb/acre/day	0.18	4.25	0.78	0.07	1.70	0.31
Recycle Area Fugitives										-	***24.7***	***3.23***	-	***4.0***	***0.59***
Total Recycle Area Processing and Fugitives										-	**38.5**	**4.88**	-	**5.1**	**0.7**

Table A2-9

Graniterock Recycle Yard

Emissions Factors Used For Recycle Yard Processing and Fugitive PM10 & PM2.5 Emissions

	PM10 Emission Factors			PM2.5 Emission Factors				
Emission Source	**Uncontrolled**	**% Control**	**Controlled**	**Uncontrolled**	**Fraction of PM10**	**Controlled**	**Units**	**Reference**
Feed Hopper	0.000016	70%	0.000005	0.000003	0.20	0.000001	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing)
Primary Crushing	-	-	0.00054	-	-	0.00010	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing) - tertiary crushing (estimate for primary crusher)
Secondary Crushing	-	-	0.00054	-	-	0.00010	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing) - tertiary crushing (estimate for secondary crusher)
Fines Crushing	0.015	-	0.0012	-	-	0.00007	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing) - Fines Crushing
Screening	0.0087	-	0.00074	-	-	0.00005	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing) - Screening
Fines Screening	0.072	-	0.0022	-	-	0.00005	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing) - Fines screening
Conveyor Transfer Points	0.0011	-	0.000046	0.00031	-	0.000013	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing) - Conveyor transfer point
Unloading/Loading/stockpiling*	0.0006	70%	0.00017	0.00008	-	0.000025	lb/ton	11/06 AP-42 Section 13.2.4 (Aggregate handling and Storage Piles) - Material drop operations
Conveyor Transfer + Stockpiling	0.0017	70%	0.00116	-	-	0.000019	lb/ton	drop to conveyor & loadout drop to pile
Wind Erosion - Active Storage Piles	1.7	70%	0.51	0.68	0.40	0.20400	lb/acre/day	BAAQMD Permit Handbook, Section 11.7 Crushing and Grinding, October 23, 2018

Note: * Controlled emission factor assumes 70% control effectiveness for use of watering

On-Site Equipment Travel on Unpaved Areas Emission Factors

Equipment Type	**Average Weight (tons)**	**Silt Content (%)**	**PM10 Uncontrolled Factor (lb/VMT)**	**PM10* Controlled Factor (lb/VMT)**	**PM2.5 Uncontrolled Factor (lb/VMT)**	**PM2.5* Controlled Factor (lb/VMT)**
Cat 966 Loaders	56.3	8.3	3.39	1.02	0.34	0.10

Note: * Controlled emission factor assumes 70% control effectiveness for watering and reduced speed

Vehicle/Process/Emission Factor Information		
Loader Capacity - 966 Loaders	3	cubic yards
Haul Truck Capacity (tons) =	20	per truck
Unloaded Haul Truck Weight (tons) =	15	
Average Haul Truck Wt. (load & no load)	25	tons
Annual No. Import Trucks (baseline) =	32,500	trucks/year
Annual No. Export Trucks (baseline) =	32,500	trucks/year
Annual No. Import Trucks (proposed) =	32,500	trucks/year
Annual No. Export Trucks (proposed) =	15,000	trucks/year
Average wind speed (mph)	6.8	San Jose Airport
No. days with precip. > 0.01 inch	58	San Jose Airport
Material Moisture content (%) =	4.4	Applicant
Unpaved Road Silt Content (%)	8.3	AP-42 Table 13.2.2-1 for stone quarry haul road
Paved Access Road Silt Loading (g/m2) =	8.2	AP-42 sL value for paved quarry road

Unpaved Road Dust Emission factors from US EPA Compilation of Emission Factors, Volume I:
Stationary Point and Area Sources, Section 13.2.2 Unpaved Roads (11/2006)

$PM10 = 1.5 \times (s/12)^{0.9} \times (W/3)^{0.45} \times [(365-P)/365]$

$PM2.5 = 0.15 \times (s/12)^{0.9} \times (W/3)^{0.45} \times [(365-P)/365] \times C$

PM10 = PM10 emissions in grams per VMT
PM2.5 = PM2.5 emissions in grams per VMT
s = surface material silt content (%)
(value for s from AP-42 Table 13.2.2-1 stone quarrying and processing, haul road mean silt content)
W = mean vehicle weight (tons)
P = number of days in a year with at least 0.01 inch of precipitation
(value used for P is the Santa Clara County average)
C = conversion factor for pounds to grams

Table A2-10

Off-Road Mobile Equipment - Baseline - 2020

	Average Daily Emissions (lbs/day)					Annual Emissions (tons/year)					
Activity/Processing Areas	**NOx**	**CO**	**ROG**	**PM10**	**PM2.5**	**NOx**	**CO**	**ROG**	**PM10**	**PM2.5**	**CO2**
Recycle Yard	14.28	11.99	1.78	0.52	0.50	1.71	1.44	0.21	0.06	0.06	415
Aggregate/Sand Receiving-Storage-Export	4.41	1.64	0.37	0.15	0.13	0.55	0.20	0.05	0.02	0.02	76
Total	**18.69**	**13.63**	**2.15**	**0.67**	**0.64**	**2.26**	**1.64**	**0.26**	**0.08**	**0.08**	**490**

Table A2-11

Baseline Conditions

Off-Road Equipment Exhaust Emissions

Baseline Operation - 2020

Pollutant	Equipment	Quantity	Use	Operation Annual Days	Operation Daily Hours	Horse-Power(1)	Load Factor(2)	Emission Factor(3) (g/hp-hr)	Annual Emissions (tons/year)	Average Daily Emissions(4) (lbs/day)
NOx	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	3.421	0.529	4.41
	Rubber Tired Loader	1	Aggregate/Sand & Concrete Plant	250	8	203	0.36	3.421	0.551	4.41
	Excavator	1	Recycle Area	240	8	160	0.38	2.278	0.293	2.44
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	1.799	0.891	7.42
								Total NOx Emissions	**2.264**	**18.69**
CO	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	1.269	0.196	1.64
	Rubber Tired Loader	1	Aggregate/Sand & Concrete Plant	250	8	203	0.36	1.269	0.204	1.64
	Excavator	1	Recycle Area	240	8	160	0.38	3.086	0.397	3.31
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	1.708	0.846	7.05
								Total CO Emissions	**1.644**	**13.63**
ROG	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	0.29	0.045	0.37
	Rubber Tired Loader	1	Aggregate/Sand & Concrete Plant	250	8	203	0.36	0.290	0.047	0.37
	Excavator	1	Recycle Area	240	8	160	0.38	0.231	0.030	0.25
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	0.281	0.139	1.16
								Total ROG Emissions	**0.260**	**2.15**
PM10	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	0.114	0.018	0.15
	Rubber Tired Loader	1	Aggregate/Sand & Concrete Plant	250	8	203	0.36	0.114	0.018	0.15
	Excavator	1	Recycle Area	240	8	160	0.38	0.110	0.014	0.12
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	0.063	0.031	0.26
								Total PM10 Emissions	**0.081**	**0.67**
PM2.5	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	0.104	0.016	0.13
	Rubber Tired Loader	1	Aggregate/Sand & Concrete Plant	250	8	203	0.36	0.104	0.017	0.13
	Excavator	1	Recycle Area	240	8	160	0.38	0.102	0.013	0.11
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	0.063	0.031	0.26
								Total PM2.5 Emissions	**0.077**	**0.64**
CO2	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	469.513	72.6	-
	Rubber Tired Loader	1	Aggregate/Sand & Concrete Plant	250	8	203	0.36	469.513	75.6	-
	Excavator	1	Recycle Area	240	8	160	0.38	472.289	60.8	-
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	568.299	281.4	-
								Total CO2 Emissions	**490.49**	-

Notes:

(1) Horse power values for crushing/processing equipment and excavator provided by applicant. Loader horsepower is default CalEEMod value for loaders.

(2) Load factors from CalEEMod.

(3) Emission factors are default CalEEMod values for off-road equipment in 2020.

(4) Average Daily Emissions based on annual emissions and average annual days of project activity operation

Baseline Operation - 2020 - Recycle Area

Pollutant	Equipment	Quantity	Use	Operation Annual Days	Operation Daily Hours	Horse-Power[1]	Load Factor[2]	Emission Factor[3] (g/hp-hr)	Annual Emissions (tons/year)	Average Daily Emissions[4] (lbs/day)
NOx	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	3.421	0.529	4.41
	Excavator	1	Recycle Area	240	8	160	0.38	2.278	0.293	2.44
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	1.799	0.891	7.42
	Total NOx Emissions								**1.713**	**14.28**
CO	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	1.269	0.196	1.64
	Excavator	1	Recycle Area	240	8	160	0.38	3.086	0.397	3.31
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	1.708	0.846	7.05
	Total CO Emissions								**1.439**	**11.99**
ROG	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	0.29	0.045	0.37
	Excavator	1	Recycle Area	240	8	160	0.38	0.231	0.030	0.25
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	0.281	0.139	1.16
	Total ROG Emissions								**0.214**	**1.78**
PM10	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	0.114	0.018	0.15
	Excavator	1	Recycle Area	240	8	160	0.38	0.110	0.014	0.12
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	0.063	0.031	0.26
	Total PM10 Emissions								**0.063**	**0.52**
PM2.5	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	0.104	0.016	0.13
	Excavator	1	Recycle Area	240	8	160	0.38	0.102	0.013	0.11
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	0.063	0.031	0.26
	Total PM2.5 Emissions								**0.060**	**0.50**
CO2	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	469.513	72.6	-
	Excavator	1	Recycle Area	240	8	160	0.38	472.289	60.8	-
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	568.299	281.4	-
	Total CO2 Emissions								**414.84**	**-**

Baseline Operation - 2020 Aggregate/Sand & Concrete Plant

Pollutant	Equipment	Quantity	Use	Operation Annual Days	Operation Daily Hours	Horse-Power[1]	Load Factor[2]	Emission Factor[3] (g/hp-hr)	Annual Emissions (tons/year)	Average Daily Emissions[4] (lbs/day)
NOx	Rubber Tired Loader	1	Aggregate/Sand & Concrete Plant	250	8	203	0.36	3.421	0.551	4.41
	Total NOx Emissions								**0.551**	**4.41**
CO	Rubber Tired Loader	1	Aggregate/Sand & Concrete Plant	250	8	203	0.36	1.269	0.204	1.64
	Total CO Emissions								**0.204**	**1.64**
ROG	Rubber Tired Loader	1	Aggregate/Sand & Concrete Plant	250	8	203	0.36	0.290	0.047	0.37
	Total ROG Emissions								**0.047**	**0.37**
PM10	Rubber Tired Loader	1	Aggregate/Sand & Concrete Plant	250	8	203	0.36	0.114	0.018	0.15
	Total PM10 Emissions								**0.018**	**0.15**
PM2.5	Rubber Tired Loader	1	Aggregate/Sand & Concrete Plant	250	8	203	0.36	0.104	0.017	0.13
	Total PM2.5 Emissions								**0.017**	**0.13**
CO2	Rubber Tired Loader	1	Aggregate/Sand & Concrete Plant	250	8	203	0.36	469.513	75.6	-
	Total CO2 Emissions								**75.65**	**-**

Table A2-12

Summary Maintenance-Equipment Yard Emissions

Off-Road Mobile Equipment - Baseline - 2020

	Average Daily Emissions (lbs/day)					Annual Emissions (tons/year)						CO2e
Activity/Processing Areas	**NOx**	**CO**	**ROG**	**PM10**	**PM2.5**	**NOx**	**CO**	**ROG**	**PM10**	**PM2.5**	**CO2**	**(MT/year)**
Truck Travel (20mi)	24.19	4.96	0.94	2.21	0.85	3.15	0.64	0.122	0.29	0.11	1,028	933
Off-Road Equipment	7.00	5.51	0.66	0.37	0.34	0.91	0.72	0.086	0.05	0.04	105	95
Total	**31.19**	**10.46**	**1.60**	**2.58**	**1.19**	**4.05**	**1.36**	**0.21**	**0.34**	**0.15**	**1,133**	**1,028**

Days operation (days/year) = 260

Table A2-13

Graniterock - Baseline Conditions - 2020 Operation

Annual and Average Daily Emissions From Vehicle Travel

On-Site Vehicle Travel

Vehicle/Trip Information

						On-Site Unpaved Road			On-Site Paved Road			Average
Vehicle Type	Annual Vehicles	Annual Trips	Annual Operation Days	Average Daily Vehicles	Average Daily Trips	Roundtrip Distance (feet)	Trip Distance (feet)	Trip Distance (miles)	Roundtrip Distance (feet)	Trip Distance (feet)	Trip Distance (miles)	Vehicle Weight (tons)[1]
Aggregate Export & Sand Import/Export												
Aggregate Trucks - Export	1,250	2,500	250	5.0	10.0	2,872	1,436	0.27	947	474	0.09	25
Sand Trucks - Import	500	1,000	250	2.0	4.0	2,872	1,436	0.27	947	474	0.09	25
Sand Trucks - Export	500	1,000	250	2.0	4.0	2,872	1,436	0.27	947	474	0.09	25
Concrete Plant												
Aggregate Trucks - Import	3,265	6,530	250	13.1	26.1	1,624	812	0.15	947	474	0.09	25
Sand Trucks - Import	2,500	5,000	250	10.0	20.0	1,624	812	0.15	947	474	0.09	25
Cement/Flyash Trucks - Import	990	1,980	250	4.0	7.9	1,624	812	0.15	947	474	0.09	25
Concrete Trucks - Export	7,778	15,556	250	31	62.2	1,624	812	0.15	947	474	0.09	24
Recycle Yard												
Haul Trucks - Concrete/Asphalt Import	32,500	65,000	240	135	271	2,586	1,293	0.24	947	474	0.09	25
Haul Tucks - Crushed Material Export	32,500	65,000	240	135	271	2,586	1,293	0.24	947	474	0.09	25
Maintenance/Delivery Trucks [2]												
Employee Vehicles	8,400	16,800	300	28	56.0	-	-	-	947	474	0.09	2.9
Total Heavy Duty Trucks	81,783	163,566	-	-	-	-	-	-	-	-	-	-
Employee Vehicles	8,400	16,800	-	-	-	-	-	-	-	-	-	-
Total Vehicles	**90,183**	**180,366**	-	-	-	-	-	-	-	-	-	-

[1] Average of loaded and unloaded truck weights.

[2] Maintenance/Delivery Trucks included with CalEEMod emissions for the Maintenance/equipment yard.

Annual Emissions - On-Site Vehicle Travel

Trip Type	Annual Trips	Total Trip Length (mi)	Annual Emissions (tons/year)														Metric (tons/year)
						PM10					PM2.5						
			NOx	CO	ROG	Exhaust[1]	Tire & Brake[2]	Unpaved Road Dust[3]	Paved Road Dust	Total	Exhaust[1]	Tire & Brake[2]	Unpaved Road Dust[3]	Paved Road Dust	Total	CO2	CO2
Aggregate Distribution Facility																	
Aggregate Trucks - Export	2,500	0.36	0.040	0.003	0.001	0.0002	0.0001	0.240	0.043	0.28	0.00024	0.00004	0.024	0.006	0.03	7.7	6.9
Sand Trucks - Import	1,000	0.36	0.016	0.001	0.001	0.0001	0.0000	0.096	0.017	0.11	0.00009	0.00001	0.010	0.003	0.01	3.1	2.8
Sand Trucks - Export	1,000	0.36	0.016	0.001	0.001	0.0001	0.0000	0.096	0.017	0.11	0.00009	0.00001	0.010	0.003	0.01	3.1	2.8
Subtotal	*4,500*		*0.072*	*0.006*	*0.002*	*0.0004*	*0.0002*	*0.432*	*0.077*	*0.509*	*0.0004*	*0.0001*	*0.043*	*0.012*	*0.055*	*13.8*	*12.5*
Concrete Plant																	
Aggregate Trucks - Import	6,530	0.24	0.094	0.007	0.003	0.0006	0.0002	0.354	0.112	0.47	0.0006	0.0001	0.035	0.017	0.05	17.0	15.4
Sand Trucks - Import	5,000	0.24	0.072	0.006	0.002	0.0004	0.0002	0.271	0.086	0.36	0.0004	0.0001	0.027	0.013	0.04	13.0	11.8
Cement/Flyash Trucks - Import	1,980	0.24	0.029	0.002	0.001	0.0002	0.0001	0.107	0.034	0.14	0.0002	0.0000	0.011	0.005	0.02	5.2	4.7
Concrete Trucks - Export	15,556	0.24	0.224	0.017	0.007	0.0014	0.0005	0.812	0.256	1.07	0.0013	0.0002	0.081	0.038	0.12	40.5	36.8
Subtotal	*29,066*		*0.419*	*0.032*	*0.014*	*0.0026*	*0.0009*	*1.544*	*0.488*	*2.04*	*0.0025*	*0.0003*	*0.154*	*0.073*	*0.23*	*75.7*	*68.7*
Recycle Yard																	
Haul Trucks - Concrete/Asphalt Import	65,000	0.33	1.018	0.082	0.035	0.0063	0.0028	5.613	1.114	6.74	0.0060	0.0009	0.561	0.167	0.74	192.2	174.4
Haul Trucks - Crushed Material Export	65,000	0.33	1.018	0.082	0.035	0.0063	0.0028	5.613	1.114	6.74	0.0060	0.0009	0.561	0.167	0.74	192.2	174.4
Subtotal	*130,000*		*2.036*	*0.165*	*0.069*	*0.0125*	*0.0056*	*11.226*	*2.228*	*13.47*	*0.0120*	*0.0018*	*1.123*	*0.334*	*1.47*	*384.5*	*348.8*
Employee Vehicles	*16,800*	*0.09*	*0.0005*	*0.006*	*0.000*	*0.0000*	*0.0000*	*0.202*	*0.003*	*0.20*	*0.0000*	*0.0000*	*0.020*	*0.000*	*0.02*	*1.1*	*1.0*
Total			**2.53**	**0.21**	**0.09**	**0.016**	**0.007**	**13.40**	**2.80**	**16.22**	**0.015**	**0.002**	**1.34**	**0.42**	**1.78**	**475**	**431**

[1] Exhaust emission include running and idle emissions.

[2] PM emissions from tire and brake wear

[3] Unpaved road dust emissions incorporate use of a watering to reduce emissions.

Average Daily Emissions - On-Site Vehicle Travel

Trip Type	Average Daily Trips	Total Trip Length (mi)	Average Daily Emissions (lb/day)												
						PM10					PM2.5				
			NOx	CO	ROG	Exhaust[1]	Tire & Brake[2]	Unpaved Road Dust[3]	Paved Road Dust	Total	Exhaust[1]	Tire & Brake[2]	Unpaved Road Dust[3]	Paved Road Dust	Total
Aggregate Distribution Facility															
Aggregate Trucks - Export	10.0	0.36	0.321	0.026	0.011	0.0020	0.0009	1.918	0.343	2.26	0.0019	0.0003	0.192	0.051	0.25
Sand Trucks - Import	4.0	0.36	0.128	0.011	0.004	0.0008	0.0004	0.767	0.137	0.91	0.0008	0.0001	0.077	0.021	0.10
Sand Trucks - Export	4.0	0.36	0.128	0.011	0.004	0.0008	0.0004	0.767	0.137	0.91	0.0008	0.0001	0.077	0.021	0.10
Subtotal	*18*		*0.577*	*0.047*	*0.020*	*0.0035*	*0.0017*	*3.452*	*0.617*	*4.075*	*0.0034*	*0.0005*	*0.345*	*0.093*	*0.442*
Concrete Plant															
Aggregate Trucks - Import	26.1	0.24	0.752	0.058	0.025	0.0047	0.0016	2.833	0.895	3.73	0.0045	0.0005	0.283	0.134	0.42
Sand Trucks - Import	20.0	0.24	0.576	0.045	0.019	0.0036	0.0013	2.169	0.685	2.86	0.0034	0.0004	0.217	0.103	0.32
Cement/Flyash Trucks - Import	7.9	0.24	0.228	0.018	0.008	0.0014	0.0005	0.859	0.271	1.13	0.0014	0.0002	0.086	0.041	0.13
Concrete Trucks - Export	62.2	0.24	1.792	0.139	0.060	0.0112	0.0039	6.493	2.052	8.56	0.0107	0.0013	0.649	0.308	0.97
Subtotal	*116*		*3.349*	*0.259*	*0.111*	*0.0209*	*0.0073*	*12.354*	*3.904*	*16.29*	*0.0200*	*0.0023*	*1.235*	*0.586*	*1.84*
Recycle Yard															
Haul Trucks - Concrete/Asphalt Import	271	0.33	8.484	0.687	0.289	0.0522	0.0235	46.774	9.283	56.13	0.0499	0.0075	4.677	1.392	6.13
Haul Trucks - Crushed Material Export	271	0.33	8.484	0.687	0.289	0.0522	0.0235	46.774	9.283	56.13	0.0499	0.0075	4.677	1.392	6.13
Subtotal	*542*		*16.968*	*1.374*	*0.578*	*0.1044*	*0.0469*	*93.547*	*18.565*	*112.26*	*0.0999*	*0.0150*	*9.355*	*2.785*	*12.25*
Employee Vehicles	*56.0*	*0.09*	*0.003*	*0.041*	*0.002*	*0.0001*	*0.0002*	*1.343*	*0.019*	*1.36*	*0.0001*	*0.0001*	*0.134*	*0.003*	*0.14*
Total			**20.90**	**1.7**	**0.7**	**0.13**	**0.06**	**110.7**	**23.1**	**134.0**	**0.12**	**0.02**	**11.07**	**3.5**	**14.7**

Average Daily Emissions based on annual emissions and average annual days of project activity operation

[1] Exhaust emission include running and idle emissions.

[2] PM emissions from tire and brake wear

[3] Unpaved road dust emissions incorporate use of a watering to reduce emissions.

[4] Vacuum Sweeper truck assumed to operate for 2 hours per day at a travel speed of 5 mph and idle 5 min per hour.

Total Emissions Summary - On-Site Vehicle Travel

Emission Period	NOx	CO	ROG	PM10 Exhaust	PM10 Tire & Brake[2]	PM10 Unpaved Road Dust	PM10 Paved Road Dust	PM10 Total	PM2.5 Exhaust	PM2.5 Tire & Brake[2]	PM2.5 Unpaved Road Dust	PM2.5 Paved Road Dust	PM2.5 Total	CO2	Metric (tons/year) CO2
Tons per Year	2.5	0.2	0.09	0.016	0.007	13.4	2.8	16.2	0.015	0.002	1.3	0.4	1.8	475	431
Average Pounds per Day	20.9	1.7	0.7	0.129	0.06	110.7	23.1	134.0	0.12	0.02	11.1	3.5	14.7	-	-

Uncontrolled Emission Factors[1]

Vehicle Type	Travel Speed (mph)	Emission Factor Units	NOx	CO	ROG	PM10 (Exhaust)	PM10 (Tire & Brake)	PM10 (Unpaved Road Dust)[2]	PM10 (Paved Road Dust)[2]	PM10 (Total)	PM2.5 (Exhaust)	PM2.5 (Tire & Brake)	PM2.5 (Unpaved Road Dust)[2]	PM2.5 (Paved Road Dust)[2]	PM2.5 (Total)	CO2
Heavy-Duty Diesel Trucks (HHDT)	5	gram/VMT	24.036	1.536	0.726	0.158	0.117	1066.29	173.361	1239.927	0.151	0.038	106.63	26.004	132.822	3630
Heavy-Duty Diesel Trucks (HHDT)	10	gram/VMT	12.535	1.525	0.544	0.065	0.117	1066.29	173.361	1239.834	0.062	0.038	106.63	26.004	132.733	3498
Heavy-Duty Diesel Trucks (HHDT)	Idle	gram/hour	120.182	7.681	3.629	0.789	-	-	-	0.789	0.755	-	-	-	0.755	18151
Light Heavy-Duty Diesel Trucks (LHDT2)	5	gram/VMT	2.617	1.405	0.453	0.104	0.103	601.31	47.321	648.836	0.100	0.035	60.13	7.098	67.363	1459
Light Heavy-Duty Diesel Trucks (LHDT2)	10	gram/VMT	2.425	1.112	0.369	0.084	0.103	601.31	47.321	648.816	0.080	0.035	60.13	7.098	67.344	1273
Light Heavy-Duty Trucks (LHDT2)	Idle	gram/hour	13.085	7.027	2.265	0.520	-	-	-	0.520	0.498	-	-	-	0.498	7296
Worker Vehicles[3]	10	gram/VMT	0.314	3.740	0.184	0.010	0.017	404.47	14.556	419.050	0.010	0.005	40.45	2.183	42.645	683

Notes:

[1] Emission factors for vehicle exhaust from EMFAC2021 for Santa Clara County in 2020

[2] Emission factors for paved road dust from CARB (2018) for Entrained Road Travel, Paved Road Dust.

[3] Unpaved road emission factors from US EPA AP-42 Section 13.2.2 Unpaved Roads (11/2006)

[3] Worker vehicles assumed to be light duty trucks (LDT1)

Truck idle time per trip (min) = 5
For Paved and Unpaved Road Dust:
HHDT Mean Truck Weight (tons) = 25
LHDT2 Mean Truck Weight (tons) = 7
Mean Employee Vehicle Weight (tons) = 2.9
No. days with rain >0.01 in = 58
On-Site Unpaved Road Silt Content (%) = 8.3
Unpaved Road Emission Control Efficiency = 70%
(use of watering traveled areas)
On-Site Paved Road Silt Loading (g/m^2) = 8.2
Paved Road Emission Control Efficiency = 0%

Unpaved Road Dust Emission factors from US EPA Compilation of Emission Factors, Volume I:
Stationary Point and Area Sources, Section 13.2.2 Unpaved Roads (11/2006)

$PM10 = 1.5 \times (s/12)^{0.9} \times (W/3)^{0.45} \times [(365-P)/365] \times C$

$PM2.5 = 0.15 \times (s/12)^{0.9} \times (W/3)^{0.45} \times [(365-P)/365] \times C$

PM10 = PM10 emissions in grams per VMT
PM2.5 = PM2.5 emissions in grams per VMT
s = surface material silt content (%)
(value for s from AP-42 Table 13.2.2-1 for stone quarrying and processing, haul road mean silt content)
W = mean vehicle weight (tons)
P = number of days in a year with at least 0.01 inch of precipitation
(value used for P is the Santa Clara County average)
C = conversion factor for pounds to grams

Paved Road Dust Emission factors from CARB Emission Inventory Methods, Miscellaneous Process Methodology 7.9:
Entrained Road Travel Paved Road Dust (March 2018)

$PM10 = 0.0022 \times (sL)^{0.91} \times (W)^{1.02} \times [1-P/(4 \times N)] \times C$

$PM2.5 = PM10 \times 15\%$

PM10 = PM10 emissions in grams per VMT
PM2.5 = PM2.5 emissions in grams per VMT
sL = roadway silt loading in grams per square meter (g/m^2)
(value for sL from AP-42 Table 13.2.1-3 for mean silt loading for paved quarry roads)
W = mean vehicle weight (tons)
P = number of days in a year with at least 0.01 inch of precipitation
(value used for P is the Santa Clara County average)
N = number of days in annual averaging period (default = 365)
C = conversion factor for pounds to grams

Table A2-14

Graniterock - Proposed Project - 2024 Operation
Annual and Average Daily Emissions From Vehicle Travel
Off-Site Vehicle Travel

Vehicle/Trip Information

Vehicle Type	Annual Vehicles	Annual Trips	Annual Operation Days	Average Daily Vehicles	Average Daily Trips	Off-Site Trip Distance (miles)
Aggregate Export & Sand Import/Export						
Aggregate Trucks - Export	1,250	2,500	250	5.0	10.0	7.5
Sand Trucks - Import	500	1,000	250	2.0	4.0	45
Sand Trucks - Export	500	1,000	250	2.0	4.0	7.5
Concrete Plant						
Aggregate Trucks - Import	3,265	6,530	250	13.1	26.1	45
Sand Trucks - Import	2,500	5,000	250	10.0	20.0	45
Cement/Flyash Trucks - Import	990	1,980	250	4.0	7.9	20
Concrete Trucks - Export	7,778	15,556	250	31	62.2	9
Recycle Yard						
Haul Trucks - Concrete/Asphalt Import	32,500	65,000	240	135	271	20
Haul Tucks - Crushed Material Export	32,500	65,000	240	135	271	20
Employee Vehicles	8,400	16,800	300	28	56.0	9.5
Total Heavy Duty Trucks	81,783	163,566	-	-	-	-
Employee Vehicles	8,400	16,800	-	-	-	-
Total Vehicles	**90,183**	**180,366**	-	-	-	-

Annual Emissions - Off-Site Vehicle Travel

Trip Type	Annual Trips	Trip Length (mi)	NOx	CO	ROG	PM10 Exhaust[1]	PM10 Tire & Brake[2]	PM10 Paved Road Dust	PM10 Total	PM2.5 Exhaust[1]	PM2.5 Tire & Brake[2]	PM2.5 Paved Road Dust	PM2.5 Total	CO2	Metric (tons/year) CO2
			Annual Emissions (tons/year)												
Aggregate Export & Sand Import/Export															
Aggregate Trucks - Export	2,500	7.5	0.072	0.006	0.002	0.001	0.002	0.002	0.01	0.001	0.001	0.000	0.00	35.3	32.1
Sand Trucks - Import	1,000	45.0	0.172	0.015	0.004	0.003	0.006	0.005	0.01	0.003	0.002	0.001	0.01	84.8	76.9
Sand Trucks - Export	1,000	7.5	0.029	0.002	0.001	0.000	0.001	0.001	0.00	0.000	0.000	0.000	0.00	14.1	12.8
Subtotal	*4,500*		*0.272*	*0.023*	*0.006*	*0.004*	*0.009*	*0.008*	*0.02*	*0.004*	*0.003*	*0.001*	*0.01*	*134.3*	*121.8*
Concrete Plant															
Aggregate Trucks - Import	6,530	45.0	1.122	0.097	0.025	0.017	0.038	0.034	0.09	0.017	0.012	0.005	0.03	553.7	502.3
Sand Trucks - Import	5,000	45.0	0.859	0.074	0.019	0.013	0.029	0.026	0.07	0.013	0.009	0.004	0.03	424.0	384.6
Cement/Flyash Trucks - Import	1,980	20.0	0.151	0.013	0.003	0.002	0.005	0.005	0.01	0.002	0.002	0.001	0.00	74.6	67.7
Concrete Trucks - Export	15,556	9.0	0.535	0.046	0.012	0.008	0.018	0.016	0.04	0.008	0.006	0.002	0.02	263.8	239.3
Subtotal	*29,066*		*2.667*	*0.230*	*0.060*	*0.041*	*0.090*	*0.081*	*0.21*	*0.040*	*0.029*	*0.012*	*0.08*	*1,316.1*	*1,193.9*
Recycle Yard															
Haul Trucks - Concrete/Asphalt Import	65,000	20.0	4.964	0.428	0.111	0.077	0.168	0.150	0.40	0.074	0.054	0.022	0.15	2,449.5	2,222.2
Haul Trucks - Crushed Material Export	65,000	20.0	4.964	0.428	0.111	0.077	0.168	0.150	0.40	0.074	0.054	0.022	0.15	2,449.5	2,222.2
Subtotal	*130,000*		*9.929*	*0.857*	*0.223*	*0.1542*	*0.3367*	*0.300*	*0.79*	*0.148*	*0.108*	*0.045*	*0.30*	*4,899.0*	*4,444.3*
Employee Vehicles	*16,800*	*9.5*	*0.035*	*0.354*	*0.008*	*0.000*	*0.003*	*0.018*	*0.02*	*0.000*	*0.001*	*0.003*	*0.00*	*60.6*	*55.0*
Total			**12.90**	**1.46**	**0.30**	**0.200**	**0.439**	**0.407**	**1.05**	**0.192**	**0.141**	**0.061**	**0.39**	**6,410**	**5,815**

[1] Exhaust emission include running and idle emissions.

[2] PM emissions from tire and brake wear

Average Daily Emissions - Off-Site Vehicle Travel

Trip Type	Average Daily Trips	Trip Length (mi)	Average Daily Emissions (lb/day) NOx	CO	ROG	PM10 Exhaust[1]	PM10 Tire & Brake[2]	PM10 Paved Road Dust	PM10 Total	PM2.5 Exhaust[1]	PM2.5 Tire & Brake[2]	PM2.5 Paved Road Dust	PM2.5 Total
Aggregate Export & Sand Import/Export													
Aggregate Trucks - Export	10.0	7.5	0.57	0.05	0.013	0.009	0.019	0.017	0.05	0.009	0.006	0.003	0.02
Sand Trucks - Import	4.0	45.0	1.37	0.12	0.031	0.021	0.047	0.042	0.11	0.020	0.015	0.006	0.04
Sand Trucks - Export	4.0	7.5	0.23	0.02	0.005	0.004	0.008	0.007	0.02	0.003	0.002	0.001	0.01
Subtotal	*18*		*2.18*	*0.19*	*0.049*	*0.034*	*0.074*	*0.066*	*0.17*	*0.032*	*0.024*	*0.010*	*0.07*
Concrete Plant													
Aggregate Trucks - Import	26.1	45.0	8.98	0.77	0.201	0.139	0.304	0.271	0.72	0.133	0.097	0.041	0.27
Sand Trucks - Import	20.0	45.0	6.87	0.59	0.154	0.107	0.233	0.208	0.55	0.102	0.075	0.031	0.21
Cement/Flyash Trucks - Import	7.9	20.0	1.21	0.10	0.027	0.019	0.041	0.037	0.10	0.018	0.013	0.005	0.04
Concrete Trucks - Export	62.2	9.0	4.28	0.37	0.096	0.066	0.145	0.129	0.34	0.064	0.046	0.019	0.13
Subtotal	*116*		*21.34*	*1.84*	*0.479*	*0.331*	*0.724*	*0.644*	*1.70*	*0.317*	*0.232*	*0.097*	*0.65*
Recycle Yard													
Haul Trucks - Concrete/Asphalt Import	271	20.0	41.37	3.57	0.928	0.643	1.403	1.249	3.29	0.615	0.449	0.187	1.25
Haul Trucks - Crushed Material Export	271	20.0	41.37	3.57	0.928	0.643	1.403	1.249	3.29	0.615	0.449	0.187	1.25
Subtotal	*542*		*82.74*	*7.14*	*1.856*	*1.285*	*2.806*	*2.499*	*6.59*	*1.230*	*0.898*	*0.375*	*2.50*
Employee Vehicles	56.00	9.50	0.231	2.357	0.051	0.003	0.02	0.123	0.146	0.003	0.01	0.02	0.03
Total			**106.5**	**11.5**	**2.4**	**1.65**	**3.62**	**3.3**	**8.6**	**1.58**	**1.16**	**0.5**	**3.2**

Average Daily Emissions based on annual emissions and average annual days of project activity operation

[1] Exhaust emission include running and idle emissions.

[2] PM emissions from tire and brake wear

0.0

Total Emissions Summary - Off-Site Vehicle Travel

Emission Period	NOx	CO	ROG	PM10 Exhaust	PM10 Tire & Brake[2]	PM10 Paved Road Dust	PM10 Total	PM2.5 Exhaust	PM2.5 Tire & Brake[2]	PM2.5 Paved Road Dust	PM2.5 Total	CO2	Metric (tons/year) CO2
Tons per Year	12.9	1.5	0.30	0.200	0.439	0.407	1.0	0.192	0.141	0.061	0.4	6,410	5,815
Average Pounds per Day	106.5	11.5	2.4	1.65	3.62	3.332	8.6	1.58	1.16	0.500	3.2	-	-

Uncontrolled Emission Factors[1]

Vehicle Type	Travel Speed (mph)	Emission Factor Units	NOx	CO	ROG	PM10 (Exhaust)	PM10 (Tire & Brake)	PM10 (Paved Road Dust)[2]	PM10 (Total)	PM2.5 (Exhaust)	PM2.5 (Tire & Brake)	PM2.5 (Paved Road Dust)[2]	PM2.5 (Total)	CO2
Heavy-Duty Diesel Trucks (HHDT)	average	gram/VMT	3.464	0.299	0.078	0.054	0.117	0.105	0.276	0.051	0.038	0.016	0.105	1709
Light Heavy-Duty Trucks (LHDT2)	average	gram/VMT	2.036	0.559	0.203	0.045	0.103	0.105	0.253	0.043	0.035	0.016	0.094	787
Worker Vehicles	average	gram/VMT	0.197	2.010	0.044	0.002	0.017	0.105	0.107	0.002	0.005	0.016	0.023	345

Notes:

[1] Emission factors for vehicle exhaust from EMFAC2021 for Santa Clara County in 2020 at average fleet vehicle speed for vehicle type.

[2] Emission factors for road dust from CARB (2018) for Entrained Road Travel, Paved Road Dust.

[3] Worker vehicles assumed to be light duty trucks (LDT1)

Truck idle time per trip (min) = 0 (included in on-site emissions)

For Paved Road Dust:

Mean Onroad Vehicle Weight (tons) = 2.4

Silt Loading (g/m2)* = 0.0328

No. days with rain >0.01 in = 58

2020 Silt loading based on travel on 5% local roads, 15% collector roads, and 80% freeway

Paved Road Dust Emission factors from CARB Emission Inventory Methods, Miscellaneous Process Methodology 7.9: Entrained Road Travel Paved Road Dust (March 2018)

$PM10 = 0.0022 \times (sL)^{0.91} \times (W)^{1.02} \times [1-P/(4 \times N)] \times C$

PM2.5 = PM10 x 15%

PM10 = PM10 emissions in grams per VMT

PM2.5 = PM2.5 emissions in grams per VMT

sL = roadway silt loading in grams per square meter (g/m^2)

(value for sL from AP-42 Table 13.2.1-3 for mean silt loading for paved quarry roads)

W = mean vehicle weight (tons)

P = number of days in a year with at least 0.01 inch of precipitation

(value used for P is the Santa Clara County average)

N = number of days in annual averaging period (default = 365)

C = conversion factor for pounds to grams

Table A2-15

Baseline Conditions

Indirect GHG Emissions (Electrical, Water and Solidwaste)

Baseline Operation - 2020

Pollutant	Source	Annual Amount	Units	Annual Emissions	Units	Source
CO2	Electrical	160,000	kWh	14.9	MT	CalEEMod for 3,000sf office and 22.3 acre industrial site with PG&E providing electricity at 206 lbsCO2e/megaWatt hr
	Natural Gas	49,110	kBTU	2.6	MT	
	Water (Outdoor)	3,879,999	gallons	1.3	MT	
	Water (Indoor)	533,201	gallons	0.6	MT	
	Solidwaste	3	tons	1.4	MT	
				20.8	MT	

Notes:

Electrical - ~ 160,000 kWh/year

Water - ~5900 Units/year (1 Unit = 748 gallons)

Note: Approximately 75% of the water usage is for the existing recycle operation which will remain on site.

Per Graniterock 1/14/2021 email

Indoor water use computed by CalEEMod at 533,201 and subtracted from reported

Existing Graniterock Operation

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	22.20	0.00	0
General Office Building	3.00	1000sqft	0.00	3,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2018 GHG rate

Land Use - No square footage estimated office at 3,000sf

Construction Phase - No Construction

Off-road Equipment - No construction

Energy Use - Annual electricity reported by Graniterock

Vehicle Trips - traffic computed seperately

Water And Wastewater - Used CalEEMod to compute indoor water use

Table Name	Column Name	Default Value	New Value

tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	PhaseEndDate	10/14/2020	9/30/2020
tblEnergyUse	LightingElect	3.88	0.00
tblEnergyUse	NT24E	7.84	53.33
tblEnergyUse	T24E	6.11	0.00
tblLandUse	LotAcreage	0.00	22.20
tblLandUse	LotAcreage	0.07	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	OutdoorWaterUseRate	0.00	3,880,000.00
tblWater	OutdoorWaterUseRate	326,800.76	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

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	0.0133	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-005	7.0000e-005	0.0000	0.0000	8.0000e-005
Energy	2.6000e-004	2.4100e-003	2.0200e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	17.5702	17.5702	5.0000e-005	5.0000e-005	17.5857
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.5663	0.0000	0.5663	0.0335	0.0000	1.4031
Water						0.0000	0.0000		0.0000	0.0000	0.1887	1.5385	1.7272	6.5000e-004	4.1000e-004	1.8656
Total	**0.0135**	**2.4100e-003**	**2.0600e-003**	**1.0000e-005**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.7550**	**19.1087**	**19.8637**	**0.0342**	**4.6000e-004**	**20.8546**

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	0.0133	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-005	7.0000e-005	0.0000	0.0000	8.0000e-005
Energy	2.6000e-004	2.4100e-003	2.0200e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	17.5702	17.5702	5.0000e-005	5.0000e-005	17.5857
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.5663	0.0000	0.5663	0.0335	0.0000	1.4031
Water						0.0000	0.0000		0.0000	0.0000	0.1887	1.5385	1.7272	6.5000e-004	4.1000e-004	1.8656
Total	**0.0135**	**2.4100e-003**	**2.0600e-003**	**1.0000e-005**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.7550**	**19.1087**	**19.8637**	**0.0342**	**4.6000e-004**	**20.8546**

	ROG	NOx	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

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785
General Office Building	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785

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	14.9495	14.9495	0.0000	0.0000	14.9495
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	14.9495	14.9495	0.0000	0.0000	14.9495
NaturalGas Mitigated	2.6000e-004	2.4100e-003	2.0200e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.6207	2.6207	5.0000e-005	5.0000e-005	2.6363
NaturalGas Unmitigated	2.6000e-004	2.4100e-003	2.0200e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.6207	2.6207	5.0000e-005	5.0000e-005	2.6363

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					

General Office Building	49110	2.6000e-004	2.4100e-003	2.0200e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.6207	2.6207	5.0000e-005	5.0000e-005	2.6363
User Defined Industrial	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		**2.6000e-004**	**2.4100e-003**	**2.0200e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**2.6207**	**2.6207**	**5.0000e-005**	**5.0000e-005**	**2.6363**

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					
General Office Building	49110	2.6000e-004	2.4100e-003	2.0200e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.6207	2.6207	5.0000e-005	5.0000e-005	2.6363
User Defined Industrial	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		**2.6000e-004**	**2.4100e-003**	**2.0200e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**2.6207**	**2.6207**	**5.0000e-005**	**5.0000e-005**	**2.6363**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	159990	14.9495	0.0000	0.0000	14.9495
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**14.9495**	**0.0000**	**0.0000**	**14.9495**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	159990	14.9495	0.0000	0.0000	14.9495
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**14.9495**	**0.0000**	**0.0000**	**14.9495**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0133	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-005	7.0000e-005	0.0000	0.0000	8.0000e-005
Unmitigated	0.0133	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-005	7.0000e-005	0.0000	0.0000	8.0000e-005

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	1.5600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0117					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-005	7.0000e-005	0.0000	0.0000	8.0000e-005
Total	**0.0133**	**0.0000**	**4.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**7.0000e-005**	**7.0000e-005**	**0.0000**	**0.0000**	**8.0000e-005**

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	1.5600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0117					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-005	7.0000e-005	0.0000	0.0000	8.0000e-005
Total	**0.0133**	**0.0000**	**4.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**7.0000e-005**	**7.0000e-005**	**0.0000**	**0.0000**	**8.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	1.7272	6.5000e-004	4.1000e-004	1.8656
Unmitigated	1.7272	6.5000e-004	4.1000e-004	1.8656

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.533201 / 0	0.4582	6.5000e-004	4.1000e-004	0.5967
User Defined Industrial	0 / 3.88	1.2689	0.0000	0.0000	1.2689
Total		**1.7272**	**6.5000e-004**	**4.1000e-004**	**1.8656**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.533201 / 0	0.4582	6.5000e-004	4.1000e-004	0.5967
User Defined Industrial	0 / 3.88	1.2689	0.0000	0.0000	1.2689
Total		**1.7272**	**6.5000e-004**	**4.1000e-004**	**1.8656**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.5663	0.0335	0.0000	1.4031
Unmitigated	0.5663	0.0335	0.0000	1.4031

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	2.79	0.5663	0.0335	0.0000	1.4031
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.5663**	**0.0335**	**0.0000**	**1.4031**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	2.79	0.5663	0.0335	0.0000	1.4031
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.5663**	**0.0335**	**0.0000**	**1.4031**

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

From: Pat Mapelli [mailto:pmapelli@Graniterock.com]
Sent: Thursday, January 14, 2021 9:56 AM
To: mlisenbee@davidjpowers.com
Cc: Robert Ober; Bill Popenuck; Dana Lodico; Alec Woodson
Subject: RE: Outstanding Items for EIR Work to be Completed

Good morning Michael:

I've reviewed the current electrical and water usage for the site – the are as follows:

Electrical - ~ 160,000 kWh/year

Water - ~5900 Units/year (1 Unit = 748 gallons)

Note: Approximately 75% of the water usage is for the existing recycle operation which will remain on site.

Please let me know if you have any questions.

Thanks,

Pat Mapelli
Land Use Manager/Bay Restoration Lead
Graniterock
5225 Hellyer Ave Suite 220
San Jose, CA 95138
(408) 574-1479 – office
(510) 386-0538 – cell

Granite Rock Existing Equipment Yard

Santa Clara County, Annual

Criteria Pollutants and GHG

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	3.00	Acre	3.00	130,680.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Equipment Yard - no electricity

Land Use -

Construction Phase - Existing - no construction

Off-road Equipment - no construction

Trips and VMT -

Vehicle Trips - Maintanence Trucks - used mostly to haul equipment at 20mi/trip Rate = 110/3acres = 36.67 trips/acre

Energy Use -

Operational Off-Road Equipment - Assume 90% of trucks take or deliver equipment and that equipment operates 15 minutes (0.25hr)

Fleet Mix - Assume all heavy duty trucks

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	3.00	0.00
tblFleetMix	HHD	0.02	1.00
tblFleetMix	LDA	0.60	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	4.9810e-003	0.00
tblFleetMix	MCY	5.3630e-003	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	7.8500e-004	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	2.0830e-003	0.00
tblFleetMix	SBUS	6.2000e-004	0.00
tblFleetMix	UBUS	1.5710e-003	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	0.30
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	50.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0

tblProjectCharacteristics	CO2IntensityFactor	641.35	0
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblVehicleEF	HHD	0.52	0.03
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.11	4.8778e-007
tblVehicleEF	HHD	2.70	5.38
tblVehicleEF	HHD	1.02	0.76
tblVehicleEF	HHD	3.82	6.2052e-003
tblVehicleEF	HHD	4,650.35	1,078.53
tblVehicleEF	HHD	1,665.34	1,581.53
tblVehicleEF	HHD	11.77	0.06
tblVehicleEF	HHD	22.38	6.03
tblVehicleEF	HHD	4.47	4.62
tblVehicleEF	HHD	19.49	1.73
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.07
tblVehicleEF	HHD	1.1700e-004	1.2805e-006
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8180e-003	8.8632e-003
tblVehicleEF	HHD	0.02	0.07
tblVehicleEF	HHD	1.0800e-004	1.1774e-006
tblVehicleEF	HHD	1.1200e-004	5.0909e-006
tblVehicleEF	HHD	6.3600e-003	2.2477e-004
tblVehicleEF	HHD	0.69	0.44
tblVehicleEF	HHD	6.8000e-005	2.7970e-006
tblVehicleEF	HHD	0.15	0.17
tblVehicleEF	HHD	5.5200e-004	1.4075e-003
tblVehicleEF	HHD	0.13	2.5560e-006
tblVehicleEF	HHD	0.04	0.01
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	1.8200e-004	6.0585e-007
tblVehicleEF	HHD	1.1200e-004	5.0909e-006
tblVehicleEF	HHD	6.3600e-003	2.2477e-004
tblVehicleEF	HHD	0.80	0.50
tblVehicleEF	HHD	6.8000e-005	2.7970e-006
tblVehicleEF	HHD	0.22	0.24
tblVehicleEF	HHD	5.5200e-004	1.4075e-003
tblVehicleEF	HHD	0.14	2.7985e-006
tblVehicleEF	LDA	4.5620e-003	3.0611e-003
tblVehicleEF	LDA	7.2750e-003	0.06
tblVehicleEF	LDA	0.61	0.74
tblVehicleEF	LDA	1.49	2.36
tblVehicleEF	LDA	265.03	264.68
tblVehicleEF	LDA	61.46	56.07
tblVehicleEF	LDA	0.06	0.05
tblVehicleEF	LDA	0.10	0.22
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	8.0000e-003	8.0000e-003

tblVehicleEF	LDA	1.7250e-003	1.5657e-003
tblVehicleEF	LDA	2.2880e-003	1.9812e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	1.5900e-003	1.4427e-003
tblVehicleEF	LDA	2.1040e-003	1.8217e-003
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.23
tblVehicleEF	LDA	0.10	0.29
tblVehicleEF	LDA	2.6540e-003	8.6798e-005
tblVehicleEF	LDA	6.4000e-004	0.00
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.23
tblVehicleEF	LDA	0.11	0.31
tblVehicleEF	LDT1	0.01	6.5558e-003
tblVehicleEF	LDT1	0.02	0.08
tblVehicleEF	LDT1	1.36	1.35
tblVehicleEF	LDT1	3.24	2.61
tblVehicleEF	LDT1	322.57	314.05
tblVehicleEF	LDT1	74.06	67.50
tblVehicleEF	LDT1	0.14	0.12
tblVehicleEF	LDT1	0.18	0.29
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	2.5170e-003	2.2459e-003
tblVehicleEF	LDT1	3.3150e-003	2.7709e-003
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	2.3180e-003	2.0675e-003
tblVehicleEF	LDT1	3.0490e-003	2.5481e-003
tblVehicleEF	LDT1	0.10	0.11
tblVehicleEF	LDT1	0.26	0.21
tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.18	0.74
tblVehicleEF	LDT1	0.22	0.43
tblVehicleEF	LDT1	3.2420e-003	2.5605e-003
tblVehicleEF	LDT1	7.9800e-004	0.00
tblVehicleEF	LDT1	0.10	0.11
tblVehicleEF	LDT1	0.26	0.21
tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.18	0.74
tblVehicleEF	LDT1	0.24	0.47
tblVehicleEF	LDT2	6.4900e-003	4.4898e-003

tblVehicleEF	LDT2	9.3170e-003	0.08
tblVehicleEF	LDT2	0.83	1.00
tblVehicleEF	LDT2	1.92	3.07
tblVehicleEF	LDT2	369.46	346.93
tblVehicleEF	LDT2	85.12	75.00
tblVehicleEF	LDT2	0.09	0.10
tblVehicleEF	LDT2	0.16	0.35
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.6360e-003	1.5514e-003
tblVehicleEF	LDT2	2.2210e-003	1.9309e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.5040e-003	1.4279e-003
tblVehicleEF	LDT2	2.0430e-003	1.7755e-003
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.13	0.14
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.08	0.45
tblVehicleEF	LDT2	0.13	0.39
tblVehicleEF	LDT2	3.7010e-003	0.01
tblVehicleEF	LDT2	8.8400e-004	9.0857e-005
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.13	0.14
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.08	0.45
tblVehicleEF	LDT2	0.14	0.43
tblVehicleEF	LHD1	6.2340e-003	5.6863e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.16	0.19
tblVehicleEF	LHD1	1.31	1.02
tblVehicleEF	LHD1	3.15	1.23
tblVehicleEF	LHD1	8.98	9.13
tblVehicleEF	LHD1	713.46	837.42
tblVehicleEF	LHD1	34.78	12.75
tblVehicleEF	LHD1	0.07	0.06
tblVehicleEF	LHD1	1.42	1.05
tblVehicleEF	LHD1	1.13	0.37
tblVehicleEF	LHD1	8.5300e-004	7.7013e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	9.8970e-003	9.6223e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	1.1500e-003	3.0515e-004
tblVehicleEF	LHD1	8.1600e-004	7.3681e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.4740e-003	2.4056e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	1.0590e-003	2.8090e-004

tblVehicleEF	LHD1	2.9040e-003	2.4031e-003
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.4230e-003	1.1786e-003
tblVehicleEF	LHD1	0.14	0.11
tblVehicleEF	LHD1	0.34	0.62
tblVehicleEF	LHD1	0.33	0.10
tblVehicleEF	LHD1	9.0000e-005	8.8680e-005
tblVehicleEF	LHD1	7.0210e-003	8.1864e-003
tblVehicleEF	LHD1	4.0800e-004	1.2621e-004
tblVehicleEF	LHD1	2.9040e-003	2.4031e-003
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	1.4230e-003	1.1786e-003
tblVehicleEF	LHD1	0.17	0.14
tblVehicleEF	LHD1	0.34	0.62
tblVehicleEF	LHD1	0.36	0.11
tblVehicleEF	LHD2	4.0630e-003	3.5439e-003
tblVehicleEF	LHD2	0.01	8.7927e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.13	0.14
tblVehicleEF	LHD2	0.68	0.77
tblVehicleEF	LHD2	1.50	0.75
tblVehicleEF	LHD2	14.10	14.26
tblVehicleEF	LHD2	728.87	809.32
tblVehicleEF	LHD2	25.76	8.63
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	1.10	1.29
tblVehicleEF	LHD2	0.57	0.22
tblVehicleEF	LHD2	1.3170e-003	1.3784e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.0900e-004	1.6072e-004
tblVehicleEF	LHD2	1.2600e-003	1.3188e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.6740e-003	2.6691e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	4.6800e-004	1.4777e-004
tblVehicleEF	LHD2	1.1000e-003	1.3635e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	5.4900e-004	6.5511e-004
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	0.10	0.37
tblVehicleEF	LHD2	0.14	0.06
tblVehicleEF	LHD2	1.3800e-004	1.3643e-004
tblVehicleEF	LHD2	7.0950e-003	7.8224e-003
tblVehicleEF	LHD2	2.8500e-004	8.5372e-005
tblVehicleEF	LHD2	1.1000e-003	1.3635e-003
tblVehicleEF	LHD2	0.04	0.05

tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.4900e-004	6.5511e-004
tblVehicleEF	LHD2	0.14	0.15
tblVehicleEF	LHD2	0.10	0.37
tblVehicleEF	LHD2	0.15	0.06
tblVehicleEF	MCY	0.44	0.33
tblVehicleEF	MCY	0.16	0.26
tblVehicleEF	MCY	19.82	20.00
tblVehicleEF	MCY	10.12	8.95
tblVehicleEF	MCY	168.14	210.53
tblVehicleEF	MCY	46.41	62.15
tblVehicleEF	MCY	1.16	1.16
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	1.8900e-003	1.8414e-003
tblVehicleEF	MCY	4.0800e-003	3.2625e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	1.7710e-003	1.7251e-003
tblVehicleEF	MCY	3.8550e-003	3.0799e-003
tblVehicleEF	MCY	0.91	1.83
tblVehicleEF	MCY	0.74	0.73
tblVehicleEF	MCY	0.50	1.01
tblVehicleEF	MCY	2.27	2.28
tblVehicleEF	MCY	0.64	2.21
tblVehicleEF	MCY	2.25	1.98
tblVehicleEF	MCY	2.0710e-003	2.0833e-003
tblVehicleEF	MCY	6.9600e-004	6.1499e-004
tblVehicleEF	MCY	0.91	1.83
tblVehicleEF	MCY	0.74	0.73
tblVehicleEF	MCY	0.50	1.01
tblVehicleEF	MCY	2.79	2.80
tblVehicleEF	MCY	0.64	2.21
tblVehicleEF	MCY	2.44	2.16
tblVehicleEF	MDV	0.01	6.1718e-003
tblVehicleEF	MDV	0.02	0.10
tblVehicleEF	MDV	1.47	1.23
tblVehicleEF	MDV	3.59	3.68
tblVehicleEF	MDV	487.26	420.60
tblVehicleEF	MDV	110.36	90.34
tblVehicleEF	MDV	0.19	0.14
tblVehicleEF	MDV	0.33	0.44
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.9100e-003	1.7671e-003
tblVehicleEF	MDV	2.6380e-003	2.2444e-003
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.7630e-003	1.6306e-003
tblVehicleEF	MDV	2.4290e-003	2.0655e-003

tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.18	0.16
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.11	0.50
tblVehicleEF	MDV	0.29	0.52
tblVehicleEF	MDV	4.8850e-003	4.1581e-003
tblVehicleEF	MDV	1.1670e-003	8.9401e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.18	0.16
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.11	0.50
tblVehicleEF	MDV	0.31	0.57
tblVehicleEF	MH	0.05	0.02
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	3.56	2.05
tblVehicleEF	MH	7.30	2.50
tblVehicleEF	MH	1,229.07	1,611.87
tblVehicleEF	MH	61.91	20.50
tblVehicleEF	MH	1.59	1.60
tblVehicleEF	MH	0.96	0.25
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.5660e-003	3.5223e-004
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2120e-003	3.2595e-003
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.4480e-003	3.2465e-004
tblVehicleEF	MH	1.05	0.96
tblVehicleEF	MH	0.09	0.08
tblVehicleEF	MH	0.36	0.32
tblVehicleEF	MH	0.15	0.10
tblVehicleEF	MH	0.02	1.93
tblVehicleEF	MH	0.44	0.12
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	7.4700e-004	2.0290e-004
tblVehicleEF	MH	1.05	0.96
tblVehicleEF	MH	0.09	0.08
tblVehicleEF	MH	0.36	0.32
tblVehicleEF	MH	0.20	0.14
tblVehicleEF	MH	0.02	1.93
tblVehicleEF	MH	0.48	0.13
tblVehicleEF	MHD	0.02	3.3016e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.06	9.8031e-003
tblVehicleEF	MHD	0.46	0.36
tblVehicleEF	MHD	0.68	0.93
tblVehicleEF	MHD	8.00	1.27
tblVehicleEF	MHD	140.29	78.16

tblVehicleEF	MHD	1,210.30	1,180.29
tblVehicleEF	MHD	62.15	9.18
tblVehicleEF	MHD	0.89	0.73
tblVehicleEF	MHD	2.30	3.39
tblVehicleEF	MHD	10.47	1.06
tblVehicleEF	MHD	2.8510e-003	2.6061e-003
tblVehicleEF	MHD	0.13	0.13
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.05	0.09
tblVehicleEF	MHD	1.0450e-003	1.2960e-004
tblVehicleEF	MHD	2.7280e-003	2.4933e-003
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	0.04	0.09
tblVehicleEF	MHD	9.6100e-004	1.1916e-004
tblVehicleEF	MHD	1.1800e-003	5.4840e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	5.7100e-004	2.6113e-004
tblVehicleEF	MHD	0.12	0.24
tblVehicleEF	MHD	0.03	0.14
tblVehicleEF	MHD	0.47	0.06
tblVehicleEF	MHD	1.3510e-003	7.4114e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.6200e-004	9.0857e-005
tblVehicleEF	MHD	1.1800e-003	5.4840e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	5.7100e-004	2.6113e-004
tblVehicleEF	MHD	0.15	0.28
tblVehicleEF	MHD	0.03	0.14
tblVehicleEF	MHD	0.52	0.06
tblVehicleEF	OBUS	0.01	7.6007e-003
tblVehicleEF	OBUS	0.01	9.9431e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.29	0.57
tblVehicleEF	OBUS	0.65	0.90
tblVehicleEF	OBUS	5.78	2.02
tblVehicleEF	OBUS	110.21	99.74
tblVehicleEF	OBUS	1,322.53	1,402.55
tblVehicleEF	OBUS	67.52	15.98
tblVehicleEF	OBUS	0.66	0.69
tblVehicleEF	OBUS	2.30	2.31
tblVehicleEF	OBUS	2.92	0.92
tblVehicleEF	OBUS	3.1200e-004	2.9699e-003
tblVehicleEF	OBUS	0.13	0.13
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.01	0.04
tblVehicleEF	OBUS	7.2600e-004	1.4434e-004
tblVehicleEF	OBUS	2.9900e-004	2.8414e-003
tblVehicleEF	OBUS	0.06	0.06

tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	0.01	0.04
tblVehicleEF	OBUS	6.6800e-004	1.3315e-004
tblVehicleEF	OBUS	1.1970e-003	1.0918e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	5.1100e-004	4.6957e-004
tblVehicleEF	OBUS	0.08	0.13
tblVehicleEF	OBUS	0.03	0.17
tblVehicleEF	OBUS	0.36	0.10
tblVehicleEF	OBUS	1.0630e-003	9.4736e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.7700e-004	1.5813e-004
tblVehicleEF	OBUS	1.1970e-003	1.0918e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.06	0.07
tblVehicleEF	OBUS	5.1100e-004	4.6957e-004
tblVehicleEF	OBUS	0.10	0.15
tblVehicleEF	OBUS	0.03	0.17
tblVehicleEF	OBUS	0.40	0.11
tblVehicleEF	SBUS	0.87	0.04
tblVehicleEF	SBUS	0.02	7.1247e-003
tblVehicleEF	SBUS	0.10	4.2088e-003
tblVehicleEF	SBUS	7.94	1.89
tblVehicleEF	SBUS	1.35	0.58
tblVehicleEF	SBUS	11.03	0.64
tblVehicleEF	SBUS	1,147.37	347.29
tblVehicleEF	SBUS	1,074.56	1,091.13
tblVehicleEF	SBUS	53.01	3.52
tblVehicleEF	SBUS	10.41	3.76
tblVehicleEF	SBUS	4.78	5.50
tblVehicleEF	SBUS	12.80	0.69
tblVehicleEF	SBUS	0.01	4.8070e-003
tblVehicleEF	SBUS	0.74	0.74
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.04
tblVehicleEF	SBUS	8.5500e-004	3.7657e-005
tblVehicleEF	SBUS	0.01	4.5991e-003
tblVehicleEF	SBUS	0.32	0.32
tblVehicleEF	SBUS	2.6490e-003	2.7519e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	7.8600e-004	3.4624e-005
tblVehicleEF	SBUS	3.8820e-003	4.4069e-004
tblVehicleEF	SBUS	0.04	4.2268e-003
tblVehicleEF	SBUS	0.96	0.21
tblVehicleEF	SBUS	1.4980e-003	1.6995e-004
tblVehicleEF	SBUS	0.13	0.10
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	0.55	0.02
tblVehicleEF	SBUS	0.01	3.3018e-003
tblVehicleEF	SBUS	0.01	0.01

tblVehicleEF	SBUS	7.2000e-004	3.4878e-005
tblVehicleEF	SBUS	3.8820e-003	4.4069e-004
tblVehicleEF	SBUS	0.04	4.2268e-003
tblVehicleEF	SBUS	1.38	0.30
tblVehicleEF	SBUS	1.4980e-003	1.6995e-004
tblVehicleEF	SBUS	0.17	0.11
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	0.60	0.03
tblVehicleEF	UBUS	0.28	1.38
tblVehicleEF	UBUS	0.04	2.5802e-003
tblVehicleEF	UBUS	5.74	10.36
tblVehicleEF	UBUS	7.96	0.14
tblVehicleEF	UBUS	2,147.22	1,606.71
tblVehicleEF	UBUS	88.39	1.64
tblVehicleEF	UBUS	12.54	0.73
tblVehicleEF	UBUS	15.64	0.02
tblVehicleEF	UBUS	0.63	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.29	5.2778e-003
tblVehicleEF	UBUS	9.6700e-004	1.6454e-006
tblVehicleEF	UBUS	0.27	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3315e-003
tblVehicleEF	UBUS	0.27	5.0492e-003
tblVehicleEF	UBUS	8.8900e-004	1.5129e-006
tblVehicleEF	UBUS	2.2470e-003	1.5447e-004
tblVehicleEF	UBUS	0.04	2.3511e-003
tblVehicleEF	UBUS	1.0240e-003	9.6600e-005
tblVehicleEF	UBUS	0.79	0.02
tblVehicleEF	UBUS	7.8890e-003	0.02
tblVehicleEF	UBUS	0.54	0.01
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.0250e-003	1.6236e-005
tblVehicleEF	UBUS	2.2470e-003	1.5447e-004
tblVehicleEF	UBUS	0.04	2.3511e-003
tblVehicleEF	UBUS	1.0240e-003	9.6600e-005
tblVehicleEF	UBUS	1.13	1.41
tblVehicleEF	UBUS	7.8890e-003	0.02
tblVehicleEF	UBUS	0.59	0.01
tblVehicleTrips	CC_TL	7.30	20.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	7.30	20.00
tblVehicleTrips	CW_TL	9.50	20.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	36.67
tblVehicleTrips	SU_TR	0.00	36.67
tblVehicleTrips	WD_TR	0.00	36.67

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**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**

Quarter	**Start Date**	**End Date**	**Maximum Unmitigated ROG + NOX (tons/quarter)**	**Maximum Mitigated ROG + NOX (tons/quarter)**
		Highest		

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	0.0112	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1710	4.4155	0.9047	0.0133	0.3392	0.0648	0.4040	0.0932	0.0620	0.1552	0.0000	1,308.2333	1,308.2333	0.0463	0.0000	1,309.3913
Offroad	0.1204	1.2770	1.0048	1.5100e-003		0.0674	0.0674		0.0620	0.0620	0.0000	132.4113	132.4113	0.0428	0.0000	133.4819
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.3026**	**5.6925**	**1.9095**	**0.0148**	**0.3392**	**0.1322**	**0.4713**	**0.0932**	**0.1240**	**0.2172**	**0.0000**	**1,440.6447**	**1,440.6447**	**0.0891**	**0.0000**	**1,442.8733**

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	0.0112	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1710	4.4155	0.9047	0.0133	0.3392	0.0648	0.4040	0.0932	0.0620	0.1552	0.0000	1,308.2333	1,308.2333	0.0463	0.0000	1,309.3913
Offroad	0.1204	1.2770	1.0048	1.5100e-003		0.0674	0.0674		0.0620	0.0620	0.0000	132.4113	132.4113	0.0428	0.0000	133.4819
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.3026**	**5.6925**	**1.9095**	**0.0148**	**0.3392**	**0.1322**	**0.4713**	**0.0932**	**0.1240**	**0.2172**	**0.0000**	**1,440.6447**	**1,440.6447**	**0.0891**	**0.0000**	**1,442.8733**

	ROG	NOx	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	Site Preparation	Site Preparation	10/22/2019	10/21/2019	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.1710	4.4155	0.9047	0.0133	0.3392	0.0648	0.4040	0.0932	0.0620	0.1552	0.0000	1,308.2333	1,308.2333	0.0463	0.0000	1,309.3913

Unmitigated	0.1710	4.4155	0.9047	0.0133	0.3392	0.0648	0.4040	0.0932	0.0620	0.1552	0.0000	1,308.2333	1,308.2333	0.0463	0.0000	1,309.3913

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	110.01	110.01	110.01	800,873	800,873
Total	110.01	110.01	110.01	800,873	800,873

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
Other Non-Asphalt Surfaces	20.00	20.00	20.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0112	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Unmitigated	0.0112	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005

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	2.7300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	8.4500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Total	**0.0112**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**6.0000e-005**

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	2.7300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	8.4500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Total	**0.0112**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**6.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Other Construction Equipment	50	0.30	260	172	0.42	Diesel

UnMitigated/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
Equipment Type	tons/yr										MT/yr					
Other Construction Equipment	0.1204	1.2770	1.0048	1.5100e-003		0.0674	0.0674		0.0620	0.0620	0.0000	132.4113	132.4113	0.0428	0.0000	133.4819
Total	**0.1204**	**1.2770**	**1.0048**	**1.5100e-003**		**0.0674**	**0.0674**		**0.0620**	**0.0620**	**0.0000**	**132.4113**	**132.4113**	**0.0428**	**0.0000**	**133.4819**

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

Granite Rock Existing Equipment Yard

Onsite and Local Travel for HRA **Santa Clara County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	3.00	Acre	3.00	130,680.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Equipment Yard - no electricity

Land Use -

Construction Phase - Existing - no construction

Off-road Equipment - no construction

Vehicle Trips - Maintanence Trucks - used mostly to haul equipment at 20mi/trip Rate = 110/3acres = 36.67 trips/acre

Energy Use -

Operational Off-Road Equipment - Assume 90% of trucks take or deliver equipment and that equipment operates 15 minutes

Fleet Mix - Assume all heavy duty trucks

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	3.00	0.00
tblFleetMix	HHD	0.02	1.00
tblFleetMix	LDA	0.60	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	4.9810e-003	0.00
tblFleetMix	MCY	5.3630e-003	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	7.8500e-004	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	2.0830e-003	0.00
tblFleetMix	SBUS	6.2000e-004	0.00
tblFleetMix	UBUS	1.5710e-003	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	0.30
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	50.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0

tblProjectCharacteristics	CO2IntensityFactor	641.35	0
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	36.67
tblVehicleTrips	SU_TR	0.00	36.67
tblVehicleTrips	WD_TR	0.00	36.67

2.0 Emissions Summary

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	0.0112	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0364	1.8459	0.2874	1.9300e-003	0.0000	9.6000e-004	9.6000e-004	0.0000	9.2000e-004	9.2000e-004	0.0000	186.4664	186.4664	0.0252	0.0000	187.0961
Offroad	0.1204	1.2770	1.0048	1.5100e-003		0.0674	0.0674		0.0620	0.0620	0.0000	132.4113	132.4113	0.0428	0.0000	133.4819
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1680**	**3.1229**	**1.2922**	**3.4400e-003**	**0.0000**	**0.0683**	**0.0683**	**0.0000**	**0.0629**	**0.0629**	**0.0000**	**318.8777**	**318.8777**	**0.0680**	**0.0000**	**320.5780**

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	0.0112	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0364	1.8459	0.2874	1.9300e-003	0.0000	9.6000e-004	9.6000e-004	0.0000	9.2000e-004	9.2000e-004	0.0000	186.4664	186.4664	0.0252	0.0000	187.0961
Offroad	0.1204	1.2770	1.0048	1.5100e-003		0.0674	0.0674		0.0620	0.0620	0.0000	132.4113	132.4113	0.0428	0.0000	133.4819
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1680**	**3.1229**	**1.2922**	**3.4400e-003**	**0.0000**	**0.0683**	**0.0683**	**0.0000**	**0.0629**	**0.0629**	**0.0000**	**318.8777**	**318.8777**	**0.0680**	**0.0000**	**320.5780**

	ROG	**NOx**	**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**

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	0.0364	1.8459	0.2874	1.9300e-003	0.0000	9.6000e-004	9.6000e-004	0.0000	9.2000e-004	9.2000e-004	0.0000	186.4664	186.4664	0.0252	0.0000	187.0961
Unmitigated	0.0364	1.8459	0.2874	1.9300e-003	0.0000	9.6000e-004	9.6000e-004	0.0000	9.2000e-004	9.2000e-004	0.0000	186.4664	186.4664	0.0252	0.0000	187.0961

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	110.01	110.01	110.01		
Total	110.01	110.01	110.01		

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0112	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Unmitigated	0.0112	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005

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	2.7300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	8.4500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Total	**0.0112**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**6.0000e-005**

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	2.7300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	8.4500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Total	**0.0112**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**6.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Other Construction Equipment	50	0.30	260	172	0.42	Diesel

UnMitigated/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
Equipment Type	tons/yr										MT/yr					
Other Construction Equipment	0.1204	1.2770	1.0048	1.5100e-003		0.0674	0.0674		0.0620	0.0620	0.0000	132.4113	132.4113	0.0428	0.0000	133.4819
Total	**0.1204**	**1.2770**	**1.0048**	**1.5100e-003**		**0.0674**	**0.0674**		**0.0620**	**0.0620**	**0.0000**	**132.4113**	**132.4113**	**0.0428**	**0.0000**	**133.4819**

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

Attachment 3

Proposed Project Emissions

Attachment 3: Proposed Project Emissions Calculations

TableA3-Summary

Graniterock Emissions Summary - Proposed Project

Proposed Emissions Summary

Activity/Processing Areas	Average Daily Emissions (lbs/day)					Annual Emissions (tons/year)							CO2e
	NOx	CO	ROG	PM10	PM2.5	NOx	CO	ROG	PM10	PM2.5	CO2	CH_4	(MT/year)
Aggregate Distribution Facility													
Aggregate and Sand Rail Unloading	-	-	-	1.03	0.16	-	-	-	0.13	0.02	-	-	-
Material Transfer and Storage Emissions	-	-	-	1.63	1.63	-	-	-	0.21	0.21	-	-	-
Aggregate and Sand Truck Loading Emissions	-	-	-	0.31	0.05	-	-	-	0.04	0.01	-	-	-
Truck Travel - On-Site Emissions	5.37	0.40	0.143	5.26	0.81	0.70	0.05	0.019	0.68	0.11	154.6	-	140.2
Truck Travel - Off-Site Emissions	7.05	0.31	0.06	0.91	0.29	0.92	0.04	0.01	0.12	0.04	790.5	-	717.2
Subtotal	*12.4*	*0.7*	*0.2*	*9.1*	*2.9*	*1.61*	*0.09*	*0.03*	*1.19*	*0.38*	*945.1*	*0.0*	*857*
Asphalt Plant													
Aggregate & RAP Transfer-Storage-Processing	-	-	-	2.32	0.47	-	-	-	0.30	0.06	-	-	-
Filler Material Silo Filling Emissions	-	-	-	0.29	0.29	-	-	-	0.04	0.04	-	-	-
Batch Mix Process (dryer, hot screen, and mixer)	19.34	259.80	23.65	20.88	17.75	2.51	33.77	3.08	2.71	2.31	*13,875.0*	*2.78*	12,640.3
HMA Silo Filling Emissions	-	1.67	13.14	0.07	0.07	-	0.22	1.71	0.01	0.01	*0.0*	*0.00*	0.1
HMA Loadout Emissions	-	2.08	4.21	0.05	0.05	-	0.27	0.55	0.01	0.01	*0.0*	*0.038*	0.7
HMA Trucks - Yard Emissions	-	1.02	2.98	-	-	-	0.13	0.39	-	-	-	-	-
Asphalt Oil Storage Tank Emissions	-	-	0.04	-	-	-	-	0.01	-	-	-	-	-
Truck Travel - On-Site Emissions	10.10	0.75	0.28	7.30	1.14	1.31	0.10	0.04	0.95	0.15	*281.8*	-	255.6
Truck Travel - Off-Site Emissions	19.20	0.84	0.17	2.48	0.79	2.50	0.11	0.02	0.32	0.10	*2,153.5*	-	1,953.6
Subtotal	*48.63*	*266.15*	*44.47*	*33.39*	*20.56*	*6.32*	*34.60*	*5.78*	*4.34*	*2.67*	*16,310.3*	*2.8*	*14,850*
Cementitious Distribution Facility													
Rail Unloading Emissions	-	-	-	0.43	0.43	-	-	-	0.05	0.05	-	-	-
Material Transfer and Storage Emissions	-	-	-	0.14	0.14	-	-	-	0.02	0.02	-	-	-
Truck Loadout Emissions	-	-	-	0.21	0.21	-	-	-	0.03	0.03	-	-	-
Truck Travel - On-Site Emissions	0.30	0.02	0.01	0.31	0.05	0.04	0.00	0.00	0.04	0.01	8.1	-	7.4
Truck Travel - Off-Site Emissions	1.57	0.07	0.01	0.20	0.06	0.19	0.01	0.00	0.02	0.01	162.2	-	147.1
Subtotal	*1.87*	*0.09*	*0.02*	*1.29*	*0.89*	*0.22*	*0.01*	*0.00*	*0.16*	*0.11*	*170.3*	*0.0*	*154*
Concrete Plant													
Aggregate/Sand Traansfer Emissions	-	-	-	1.09	0.16	-	-	-	0.16	0.02	-	-	-
Cement & Supplement Silo Filling Emissions	-	-	-	0.75	0.75	-	-	-	0.11	0.11	-	-	-
Process Emissions	-	-	-	0.20	0.63	-	-	-	0.20	0.10	-	-	-
Truck Travel - On-Site Emissions	5.93	0.44	0.16	5.05	0.79	0.87	0.064	0.023	0.74	0.12	188.6	-	171.1
Truck Travel Off-Site Emissions	8.35	0.36	0.07	1.08	0.34	1.25	0.05	0.01	0.16	0.05	1,081.1	-	980.7
Subtotal	*14.28*	*0.80*	*0.23*	*8.16*	*2.68*	*2.12*	*0.12*	*0.03*	*1.38*	*0.40*	*1,269.7*		*1,152*
Recycle Yard													
Process Emissions	-	-	-	13.72	1.06	-	-	-	1.65	0.127	-	-	-
Off-Road Mobile Equipment Emissions	8.19	9.19	1.39	0.29	0.28	0.98	1.10	0.17	0.03	0.034	414.9	-	376.4
Fugitive Dust Emissions	-	-	-	19.87	3.49	-	-	-	2.65	0.525	-	-	-
Truck Travel - On-Site Emissions	8.32	0.61	0.23	5.15	0.81	1.00	0.07	0.03	0.01	0.10	206.4	-	187.3
Truck Travel - Off -Site Emissions	33.07	1.44	0.29	4.28	1.35	3.97	0.17	0.04	0.51	0.16	3,423.4	-	3,105.7
Subtotal	*49.58*	*11.24*	*1.92*	*43.31*	*7.00*	*5.95*	*1.35*	*0.23*	*4.85*	*0.95*	*4,044.7*	*0.0*	*3,669*
Rail Emissions													
Aggregate Delivery Locomotive Emissions	71.94	21.57	3.20	1.55	1.43	8.99	21.57	3.20	0.19	0.18	1,036.5	-	940.3
Powder Material Delivery Locomotive Emissions	11.28	3.38	0.50	0.24	0.22	1.35	0.41	0.06	0.03	0.03	156.0	-	141.5
Project Locomotive On-Site Emissions	1.44	0.010	0.026	0.001	0.001	0.187	0.001	0.003	0.000	0.000	47.7	-	43.3
Subtotal	*84.66*	*24.96*	*3.73*	*1.79*	*1.65*	*10.53*	*21.98*	*3.27*	*0.22*	*0.21*	*1,240.2*	*0.0*	*1,125*
Maintenance/Delivery Trucks													
Truck Travel - On-Site Emissions	0.06	0.007	0.002	0.048	0.008	0.01	0.00	0.00	0.007	0.001	2.3	-	2.1
Truck Travel - Off -Site Emissions	0.26	0.02	0.01	0.037	0.011	0.04	0.00	0.00	0.005	0.002	32.1	-	29.2
Subtotal	*0.32*	*0.03*	*0.01*	*0.084*	*0.018*	*0.05*	*0.00*	*0.00*	*0.013*	*0.003*	*34.4*	*0.0*	*31*
Other Facility Traffic													
Employee Travel - On-Site Emissions	0.007	0.086	0.004	0.012	0.002	0.001	0.013	0.001	0.002	0.000	3.2	-	2.9
Employee Travel - Off-Site Emissions	0.495	5.502	0.107	0.477	0.09	0.074	0.825	0.016	0.072	0.013	190.2	-	172.5
Vacuum/Sweeper Truck - On-Site Emissions	0.42	0.03	0.01	0.511	0.08	0.063	0.005	0.002	0.077	0.012	11.4	-	10.4
Subtotal	*0.92*	*5.62*	*0.12*	*1.00*	*0.17*	*0.14*	*0.84*	*0.02*	*0.15*	*0.03*	*204.8*	*0.0*	*186*
Land Use													
From CalEEMod	-	-	-	-	-	-	-	-	-	-	*292.5*	-	*265*
Total	**212.7**	**309.6**	**50.7**	**98.2**	**35.9**	**26.9**	**59.0**	**9.4**	**12.3**	**4.7**	**24,219**	**3**	**22,291**

TableA3-1

Graniterock Aggregate Distribution Facility Emissions - Proposed Project

PM10 and PM2.5 Emissions From Aggregate Distribution Facility Operation

Total Amount of Aggregate & Sand Imported (tons/yr) =	1,300,000
Amount of Aggregate Imported by Rail =	823,000
Amount of Sand Imported by Rail =	477,000
Aggregate & Sand used Onsite =	715,000
Aggregate & Sand Exported Offsite by Ttruck =	585,000
Annual Operation (days/yr) =	260

Emissions from Material Receiving, Storage, and Transfer Operations - PM10

Process	PM10 Uncontrolled (lb/ton)	PM10 Controlled (b/ton)	PM10 (lb/yr)	Average lb/day	Annual (tons/year)
Rail Unloading of Aggregate to Rail Discharge Hoppers (1)	0.000260	-	213.94	0.823	0.107
Rail Unloading of Sand to Rail Discharge Hoppers (2)	0.000113	-	53.69	0.207	0.027
Material Conveyance to Bucket Elevators Inlet (controlled) (3)	-	0.000052	67.89	0.261	0.034
Bucket Elevators Transfer to top of Silos (controlled) (3)	-	0.000196	254.57	0.979	0.127
Distribution of Materials to (9) Nine Silos (9 dust collectors) (3)	-	0.000078	101.83	0.392	0.051
Truck Loading - Aggregate & Sand from Silos (4)	0.000554	0.000138	81.01	0.312	0.041
Aggregate & Sand Transfer to Cement & Asphalt Plants	-(5)	-(5)	-		
PM10 Emissions from Aggregate & Sand Handling and Storage =			**772.92**	**3.0**	**0.386**

(1) Uncontrolled emission factor (lb/ton aggregate) for bottom dump railcar to rail discharge hopper calculated using AP-42 Section 13.2.4 Eq. for material transfer with moisture = 4.4% and wind speed = 3.8 mph (calculated wind speed at 1 meter).

(2) Uncontrolled emission factor (lb/ton of sand) for bottom dump railcar to rail discharge hopper calculated using AP-42 Section 13.2.4 Eq. for material transfer with moisture = 8% and wind speed = 3.8 mph (calculated wind speed at 1 meter).

(3) Emission factor calculated for use of dust collectors with outlet grain loading of 0.005 grains/dscf (see Tables 15 & 16 for dust collector calculations)

(4) Uncontrolled emission factor for materail handling drop operations calculated using AP-42 Section 13.2.4 Eq. for material transfer with moisture = 4.4% and wind speed = 6.8 mph (San Jose Airport). Controlled emissions assume 75% control for use of a loading chute to load trucks.

(5) Emissions from material conveying to the Asphalt and Concrete plants included with the Asphalt and Concrete Plant emissions (see Tables A3-8 & A3-13).

Emissions from Material Receiving, Storage, and Transfer Operations - PM2.5

Process	PM2.5 (lb/ton)(1)	Controlled (lb/ton)	PM2.5 (lb/yr)	Average lb/day	Annual (tons/year)
Rail Unloading of Aggregate to Rail Discharge Hoppers (1)	0.000039	-	32.40	0.125	0.016
Rail Unloading of Sand to Rail Discharge Hoppers (2)	0.000017	-	8.13	0.031	0.004
Material Conveyance to Bucket Elevators Inlet (controlled) (3)	-	0.000052	67.89	0.261	0.034
Bucket Elevators Transfer to top of Silos (controlled) (3)	-	0.000196	254.57	0.979	0.127
Distribution of Materials to (9) Nine Silos (9 dust collectors) (3)	-	0.000078	101.83	0.392	0.051
Truck Loading - Aggregate & Sand from Silos (4)	0.00008	0.000021	12.27	0.047	0.006
Aggregate & Sand Transfer to Cement & Asphalt Plants	-(5)	-(5)	-		
PM2.5 Emissions from Aggregate & Sand Handling and Storage =			**477.08**	**1.8**	**0.239**

(1) Uncontrolled emission factor (lb/ton aggregate) for bottom dump railcar to rail discharge hopper calculated using AP-42 Section 13.2.4 Eq. for material transfer with moisture = 4.4% and wind speed = 3.8 mph (calculated wind speed at 1 meter).

(2) Uncontrolled emission factor (lb/ton of sand) for bottom dump railcar to rail discharge hopper calculated using AP-42 Section 13.2.4 Eq. for material transfer with moisture = 8% and wind speed = 3.8 mph (calculated wind speed at 1 meter).

(3) Emission factor calculated for use of dust collectors with outlet grain loading of 0.005 grains/dscf (see Tables 15 & 16 for dust collector calculations)

(4) Uncontrolled emission factor for materail handling drop operations calculated using AP-42 Section 13.2.4 Eq. for material transfer with moisture = 4.4% and wind speed = 6.8 mph (San Jose Airport). Controlled emissions assume 75% control for use of telescopic chute to load trucks.

(5) Emissions from material conveying to the Asphalt and Concrete plants included with the Asphalt and Concrete Plant emissions (see Tables A3-8 & A3-13).

Table A3-2

Graniterock Rail Emissions - Proposed Project 2024
Annual and Average Daily Emissions From UPRR Train Hauling - Aggregates & Sand

Material Hauling information

Annual Quantity Material Hauled by Rail	1,300,000	tons
Quantity Material Hauled per Train	8,050	tons
Number of Train Loads per Year	161	
One-way Train Trip Distance[a]	37	miles
Train Idle Time at Site	60	minutes
Days of Facility Operation per Year	250	days

Train Information

Empty Rail Car Weight[b]	27.8	tons
Aggregate Weight per Rail Car	115	tons
Locomotive Weight[c]	204	tons
Number of Locomotives	2	locomotives/train
Cars per Train	70	cars/train
Train - Gross Ton Weight - Unloaded	2,354	tons
Train - Gross Ton Weight - Loaded	10,404	tons
Average Gross Ton Weight	6,379	tons
Fuel Productivity Factor[d]	833	gross ton miles/gallon (GTM/gal)

Emissions From Train Travel[e]

Pollutant	Fleet Average Emission Factor (g/gallon)	Average GTW (tons)	Train Roundtrip Distance (miles)	Fuel Productivity Factor (GTM/gallon)	Train Loads per Year	Emission per Train Load (pounds)	Annual Emisisons (pounds/year)	Annual Emisisons (tons/year)	Average Daily Emissions (lb/day)
NOx	88.58	6379	74	833	161.5	110.7	17,870	8.93	71.5
CO	26.65	6379	74	833	161.5	33.3	5,376	2.69	21.5
ROG	3.92	6379	74	833	161.5	4.9	792	0.40	3.2
PM10	1.90	6379	74	833	161.5	2.4	384	0.19	1.5
PM2.5	1.76	6379	74	833	161.5	2.2	354	0.18	1.4
CO_2	10216	6379	74	833	161.5	12762.9	2,061,095	1030.5	-

Train Idle Emissions[f]

Pollutant	Fleet Average Emission Factor (g/hour)	Idle[g] Time per Load (hours)	Train Loads per Year	Annual Emisisons (pounds/year)	Annual Emisisons (tons/year)	Average Daily Emissions (lb/day)
NOx	325.08	1.0	161	115.74	0.058	0.46
CO	46.17	1.0	161	16.44	0.008	0.07
ROG	25.42	1.0	161	9.05	0.005	0.04
PM10	6.67	1.0	161	2.37	0.001	0.01
PM2.5	6.53	1.0	161	2.32	0.001	0.01
CO_2	33,586	1.0	161	11,957	5.98	47.83

Total Train Hauling Emissions (travel + idle)

Pollutant	Annual Emissions (tons/year)	Average Daily Emissions (lb/day)
NOx	9.0	71.9
CO	2.7	21.6
ROG	0.4	3.2
PM10	0.2	1.5
PM2.5	0.2	1.4
CO_2	1036.5	-

Notes:
a Estimated travel between the Graniterock AR Wilson Quarry and project site in San Jose.
b Empty car weight provided by applicant.
c The locomotive weight was estimated based on ARB Technology Assessment: Freight Locomotives (2016)
d Fuel Productivity (GTM/gal). An average value was calculated based on the GTM/gal values for the Bay Area in 2011 (ARB 2014) and adjusted for increased fuel efficiency in 2020 (2016 ARB Vision 2.1, Locomotive Module)
e Train running emission factors and fleet mix are for SF Bay Area from the California Air Resources Board (CARB) Vision 2.1 Locomotive Inventory Database, ARB. 2016. Vision 2.1 Locomotive Module. Available at: http://ww2.arb.ca.gov/resources./documents/vision-scenario-planning.
f Locomotive Emission Factors for ROG, CO, NOx, PM10, and PM2.5 developed based on ARB 2016. Vision 2.1 Locomotive Module and EPA 1998..
g Train idling time assumptions provided by applicant.

References:
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USEPA 2009. Emission Factors for Locomotives (EPA-420-F-09-025), April 2009.
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Particulate Emissions Reduction Program at California Rail Yards. June. Available at: http://www.arb.ca.gov/railyard/ryagreement/ryagreement.htm .

Table A3-3

Graniterock - Rail Emission Factors Calculations - Proposed Project Conditions 2024

Rail Hauling Aggregate, Sand & Cementitious Materials

2024 CARB Locomotive Tier Distribution and Emission Factors

Locomotive Tier Level	Percent[a] in Fleet (%)	Locomotive Emission Factors (g/gal)[b] PM10	PM2.5	ROG	NOx	CO	CO2
Tier 0r	21.7%	4.16	3.83	7.55	149.76	26.62	10,206
Tier 1r	10.7%	4.16	3.83	7.30	139.36	26.62	10,206
Tier 2r	19.5%	1.66	1.53	3.27	102.96	26.62	10,206
Tier 3	16.8%	1.66	1.53	3.27	102.96	26.62	10,206
Tier 4	31.4%	0.31	0.29	1.01	20.80	26.62	10,206
Total	100%						
Fleet Average Emission Factors		2.05	1.89	3.92	91.32	26.65	10216
Adjustment Factor [c]		0.93	0.93	1	0.97	1	1
Adjusted Emission Factors		1.90	1.76	3.92	88.58	26.65	10216

2024 CARB Locomotive Tier Distribution and Emission Factors for Locomotives Idling

Locomotive Tier Level	Percent[a] in Fleet (%)	Idle Emission Factors (g/hour)[d] PM10	PM2.5	ROG	NOx	CO	CO2
Tier 0r	21.7%	21	21	72	777	95	33,552
Tier 1r	10.7%	11	10	36	376	49	33,552
Tier 2r	19.5%	3.4	3.3	13	296	30	33,552
Tier 3	16.8%	3.4	3.3	13	296	30	33,552
Tier 4	31.4%	0.64	0.62	3.9	60	30	33,552
Total	100%						
Fleet Average Emission Factors		7.17	7.02	25.42	335.13	46.17	33586
Adjustment Factor [c]		0.93	0.93	1	0.97	1	1
Adjusted Emission Factors		6.67	6.53	25.42	325.08	46.17	33586

a Tier distribution for SF Bay Area from the California Air Resources Board (CARB) 2016 Vision 2.1 Locomotive Inventory Database

b Train running emission factors and fleet mix are from the California Air Resources Board (CARB) Vision 2.1 Locomotive Inventory Database
ARB. 2016. Vision 2.1 Locomotive Module. Available at: http://ww2.arb.ca.gov/resources./documents/vision-scenario-planning.

c Emission adjustment factors from the California Air Resources Board (CARB) Vision 2.1 Locomotive Inventory Database

d Locomotive idle emisison factors are developed based on locomotive data from EPA research document (USEPA 1998) and USEPA 2009 and
Recology Ostrom Road Projects. Draft Environmental Impact Report (State Clearinghouse No. 2015122071).
Yuba County Planning Department. May 2018.

Table A3-4

Asphalt Plant Batch Mix with Natural Gas Dryer Burner and Baghouse

Asphalt Production & Dryer Information

Maximum Annual Asphalt Production (ton/yr) =	750,000
Annual Operation (days) =	260
Maximum Hourly Asphalt Production (ton/hr) =	540
Maximum Dryer Burner Firing Rate (MMBtu/hr) =	81.89
Maximum Exhaust Flow Rate (dscf/min) =	45,600

Natural Gas Fired Dryer Burner Emission Factors

Criteria Pollutant	Emission Factor		Concentration
PM10[1]	0.01	grain/dscf	
PM10[a,2]	0.0072	lb/ton	
PM2.5[a,3]	0.0062	lb/ton	
NOx[1]	0.044	lb/MMBTU	(12 ppmv @ 15% O_2)
CO[1]	0.594	lb/MMBTU	(265 ppmv @ 15% O_2)
VOC[4]	0.0082	lb/ton	
SO_2[4]	0.0046	lb/ton	
Greenhouse Gas Pollutants			
CO_2[4]	37	lb/ton	
CH_4[4]	0.0074	lb/ton	

[a] PM emissions from dryer, hot screen, bucket elevator, and mixer controlled by a baghouse.

[1] Emission factors based on manufacturer data.

[2] Calculated emission factor

[3] PM2.5 emission factor estimated by multiplying PM10 by a factor of 0.85 which was determined from the ratio of PM2.5 to 10 um particles in emission factors for dryers AP-42 Chapter 11.1 Hot Mix Asphalt Plants, Table 11.1-2.

[4] Emission Factors are from AP-42 Chapter 11.1 Hot Mix Asphalt Plants, Table 11.1-6.

Criteria Pollutant and GHG Emissions

	Hourly (lb/hr)	Average Daily (lb/day)	Annual (lb/yr)	Annual (ton/yr)
Criteria Pollutant				
PM10	3.9	20.9	5,429	2.7
PM2.5	3.3	17.7	4,614	2.3
NOx	3.6	19.3	5,027	2.5
CO	48.6	259.8	67,548	33.8
SO2	2.5	13.3	3,450	1.7
VOC	4.4	23.7	6,150	3.1
Greenhouse Gas Pollutants			**(lb/yr)**	**(ton/yr)**
CO_2	-	-	27,750,000	13,875
CH_4	-	-	5,550	2.8

Table A3-5

Asphalt Plant Batch Mix with Natural Gas Dryer Burner and Baghouse
TAC Emissions From Asphalt Batch MIx Plant Natural Gas Dryer

Toxic Air Contaminant Emissions

Toxics Name	Emission* Factor (lb/ton)	Emissions (lb/hr)	Emissions (lb/yr)
Volatile Organic HAPs			
Acetaldehyde	0.00032	1.73E-01	2.40E+02
Benzene	0.00028	1.51E-01	2.10E+02
Ethyl Benzene	0.0022	1.19E+00	1.65E+03
Formaldehyde	0.00074	4.00E-01	5.55E+02
Toluene	0.001	5.40E-01	7.50E+02
Xylene	0.0027	1.46E+00	2.03E+03
PAH Toxic Air Pollutants			
Benzo(a)anthracene	4.60E-09	2.48E-06	3.45E-03
Benzo(a)pyrene	3.10E-10	1.67E-07	2.33E-04
Benzo(b)fluoranthene	9.40E-09	5.08E-06	7.05E-03
Benzo(k)fluoranthene	1.30E-08	7.02E-06	9.75E-03
Chrysene	3.80E-09	2.05E-06	2.85E-03
Indeno(1,2,3-c,d)pyrene	3.00E-10	1.62E-07	2.25E-04
Naphthalene	3.60E-07	1.94E-04	2.70E-01
Metal Toxic Air Pollutants			
Arsenic	4.60E-07	2.48E-04	3.45E-01
Beryllium	1.50E-07	8.10E-05	1.13E-01
Cadmium	6.10E-07	3.29E-04	4.58E-01
Chromium Hexavalent	4.80E-08	2.59E-05	3.60E-02
Copper	2.80E-06	1.51E-03	2.10E+00
Lead	8.90E-07	4.81E-04	6.68E-01
Manganese	6.90E-06	3.73E-03	5.18E+00
Mercury	4.10E-07	2.21E-04	3.08E-01
Nickel	3.00E-06	1.62E-03	2.25E+00
Selenium	4.90E-07	2.65E-04	3.68E-01
Zinc	6.80E-06	3.67E-03	5.10E+00

*Emission factors from EPA AP-42, Chapter 11.1, Tables 11.1-9 for toxic pollutants emitted from batch asphalt plants.

PAH Hazardous Air Pollutants (Benzo(a) Pyrene Equivalents)*

PAH Hazardous Air Pollutants	Potency Equivalency Factor	PAH Emissions (lb/yr)	BaP Equivalent (lb/yr)
Benzo(a)anthracene	0.10	3.45E-03	3.45E-04
Benzo(a)pyrene	1.00	2.33E-04	2.33E-04
Benzo(b)fluoranthene	0.10	7.05E-03	7.05E-04
Benzo(k)fluoranthene	0.10	9.75E-03	9.75E-04
Chrysene	0.01	2.85E-03	2.85E-05
Indeno(1,2,3-c,d)pyrene	0.10	2.25E-04	2.25E-05
Calculated Total Benzo(a)pyrene-equivalents*			**2.31E-03**

* Calculated Benzo(a)pyrene-equivalents = sum of the PAH multiplied by their Potency Equivalency Factors (PEF's). For calculating cancer risks from PAHs, the PAHs are evaluated as benzo(a)Pyrene (BaP) equivalents. The evaluation process consists of multiplying individual PAH-specific emission levels with their corresponding Potency Equivalency Factors (PEFs). The sum of these products is the BaP-equivalent level which is then used for calculating ambient BaP equivalent concentrations and cancer risks using the cancer potency factor for BaP.

Table A3-6

Asphalt Plant - Loadout, Silo Filling, and Yard Emissions

Silo Filling and Loadout Operation Information

Annual Asphalt Silos Throughput (ton/yr) =	750,000
Annual Asphalt Truck Loading Throughput (ton/yr) =	750,000
Annual Operation (days) =	260
Maximum Hourly Asphalt Production (ton/hr) =	540
Maximum Hourly Silo Filling Rate (ton/hour) =	300
Maximum Hourly Truck Loadout Rate (ton/hour) =	300
Asphalt volatility, V[1] =	-0.5
HMA mix temperature, T (deg F) =	300
Silo Filling - PM10 Abatement Efficiency (%) =	95%
Silo Filling - VOC Abatement Efficiency (%) =	30%
Truck Loadout - PM10 Abatement Efficiency (%) =	0%
Truck Loadout - VOC Abatement Efficiency (%) =	0%

[1] Default value from AP-42 Section 11.1 Hot Mix Asphalt Plants

Emission Factors for Calculating Silo Filling (AP-42 Section 11.1 Hot Mix Asphalt Plants, Table 11.1-14)

Total PM $E_{PM10} = 0.000332 + 0.00105(-V)e^{((0.0251)(T+460)+ 20.43)}$

PM (organic) $E_{Organic\ PM} = 0.00105(-V)e^{(0.0251)(T+460)-20.43)}$

TOC $E_{POC} = 0.0504(-V)e_{(0.0251)(T+460)-20.43)}$

CO $E_{CO} = 0.00488(-V)e^{(0.0251)(T+460)-20.43)}$

where,

E = Emission factor (lb/ton)
V = asphalt volatility, as determined by ASTM Method D2872-88
T = HMA mix temperature (deg F)

Emissions from Silo Filling

	Emission Factor (lb/ton)	Hourly (lb/hr)	Average Daily (lb/day)	Annual (lb/yr)	Annual (ton/yr)
Criteria Pollutant					
Total PM/PM10/PM2.5	0.00047	0.007	0.07	17.53	0.009
PM (organic)	0.00014	0.028	0.27	71.17	0.036
TOC	0.00651	1.366	13.14	3,416.06	1.708
VOC[1]	-	1.366	13.14	3,416.06	1.708
CO	0.00058	0.174	1.67	433.79	0.217

Greenhouse Gas Pollutants

GHG	Emission Factor (%)	Annual (lb/yr)	Annual (ton/yr)
CH_4[2]	0.26%	8.9	0.004

[1] VOC emissions are 100% of TOC emissions, AP-42 Chapter 11.1 Hot Mix Asphalt Plants, Table 11.1-16.

[2] CH4 emissions are 0.26% of TOC emissions, AP-42 Chapter 11.1 Hot Mix Asphalt Plants, Table 11.1-16.

Emission Factors for Calculating Truck Loadout (AP-42 Section 11.1 Hot Mix Asphalt Plants, Table 11.1-14)

Total PM $E_{PM10} = 0.000181 + 0.00141(-V)e^{((0.0251)(T+460)+ 20.43)}$

Organic PM $E_{Organic\ PM} = 0.00141(-V)e^{(0.0251)(T+460)-20.43)}$

TOC $E_{POC} = 0.0172(-V)e_{(0.0251)(T+460)-20.43)}$

CO $E_{CO} = 0.00558(-V)e^{(0.0251)(T+460)-20.43)}$

where,

E = Emission factor (lb/ton)
V = asphalt volatility, as determined by ASTM Method D2872-88
T = HMA mix temperature deg F)

Emissions from HMA Loadout

	Emission Factor (lb/ton)	Hourly (lb/hr)	Average Daily (lb/day)	Annual (lb/yr)	Annual (ton/yr)
Criteria Pollutant					
Total PM/PM10/PM2.5	0.00036	0.005	0.05	13.61	0.007
PM (organic)	0.00018	0.038	0.37	95.57	0.048
TOC	0.00222	0.466	4.48	1,165.80	0.583
VOC[1]	-	0.438	4.21	1,095.85	0.548
CO	0.00072	0.216	2.08	540.29	0.270

Greenhouse Gas Pollutants

GHG	Emission Factor (%)	Annual (lb/yr)	Annual (ton/yr)
CH_4[2]	6.50%	75.8	0.04

1 VOC emissions are 94% of TOC emissions, AP-42 Chapter 11.1 Hot Mix Asphalt Plants, Table 11.1-16.

2 CH4 emissions are 6.5% of TOC emissions, AP-42 Chapter 11.1 Hot Mix Asphalt Plants, Table 11.1-16.

Emissions from Transport Trucks Following Loadout (Yard Emissions)*

	Emission Factor (lb/ton)	Hourly (lb/hr)	Average Daily (lb/day)	Annual (lb/yr)	Annual (ton/yr)
Criteria Pollutant					
TOC	0.0011	0.330	3.17	825.00	0.413
VOC[1]	-	0.310	2.98	775.50	0.388
CO	-	0.106	1.02	264.00	0.132

Note: * - see below

Vapors from the HMA loaded into transport trucks continue following load-out operations. The TOC emissions for the 8-minute period immediately following load-out (yard emissions) can be estimated using an emission factor of 0.00055 kg/Mg (0.0011 lb/ton) of asphalt loaded. This factor is assigned a rating of E. The derivation of this emission factor is described in Reference 1. Carbon monoxide emissions can be estimated by multiplying the TOC emissions by 0.32 (the ratio of truck load-out CO emissions to truck load-out THC emissions).

1 VOC emissions are 94% of TOC emissions, AP-42 Chapter 11.1 Hot Mix Asphalt Plants, Table 11.1-16.

Total Silo Filling, HMA Loadout, and Yard Emissions

Criteria Pollutant	Hourly (lb/hr)	Average Daily (lb/day)	Annual (ton/yr)
Total PM/PM10/PM2.5	0.01	0.12	0.02
VOC	2.1	20.3	2.64
CO	0.50	4.76	0.62
Total	**2.62**	**25.22**	**3.28**
Greenhouse Gas Pollutants			**(ton/yr)**
CH_4	-	-	0.04

Table A3-7

Asphalt Plant - Loadout, Silo Filling, and Yard Emissions

TAC Emissions From Asphalt Plant - Loadout, Silo Filling, and Yard Emissions

Toxic Air Contaminant Emissions

Toxics Name	Silo Filling: Emission[1] Factor (% TOC)	Silo Filling: Emissions (lb/hr)	Silo Filling: Emissions (lb/yr)	HMA Loadout and Yard Emissions: Emission[1] Factor (% TOC)	HMA Loadout and Yard Emissions: Emissions (lb/hr)	HMA Loadout and Yard Emissions: Emissions (lb/yr)
Volatile Organic Toxic Air Contaminants						
Benzene	0.032	4.37E-04	1.09E+00	0.052	4.14E-04	1.04E+00
Carbon Disulfide	0.016	2.19E-04	5.47E-01	0.013	1.04E-04	2.59E-01
Ethyl Benzene	0.038	5.19E-04	1.30E+00	0.28	2.23E-03	5.57E+00
Formaldehyde	0.69	9.43E-03	2.36E+01	0.088	7.01E-04	1.75E+00
n-Hexane	0.10	1.37E-03	3.42E+00	0.15	1.19E-03	2.99E+00
Methylene Chloride	0.0003	3.69E-06	9.22E-03	0.00	0.00E+00	0.00E+00
Styrene	0.0054	7.38E-05	1.84E-01	0.0073	5.81E-05	1.45E-01
Toluene	0.062	8.47E-04	2.12E+00	0.21	1.67E-03	4.18E+00
Xylene-m/p	0.20	2.73E-03	6.83E+00	0.41	3.26E-03	8.16E+00
Xylene-o	0.057	7.79E-04	1.95E+00	0.08	6.37E-04	1.59E+00

Toxics Name	Silo Filling: Emission[2] Factor (% Organic PM)	Silo Filling: Emissions (lb/hr)	Silo Filling: Emissions (lb/yr)	HMA Loadout: Emission[2] Factor (% Organic PM)	HMA Loadout: Emissions (lb/hr)	HMA Loadout: Emissions (lb/yr)
PAH Toxic Air Contaminants						
Benzo(a)anthracene	0.056	1.59E-05	3.99E+00	0.019	5.41E-06	1.35E+00
Benzo(a)pyrene	0.00	0.00E+00	0.00E+00	0.0023	6.55E-07	1.64E-01
Benzo(b)fluoranthene	0.00	0.00E+00	0.00E+00	0.0076	2.16E-06	5.41E-01
Benzo(k)fluoranthene	0.00	0.00E+00	0.00E+00	0.0022	6.26E-07	1.57E-01
Chrysene	0.21	5.98E-05	1.49E+01	0.103	2.93E-05	7.33E+00
Indeno(1,2,3-c,d)pyrene	0.00	0.00E+00	0.00E+00	0.00047	1.34E-07	3.34E-02
Naphthalene	1.82	5.18E-04	1.30E+02	1.25	3.56E-04	8.90E+01
Other Semi-Volatile Toxic Air Contaminants						
Phenol	0.00	0.00E+00	0.00E+00	1.18	3.36E-04	8.40E+01

[1]Emission factors from EPA AP-42, Chapter 11.1, Table 11.1-16 for volatile organic toxic pollutants emitted from silo filling and truck load-out.

[2]Emission factors from EPA AP-42, Chapter 11.1, Table 11.1-15 for organic particulate based toxic pollutants emitted from silo filling and truck load-out.

PAH Hazardous Air Pollutants (Benzo(a) Pyrene Equivalents)*

PAH Hazardous Air Pollutants	Potency Equivalency Factor	Silo Filling: PAH Emissions (lb/yr)	Silo Filling: BaP Equivalent (lb/yr)	HMA Loadout: PAH Emissions (lb/yr)	HMA Loadout: BaP Equivalent (lb/yr)
Benzo(a)anthracene	0.10	3.99E+00	3.99E-01	1.35E+00	1.35E-01
Benzo(a)pyrene	1.00	0.00E+00	0.00E+00	1.64E-01	1.64E-01
Benzo(b)fluoranthene	0.10	0.00E+00	0.00E+00	5.41E-01	5.41E-02
Benzo(k)fluoranthene	0.10	0.00E+00	0.00E+00	1.57E-01	1.57E-02
Chrysene	0.01	1.49E+01	1.49E-01	7.33E+00	7.33E-02
Indeno(1,2,3-c,d)pyrene	0.10	0.00E+00	0.00E+00	3.34E-02	3.34E-03
Calculated Total Benzo(a)pyrene-equivalents*			**5.48E-01**		**4.45E-01**

* Calculated Benzo(a)pyrene-equivalents = sum of the PAH multiplied by their Potency Equivalency Factors (PEF's). For calculating cancer risks from PAHs, the PAHs are evaluated as Benzo(a)Pyrene (BaP) equivalents. The evaluation process consists of multiplying individual PAH-specific emission levels with their corresponding Potency Equivalency Factors (PEFs). The sum of these products is the BaP-equivalent level which is then used for calculating ambient BaP equivalent concentrations and cancer risks using the cancer potency factor for BaP.

Table A3-8

Graniterock Asphalt Plant Emissions - Proposed Project
PM10 and PM2.5 Emissions From Material Processing

Maximum Annual Asphalt Production (ton/yr) =	750,000
Annual Operation (days) =	260
Maximum Hourly Asphalt Production (ton/hr) =	540

Material Use (Basic Asphalt Receipe)	%	Max. ton/hr	ton/yr
Total Aggregate and RAP	87.0%	470	652500
Aggregate	52.0%	281	390,000
RAP*	35.0%	189	262,500
Liquid Asphalt	5.5%	30	41,250
Filler	7.5%	41	56,250
Total Materials	100.0%	540	750,000

* Assumes up to 35% RAP use

Emissions from Asphalt Plant - PM10

Process	PM10 (lb/ton)	Controlled (lb/ton)	PM10 (lb/yr)	Average lb/day	Annual (tons/year)
Aggregate conveyance from Aggregate Facility[1,2]	0.00110	0.000165	257.40	0.990	0.129
RAP conveyance from Recycle Yard [1,2]	0.00110	0.000165	129.94	0.500	0.065
Aggregate/RAP transfer to elevated storage[3,4]	0.00055	0.000083	54.21	0.209	0.027
Aggregate/RAP transfer to storage bins [3,4]	0.00055	0.000083	54.21	0.209	0.027
Aggregate/RAP conveyance to dryer prescreener [1]	0.00110	0.000165	107.66	0.414	0.054
Hot side Aggregate/RAP material handling[5]	-	-	-	-	-
Filler delivery to Silo (controlled)[6]	-	0.001347	75.77	0.291	0.038
PM10 Process Emissions from Asphalt =			**679.20**	**2.6**	**0.340**

(1) Uncontrolled emission factors from AP-42 Section 1119.2, Table 11.19.2-2. Controlled emission factors assume 85% control for use of covered conveyors and material moisture content (Mojave Desert AQMD, Emission Inventory Guidance, Material Handling and Processing Industries, April 10, 2000)

(2) Assumes 4 conveyor transfer points from Aggregate Facility to Asphalt Plant and 3 from Recycle Yard..

(3) Controlled emission factors assume 85% control for use of full enclosure and material moisture content (Mojave Desert AQMD, Emission Inventory Guidance, Material Handling and Processing Industries, April 10, 2000)

(4) Uncontrolled emission factor calculated using AP-42 Section 13.2.4 Eq. for material transfer with moisture = 4.4% and wind speed = 6.8 mph.

(5) All hot side process equipment fully enclosed and emissions controlled by dryer baghouse (see Table 4) for emissions.

(6) Emission factor calculated for use of dust collectors with outlet grain loading of 0.005 grains/dscf (see Tables 15 & 16 for dust collector calculations)

Emissions from Asphalt Plant - PM2.5

Process	PM2.5 (lb/ton)[1]	Controlled (lb/ton)	PM2.5 (lb/yr)	Average lb/day	Annual (tons/year)
Aggregate conveyance from Aggregate Facility	0.00017	0.000025	38.61	0.149	0.019
RAP conveyance from Recycle Yard	0.00017	0.000025	19.49	0.075	0.010
Aggregate/RAP transfer to elevated storage	0.00008	0.000012	4.86	0.019	0.002
Aggregate/RAP transfer to storage bins	0.00008	0.000012	3.27	0.013	0.002
Aggregate/RAP conveyance to dryer prescreener	0.000165	0.001347	55.57	0.214	0.028
Hot side Aggregate/RAP material handling[2]	-	-	-	-	-
Filler delivery to Silo (controlled)[3,4]		0.001347	75.77	0.291	0.038
PM2.5 Process Emissions from Asphalt =			**197.57**	**0.8**	**0.099**

(1) Emission factors obtained by using speciation profile in PM3431 which states PM2.5 = 15% of PM10 (BAAQMD Permit Handbook, Section 11.5)

(2) All hot side process equipment fully enclosed and emissions controlled by dryer baghouse (see Table 4) for emissions.

(3) Silo dust collector emissions of PM2.5 assumed to be the same at PM10. Emission factors not adjusted.

(4) Emission factor calculated for use of dust collectors with outlet grain loading of 0.005 grains/dscf (see Tables 15 & 16 for dust collector calculations)

Table A3-9

Graniterock Cementitious Distribution Facility Emissions - Proposed Project
PM10 and PM2.5 Emissions From Cementitious Materials Distribution Facility Operation

Total Annual Powder Material Imported (tons/yr) =	100,000
Hourly Material Transfer Rate (tons/hour) =	250
Annual Operation (days/yr) =	240

Emissions from Powder Material Receiving, Storage, and Transfer Operations - PM10

Process	PM10 Uncontrolled (lb/ton)	PM10 Controlled (b/ton)	PM10 (lb/yr)	Average lb/day	Annual (tons/year)
Rail Unloading & Silo Filling (controlled) (1)	-	0.001029	102.86	0.43	0.051
Loadout Silo Dust Collector (controlled) (2)	-	0.000329	32.91	0.14	0.016
Truck Loading from Loadout Silos (3)	-	0.000514	51.43	0.21	0.026
PM10 Emissions from Cementitions Distribution Facility =			**187.20**	**0.78**	**0.094**

(1) Powder materials from bottom-discharge hopper railcarsusing boot-lift rail connectors with pneumatic aligners (sealed loadout system) and conveyed via airslide conveyor to bucket elevators in an enclosed environment. Emissions are controlled with the bucket elevators dust collectors. The emission factor is calculated for use of dust collectors with an outlet grain loading of 0.005 grains/dscf (see Tables 15 & 16 for dust collector calculations)

(2) Emissions from material transfer from the storage silos to loadout silo controlled by dust collector at 0.005 grains/dscf (see Tables 15 and 16).

(3) Emissions from material conveying to the Asphalt and Concrete plants included with the Asphalt and Concrete Plant emissions (see Tables 15 and 16).

Emissions from Material Receiving, Storage, and Transfer Operations - PM2.5

Process	PM2.5 (lb/ton)(1)	Controlled (lb/ton)	PM2.5 (lb/yr)	Average lb/day	Annual (tons/year)
Rail Unloading & Silo Filling (controlled) (1)	-	0.001029	102.86	0.43	0.051
Loadout Silo Dust Collector (controlled) (2)	-	0.000329	32.91	0.14	0.016
Truck Loading from Loadout Silos (3)	-	0.000514	51.43	0.21	0.026
PM2.5 Emissions from Cementitions Distribution Facility =			**187.20**	**0.78**	**0.094**

(1) Powder materials from bottom-discharge hopper railcars are dischareged and conveyed via airslide conveyor to bucket elevators in an enclosed environment. Emissions are controlled with the bucket elevators dust collectors. The emission factor is calculated for use of dust collectors with an outlet grain loading of 0.005 grains/dscf (see Tables 15 & 16 for dust collector calculations).

(2) Emissions from material transfer from the storage silos to loadout silo controlled by dust collector at 0.005 grains/dscf (see Tables 15 and 16).

(3) Emissions from material conveying to the Asphalt and Concrete plants included with the Asphalt and Concrete Plant emissions (see Tables 15 and 16).

Table A3-10

Graniterock Cementitious Distribution Facility Emissions - Proposed Project

TAC Emissions From Cementitious Facility Operation

TAC Emission Factors

	Silo Filling (lb/ton)	
Pollutant	**Cement**	**Cement Supp**
Arsenic	4.24E-09	1.00E-06
Beryllium	4.86E-10	9.04E-08
Cadmium	4.86E-10	1.98E-10
Chromium (hexavalent)	4.14E-09	1.74E-07
Lead	1.09E-08	5.20E-07
Manganese	1.17E-07	2.56E-07
Nickel	4.18E-08	2.28E-06
Phosphorus		3.54E-06
Selenium		7.24E-08

Source: Emission factors from BAAQMD Permit Handbook, Section 11.5

TAC Emissions

Pollutant	**Total[(1)] Annual (lb/yr)**	**Hourly[(1)] Max (lb/hr)**
Arsenic	1.33E-02	3.32E-05
Beryllium	1.21E-03	3.02E-06
Cadmium	4.49E-05	1.12E-07
Chromium (hexavalent)	2.61E-03	6.52E-06
Lead	7.66E-03	1.91E-05
Manganese	1.35E-02	3.37E-05
Nickel	3.31E-02	8.26E-05
Phosphorus	4.57E-02	1.14E-04
Selenium	9.34E-04	2.33E-06

[(1)] Quantities of cement and cement supplement handled at the Cementitious Facility assumed to be in proportion to the amounts of powder material used by the Concrete Plant. It is assumed that 87.1% would be cement and 12.9% would be fly ash.

Table A3-11

Graniterock Rail Emissions - Proposed Project 2024
Annual and Average Daily Emissions From UPRR Train Hauling - Cementitious Materials

Material Hauling information

Annual Quantity Material Hauled by Rail	100,000	tons
Quantity Material Hauled per Train	1,000	tons
Number of Train Loads per Year	100	
One-way Train Trip Distance[a]	57	miles
Days of Facility Operation per Year	240	days

Train Information

Empty Rail Car Weight[b]	30.0	tons
Cement Weight per Rail Car	100	tons
Locomotive Weight[c]	204	tons
Number of Locomotives	1	locomotives/train
Cars per Train	10	cars/train
Train - Gross Ton Weight - Unloaded	504	tons
Train - Gross Ton Weight - Loaded	1,504	tons
Average Gross Ton Weight	1,004	tons
Fuel Productivity Factor[d]	833	gross ton miles/gallon (GTM/gal)

Emissions From Train Travel[e]

Pollutant	Fleet Average Emission Factor (g/gallon)	Average GTW (tons)	Train Roundtrip Distance (miles)	Fuel Productivity Factor (GTM/gallon)	Train Loads per Year	Emission per Train Load (pounds)	Annual Emisisons (pounds/year)	Annual Emisisons (tons/year)	Average Daily Emissions (lb/day)
NOx	88.58	1004	114	833	100	26.8	2,683	1.34	11.2
CO	26.65	1004	114	833	100	8.1	807	0.40	3.4
ROG	3.92	1004	114	833	100	1.2	119	0.06	0.5
PM10	1.90	1004	114	833	100	0.6	58	0.03	0.2
PM2.5	1.76	1004	114	833	100	0.5	53	0.03	0.2
CO_2	10216	1004	114	833	100	3094.6	309,460	154.7	-

Train Idle Emissions[f]

Pollutant	Fleet Average Emission Factor (g/hour)	Idle[g] Time per Load (hours)	Train Loads per Year	Annual Emisisons (pounds/year)	Annual Emisisons (tons/year)	Average Daily Emissions (lb/day)
NOx	325.08	0.3	100	23.89	0.012	0.10
CO	46.17	0.3	100	3.39	0.002	0.01
ROG	25.42	0.3	100	1.87	0.001	0.01
PM10	6.67	0.3	100	0.49	0.000	0.00
PM2.5	6.53	0.3	100	0.48	0.000	0.00
CO_2	33,586	0.3	100	2,468	1.23	10.28

Total Train Hauling Emissions (travel + idle)

Pollutant	Annual Emissions (tons/year)	Average Daily Emissions (lb/day)
NOx	1.4	11.3
CO	0.4	3.4
ROG	0.1	0.5
PM10	0.0	0.2
PM2.5	0.0	0.2
CO_2	156.0	-

Notes:
a Estimated travel between the San Joaquin County Line and project site in San Jose.
b Empty car weight provided by applicant.
c The locomotive weight was estimated based on ARB Technology Assessment: Freight Locomotives (2016)
d Fuel Productivity (GTM/gal). An average value was calculated based on the GTM/gal values for the Bay Area in 2011 (ARB 2014) and adjusted for increased fuel efficiency in 2020 (2016 ARB Vision 2.1, Locomotive Module)
e Train running emission factors and fleet mix are for SF Bay Area from the California Air Resources Board (CARB) Vision 2.1 Locomotive Inventory Database, ARB. 2016. Vision 2.1 Locomotive Module. Available at: http://ww2.arb.ca.gov/resources./documents/vision-scenario-planning.
f Locomotive Emission Factors for ROG, CO, NOx, PM10, and PM2.5 developed based on ARB 2016. Vision 2.1 Locomotive Module and EPA 1998..
g Train idling time assumptions provided by applicant.

References:
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TableA3-12

Graniterock Rail Emissions - Proposed Project 2024
Annual and Average Daily Emissions From Project Switcher Locomotive

Locomotive/Operation Information

Annual Days of Operation (days/year)	260
Hours of Operation - Typical (hours/day)	10
Hours per Year Operation (hours)	2,600
Average Daily Travel Distance (miles)	1.2
Locomotive Type	Road Switcher
Locomotive Model	NRE N-ViroMotive
Locomotive Model Designation[a]	2GS-12B Tier IV
Engine Rated Horsepower (hp)	1,200

Locomotive Emission Factors [a]

Notch Position	Rated Power (bhp)	Power[a] in Notch (bhp)	Fuel Rate[a] (gal/hr)	Locomotive Emission Factors: NOx (g/bhp-hr)[a]	CO (g/bhp-hr)[a]	THC (g/bhp-hr)[a]	ROG (g/bhp-hr)[b]	PM10 (g/bhp-hr)[a]	PM2.5 (g/bhp-hr)[b]	CO2 (g/gal)[c]
Idle	1200	19	0.92	3.148	0.0084	0.0655	0.0648	0.001584	0.001584	10,206
1	1200	199	9.06	0.625	0.0203	0.0043	0.0043	0.000408	0.000408	10,206
2	1200	318	14.8	0.530	0.0027	0.0019	0.0019	0.000655	0.000655	10,206
3	1200	457	21.3	0.551	0.0025	0.0019	0.0019	0.000703	0.000703	10,206
4	1200	595	24.0	0.454	0.0024	0.0015	0.0015	0.001822	0.001822	10,206
5	1200	727	31.5	0.479	0.0024	0.0015	0.0015	0.000597	0.000597	10,206
6	1200	868	38.3	0.544	0.0024	0.0015	0.0015	0.000943	0.000943	10,206
7	1200	987	54.9	0.769	0.0029	0.0020	0.0020	0.001580	0.001580	10,206
8	1200	1189	79.2	1.693	0.0036	0.0033	0.0033	0.001804	0.001804	10,206

[a] Information for locomotive and emissions from CARB 2015, *AQIP Grant Number G10-AQIP-13, Construction and Demonstration of an NRE N-ViroMotive Tier 4 Genset Locomtive* . Final Report Addendum - May, 2015. EPA

[b] ROG emissions calculated as THC x 0.99 (EPA, *Conversion Factors for Hydrocarbon Emission Components* , May 2003) and PM2.5 assumed the same as PM10.

[c] CO2 Emission factor from CAR*B* 2016. *Vision 2.1 Locomotive Module.* Available at: http://www.arb.ca.gov/planning/vision/downloads.htm

Time in Notch Weighted Emission Rates

Notch Position	Percent[d] Time in Notch	Locomotive Emission Rates (g/hour): NOx	CO	ROG	PM10	PM2.5	CO2
Idle	92.0%	5.50E+01	1.47E-01	1.13E+00	2.77E-02	2.77E-02	8,676
1	7.0%	8.71E+00	2.82E-01	5.93E-02	5.69E-03	5.69E-03	6,473
2	1.0%	1.69E+00	8.59E-03	5.98E-03	2.08E-03	2.08E-03	1,508
3	0.0%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0
4	0.0%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0
5	0.0%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0
6	0.0%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0
7	0.0%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0
8	0.0%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0
Total	100%	6.54E+01	4.38E-01	1.20E+00	3.55E-02	3.55E-02	16,656.2
Emission Rates (lb/hour)		**0.14**	**0.0010**	**0.0026**	**0.0001**	**0.0001**	**36.7**

[d] Percent time in notch provided by project applicant.

[e] Fuel correction factors from CARB *The Carl Moyer Program Guidelines, 2017 Revisions,* Table D-14a. April 27, 2017.

Annual and Daily Average Emission Rates

Pollutant	Annual Emissions (lb/year)	Annual Emissions (tons/year)	Average Daily Emissions (lb/day)
NOx	375.0	0.19	1.4
CO	2.5	0.00	0.010
ROG	6.9	0.00	0.026
PM10	0.2	0.00	0.001
PM2.5	0.2	0.00	0.001
CO2	95,474	47.7	-

Table A3-13

Graniterock Concrete Plant Emissions - Proposed Project

PM10 and PM2.5 Emissions From Concrete Plant Operation

Proposed Quantity of Concrete Produced (cu yds/yr) =	300,000
Annual Operation (days/yr) =	300
Max. Hourly Production Rate (yd/hr) =	400

Composition of Concrete

Material	lb/yd	Max. ton/hr	ton/yr
Course Aggregate	1865	373	279,750
Sand	1428	285.6	214,200
Cement	491	98.2	73,650
Cement Supplement	73	14.6	10,950
Water	167	33.4	25,050
Total Concrete	4,024	805	603,600

Emissions from Concrete Batching - PM10

Process	PM10 (lb/ton)	Controlled (lb/ton)	PM10 (lb/yr)	Average lb/day	Annual (tons/year)
Aggregate conveyance from Aggregate Facility[1,2,3]	0.00110	0.000165	184.64	0.615	0.092
Sand conveyance from Aggregate Facility[1,2,3]	0.00110	0.000165	141.37	0.471	0.071
Aggregate transfer to elevated storage[3,4]	0.00055	0.000083	23.24	0.077	0.012
Sand transfer to elevated storage[3,5]	0.00024	0.000036	7.71	0.026	0.004
Cement delivery to Silos (controlled)[6]		0.002514	185.14	0.617	0.093
Cement supplement delivery to silo (controlled)[7]		0.003757	41.14	0.137	0.021
Weigh hopper loading[3,8,9]	0.0028	0.000420	207.46	0.692	0.104
Central Mix loading (controlled)[10,11]		0.001824	154.29	0.514	0.077
PM10 Process Emissions from Concrete Batching =			**944.99**	**3.15**	**0.472**

(1) Uncontrolled emission factors from AP-42 Section 1119.2, Table 11.19.2-2. Controlled emission factors assume 85% control for use of full cover and material moisture content (Mojave Desert AQMD, Emission Inventory Guidance, Material Handling and Processing Industries, April 10, 2000)

(2) Assumes 4 conveyor transfer points between Aggregate Facility and Concrete Plant.

(3) Controlled emission factors assume 85% control for use of full enclosure and material moisture content (Mojave Desert AQMD, Emission Inventory Guidance, Material Handling and Processing Industries, April 10, 2000)

(4) Uncontrolled emission factor calculated using AP-42 Section 13.2.4 Eq. for material transfer with moisture = 4.4% and wind speed = 6.8 mph.

(5) Emission factor calculated using AP-42 Section 13.2.4 Eq. for material transfer with moisture = 8% and wind speed = 6.8 mph.

(6) Emission factor calculated for use of dust collectors with outlet grain loading of 0.005 grains/dscf (see Tables 15 & 16 for dust collector calculations)

(7) Emission factor calculated for use of dust collectors with outlet grain loading of 0.005 grains/dscf (see Tables 15 & 16 for dust collector calculations)

(8) Uncontrolled emission factor from d from AP-42, Table 11.12-2.

(9) Emission factor for lb of pollutant per ton of aggregate and sand.

(10) Emission factor calculated for use of dust collectors with outlet grain loading of 0.005 grains/dscf (see Tables 15 & 16 for dust collector calculations)

(11) Emission factor for lb of pollutant per ton of cement and cement supplement.

Emissions from Concrete Batching - PM2.5

Process	PM2.5 (lb/ton)[1]	Controlled (lb/ton)	PM2.5 (lb/yr)	Average lb/day	Annual (tons/year)
Aggregate conveyance from Aggregate Facility	0.00017	0.000025	27.70	0.092	0.014
Sand conveyance from Aggregate Facility	0.00017	0.000025	21.21	0.071	0.011
Aggregate transfer to elevated storage	0.00008	0.000012	3.49	0.012	0.002
Sand transfer to elevated storage	0.00004	0.000005	1.16	0.004	0.001
Cement delivery to Silos (controlled)[2]		0.002514	185.14	0.617	0.093
Cement supplement delivery to silo (controlled)[2]		0.003757	41.14	0.137	0.021
Weigh hopper loading	0.00042	0.000063	31.12	0.104	0.016
Central Mix loading (controlled)[2]		0.001824	154.29	0.514	0.077
PM2.5 Process Emissions from Concrete Batching =			**465.23**	**1.55**	**0.233**

(1) Emission factors obtained by using speciation profile in PM3431 which states PM2.5 = 15% of PM10 (BAAQMD Permit Handbook, Section 11.5)

(2) Silo and mixer dust collectors emissions of PM2.5 assumed to be the same at PM10. Emission factors not adjusted.

Table A3-14

Graniterock Concrete Plant Emissions - Proposed Project

TAC Emissions From Concrete Plant Operation

TAC Emission Factors

Pollutant	**Silo Fill (lb/ton)** **Cement**	**Silo Fill (lb/ton)** **Cement Supp**	**Central Mix (lb/ton)** **Cement & Cement Supp**
Arsenic	4.24E-09	1.00E-06	1.87E-08
Beryllium	4.86E-10	9.04E-08	
Cadmium	4.86E-10	1.98E-10	7.10E-10
Chromium (hexavalent)	4.14E-09	1.74E-07	1.81E-08
Lead	1.09E-08	5.20E-07	3.66E-08
Manganese	1.17E-07	2.56E-07	3.78E-06
Nickel	4.18E-08	2.28E-06	2.48E-07
Phosphorus		3.54E-06	1.20E-06
Selenium		7.24E-08	

Pollutant (PM3431)	**Speciation lb/ton**
Chlorine	0.4
Manganese	2.4
Sulfate	84.2

Source: Emission factors from BAAQMD Permit Handbook, Section 11.5

TAC Emissionss

Pollutant	**Total Annual (lb/yr)**	**Hourly Max (lb/hr)**
Arsenic	1.28E-02	1.71E-05
Beryllium	1.03E-03	1.37E-06
Cadmium	9.80E-05	1.31E-07
Chromium (hexavalent)	3.75E-03	5.00E-06
Lead	9.59E-03	1.28E-05
Manganese	3.31E-01	4.42E-04
Nickel	4.90E-02	6.54E-05
Phosphorus	1.40E-01	1.87E-04
Selenium	7.93E-04	1.06E-06

Pollutant	Total Annual (lb/yr)	Hourly Max (lb/hr)
Chlorine	1.89E-01	1.87E-04
Manganese	1.13E+00	1.12E-03
Sulfate	3.98E+01	3.93E-02

Table A3-15

Proposed Graniterock Project - Dust Collector Locations and Operation Schedule

Emission Source	Description	Location	Dust Collector Operation (hours/day)	(days/year)	Operation Basis
Rail Unloading/Aggregate Facility - (9) Nine 5,000 ton storage silos					
DC-1	Dust Collector for Underground Aggregate Pit Conveyor Tunnel #1	In enclosed discharge pit tunnel	6	165	Unloading time approx. 5.8 hours total to unload 70 cars. Based on 10 minute to unload 2 cars at a time (7 min unload + maneuvering time) & 70 cars/delivery, for 162 days per year (1,300,000 tons/ 8,050 tons/train delivery). Conservatively use 6 hours/day for 165 days/year.
DC-2	Dust Collector for Underground Aggregate Pit Conveyor Tunnel #2	In enclosed discharge pit tunnel	6	165	Same as for DC-1
DC-3	Dust Collector for East Bucket Elevator	Top of Bucket Elevator	6	165	Same as for DC-1
DC-4	Dust Collector for West Bucket Elevator	Top of Bucket Elevator	6	165	Same as for DC-1
DC-5	Dust Collector - Aggregate Silo #1 & Conveyor drop/transfer	Top of Silo - at Center	1	165	Silo filling would occur over about 6 hours with 8,050 tons being transferred to the silos. Individual silo capacity is 5, 000 tons. Assume the material is distributed among the 9 silos over 6 hours. Filling would occur for about 40 minutes per silo. Conservatively assume that each silo collector is operated for 1 hour per delivery day for 165 days per year.
DC-6	Dust Collector - Aggregate Silo #2 & Conveyor drop/transfer	Top of Silo - at Center	1	165	Same as for DC-5
DC-7	Dust Collector - Aggregate Silo #3 & Conveyor drop/transfer	Top of Silo - at Center	1	165	Same as for DC-5
DC-8	Dust Collector - Aggregate Silo #4 & Conveyor drop/transfer	Top of Silo - at Center	1	165	Same as for DC-5
DC-9	Dust Collector - Aggregate Silo #5 & Conveyor drop/transfer	Top of Silo - at Center	1	165	Same as for DC-5
DC-10	Dust Collector - Aggregate Silo #6 & Conveyor drop/transfer	Top of Silo - at Center	1	165	Same as for DC-5
DC-11	Dust Collector - Aggregate Silo #7 & Conveyor drop/transfer	Top of Silo - at Center	1	165	Same as for DC-5
DC-12	Dust Collector - Aggregate Silo #8 & Conveyor drop/transfer	Top of Silo - at Center	1	165	Same as for DC-5
DC-13	Dust Collector - Aggregate Silo #9 & Conveyor drop/transfer	Top of Silo - at Center	1	165	Same as for DC-5
Cementitious Materials Distribution Facility - (2) Two 4,000 ton storage silos and (1) 200 ton loadout bin					
DC-14	Dust Collector for Silo Filling - North Silo	Top of Storage Silo - at Center	4	100	Estimated train unloading time/silos filling time ~ 7.5 hrs based on 45 minutes to unload one 100 ton rail car at a time & 10 cars per delivery. Average time to transfer material to two (2) silos would be 3.75 hours/silo. Total for 100 deliveries (days) per year (1,000,000 tons/1,000 tons/train delivery). Annual average collector operation would be 4 hours/day for 100 days/year per silo.
DC-15	Dust Collector for Silo Filling - South Silo	Top of Storage Silo - at Center	4	100	Same as for DC-14
DC-16	Dust Collector for Loadout Silo	Top of Loadout Silo - at Center	4	240	There would be about 5,000 trucks loaded per year (100,000 tons / 20 tons/truck). Assuming 10 minutes per truck, loading would occur for 833.3 hours/year. Assuming 240 days/year there would be on average about 3.5 hours/day of truck loading. Conservatively assume 4 hours/day for 240 days/year. Assume loadout bin collector would operate for the same amount of time
DC-17	Dust Collector on Truck Loading Spout	On top of Loading Spout	4	240	Same as for DC-16
Ready-Mix Batching Plant - (9) 100-ton power material storage silos.					
DC-18	Dust Collector Powder Silo #1 -Truck Filling	On top of Silo - collector at center	2	300	About 70,000 tons/year of powder material is trucked in 20 ton trucks to the plant from the Cementitious Distribution Facility, 240 days/year. Resulting in 3,500 truck laods. About 45 minutes of filter operation would occur during truck filling, for a total of 2,625 hours per year for all nine silos. On average, there would be a total of 11 hours per day of truck unloading or 1.25 hours/day per silo. Conservatively assume 2 hours/day dust collector operation for 240 days/year.
DC-19	Dust Collector Powder Silo #2 -Truck Unloading	On top of Silo - at center	2	300	Same as for DC-18
DC-20	Dust Collector Powder Silo #3 -Truck Unloading	On top of Silo - at center	2	300	Same as for DC-18
DC-21	Dust Collector Powder Silo #4 -Truck Unloading	On top of Silo - at center	2	300	Same as for DC-18
DC-22	Dust Collector Powder Silo #5 -Truck Unloading	On top of Silo - at center	2	300	Same as for DC-18
DC-23	Dust Collector Powder Silo #6 -Truck Unloading	On top of Silo - at center	2	300	Same as for DC-18
DC-24	Dust Collector Powder Silo #7 -Truck Unloading	On top of Silo - at center	2	300	Same as for DC-18
DC-25	Dust Collector Powder Silo #8 -Truck Unloading	On top of Silo - at center	2	300	Same as for DC-18
DC-26	Dust Collector Powder Silo #9 -Truck Unloading	On top of Silo - at center	2	300	Same as for DC-18
DC-27	Dust Collector - 2nd DC for silo with silica	On top of Silo	2	300	Same as for DC-18
DC-28	Dust Collector - 2nd DC for silo with silica	On top of Silo	2	300	Same as for DC-18
DC-29	Dust Collector for Mixer #1		5	300	Dust collector operation for mixers is for very short duration, about (1) one minute per batch mixed. To be conservative 5 minutes per batch is used. At 300,000 cy/year of concrete produced and about 6.5 cy per batch, the filters would operate for 3,846 hours/year. For (3) three mixers operating 300 days/year each mixer dust collector would operate 4.3 hours/day. To be conservative 5 hours/day is used
DC-30	Dust Collector for Mixer #2		5	300	Same as for DC-29
DC-31	Dust Collector for Mixer #3		5	300	Same as for DC-29
Asphalt Batching Plant					
DC-32	Dust Collector - Filler Silo	On top of Silo - at center	8.5	260	About 56,250 tons/year of filler material is trucked in 20 ton trucks to the plant from the Cementitious Distribution Facility, 260 days/year. Resulting in 2813 truck laods. About 45 minutes of filter operation would occur during truck filling, for a total of 2,110 hours per year. On average, this would be about 8.1 hours per day of truck unloading. Conservatively assume 8.5 hours/day dust collector operation for 260 days/year.

Table A3-16

Proposed Graniterock Project - Dust Collector Operating Parameters and Annual PM10 & PM2.5 Emissions

Emission Source	Description	Dust Collector Model	Discharge Height (feet)	Exhaust Type (Rectangular or Circular)	Exhaust Discharge Area (sq. feet)	Exhaust Discharge Equiv. Dia. (feet)	Exhaust Gas Temp. (F)	Exhaust Gas Flow Rate (ft^3/min)	Exhaust Gas Velocity (ft/min)	Outlet Concentration (grains/dscf)	Controlled Emission Rates: PM10 Emissions (lb/hour)	PM10 Emissions (lb/year)	PM10 Emissions (tons/year)	PM2.5 Emissions (lb/hour)	PM2.5 Emissions (lb/year)	PM2.5 Emissions (tons/year)
Rail Unloading/Aggregate Storage Facility																
DC-1	Dust Collector for Underground Aggregate Pit Conveyor Tunnel #1	VMV-185	discharge to enclosed pit tunnel	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	33.94	0.0170	0.0343	33.94	0.0170
DC-2	Dust Collector for Underground Aggregate Pit Conveyor Tunnel #2	VMV-185	discharge to enclosed pit tunnel	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	33.94	0.0170	0.0343	33.94	0.0170
DC-3	Dust Collector for East Bucket Elevator	CFM-660	168.75	rectangular	0.655	0.913	ambient	3,000	4,580	0.005	0.1286	127.29	0.0636	0.1286	127.29	0.0636
DC-4	Dust Collector for West Bucket Elevator	CFM-660	168.75	rectangular	0.655	0.913	ambient	3,000	4,580	0.005	0.1286	127.29	0.0636	0.1286	127.29	0.0636
DC-5	Dust Collector - Aggregate Silo #1 & Conveyor drop/transfer	CFM-330	126.5	rectangular	0.455	0.761	ambient	1,600	3,516	0.005	0.0686	11.31	0.0057	0.0686	11.31	0.0057
DC-6	Dust Collector - Aggregate Silo #2 & Conveyor drop/transfer	CFM-330	126.5	rectangular	0.455	0.761	ambient	1,600	3,516	0.005	0.0686	11.31	0.0057	0.0686	11.31	0.0057
DC-7	Dust Collector - Aggregate Silo #3 & Conveyor drop/transfer	CFM-330	126.5	rectangular	0.455	0.761	ambient	1,600	3,516	0.005	0.0686	11.31	0.0057	0.0686	11.31	0.0057
DC-8	Dust Collector - Aggregate Silo #4 & Conveyor drop/transfer	CFM-330	126.5	rectangular	0.455	0.761	ambient	1,600	3,516	0.005	0.0686	11.31	0.0057	0.0686	11.31	0.0057
DC-9	Dust Collector - Aggregate Silo #5 & Conveyor drop/transfer	CFM-330	126.5	rectangular	0.455	0.761	ambient	1,600	3,516	0.005	0.0686	11.31	0.0057	0.0686	11.31	0.0057
DC-10	Dust Collector - Aggregate Silo #6 & Conveyor drop/transfer	CFM-330	126.5	rectangular	0.455	0.761	ambient	1,600	3,516	0.005	0.0686	11.31	0.0057	0.0686	11.31	0.0057
DC-11	Dust Collector - Aggregate Silo #7 & Conveyor drop/transfer	CFM-330	126.5	rectangular	0.455	0.761	ambient	1,600	3,516	0.005	0.0686	11.31	0.0057	0.0686	11.31	0.0057
DC-12	Dust Collector - Aggregate Silo #8 & Conveyor drop/transfer	CFM-330	126.5	rectangular	0.455	0.761	ambient	1,600	3,516	0.005	0.0686	11.31	0.0057	0.0686	11.31	0.0057
DC-13	Dust Collector - Aggregate Silo #9 & Conveyor drop/transfer	CFM-330	126.5	rectangular	0.455	0.761	ambient	1,600	3,516	0.005	0.0686	11.31	0.0057	0.0686	11.31	0.0057
	Rail Unloading/Aggregate Storage Facility Subtotal										***0.943***	***424.3***	***0.212***	***0.943***	***424.3***	***0.212***
Cementitious Materials Storage Facility																
DC-14	Dust Collector for Silo Filling - North Silo	CFM-660	121	rectangular	0.655	0.913	ambient	3,000	4,580	0.005	0.1286	51.43	0.0257	0.1286	51.43	0.0257
DC-15	Dust Collector for Silo Filling - South Silo	CFM-660	121	rectangular	0.655	0.913	ambient	3,000	4,580	0.005	0.1286	51.43	0.0257	0.1286	51.43	0.0257
DC-16	Dust Collector for Loadout Silo	VMV-185	49	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	32.91	0.0165	0.0343	32.91	0.0165
DC-17	Dust Collector on Truck Loading Spout	CFM-330	20.5	rectangular	0.650	0.910	ambient	2,000	3,077	0.005	0.0857	51.43	0.0257	0.0857	51.43	0.0257
	Cementitious Materials Storage Facility Subtotal										***0.377***	***187.2***	***0.094***	***0.377***	***187.2***	***0.094***
Ready-Mix Concrete Batching Plant																
DC-18	Dust Collector Powder Silo #1 -Truck Filling	VMV-185	83.75	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	20.57	0.0103	0.0343	20.57	0.0103
DC-19	Dust Collector Powder Silo #2 -Truck Unloading	VMV-185	83.75	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	20.57	0.0103	0.0343	20.57	0.0103
DC-20	Dust Collector Powder Silo #3 -Truck Unloading	VMV-185	83.75	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	20.57	0.0103	0.0343	20.57	0.0103
DC-21	Dust Collector Powder Silo #4 -Truck Unloading	VMV-185	83.75	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	20.57	0.0103	0.0343	20.57	0.0103
DC-22	Dust Collector Powder Silo #5 -Truck Unloading	VMV-185	83.75	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	20.57	0.0103	0.0343	20.57	0.0103
DC-23	Dust Collector Powder Silo #6 -Truck Unloading	VMV-185	83.75	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	20.57	0.0103	0.0343	20.57	0.0103
DC-24	Dust Collector Powder Silo #7 -Truck Unloading	VMV-185	83.75	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	20.57	0.0103	0.0343	20.57	0.0103
DC-25	Dust Collector Powder Silo #8 -Truck Unloading	VMV-185	83.75	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	20.57	0.0103	0.0343	20.57	0.0103
DC-26	Dust Collector Powder Silo #9 -Truck Unloading	VMV-185	83.75	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	20.57	0.0103	0.0343	20.57	0.0103
DC-27	Dust Collector - 2nd DC for silo with silica	VMV-185	83.75	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	20.57	0.0103	0.0343	20.57	0.0103
DC-28	Dust Collector - 2nd DC for silo with silica	VMV-185	83.75	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	20.57	0.0103	0.0343	20.57	0.0103
DC-29	Dust Collector for Mixer #1	VMV-185	41.5	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	51.43	0.0257	0.0343	51.43	0.0257
DC-30	Dust Collector for Mixer #2	VMV-185	41.5	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	51.43	0.0257	0.0343	51.43	0.0257
DC-31	Dust Collector for Mixer #3	VMV-185	41.5	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	51.43	0.0257	0.0343	51.43	0.0257
	Ready-Mix Batching Plant Subtotal										***0.480***	***380.6***	***0.190***	***0.480***	***380.6***	***0.190***
Asphalt Batching Plant																
DC-32	Dust Collector - Filler Silo	VMV-185	44.0	rectangular	0.276	0.593	ambient	800	2,899	0.005	0.0343	75.77	0.0379	0.0343	75.77	0.0379
	Asphalt Batching Plant Subtotal										***0.03429***	***75.8***	***0.038***	***0.034***	***75.8***	***0.038***
Total Emissions from Project Dust Collectors												**1067.8**	**0.534**		**1067.8**	**0.534**

* PM2.5 emissions assumed to be the same as PM10.

Table A3-17

Graniterock Recycle Yard Emissions - Proposed Project

PM10 and PM2.5 Emissions From Recycle Yard - Material Processing Equipment

Recycle Yard Production/Import/Export Information

Recycle Concrete Imported (ton/yr) =	350,000
Recycle Asphalt Imported (ton/yr)	200,000
Recycle Mixed Loads Imported (ton/yr)	100,000
Total Recycle Materail Imported (ton/yr) =	650,000
Processed Recycle Material Used On-Site (ton/yr) =	350,000
Processed Recycle Material Exported (ton/yr) =	300,000

Recycle Materail Process Equipment Production Rate Information

Total Recycle Material Processed (ton/yr) =	650,000
Hourly Process rate (ton/hr) =	542
Average Daily Process Rate (ton/day)	2,708
Days to Process Annual Amount =	240
Average Hours per day Processing (hrs) =	5

Recycle Material Processing Equipment Emissions - Proposed Project

Equipment Type	Percent of Input	Process Rate (ton/hr)	Number of Transfers	Daily Operation (hours)	Emission Factor (lb/ton)	PM10 Emissions Hourly (lb/hr)	PM10 Emissions Average Daily (lb/day)	PM10 Emissions Annual (ton/yr)	Emission Factor (lb/ton)	PM2.5 Emissions Hourly (lb/hr)	PM2.5 Emissions Average Daily (lb/day)	PM2.5 Emissions Annual (ton/yr)
Processing Plant												
Feed Hopper - recycle material	100%	542	1	5	0.000005	0.003	0.013	0.002	0.000001	0.001	0.003	0.0003
Vibrating Feeder	100%	542	1	5	0.00074	0.401	2.004	0.241	0.00005	0.027	0.135	0.0163
Jaw Crusher	100%	542	1	5	0.00054	0.293	1.463	0.176	0.00010	0.054	0.271	0.0325
Conveyors	100%	542	4	5	0.00005	0.0997	0.498	0.060	0.000013	0.028	0.141	0.0169
Screen (3 Deck)	100%	542	1	5	0.00074	0.401	2.004	0.241	0.00005	0.027	0.135	0.0163
Cone Crusher	100%	542	1	5	0.00054	0.293	1.463	0.176	0.00010	0.054	0.271	0.0325
Stacking Conveyor /Loadout	100%	542	2	5	0.00116	1.2542	6.271	0.753	0.000019	0.021	0.103	0.0124
Feed Hopper - RAP to Asphalt Plant*	-	265	1	4	0.000005	0.001	0.005	0.0006	0.000001	0.0003	0.001	0.0001
Recycle Area Processing Emissions						***2.7***	***13.72***	***1.65***		***0.21***	***1.06***	***0.13***

* Daily operation hours calculated based on maximum of 35% RAP use and maximum conveyor rate of 265 ton/hr. Conveyor transfer emissions included with Asphalt Plant emissions.

Table A3-18

Graniterock Recycle Yard Emissions - Proposed Project

PM10 and PM2.5 From Recycle Yard - Fugitive Emission Sources

Recycle Area Fugitive Emission Sources - Proposed Project															
	Operation						**Emission Factors**			**PM10 Emissions**			**PM2.5 Emissions**		
	Process Rate	**Process Rate Units**	**No. of Equip.**	**Daily Hours (hrs/day)**	**Days per Year**	**Total Annual Hours (hrs/yr)**	**PM10 Emission Factor**	**PM2.5 Emission Factor**	**Emission Factor Units**	**Ave Hourly (lb/hr)**	**Ave Daily (lb/day)**	**Annual Average (ton/yr)**	**Ave Hourly (lb/hr)**	**Ave Daily (lb/day)**	**Annual Average (ton/yr)**
Truck Unloading/Loading															
Truck Unloading - asphalt & concrete	2,708	tons/day	-	9	240	2,160	0.00055	0.00008	lb/ton	0.17	1.50	0.18	0.03	0.23	0.027
Haul Truck Loading from storage piles (via loader)	1,250	tons/day	1	9	240	2,160	0.00055	0.00008	lb/ton	0.08	0.69	0.08	0.01	0.10	0.013
Loaders - Loader Travel															
Recycle Area - Loader travel	8.0	mile/day	1	9	240	2,160	1.02	0.10	lb/VMT	0.90	8.13	0.98	0.09	0.81	0.10
Truck Loading Areas/Pile Maintenance Travel	2.0	mile/day	1	4	240	997	1.02	0.10	lb/VMT	0.49	2.03	0.24	0.05	0.20	0.02
Hopper Loading for Conveyor to Asphalt Plant	1.0	mile/day	1	3	240	720	1.02	0.10	lb/VMT	0.34	1.02	0.12	0.03	0.10	0.01
Other Off-Road Equipment															
Excavator	451	ton/hr	1	9	240	2,160	0.00055	0.00008	lb/ton	0.25	2.25	0.27	0.04	0.34	0.041
Wind Erosion	2.5	acres	-	24	365	8,760	1.7	0.680	lb/acre/day	0.18	4.25	0.78	0.07	1.70	0.31
Recycle Area Fugitives										-	***19.9***	***2.65***	-	***3.5***	***0.53***
Total Recycle Area Processing and Fugitives										-	**33.6**	**4.30**	-	**4.6**	**0.7**

Table A3-19

Graniterock Recycle Yard

Emissions Factors Used For Recycle Yard Processing and Fugitive PM10 & PM2.5 Emissions

	PM10 Emission Factors			PM2.5 Emission Factors				
Emission Source	**Uncontrolled**	**% Control**	**Controlled**	**Uncontrolled**	**Fraction of PM10**	**Controlled**	**Units**	**Reference**
Feed Hopper	0.000016	70%	0.000005	0.000003	0.20	0.000001	lb/ton	8/04AP-42 Section 11.19.2 (Crushed Stone Processing)
Primary Crushing	-	-	0.00054	-	-	0.00010	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing) - tertiary crushing (estimate for primary crusher)
Secondary Crushing	-	-	0.00054	-	-	0.00010	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing) - tertiary crushing (estimate for secondary crusher)
Fines Crushing	0.015	-	0.0012	-	-	0.00007	lb/ton	8/04AP-42 Section 11.19.2 (Crushed Stone Processing) - Fines Crushing
Screening	0.0087	-	0.00074	-	-	0.00005	lb/ton	8/04AP-42 Section 11.19.2 (Crushed Stone Processing) - Screening
Fines Screening	0.072	-	0.0022	-	-	0.00005	lb/ton	8/04AP-42 Section 11.19.2 (Crushed Stone Processing) - Fines screening
Conveyor Transfer Points	0.0011	-	0.000046	0.00031	-	0.000013	lb/ton	8/04 AP-42 Section 11.19.2 (Crushed Stone Processing) - Conveyor transfer point
Unloading/Loading/stockpiling*	0.0006	70%	0.00017	0.00008	-	0.000025	lb/ton	11/06 AP-42 Section 13.2.4 (Aggregate handling and Storage Piles) - Material drop operations
Conveyor Transfer + Stockpiling	0.0017	70%	0.00116	-	-	0.000019	lb/ton	drop to conveyor & loadout drop to pile
Wind Erosion - Active Storage Piles	1.7	70%	0.51	0.68	0.40	0.20400	lb/acre/day	BAAQMD Permit Handbook, Section 11.7 Crushing and Grinding, October 23, 2018

Note: * Controlled emission factor assumes 70% control effectiveness for use of watering

On-Site Equipment Travel on Unpaved Areas Emission Factors

Equipment Type	**Average Weight (tons)**	**Silt Content (%)**	**PM10 Uncontrolled Factor (lb/VMT)**	**PM10* Controlled Factor (lb/VMT)**	**PM2.5 Uncontrolled Factor (lb/VMT)**	**PM2.5* Controlled Factor (lb/VMT)**
Cat 966 Loaders	56.3	8.3	3.39	1.02	0.34	0.10

Note: * Controlled emission factor assumes 70% control effectiveness for watering and reduced speed

Vehicle/Process/Emission Factor Information		
Loader Capacity - 966 Loaders	3	cubic yards
Haul Truck Capacity (tons) =	20	per truck
Unloaded Haul Truck Weight (tons) =	15	
Average Haul Truck Wt. (load & no load)	25	tons
Annual No. Import Trucks (baseline) =	32,500	trucks/year
Annual No. Export Trucks (baseline) =	32,500	trucks/year
Annual No. Import Trucks (proposed) =	32,500	trucks/year
Annual No. Export Trucks (proposed) =	15,000	trucks/year
Average wind speed (mph)	6.8	San Jose Airport
No. days with precip. > 0.01 inch	58	San Jose Airport
Material Moisture content (%) =	4.4	Applicant
Unpaved Road Silt Content (%)	8.3	AP-42 Table 13.2.2-1 for stone quarry haul road
Paved Access Road Silt Loading (g/m2) =	8.2	AP-42 sL value for paved quarry road

Unpaved Road Dust Emission factors from US EPA Compilation of Emission Factors, Volume I:
Stationary Point and Area Sources, Section 13.2.2 Unpaved Roads (11/2006)

$PM10 = 1.5 \times (s/12)^{0.9} \times (W/3)^{0.45} \times [(365-P)/365]$

$PM2.5 = 0.15 \times (s/12)^{0.9} \times (W/3)^{0.45} \times [(365-P)/365] \times C$

PM10 = PM10 emissions in grams per VMT
PM2.5 = PM2.5 emissions in grams per VMT
s = surface material silt content (%)
(value for s from AP-42 Table 13.2.2-1 stone quarrying and processing, haul road mean silt content)
W = mean vehicle weight (tons)
P = number of days in a year with at least 0.01 inch of precipitation
(value used for P is the Santa Clara County average)
C = conversion factor for pounds to grams

Table A3-20

Proposed Project

Off-Road Equipment Exhaust Emissions

Project Operation - 2024

Pollutant	Equipment	Quantity	Use	Operation: Annual Days	Operation: Daily Hours	Horse-Power(1)	Load Factor(2)	Emission Factor(3) (g/hp-hr)	Annual Emissions (tons/year)	Average Daily Emissions(4) (lbs/day)
NOx	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	1.806	0.279	2.33
	Excavator	1	Recycle Area	240	8	160	0.38	1.325	0.170	1.42
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	1.077	0.533	4.44
								Total NOx Emissions	**0.983**	**8.19**
CO	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	1.1607	0.180	1.50
	Excavator	1	Recycle Area	240	8	160	0.38	3.083	0.397	3.31
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	1.062	0.526	4.38
								Total CO Emissions	**1.102**	**9.19**
ROG	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	0.197	0.030	0.25
	Excavator	1	Recycle Area	240	8	160	0.38	0.170	0.022	0.18
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	0.232	0.115	0.96
								Total ROG Emissions	**0.167**	**1.39**
PM10	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	0.060	0.009	0.08
	Excavator	1	Recycle Area	240	8	160	0.38	0.065	0.008	0.07
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	0.035	0.017	0.14
								Total PM10 Emissions	**0.035**	**0.29**
PM2.5	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	0.056	0.009	0.07
	Excavator	1	Recycle Area	240	8	160	0.38	0.060	0.008	0.06
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	0.035	0.017	0.14
								Total PM2.5 Emissions	**0.034**	**0.28**
CO2	Rubber Tired Loader	1	Recycle Area	240	8	203	0.36	469.788	72.7	-
	Excavator	1	Recycle Area	240	8	160	0.38	472.428	60.8	-
	Crushing/Proc. Equipment	1	Recycle Area	240	8	300	0.78	568.299	281.4	-
								Total CO2 Emissions	**414.90**	**-**

Notes:

(1) Horse power values for crushing/processing equipment and excavator provided by applicant. Loader horsepower is default CalEEMod value for loaders.

(2) Load factors from CalEEMod.

(3) Emission factors are default CalEEMod values for off-road equipment in 2024.

(4) Average Daily Emissions based on annual emissions and average annual days of project activity operation

Table A3-21

Graniterock - Proposed Project - 2024 Operation
Annual and Average Daily Emissions From Vehicle Travel
On-Site Vehicle Travel

Vehicle/Trip Information

Vehicle Type	Annual Vehicles	Annual Trips	Annual Operation Days	Average Daily Vehicles	Average Daily Trips	On-Site Roundtrip Distance (feet)	On-Site Trip Distance (feet)	On-Site Trip Distance (miles)	Average Vehicle Weight (tons)[1]
Aggregate Distribution Facility									
Aggregate Trucks - Export	29,250	58,500	260	113	225	3,193	1,597	0.30	25
Cementitious Distribution Facility									
Cementitious Trucks - Export	1,500	3,000	240	6.3	12.5	3,400	1,700	0.32	25
Asphalt Plant									
Hot Mix Asphalt Trucks - Export	53,571	107,142	260	206	412	2,534	1,267	0.24	22
Filler Material Trucks - from On-Site Silos	2,813	5,626	260	10.8	21.6	1,909	955	0.18	25
Asphalt Oil Trucks - Import	2,063	4,126	260	7.9	15.9	2,204	1,102	0.21	25
Concrete Plant									
Concrete Trucks - Export	33,333	66,666	300	111	222	2,907	1,454	0.28	24
Cement/Flyash Trucks - from On Site Silos	4,230	8,460	240	17.6	35.3	1,909	955	0.18	25
Recycle Yard									
Haul Trucks - Concrete/Asphalt Import	32,500	65,000	240	135	271	1,772	886	0.17	25
Haul Tucks - Crushed Material Export	15,000	30,000	240	63	125	1,772	886	0.17	25
Vacuum Sweeper Truck	-[2]	-[2]	300	-[2]	-[2]	-[2]	-[2]	3,000 mi/yr	16.5
Maintenance/Delivery Trucks									
Light Heavy-Duty Diesel Trucks	330	660	300	1.1	2.2	854	427	0.08	7
Heavy Heavy -Duty Diesel Trucks	390	780	300	1.3	2.6	2,204	1,102	0.21	20
Employee Vehicles	27,600	55,200	300	92	184	854	427	0.08	2.9
Total Heavy Duty Trucks	172,167	344,334	-	-	-	-	-	-	-
Employee Vehicles	27,600	55,200	-	-	-	-	-	-	-
Total Vehicles	**199,767**	**399,534**	-	-	-	-	-	-	-

[1] Average of loaded and unloaded truck weights.

[2] Vacuum Sweeper truck assumed to operate for 2 hours per day at a travel speed of 5 mph.

Annual Emissions - On-Site Vehicle Travel

			Annual Emissions (tons/year)												Metric
						PM10				PM2.5					(tons/year)
Trip Type	**Annual Trips**	**Trip Length (mi)**	**NOx**	**CO**	**ROG**	**Exhaust[1]**	**Tire & Brake[2]**	**Road Dust[3]**	**Total**	**Exhaust[1]**	**Tire & Brake[2]**	**Road Dust[3]**	**Total**	**CO2**	**CO2**
Aggregate Distribution Facility															
Aggregate Trucks - Export	58,500	0.30	0.698	0.052	0.019	0.004	0.002	0.677	0.68	0.004	0.0007	0.102	0.11	154.6	140.2
Cementitious Distribution Facility															
Cementitious Trucks - Export	3,000	0.32	0.036	0.003	0.0010	0.000	0.0001	0.037	0.04	0.000	0.0000	0.006	0.01	8.1	7.4
Asphalt Plant															
Hot Mix Asphalt Trucks - Export	107,142	0.24	1.207	0.089	0.033	0.007	0.0032	0.867	0.88	0.006	0.0010	0.130	0.14	259.8	235.7
Filler Material Trucks - from On-Site Silos	5,626	0.18	0.060	0.004	0.002	0.000	0.0001	0.039	0.04	0.000	0.0000	0.006	0.01	12.5	11.3
Asphalt Oil Trucks - Import	4,126	0.21	0.045	0.003	0.0012	0.000	0.0001	0.033	0.03	0.000	0.0000	0.005	0.01	9.6	8.7
Subtotal	*116,894*		*1.313*	*0.097*	*0.036*	*0.007*	*0.003*	*0.938*	*0.95*	*0.007*	*0.001*	*0.141*	*0.15*	*281.8*	*255.6*
Concrete Plant															
Concrete Trucks - Export	66,666	0.28	0.776	0.058	0.021	0.004	0.0023	0.676	0.68	0.004	0.0007	0.101	0.11	169.8	154.1
Cement/Flyash Trucks - from On Site Silos	8,460	0.18	0.090	0.007	0.003	0.001	0.0002	0.059	0.06	0.000	0.0001	0.009	0.01	18.8	17.0
Subtotal	*75,126*		*0.866*	*0.064*	*0.023*	*0.0047*	*0.0025*	*0.735*	*0.742*	*0.004*	*0.0008*	*0.1102*	*0.115*	*188.6*	*171.1*
Recycle Yard															
Haul Trucks - Concrete/Asphalt Import	65,000	0.17	0.683	0.050	0.019	0.004	0.0014	0.418	0.42	0.004	0.0004	0.063	0.07	141.2	128.1
Haul Trucks - Crushed Material Export	30,000	0.17	0.315	0.023	0.009	0.002	0.0006	0.193	0.20	0.002	0.0002	0.029	0.03	65.2	59.1
Subtotal	*95,000*		*0.998*	*0.074*	*0.028*	*0.0056*	*0.0020*	*0.611*	*0.618*	*0.005*	*0.0006*	*0.0916*	*0.098*	*206.4*	*187.3*
Vacuum Sweeper Truck	-[4]	3,000 mi/yr	0.063	0.005	0.002	0.000	0.0004	0.076	0.08	0.000	0.0001	0.011	0.01	11.4	10.4
Maintenance/Delivery Trucks															
Light Heavy-Duty Diesel Trucks	660	0.08	0.001	0.000	0.000	0.0000	0.0000	0.002	0.00	0.000	0.0000	0.000	0.00	0.5	0.4
Heavy Heavy -Duty Diesel Trucks	780	0.21	0.009	0.001	0.000	0.0000	0.0000	0.005	0.01	0.000	0.0000	0.001	0.00	1.8	1.6
Subtotal	*1,440*		*0.009*	*0.001*	*0.000*	*0.0001*	*0.0000*	*0.007*	*0.007*	*0.000*	*0.0000*	*0.0011*	*0.001*	*2.3*	*2.1*
Employee Vehicles	55,200	0.08	0.001	0.013	0.001	0.000	0.0001	0.002	0.00	0.000	0.0000	0.000	0.00	3.2	2.9
Total			**3.98**	**0.31**	**0.11**	**0.022**	**0.011**	**3.083**	**3.12**	**0.021**	**0.003**	**0.462**	**0.49**	**856**	**777**

1 Exhaust emission include running and idle emissions.

2 PM emissions from tire and brake wear

3 Road dust emissions incorporate use of a vacuum sweeper truck to reduce emissions.

4 Vacuum Sweeper truck assumed to operate for 2 hours per day at a travel speed of 5 mph and idle 5 min per hour.

Average Daily Emissions - On-Site Vehicle Travel

Trip Type	Average Daily Trips	Trip Length (mi)	Average Daily Emissions (lb/day)										
						PM10				PM2.5			
			NOx	CO	ROG	Exhaust[1]	Tire & Brake[2]	Road Dust[3]	Total	Exhaust[1]	Tire & Brake[2]	Road Dust[3]	Total
Aggregate Distribution Facility													
Aggregate Trucks - Export	225	0.30	5.37	0.40	0.143	0.028	0.017	5.211	5.26	0.027	0.005	0.782	0.81
Cementitious Distribution Facility													
Cementitious Trucks - Export	12.5	0.32	0.30	0.02	0.008	0.002	0.001	0.308	0.31	0.002	0.000	0.046	0.05
Asphalt Plant													
Hot Mix Asphalt Trucks - Export	412	0.24	9.29	0.69	0.254	0.050	0.025	6.666	6.74	0.048	0.008	1.000	1.06
Filler Material Trucks - from On-Site Silos	22	0.18	0.46	0.03	0.013	0.003	0.001	0.300	0.30	0.002	0.000	0.045	0.05
Asphalt Oil Trucks - Import	15.9	0.21	0.35	0.03	0.010	0.002	0.001	0.254	0.26	0.002	0.000	0.038	0.04
Subtotal	*449.6*		*10.10*	*0.75*	*0.276*	*0.055*	*0.027*	*7.219*	*7.30*	*0.053*	*0.008*	*1.083*	*1.14*
Concrete Plant													
Concrete Trucks - Export	222	0.28	5.18	0.38	0.139	0.028	0.015	4.509	4.55	0.027	0.005	0.676	0.71
Cement/Flyash Trucks - from On Site Silos	35.3	0.18	0.75	0.06	0.021	0.004	0.002	0.488	0.49	0.004	0.001	0.073	0.08
Subtotal	*257.5*		*5.93*	*0.44*	*0.161*	*0.032*	*0.017*	*4.997*	*5.05*	*0.031*	*0.005*	*0.750*	*0.79*
Recycle Yard													
Haul Trucks - Concrete/Asphalt Import	271	0.17	5.69	0.42	0.160	0.032	0.011	3.481	3.52	0.031	0.004	0.522	0.56
Haul Trucks - Crushed Material Export	125	0.17	2.63	0.19	0.074	0.015	0.005	1.607	1.63	0.014	0.002	0.241	0.26
Subtotal	*395.8*		*8.32*	*0.61*	*0.234*	*0.047*	*0.017*	*5.088*	*5.15*	*0.045*	*0.005*	*0.763*	*0.81*
Vacuum Sweeper Truck	-[4]	10.0	0.42	0.03	0.013	0.003	0.003	0.506	0.51	0.002	0.001	0.076	0.08
Maintenance/Delivery Trucks													
Light Heavy-Duty Diesel Trucks	2.2	0.08	0.004	0.00	0.001	0.000	0.000	0.014	0.01	0.000	0.000	0.002	0.00
Heavy Heavy -Duty Diesel Trucks	2.6	0.21	0.06	0.00	0.002	0.000	0.000	0.033	0.03	0.000	0.000	0.005	0.01
Subtotal	*4.8*		*0.06*	*0.01*	*0.002*	*0.000*	*0.000*	*0.047*	*0.05*	*0.000*	*0.000*	*0.007*	*0.01*
Employee Vehicles	184	0.08	0.007	0.09	0.004	0.000	0.001	0.011	0.01	0.000	0.000	0.002	0.00
Total			**30.5**	**2.3**	**0.8**	**0.17**	**0.08**	**23.4**	**23.6**	**0.16**	**0.03**	**3.5**	**3.7**

Average Daily Emissions based on annual emissions and average annual days of project activity operation

[1] Exhaust emission include running and idle emissions.

[2] PM emissions from tire and brake wear

[3] Road dust emissions incorporate use of a vacuum sweeper truck to reduce emissions.

[4] Vacuum Sweeper truck assumed to operate for 2 hours per day at a travel speed of 5 mph and idle 5 min per hour.

Total Emissions Summary - On-Site Vehicle Travel

Emission Period	NOx	CO	ROG	PM10 Exhaust	PM10 Tire & Brake[2]	PM10 Paved Road Dust	PM10 Total	PM2.5 Exhaust	PM2.5 Tire & Brake[2]	PM2.5 Paved Road Dust	PM2.5 Total	CO2	Metric (tons/year) CO2
Tons per Year	4.0	0.3	0.11	0.022	0.011	3.1	3.1	0.021	0.003	0.5	0.5	856	777
Average Pounds per Day	30.5	2.3	0.8	0.17	0.08	23.4	23.6	0.16	0.03	3.5	3.7	-	-

Uncontrolled Emission Factors[1]

Vehicle Type	Travel Speed (mph)	Emission Factor Units	NOx	CO	ROG	PM10 (Exhaust)	PM10 (Tire & Brake)	PM10 (Road Dust)[2]	PM10 (Total)	PM2.5 (Exhaust)	PM2.5 (Tire & Brake)	PM2.5 (Road Dust)[2]	PM2.5 (Total)	CO2
Heavy-Duty Diesel Trucks (HHDT)	5	gram/VMT	19.006	1.381	0.584	0.117	0.114	173.726	173.957	0.112	0.036	26.059	26.207	3456
Heavy-Duty Diesel Trucks (HHDT)	10	gram/VMT	9.605	0.757	0.150	0.028	0.114	173.726	173.867	0.026	0.036	26.059	26.122	3165
Heavy-Duty Diesel Trucks (HHDT)	Idle	gram/hour	95.030	6.903	2.922	0.587	-	-	0.587	0.562	-	-	0.562	17281
Light Heavy-Duty Diesel Trucks (LHDT2)	5	gram/VMT	1.751	1.031	0.333	0.074	0.103	47.420	47.598	0.071	0.035	7.113	7.219	1391
Light Heavy-Duty Diesel Trucks (LHDT2)	10	gram/VMT	1.595	0.829	0.278	0.061	0.103	47.420	47.585	0.058	0.035	7.113	7.206	1213
Light Heavy-Duty Trucks (LHDT2)	Idle	gram/hour	8.757	5.154	1.665	0.372	-	-	0.372	0.356	-	-	0.356	6955
Worker Vehicles[3]	10	gram/VMT	0.206	2.632	0.118	0.008	0.017	14.556	14.581	0.008	0.005	2.183	2.196	649

Notes:

[1] Emission factors from EMFAC2021 for Santa Clara County in 2024

[2] Emission factors for road dust from CARB (2018) for Entrained Road Travel, Paved Road Dust.

[3] Worker vehicles assumed to be light duty trucks (LDT2)

Truck idle time per trip (min) =	5
For Paved Road Dust:	
HHDT Mean Truck Weight (tons) =	25
LHDT2 Mean Truck Weight (tons) =	7
Mean Employee Vehicle Weight (tons) =	2.9
Silt Loading (g/m2) =	8.2
No. days with rain >0.01 in =	58
Paved Road Emission Control Efficiency =	80%
(use of vacuum sweeper truck)	

Table A3-22

Graniterock - Proposed Project - 2024 Operation
Annual and Average Daily Emissions From Vehicle Travel
Off-Site Vehicle Travel

Vehicle/Trip Information

Vehicle Type	Annual Vehicles	Annual Trips	Annual Operation Days	Average Daily Vehicles	Average Daily Trips	Off-Site Trip Distance (miles)
Aggregate Distribution Facility						
Aggregate Trucks - Export	29,250	58,500	260	113	225	7.5
Cementitious Distribution Facility						
Cementitious Trucks - Export	1,500	3,000	240	6.3	12.5	30
Asphalt Plant						
Hot Mix Asphalt Trucks - Export	53,571	107,142	260	206	412	10
Asphalt Oil Trucks - Import	2,063	4,126	260	7.9	15.9	30
Concrete Plant						
Concrete Trucks - Export	33,333	66,666	300	111	222	9
Recycle Yard						
Haul Trucks - Concrete/Asphalt Import	32,500	65,000	240	135	271	20
Haul Tucks - Crushed Material Export	15,000	30,000	240	63	125	20
Maintenance/Delivery Trucks						
Light Heavy-Duty Diesel Trucks	330	660	300	1.1	2.2	7.3
Heavy Heavy -Duty Diesel Trucks	390	780	300	1.3	2.6	20
Employee Vehicles	27,600	55,200	300	92	184	9.5
Total Heavy Duty Trucks	167,937	335,874	-	-	-	-
Employee Vehicles	27,600	55,200	-	-	-	-
Total Vehicles	**195,537**	**391,074**	-	-	-	-

Annual Emissions - Off-Site Vehicle Travel

Trip Type	Annual Trips	Trip Length (mi)	Annual Emissions (tons/year)												Metric (tons/year)
						PM10				PM2.5					
			NOx	CO	ROG	Exhaust[1]	Tire & Brake[2]	Paved Road Dust	Total	Exhaust[1]	Tire & Brake[2]	Paved Road Dust	Total	CO2	CO2
Aggregate Distribution Facility															
Aggregate Trucks - Export	58,500	7.5	0.916	0.040	0.008	0.013	0.055	0.051	0.12	0.012	0.018	0.008	0.04	790.5	717.2
Cementitious Distribution Facility															
Cementitious Trucks - Export	3,000	30.0	0.188	0.008	0.002	0.003	0.011	0.010	0.02	0.003	0.004	0.002	0.01	162.2	147.1
Asphalt Plant															
Hot Mix Asphalt Trucks - Export	107,142	10.0	2.238	0.097	0.020	0.032	0.134	0.124	0.29	0.030	0.043	0.019	0.09	1930.5	1751.3
Asphalt Oil Trucks - Import	4,126	30.0	0.259	0.011	0.002	0.004	0.015	0.014	0.03	0.004	0.005	0.002	0.01	223.0	202.3
Subtotal	*111,268*		*2.496*	*0.109*	*0.022*	*0.035*	*0.150*	*0.138*	*0.323*	*0.034*	*0.048*	*0.021*	*0.102*	*2153.5*	*1953.6*
Concrete Plant															
Concrete Trucks - Export	66,666	9.0	1.253	0.055	0.011	0.018	0.075	0.069	0.16	0.017	0.024	0.010	0.05	1081.1	980.7
Recycle Yard															
Haul Trucks - Concrete/Asphalt Import	65,000	20.0	2.715	0.118	0.024	0.038	0.163	0.150	0.35	0.037	0.052	0.022	0.11	2342.3	2124.9
Haul Trucks - Crushed Material Export	30,000	20.0	1.253	0.055	0.011	0.018	0.075	0.069	0.16	0.017	0.024	0.010	0.05	1081.1	980.7
Subtotal	*95,000*		*3.968*	*0.173*	*0.035*	*0.056*	*0.238*	*0.219*	*0.513*	*0.054*	*0.076*	*0.033*	*0.163*	*3423.4*	*3105.6*
Maintenance/Delivery Trucks															
Light Heavy-Duty Diesel Trucks	660	7.3	0.007	0.002	0.001	0.000	0.001	0.001	0.00	0.000	0.000	0.000	0.000	4.0	3.7
Heavy Heavy -Duty Diesel Trucks	780	20.0	0.033	0.001	0.000	0.000	0.002	0.002	0.00	0.000	0.001	0.000	0.00	28.1	25.5
Subtotal	*1,440*		*0.039*	*0.004*	*0.001*	*0.001*	*0.002*	*0.002*	*0.005*	*0.001*	*0.001*	*0.000*	*0.002*	*32.1*	*29.2*
Employee Vehicles	55,200	9.5	0.074	0.825	0.016	0.001	0.010	0.060	0.07	0.001	0.003	0.009	0.01	190.2	172.5
Total			**8.93**	**1.21**	**0.10**	**0.127**	**0.541**	**0.550**	**1.22**	**0.121**	**0.172**	**0.083**	**0.38**	**7,833**	**7,106**

[1] Exhaust emission include running and idle emissions.

[2] PM emissions from tire and brake wear

Average Daily Emissions - Off-Site Vehicle Travel

Trip Type	Average Daily Trips	Trip Length (mi)	Average Daily Emissions (lb/day) NOx	CO	ROG	PM10 Exhaust[1]	PM10 Tire & Brake[2]	PM10 Paved Road Dust	PM10 Total	PM2.5 Exhaust[1]	PM2.5 Tire & Brake[2]	PM2.5 Paved Road Dust	PM2.5 Total
Aggregate Distribution Facility													
Aggregate Trucks - Export	225	7.50	7.05	0.31	0.062	0.100	0.422	0.389	0.91	0.096	0.135	0.058	0.29
Cementitious Distribution Facility													
Cementitious Trucks - Export	12.5	30.00	1.57	0.07	0.014	0.022	0.094	0.087	0.20	0.021	0.030	0.013	0.06
Asphalt Plant													
Hot Mix Asphalt Trucks - Export	412	10.00	17.21	0.75	0.152	0.244	1.031	0.951	2.23	0.233	0.329	0.143	0.70
Asphalt Oil Trucks - Import	15.9	30.00	1.99	0.09	0.018	0.028	0.119	0.110	0.26	0.027	0.038	0.016	0.08
Subtotal	*428*		*19.201*	*0.836*	*0.170*	*0.272*	*1.150*	*1.060*	*2.483*	*0.260*	*0.367*	*0.159*	*0.786*
Concrete Plant													
Concrete Trucks - Export	222	9.00	8.35	0.36	0.074	0.118	0.501	0.461	1.08	0.113	0.160	0.069	0.34
Recycle Yard													
Haul Trucks - Concrete/Asphalt Import	271	20.00	22.62	0.99	0.200	0.320	1.356	1.249	2.93	0.307	0.433	0.187	0.93
Haul Trucks - Crushed Material Export	125	20.00	10.44	0.45	0.092	0.148	0.626	0.577	1.35	0.142	0.200	0.087	0.43
Subtotal	*396*		*33.067*	*1.440*	*0.292*	*0.468*	*1.981*	*1.826*	*4.276*	*0.448*	*0.632*	*0.274*	*1.354*
Maintenance/Delivery Trucks													
Light Heavy-Duty Diesel Trucks	2.2	7.30	0.04	0.01	0.006	0.001	0.004	0.004	0.01	0.001	0.000	0.001	0.00
Heavy Heavy -Duty Diesel Trucks	2.6	20.00	0.22	0.01	0.002	0.003	0.013	0.012	0.03	0.003	0.004	0.002	0.01
Subtotal	*5*		*0.262*	*0.024*	*0.008*	*0.004*	*0.017*	*0.016*	*0.037*	*0.004*	*0.004*	*0.002*	*0.011*
Employee Vehicles	184	9.50	0.49	5.50	0.107	0.007	0.067	0.403	0.48	0.007	0.020	0.060	0.09
Total			**70.0**	**8.5**	**0.7**	**0.99**	**4.23**	**4.2**	**9.5**	**0.95**	**1.35**	**0.6**	**2.9**

Average Daily Emissions based on annual emissions and average annual days of project activity operation

[1] Exhaust emission include running and idle emissions.

[2] PM emissions from tire and brake wear

Total Emissions Summary - Off-Site Vehicle Travel

Emission Period	NOx	CO	ROG	PM10 Exhaust	PM10 Tire & Brake[2]	PM10 Paved Road Dust	PM10 Total	PM2.5 Exhaust	PM2.5 Tire & Brake[2]	PM2.5 Paved Road Dust	PM2.5 Total	CO2	Metric (tons/year) CO2
Tons per Year	8.9	1.2	0.10	0.127	0.541	0.6	1.2	0.121	0.172	0.1	0.4	7,833	7,106
Average Pounds per Day	70.0	8.5	0.7	0.99	4.23	4.2	9.5	0.95	1.35	0.6	2.9	-	-

Uncontrolled Emission Factors[1]

Vehicle Type	Travel Speed (mph)	Emission Factor Units	NOx	CO	ROG	PM10 (Exhaust)	PM10 (Tire & Brake)	PM10 (Paved Road Dust)[2]	PM10 (Total)	PM2.5 (Exhaust)	PM2.5 (Tire & Brake)	PM2.5 (Paved Road Dust)[2]	PM2.5 (Total)	CO2
Heavy-Duty Diesel Trucks (HHDT)	average	gram/VMT	1.895	0.083	0.017	0.027	0.114	0.105	0.245	0.026	0.036	0.016	0.078	1635
Light Heavy-Duty Trucks (LHDT2)	average	gram/VMT	1.258	0.412	0.159	0.034	0.103	0.105	0.241	0.032	0.005	0.016	0.053	759
Worker Vehicles	average	gram/VMT	0.128	1.428	0.028	0.002	0.017	0.105	0.107	0.002	0.005	0.016	0.023	329

Notes:

[1] Emission factors for vehicle exhaust from EMFAC2021 for Santa Clara County in 2024 at average fleet vehicle speed for vehicle type.

[2] Emission factors for road dust from CARB (2018) for Entrained Road Travel, Paved Road Dust.

[3] Worker vehicles assumed to be light duty trucks (LDT2)

Truck idle time per trip (min) = 0 (included in on-site emissions)

For Paved Road Dust:

Mean Onroad Vehicle Weight (tons) = 2.4

Silt Loading (g/m2)* = 0.0328

No. days with rain >0.01 in = 58

* Silt loading based on travel on 5% local roads, 15% collector roads, and 80% freeway

Paved Road Dust Emission factors from CARB Emission Inventory Methods, Miscellaneous Process Methodology 7.9:

Entrained Road Travel Paved Road Dust (March 2018)

$PM10 = 0.0022 \times (sL)^{0.91} \times (W)^{1.02} \times [1-P/(4 \times N)] \times C$

$PM2.5 = PM10 \times 15\%$

PM10 = PM10 emissions in grams per VMT

PM2.5 = PM2.5 emissions in grams per VMT

sL = roadway silt loading in grams per square meter (g/m^2)

(Silt loading based on CARB datafor travel on 5% local roads, 15% collector roads, and 80% freeway)

W = mean vehicle weight (tons)

P = number of days in a year with at least 0.01 inch of precipitation

(value used for P is the Santa Clara County average)

N = number of days in annual averaging period (default = 365)

C = conversion factor for pounds to grams

Table A3-23

Asphalt Plant - Asphalt Storage Tank Emissions

Asphalt Storage Tank Information

Number of Storage Tanks =	6
Annual Tank Operation (days/year) =	365
Storage Tank Capacity (tons) =	75
Storage Tank Diameter (feet) =	12
Storage Tank Height (feet) =	35
Storage Tank Volume (gal) =	29,610
Asphalt Oil Temperature (deg. F) =	325
Storage Tank Heating Method =	Electric
Emission Control Method =	Vent Condensers
Emission Control Efficiency (%) =	95%

Asphalt Tank Farm Emissions

	Uncontrolled Emissions per Tank[1]				Controlled Tank Farm Emissions[2]			
	Working Loss	Breathing Loss	Total per Tank		Number	Total Tank Farm		
						Ave Daily	Annual	
Pollutant	(lb/year)	(lb/year)	(lb/year)	(tons/year)	of Tanks	(lb/day)	(lb/year)	(tons/year)
ROG	44.45	1.57	46.02	0.023	6	0.04	13.81	0.01

[1] Emissions calculated with EPA TANKS 4.09d program and values from AP-42 Section 11.1 Hot Mix Asphalt Plants

[2] Controlled emissions assume use of storage tank vent condensers

Table A3-24

Asphalt Plant - Asphalt Storage Tank Emissions

TAC Emissions From Asphalt Storage Tanks

Toxic Air Contaminant Emissions

Toxics Name	Storage Tank Emissions: Emission[1] Factor (% TOC)	Emissions (lb/hr)	Emissions (lb/yr)
Non-PAH Volatile Organic Toxic Air Contaminants			
Benzene	0.032	4.14E-06	4.42E-03
Carbon Disulfide	0.016	2.07E-06	2.21E-03
Ethyl Benzene	0.038	4.91E-06	5.25E-03
Formaldehyde	0.69	8.92E-05	9.53E-02
n-Hexane	0.10	1.29E-05	1.38E-02
Methylene Chloride	0.0003	3.49E-08	3.73E-05
Styrene	0.0054	6.98E-07	7.46E-04
Toluene	0.062	8.02E-06	8.56E-03
Xylene-m/p	0.20	2.59E-05	2.76E-02
Xylene-o	0.057	7.37E-06	7.87E-03

Toxics Name	Storage Tank Emissions: Emission[2] Factor (% Organic PM)	Emissions[3] (lb/hr)	Emissions[3] (lb/yr)
PAH Toxic Air Contaminants			
Benzo(a)anthracene	0.056	1.45E-07	1.55E-04
Benzo(a)pyrene	0.00	0.00E+00	0.00E+00
Benzo(b)fluoranthene	0.00	0.00E+00	0.00E+00
Benzo(k)fluoranthene	0.00	0.00E+00	0.00E+00
Chrysene	0.21	5.43E-07	5.80E-04
Indeno(1,2,3-c,d)pyrene	0.00	0.00E+00	0.00E+00
Naphthalene	1.82	4.71E-06	5.03E-03

[1] Emission factors from EPA AP-42, Chapter 11.1, Table 11.1-16 for volatile organic toxic pollutants emitted from asphalt storage tanks.

[2] Emission factors from EPA AP-42, Chapter 11.1, Table 11.1-15 for organic particulate based toxic pollutants emitted from asphalt storage tanks.

[3] PAH emissions are relative to the organic PM emissions. Organic PM emissions were calculated at 2% of the TOC emissions based on the ratio of organic PM to TOC emission factors for silo filling.

Hourly emissions calculated assuming maximum TOC emissions occur during tank filling from truck at an assumed fill rate of 0.5 hour per truck load and 2,063 truck loads per year.

PAH Hazardous Air Pollutants (Benzo(a) Pyrene Equivalents)*

PAH Hazardous Air Pollutants	Potency Equivalency Factor	Storage Tank Emissions: PAH Emissions (lb/yr)	BaP Equivalent (lb/yr)
Benzo(a)anthracene	0.10	1.55E-04	1.55E-05
Benzo(a)pyrene	1.00	0.00E+00	0.00E+00
Benzo(b)fluoranthene	0.10	0.00E+00	0.00E+00
Benzo(k)fluoranthene	0.10	0.00E+00	0.00E+00
Chrysene	0.01	5.80E-04	5.80E-06
Indeno(1,2,3-c,d)pyrene	0.10	0.00E+00	0.00E+00
Calculated Total Benzo(a)pyrene-equivalents*			**2.13E-05**

* Calculated Benzo(a)pyrene-equivalents = sum of the PAH multiplied by their Potency Equivalency Factors (PEF's). For calculating cancer risks from PAHs, the PAHs are evaluated as Benzo(a)Pyrene (BaP) equivalents. The evaluation process consists of multiplying individual PAH-specific emission levels with their corresponding Potency Equivalency Factors (PEFs). The sum of these products is the BaP-equivalent level which is then used for calculating ambient BaP equivalent concentrations and cancer risks using the cancer potency factor for BaP.

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

GR Asphalt Tank - Vertical Fixed Roof Tank
San Jose, California

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Asphalt Oil	44.45	1.57	46.02

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification	
User Identification:	GR Asphalt Tank
City:	San Jose
State:	California
Company:	Graniterock
Type of Tank:	Vertical Fixed Roof Tank
Description:	75 ton - 12 ft dia & 35 ft height
Tank Dimensions	
Shell Height (ft):	35.00
Diameter (ft):	12.00
Liquid Height (ft) :	34.00
Avg. Liquid Height (ft):	30.00
Volume (gallons):	28,765.01
Turnovers:	51.85
Net Throughput(gal/yr):	1,491,323.00
Is Tank Heated (y/n):	Y
Paint Characteristics	
Shell Color/Shade:	Gray/Medium
Shell Condition	Good
Roof Color/Shade:	Gray/Medium
Roof Condition:	Good
Roof Characteristics	
Type:	Dome
Height (ft)	0.00
Radius (ft) (Dome Roof)	0.00
Breather Vent Settings	
Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meterological Data used in Emissions Calculations: San Francisco AP, California (Avg Atmospheric Pressure = 14.75 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

GR Asphalt Tank - Vertical Fixed Roof Tank
San Jose, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Asphalt Oil	All	320.00	300.00	325.00	320.00	0.0160	0.0092	0.0183	105.0000			1,000.00	Option 3: A=75350.06, B=9.00346

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

GR Asphalt Tank - Vertical Fixed Roof Tank
San Jose, California

Annual Emission Calcaulations	
Standing Losses (lb):	1.5692
Vapor Space Volume (cu ft):	658.5754
Vapor Density (lb/cu ft):	0.0002
Vapor Space Expansion Factor:	0.0327
Vented Vapor Saturation Factor:	0.9961
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	658.5754
Tank Diameter (ft):	12.0000
Vapor Space Outage (ft):	5.8231
Tank Shell Height (ft):	35.0000
Average Liquid Height (ft):	30.0000
Roof Outage (ft):	0.8231
Roof Outage (Dome Roof)	
Roof Outage (ft):	0.8231
Dome Radius (ft):	12.0000
Shell Radius (ft):	6.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0002
Vapor Molecular Weight (lb/lb-mole):	105.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0160
Daily Avg. Liquid Surface Temp. (deg. R):	779.6700
Daily Average Ambient Temp. (deg. F):	57.1000
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	779.6700
Tank Paint Solar Absorptance (Shell):	0.6800
Tank Paint Solar Absorptance (Roof):	0.6800
Daily Total Solar Insulation Factor (Btu/sqft day):	1,552.9167
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0327
Daily Vapor Temperature Range (deg. R):	25.0000
Daily Vapor Pressure Range (psia):	0.0091
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0160
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0092
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0183
Daily Avg. Liquid Surface Temp. (deg R):	779.6700
Daily Min. Liquid Surface Temp. (deg R):	759.6700
Daily Max. Liquid Surface Temp. (deg R):	784.6700
Daily Ambient Temp. Range (deg. R):	16.2333
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9961
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0160
Vapor Space Outage (ft):	5.8231
Working Losses (lb):	44.4480
Vapor Molecular Weight (lb/lb-mole):	105.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0160
Annual Net Throughput (gal/yr.):	1,491,323.0000
Annual Turnovers:	51.8450
Turnover Factor:	0.7453
Maximum Liquid Volume (gal):	28,765.0072
Maximum Liquid Height (ft):	34.0000
Tank Diameter (ft):	12.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	46.0172

Table A2-25

Proposed Project Conditions

Indirect GHG Emissions (Electrical, Water and Solidwaste)

Proposed Project Operation - 2024 and beyond

Pollutant	Source	Annual Amount	Units	Annual Emissions	Units	Source
CO2	Electrical	2,618,665	kWh	244.69	MT	
	Natural Gas	124,735	kBTU	6.7	MT	
	Water (Outdoor)	9,129,135	gallons	6.67	MT	
	Water (Indoor)	3,290,000	gallons		MT	CalEEMod for 5,500sf office and 10,000sf Warehouse with Rail using PG&E providing electricity at 206 lbsCO2e/megaWatt hr
	Solidwaste	15	tons	7.3	MT	
				265.36	MT	

Notes:

Electrical = 2,496,000kWh/year

a. Batch Plant total power of 1500 kVA -- 3600kWh/day (3 hours Max per day) at 260 days/year = 936,000 kWh/year
b. Asphalt Plant total power of 750kVA -- 1800kWh/day (3 hours Max per day) at 260 days/year = 468,000 kWh/year
c. Aggregate Terminal total power of 1000kVA -- 2400kWh/day (3 hours Max per day) at 260 days/year = 624,000 kWh/year
d. Cement Terminal total power 500kVA -- 1200kWh/day (3 hours Max per day) at 260 days/year = 312,000 kWh/year
e. Misc. site total power of 250kVA -- 600kWh/day (3 hours Max per day) at 260 days/year = 156,000 kWh/year
f. Total site estimated electrical consumption less existing recycling plant: 2,496,000 kWh/year
g. Note: some values may be off by up to 30% due to market fluctuations and sales
Office and warehouse electricity computed by CalEEMod

Water = 8,530,000 gallons per year (outdoor use)

a. Batch Plant: Standard concrete @ 30 gallons per yard @ 150,000 yards per year = 4,500,000 gallons
b. Mixer Truck cleanup: 200 gallons per truck per day @ 30 average trucks per day over 260 days = 1,560,000 gallons
c. Asphalt: Clean up water usage @ 1,500 gallons per day @ 260 days/year= 390,000 gallons
d. Water reclamation plant: 5,000 gallons per day @ 260 days/year = 1,300,000 gallons
e. Misc. Water for aggregates, general cleanup and site dust control: 3,000 gallons per day @ 260 days/year = 780,000 gallons
f. Total site estimated water consumption less existing recycling plant: 8,530,000 gallons per year
g. Note: some values may be off by up to 30% due to market fluctuations and sales
Indoor water use computed by CalEEMod

Per Graniterock 2/3/2021 email

Natural Gas - computed by CalEEMod

Solid Waste - computed by CalEEMod

Graniterock GHG Operation

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-Rail	10.00	1000sqft	0.23	10,000.00	0
General Office Building	5.50	1000sqft	0.13	5,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2018 rate

Land Use - Ancillary uses: 10,000 square-foot materials warehouse and storage facility; 5,500 square-foot QA/QC facility with office space

Construction Phase - no construction

Off-road Equipment - No construction

Grading -

Vehicle Trips - Mobile computed using EMFAC2017

Energy Use - Default nat gas and electricity. Added plant = 2,496,000 to warehouse (249.6kWh/yr.sf)

Water And Wastewater - Added plant 8,530,000 as outdoor to warehouse. WTP treatment

Solid Waste - default values

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1.00	0.00
tblConstructionPhase	PhaseEndDate	3/29/2021	3/26/2021
tblEnergyUse	NT24E	1.07	249.60
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblTripsAndVMT	WorkerTripNumber	0.00	5.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	OutdoorWaterUseRate	0.00	8,530,000.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

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	0.0686	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.8000e-004	2.8000e-004	0.0000	0.0000	3.0000e-004
Energy	6.7000e-004	6.1100e-003	5.1400e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	251.3445	251.3445	1.3000e-004	1.2000e-004	251.3840
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	2.9474	0.0000	2.9474	0.1742	0.0000	7.3021
Water						0.0000	0.0000		0.0000	0.0000	1.1640	4.6491	5.8131	4.0100e-003	2.5300e-003	6.6676
Total	**0.0693**	**6.1100e-003**	**5.2800e-003**	**4.0000e-005**	**0.0000**	**4.6000e-004**	**4.6000e-004**	**0.0000**	**4.6000e-004**	**4.6000e-004**	**4.1115**	**255.9938**	**260.1053**	**0.1783**	**2.6500e-003**	**265.3540**

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	0.0686	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.8000e-004	2.8000e-004	0.0000	0.0000	3.0000e-004
Energy	6.7000e-004	6.1100e-003	5.1400e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	251.3445	251.3445	1.3000e-004	1.2000e-004	251.3840
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	2.9474	0.0000	2.9474	0.1742	0.0000	7.3021
Water						0.0000	0.0000		0.0000	0.0000	1.1640	4.6491	5.8131	4.0100e-003	2.5300e-003	6.6676
Total	**0.0693**	**6.1100e-003**	**5.2800e-003**	**4.0000e-005**	**0.0000**	**4.6000e-004**	**4.6000e-004**	**0.0000**	**4.6000e-004**	**4.6000e-004**	**4.1115**	**255.9938**	**260.1053**	**0.1783**	**2.6500e-003**	**265.3540**

	ROG	NOx	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**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Unrefrigerated Warehouse-Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Unrefrigerated Warehouse-Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.614951	0.035734	0.181842	0.104158	0.013506	0.005015	0.012793	0.021727	0.002177	0.001514	0.005249	0.000632	0.000704
Unrefrigerated Warehouse-Rail	0.614951	0.035734	0.181842	0.104158	0.013506	0.005015	0.012793	0.021727	0.002177	0.001514	0.005249	0.000632	0.000704

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	244.6881	244.6881	0.0000	0.0000	244.6881
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	244.6881	244.6881	0.0000	0.0000	244.6881
NaturalGas Mitigated	6.7000e-004	6.1100e-003	5.1400e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	6.6563	6.6563	1.3000e-004	1.2000e-004	6.6959
NaturalGas Unmitigated	6.7000e-004	6.1100e-003	5.1400e-003	4.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	6.6563	6.6563	1.3000e-004	1.2000e-004	6.6959

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					

General Office Building	90035	4.9000e-004	4.4100e-003	3.7100e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8046	4.8046	9.0000e-005	9.0000e-005	4.8332
Unrefrigerated Warehouse-Rail	34700	1.9000e-004	1.7000e-003	1.4300e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8517	1.8517	4.0000e-005	3.0000e-005	1.8627
Total		**6.8000e-004**	**6.1100e-003**	**5.1400e-003**	**4.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**6.6563**	**6.6563**	**1.3000e-004**	**1.2000e-004**	**6.6959**

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					
General Office Building	90035	4.9000e-004	4.4100e-003	3.7100e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8046	4.8046	9.0000e-005	9.0000e-005	4.8332
Unrefrigerated Warehouse-Rail	34700	1.9000e-004	1.7000e-003	1.4300e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8517	1.8517	4.0000e-005	3.0000e-005	1.8627
Total		**6.8000e-004**	**6.1100e-003**	**5.1400e-003**	**4.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**6.6563**	**6.6563**	**1.3000e-004**	**1.2000e-004**	**6.6959**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	98065	9.1632	0.0000	0.0000	9.1632
Unrefrigerated Warehouse-Rail	2.5206e+006	235.5249	0.0000	0.0000	235.5249
Total		**244.6881**	**0.0000**	**0.0000**	**244.6881**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	98065	9.1632	0.0000	0.0000	9.1632
Unrefrigerated Warehouse-Rail	2.5206e+006	235.5249	0.0000	0.0000	235.5249
Total		**244.6881**	**0.0000**	**0.0000**	**244.6881**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0686	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.8000e-004	2.8000e-004	0.0000	0.0000	3.0000e-004
Unmitigated	0.0686	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.8000e-004	2.8000e-004	0.0000	0.0000	3.0000e-004

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	8.0800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0605					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.8000e-004	2.8000e-004	0.0000	0.0000	3.0000e-004
Total	**0.0686**	**0.0000**	**1.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.0000**	**3.0000e-004**

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	8.0800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0605					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.8000e-004	2.8000e-004	0.0000	0.0000	3.0000e-004
Total	**0.0686**	**0.0000**	**1.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.8000e-004**	**2.8000e-004**	**0.0000**	**0.0000**	**3.0000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	5.8131	4.0100e-003	2.5300e-003	6.6676
Unmitigated	5.8131	4.0100e-003	2.5300e-003	6.6676

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.977536 / 0.599135	1.0360	1.1900e-003	7.5000e-004	1.2899
Unrefrigerated Warehouse-Rail	2.3125 / 8.53	4.7770	2.8200e-003	1.7800e-003	5.3776
Total		**5.8131**	**4.0100e-003**	**2.5300e-003**	**6.6676**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.977536 / 0.599135	1.0360	1.1900e-003	7.5000e-004	1.2899
Unrefrigerated Warehouse-Rail	2.3125 / 8.53	4.7770	2.8200e-003	1.7800e-003	5.3776
Total		**5.8131**	**4.0100e-003**	**2.5300e-003**	**6.6676**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.9474	0.1742	0.0000	7.3021
Unmitigated	2.9474	0.1742	0.0000	7.3021

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	5.12	1.0393	0.0614	0.0000	2.5749
Unrefrigerated Warehouse-Rail	9.4	1.9081	0.1128	0.0000	4.7273
Total		**2.9474**	**0.1742**	**0.0000**	**7.3021**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	5.12	1.0393	0.0614	0.0000	2.5749
Unrefrigerated Warehouse-Rail	9.4	1.9081	0.1128	0.0000	4.7273
Total		**2.9474**	**0.1742**	**0.0000**	**7.3021**

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

Re: Outstanding Items for EIR Work to be Completed

AW Alec Woodson <alec@pa-po.com>

Reply | Reply All | Forward | ...

To Michael Lisenbee; Pat Mapelli; Bill Popenuck; James Reyff; Steve Deines

Wed 2/3/2021 10:28 AM

Cc Robert Ober

If there are problems with how this message is displayed, click here to view it in a web browser.

From a previous email, my answers are in RED:

1. Alec – We need a rough calculation on the annual usage of water and electricity for this site plan. I realize there are some wild cards, but we should be able to get all of the major consumers. -- Not knowing your water requirements for your recycling plant we can assume the following:
    1. Annual Water Usage Estimate
        a. Batch Plant: Standard concrete @ 30 gallons per yard @ 150,000 yards per year = 4,500,000 gallons
        b. Mixer Truck cleanup: 200 gallons per truck per day @ 30 average trucks per day over 260 days = 1,560,000 gallons
        c. Asphalt: Clean up water usage @ 1,500 gallons per day @ 260 days/year= 390,000 gallons
        d. Water reclamation plant: 5,000 gallons per day @ 260 days/year = 1,300,000 gallons
        e. Misc. Water for aggregates, general cleanup and site dust control: 3,000 gallons per day @ 260 days/year = 780,000 gallons
        f. Total site estimated water consumption less existing recycling plant: **8,530,000 gallons per year**
        g. Note: some values may be off by up to 30% due to market fluctuations and sales
    2. Annual Electrical Usage Estimate
        a. Batch Plant total power of 1500 kVA -- 3600kWh/day (3 hours Max per day) at 260 days/year = 936,000 kWh/year
        b. Asphalt Plant total power of 750kVA -- 1800kWh/day (3 hours Max per day) at 260 days/year = 468,000 kWh/year
        c. Aggregate Terminal total power of 1000kVA -- 2400kWh/day (3 hours Max per day) at 260 days/year = 624,000 kWh/year
        d. Cement Terminal total power 500kVA -- 1200kWh/day (3 hours Max per day) at 260 days/year = 312,000 kWh/year
        e. Misc. site total power of 250kVA -- 600kWh/day (3 hours Max per day) at 260 days/year = 156,000 kWh/year
        f. Total site estimated electrical consumption less existing recycling plant: **2,496,000 kWh/year**
        g. Note: some values may be off by up to 30% due to market fluctuations and sales

Your information previously shared for existing recycling plant: Electrical - ~ 160,000 kWh/year. Water - ~5900 Units/year (1 Unit = 748 gallons). Note: Approximately 75% of the water usage is for the existing recycle operation which will remain on site.

Alec Woodson
PA-PO Industrial Systems, LLC

The linked image cannot be displayed. The file may have been moved, renamed, or deleted. Verify that the link points to the correct file and location.

210.760.7626 cell
877.477.5268 fax
alec@PA-PO.com

Attachment 4

Baseline and Project HRA Information

Attachment 4: Baseline and Proposed Project Modeling and Health Risk Calculations

Baseline Modeling and Health Risk Calculation Information

PM2.5 and DPM Emissions Source Parameters for Modeling

Baseline Operation
Health Risk Modeling information
Rail, Aggregate, Concrete Plant, Recycle Yard, and Maintenance Yard Facility Emission Sources
PM2.5 Emissions and Model Parameters

Emission Source	Emissions Information Total PM2.5 Emissions (lb/year)	Total Travel Distance (mi)	Modeling Travel Distance (feet)	Modeling Emissions Annual (lb/year)	Modeling Emissions Hourly (lb/hr)	Modeling Emissions Hourly (g/s)	Source Type	Model Source Name
Rail Emission Sources								
UPRR Locomotive - Off-Site Travel Emissions								
Aggregate Transport	11	74	3459	0.10	1.11E-05	1.40E-06	Line-Volume	RROFF_PM
UPRR Locomotive - On-Site Travel Emissions	(lb/year)	(mi)	(feet)	(lb/year)	(lb/hr)	(g/s)		
Aggregate Transport	11	74	1240	0.03	3.99E-06	5.02E-07		
UPRR Locomotive - On-Site Idle Emissions								
Aggregate Transport	0.25	-	1240	0.25	2.85E-05	3.60E-06		
Total UPRR Locomotive On-Site Emissions	-	-	1240	0.28	3.25E-05	4.10E-06	Line-Volume	RRON_PM
Truck Travel - OnSite								
Plant Area	-	-	-	3512.3	4.01E-01	5.05E-02		OSV_PA
Truck Travel - OffSite			-					
Granite Rock Way	-	-	145	1.016	1.16E-04	1.46E-05	Line-Volume	GRW
Hillcap Ave	-	-	261	1.834	2.09E-04	2.64E-05	Line-Volume	HCAP
Hillsdale Ave	-	-	212	1.487	1.70E-04	2.14E-05	Line-Volume	HDALE
Capitol Expressway East - Eastbound	-	-	541	1.370	1.56E-04	1.97E-05	Line-Volume	CEXPE_EB
Capitol Expressway East - Westbound	-	-	539	1.365	1.56E-04	1.96E-05	Line-Volume	CEXPE_WB
Montery Road North - Northbound	-	-	1152	2.187	2.50E-04	3.15E-05	Line-Volume	MONTYN_NB
Montery Road North - Southbound	-	-	1153	2.189	2.50E-04	3.15E-05	Line-Volume	MONTYN_SB
Aggregate Facility								
Aggregate & Sand Storage & Handling Area	254	-	-	254	2.90E-02	3.65E-03	Area	AGG_SAND
Concrete Plant								
Material Handling & Processing Area	413.1			413.1	4.72E-02	5.94E-03	Area	CONAREA
Recycle Area Emissions								
Process Emissions	254			254	2.90E-02	3.66E-03		
Off-Road Mobile Equipment Emissions	120			120	1.37E-02	1.73E-03		
Fugitive Dust Emissions	1178			1178	1.34E-01	1.69E-02		
Total	1552			1552	1.77E-01	2.23E-02	Area	RECFUG
Maintenance Yard Area Emissions	88			88	1.00E-02	1.27E-03	Area	MAINT

Line-Volume Source information								
Emission Source	Model Source Name	Base Elevation (meters)	Link Length (meters)	Link Width (meters)	Release Height (meters)	Initial Vertical Height (meters)	(Sigma z) (meters)	Emission Rate (g/sec)
Rail Emission Sources								
UPRR Locomotive - Off-Site Travel Emissions								
Aggregate Transport	RROFF_PM	DEM	1054.30	3.7	5	8.5	3.95	1.40E-06
UPRR Locomotive - On-Site Travel Emissions								
Aggregate Transport								
UPRR Locomotive - On-Site Idle Emissions								
Aggregate Transport								
Total UPRR Locomotive On-Site Emissions	RRON_PM	45.72	377.95	3.7	5	8.5	3.95	4.10E-06
Truck Travel - OnSite								
Plant Area								
Truck Travel - OffSite								
Granite Rock Way	GRW	DEM	145	11	1.3	2.6	1.21	1.46E-05
Hillcap Ave	HCAP	DEM	261	11	1.3	2.6	1.21	2.64E-05
Hillsdale Ave	HDALE	DEM	212	11	1.3	2.6	1.21	2.14E-05
Capitol Expressway East - Eastbound	CEXPE_EB	DEM	541	11	1.3	2.6	1.21	1.97E-05
Capitol Expressway East - Westbound	CEXPE_WB	DEM	539	11	1.3	2.6	1.21	1.96E-05
Montery Road North - Northbound	MONTYN_NB	DEM	1152	11	1.3	2.6	1.21	3.15E-05
Montery Road North - Southbound	MONTYN_SB	DEM	1153	11	1.3	2.6	1.21	3.15E-05
Aggregate Facility								
Aggregate & Sand Storage & Handling Area								
Concrete Plant								
Material Handling & Processing Area								
Recycle Area Emissions								
Process Emissions								
Off-Road Mobile Equipment Emissions								
Fugitive Dust Emissions								
Total								
Maintenance Yard Area Emissions								

Area Source Information					
Emission Source	Model Source Name	Base Elevation (meters)	Area (sq. meters)	Release Height (meters)	Emission Rate ($g/s/m^2$)
Rail Emission Sources					
UPRR Locomotive - Off-Site Travel Emissions					
Aggregate Transport					
UPRR Locomotive - On-Site Travel Emissions					
Aggregate Transport					
UPRR Locomotive - On-Site Idle Emissions					
Aggregate Transport					
Total UPRR Locomotive On-Site Emissions					
Truck Travel - OnSite					
Plant Area	OSV_PA	45.72	47622.5	2	1.06E-06
Truck Travel - OffSite					
Granite Rock Way					
Hillcap Ave					
Hillsdale Ave					
Capitol Expressway East - Eastbound					
Capitol Expressway East - Westbound					
Montery Road North - Northbound					
Montery Road North - Southbound					
Aggregate Facility					
Aggregate & Sand Storage & Handling Area	AGG_SAND	45.72	9213.3	2	3.97E-07
Concrete Plant					
Material Handling & Processing Area	CONAREA	45.72	1290.7	2	4.60E-06
Recycle Area Emissions					
Process Emissions					
Off-Road Mobile Equipment Emissions					
Fugitive Dust Emissions					
Total	RECFUG	45.72	25071	2	8.91E-07
Maintenance Yard Area Emissions	MAINT	45.72	7684.5	2	1.65E-07

Baseline Operation
Health Risk Modeling information
Rail, Aggregate, Concrete Plant, Recycle Yard, and Maintenance Yard Facility Emission Sources
DPM Emissions and Model Parameters

	Emissions Information							
		Total	Modeling					
	Total PM2.5	Travel	Travel	Modeling Emissions				Model
	Emissions	Distance	Distance	Annual	Hourly	Hourly	Source	Source
Emission Source	**(lb/year)**	**(mi)**	**(feet)**	**(lb/year)**	**(lb/hr)**	**(g/s)**	**Type**	**Name**
Rail Emission Sources								
UPRR Locomotive - Off-Site Travel Emissions								
Aggregate Transport	12.1	74	3459	0.11	1.22E-05	1.54E-06	Line-Volume	RROFF_DPM
UPRR Locomotive - On-Site Travel Emissions	(lb/year)	(mi)	(feet)	(lb/year)	(lb/hr)	(g/s)		
Aggregate Transport	12.1	74	1240	0.04	4.38E-06	5.52E-07		
UPRR Locomotive - On-Site Idle Emissions								
Aggregate Transport	0.25	-	1240	0.252	2.88E-05	3.62E-06		
Total UPRR Locomotive On-Site Emissions	-	-	1240	0.29	3.32E-05	4.18E-06	Line-Volume	RRON_DPM
Truck Travel - OnSite								
Plant Area	-	-	-	17.9	2.04E-03	2.57E-04	Area	OSV_PA
Truck Travel - OffSite			-					
Granite Rock Way	-	-	145	0.518	5.92E-05	7.45E-06	Line-Volume	GRW
Hillcap Ave	-	-	261	0.935	1.07E-04	1.35E-05	Line-Volume	HCAP
Hillsdale Ave	-	-	212	0.758	8.66E-05	1.09E-05	Line-Volume	HDALE
Capitol Expressway East - Eastbound	-	-	541	0.699	7.98E-05	1.00E-05	Line-Volume	CEXPE_EB
Capitol Expressway East - Westbound	-	-	539	0.696	7.95E-05	1.00E-05	Line-Volume	CEXPE_WB
Montery Road North - Northbound	-	-	1152	1.115	1.27E-04	1.60E-05	Line-Volume	MONTYN_NB
Montery Road North - Southbound	-	-	1153	1.116	1.27E-04	1.61E-05	Line-Volume	MONTYN_SB
Aggregate & Sand Operations								
Off-Road Mobile Equipment Emissions	36.8	-	-	36.8	4.20E-03	5.29E-04	Area	AGG_SAND
Recycle Area Emissions								
Total	126			126	1.44E-02	1.81E-03	Area	RECDPM
Maintenance Yard Area Emissions	96			96	1.10E-02	1.38E-03	Area	MAINT

	Line-Volume Source information							
						Initial		
	Model	Base	Link	Link	Release	Vertical		Emission
	Source	Elevation	Length	Width	Height	Height	(Sigma z)	Rate
Emission Source	**Name**	**(meters)**	**(meters)**	**(meters)**	**(meters)**	**(meters)**	**(meters)**	**(g/sec)**
Rail Emission Sources								
UPRR Locomotive - Off-Site Travel Emissions								
Aggregate Transport	RROFF_DPM	DEM	1054.30	3.7	5	8.5	3.95	1.54E-06
UPRR Locomotive - On-Site Travel Emissions								
Aggregate Transport								
UPRR Locomotive - On-Site Idle Emissions								
Aggregate Transport								
Total UPRR Locomotive On-Site Emissions	RRON_DPM	45.72	377.95	3.7	5	8.5	3.95	4.18E-06
Truck Travel - OnSite								
Plant Area								
Truck Travel - OffSite								
Granite Rock Way	GRW	DEM	145	11	3.4	6.8	1.21	7.45E-06
Hillcap Ave	HCAP	DEM	261	11	1.3	2.6	1.21	1.35E-05
Hillsdale Ave	HDALE	DEM	212	11	1.3	2.6	1.21	1.09E-05
Capitol Expressway East - Eastbound	CEXPE_EB	DEM	541	11	1.3	2.6	1.21	1.00E-05
Capitol Expressway East - Westbound	CEXPE_WB	DEM	539	11	1.3	2.6	1.21	1.00E-05
Montery Road North - Northbound	MONTYN_NB	DEM	1152	11	1.3	2.6	1.21	1.60E-05
Montery Road North - Southbound	MONTYN_SB	DEM	1153	11	1.3	2.6	1.21	1.61E-05
Aggregate & Sand Operations								
Off-Road Mobile Equipment Emissions								
Recycle Area Emissions								
Total								
Maintenance Yard Area Emissions								

Emission Source	Area Source Information Model Source Name	Base Elevation (meters)	Area (sq. meters)	Release Height (meters)	Emission Rate ($g/s/m^2$)
Rail Emission Sources					
UPRR Locomotive - Off-Site Travel Emissions					
Aggregate Transport					
UPRR Locomotive - On-Site Travel Emissions					
Aggregate Transport					
UPRR Locomotive - On-Site Idle Emissions					
Aggregate Transport					
Total UPRR Locomotive On-Site Emissions					
Truck Travel - OnSite					
Plant Area	OSV_PA	45.72	47622.5	6	5.41E-09
Truck Travel - OffSite					
Granite Rock Way					
Hillcap Ave					
Hillsdale Ave					
Capitol Expressway East - Eastbound					
Capitol Expressway East - Westbound					
Montery Road North - Northbound					
Montery Road North - Southbound					
Aggregate & Sand Operations					
Off-Road Mobile Equipment Emissions	AGG_SAND	45.72	9213.3	6	5.75E-08
Recycle Area Emissions					
Total	RECDPM	45.72	25071	6	7.23E-08
Maintenance Yard Area Emissions	MAINT	45.72	7684.5	6	1.80E-07

Baseline Operation – Health Risk Calculations

Graniterock San Jose, CA - Baseline Operation DPM/PM2.5 Modeling Information
AERMOD Risk Modeling Parameters and Maximum Concentrations
Facility Baseline Operaton Impacts
Off-Site Residential Receptors (1.5 meter receptor heights)

Receptor Information

Number of Receptors	298
Receptor Height =	1.5 meters
Receptor spacing =	at specific residential locations

Meteorological Conditions

San Jose Airport BAAQMD Hourly Data	2013-2017
Land Use Classification	Urban
Wind speed =	variable
Wind direction =	variable

MEI Maximum Concentrations

Emission Period/Activity	DPM Concentration ($\mu g/m^3$)	PM2.5 Concentration ($\mu g/m^3$)
2020 - 2049 Baseline Operation	0.03784	0.90

Graniterock San Jose, CA -Baseline Operation
Maximum DPM Cancer Risk Calculations From Facility Baseline Operation
Off-Site Residential Receptors (1.5 meter receptor heights)
Residential 30-Year Exposure (2020-2049)

Cancer Risk Calculation Method

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

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

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

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)

10^{-6} = Conversion factor

Values

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00

	Infant/Child			Adult
Age -->	3rd Trimester	0 - <2	2 - 16	16 - 70
Parameter				
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

				Maximum - Exposure Information		
Exposure Year	Year	Exposure Duration (years)	Age	Age Sensitivity Factor	Annual DPM Conc. (ug/m3)	DPM Cancer Risk (per million)
0	2020	0.25	-0.25 - 0*	10	0.0378	0.51
1	2020	1	1	10	0.0378	6.22
2	2021	1	2	10	0.0378	6.22
3	2022	1	3	3	0.0378	0.98
4	2023	1	4	3	0.0378	0.98
5	2024	1	5	3	0.0378	0.98
6	2025	1	6	3	0.0378	0.98
7	2026	1	7	3	0.0378	0.98
8	2027	1	8	3	0.0378	0.98
9	2028	1	9	3	0.0378	0.98
10	2029	1	10	3	0.0378	0.98
11	2030	1	11	3	0.0378	0.98
12	2031	1	12	3	0.0378	0.98
13	2032	1	13	3	0.0378	0.98
14	2033	1	14	3	0.0378	0.98
15	2034	1	15	3	0.0378	0.98
16	2035	1	16	3	0.0378	0.98
17	2036	1	17	1	0.0378	0.109
18	2037	1	18	1	0.0378	0.109
19	2038	1	19	1	0.0378	0.109
20	2039	1	20	1	0.0378	0.109
21	2040	1	22	1	0.0378	0.109
22	2041	1	23	1	0.0378	0.109
23	2042	1	24	1	0.0378	0.109
24	2043	1	25	1	0.0378	0.109
25	2044	1	26	1	0.0378	0.109
26	2045	1	27	1	0.0378	0.109
27	2046	1	28	1	0.0378	0.109
28	2047	1	29	1	0.0378	0.109
29	2048	1	29	1	0.0378	0.109
30	2049	1	29	1	0.0378	0.109
Total Increased Cancer Risk						**28.16**

* Third trimester of pregnancy

Proposed Project Modeling and Health Risk Calculation Information

Construction Health Risks

Graniterock San Jose, CA - Proposed Project: Construction Emissions

DPM Emissions and Modeling Emission Rates - Without Mitigation

Construction Year	Activity	Area Source	DPM (ton/year)	DPM Emissions (lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2022	Construction	2022_DPM	0.1352	270.3	0.08229	1.04E-02	80,587	1.29E-07
2023	Construction	2023_DPM	0.0933	186.6	0.05681	7.16E-03	80,587	8.88E-08
2024	Construction	2024_DPM	0.0142	28.5	0.00867	1.09E-03	80,587	1.36E-08
2025	Construction	2025_DPM	0.0458	91.6	0.02788	3.51E-03	80,587	4.36E-08
2026	Construction	2026_DPM	0.0403	80.6	0.02455	3.09E-03	80,587	3.84E-08
2027	Construction	2027_DPM	0.0226	45.2	0.01375	1.73E-03	80,587	2.15E-08
Total			***0.3514***	***702.9***	***0.2140***	***0.0270***		

Operation Hours

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

PM2.5 Fugitive Dust Emissions for Modeling - Without Mitigation

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2022	Construction	2022_FUG	0.1249	249.7	0.07603	9.58E-03	80,587	1.19E-07
2023	Construction	2023_FUG	0.0803	160.6	0.04890	6.16E-03	80,587	7.65E-08
2024	Construction	2024_FUG	0.0178	35.7	0.01086	1.37E-03	80,587	1.70E-08
2025	Construction	2025_FUG	0.0201	40.3	0.01226	1.55E-03	80,587	1.92E-08
2026	Construction	2026_FUG	0.0374	74.8	0.02277	2.87E-03	80,587	3.56E-08
2027	Construction	2027_FUG	0.0214	42.8	0.01303	1.64E-03	80,587	2.04E-08
Total			***0.30196***	***603.9***	***0.1838***	***0.0232***		

Operation Hours

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

Graniterock San Jose, CA - Construction DPM/PM2.5 Modeling Information
AERMOD Risk Modeling Parameters and Maximum Concentrations
Construction Impacts - Unmitigated Emissions
Off-Site Residential Receptors (1.5 meter receptor heights)

Receptor Information

Number of Receptors	298
Receptor Height =	1.5 meters
Receptor spacing =	at specific residential locations

Meteorological Conditions

San Jose Airport BAAQMD Hourly Data	2013-2017
Land Use Classification	Urban
Wind speed =	variable
Wind direction =	variable

MEI Maximum Concentrations

Emission Period/Activity	DPM Concentration ($\mu g/m^3$)	PM2.5 Concentration ($\mu g/m^3$)
2022 - Construction	0.01406	0.03
2023 - Construction	0.00968	0.02
2024 - Construction	0.00148	0.00
2025 - Construction	0.00475	0.01
2026 - Construction	0.00419	0.01
2027 - Construction	0.00234	0.00

Graniterock San Jose, CA - Proposed Project Construction Impacts
Maximum DPM Cancer Risk Calculations From Construction - Unmitigated
Off-Site Residential Receptors (1.5 meter receptor heights)
Residential 30-Year Exposure (2022-2051)

Cancer Risk Calculation Method

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

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

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

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)

10^{-6} = Conversion factor

Values

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00

	Infant/Child			Adult
Age -->	3rd Trimester	0 - <2	2 - 16	16 - 70
Parameter				
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

				Maximum - Exposure Information		
Exposure Year	Year	Exposure Duration (years)	Age	Age Sensitivity Factor	Annual DPM Conc. (ug/m3)	DPM Cancer Risk (per million)
0	2022	0.25	-0.25 - 0*	10	0.0141	0.19
1	2022	1	1	10	0.0141	2.31
2	2023	1	2	10	0.0097	1.59
3	2024	1	3	3	0.0015	0.04
4	2025	1	4	3	0.0048	0.12
5	2026	1	5	3	0.0042	0.11
6	2027	1	6	3	0.0023	0.06
7	2028	1	7	3	0.0000	0.00
8	2029	1	8	3	0.0000	0.00
9	2030	1	9	3	0.0000	0.00
10	2031	1	10	3	0.0000	0.00
11	2032	1	11	3	0.0000	0.00
12	2033	1	12	3	0.0000	0.00
13	2034	1	13	3	0.0000	0.00
14	2035	1	14	3	0.0000	0.00
15	2036	1	15	3	0.0000	0.00
16	2037	1	16	3	0.0000	0.00
17	2038	1	17	1	0.0000	0.000
18	2039	1	18	1	0.0000	0.000
19	2040	1	19	1	0.0000	0.000
20	2041	1	20	1	0.0000	0.000
21	2042	1	22	1	0.0000	0.000
22	2043	1	23	1	0.0000	0.000
23	2044	1	24	1	0.0000	0.000
24	2045	1	25	1	0.0000	0.000
25	2046	1	26	1	0.0000	0.000
26	2047	1	27	1	0.0000	0.000
27	2048	1	28	1	0.0000	0.000
28	2049	1	29	1	0.0000	0.000
29	2050	1	29	1	0.0000	0.000
30	2051	1	29	1	0.0000	0.000
Total Increased Cancer Risk						**4.4**

* Third trimester of pregnancy

Proposed Project Operation Modeling and Health Risks

PM2.5 and DPM Emissions Source Parameters for Modeling

Proposed Project
Health Risk Modeling information
Rail, Aggregate, Asphalt Plant, Concrete Plant, Recycle Area, and Cementitious Facility Emission Sources
PM2.5 Emissions and Model Parameters

Emissions Source	Emissions Information Total PM2.5 Emissions (lb/year)	Total Travel Distance (mi)	Modeling Travel Distance (feet)	PM2.5 Modeling Emissions Annual (lb/year)	Hourly (lb/hr)	Hourly (g/s)	Source Type	Model Source Name
Rail Emission Sources								
UPRR Locomotive - Off-Site Travel Emissions								
Aggregate & Sand	354	74	3459	3.13	3.58E-04	4.51E-05		
Cementitious Materials	53	114	3459	0.30	3.48E-05	4.38E-06		
Total UPRR Off-Site Locomotive Emissions	407	-	-	3.44	3.93E-04	4.95E-05	Line-Volume	RROFF_PM
UPRR Locomotive - On-Site Travel Emissions	(lb/year)	(mi)	(feet)	(lb/year)	(lb/hr)	(g/s)		
Aggregate & Sand	354	74	1240	1.12	1.28E-04	1.62E-05		
Cementitious Materials	53	114	1240	0.11	1.25E-05	1.57E-06		
Subtotal	407	-	-	1.23	1.41E-04	1.77E-05		
UPRR Locomotive - On-Site Idle Emissions								
Aggregate & Sand	2.32	-	1240	2.32	2.65E-04	3.34E-05		
Cementitious Materials	0.48	-	1240	0.48	5.48E-05	6.90E-06		
Subtotal	2.8	-	-	2.8	3.20E-04	4.03E-05		
Total UPRR Locomotive On-Site Emissions				4.03	4.60E-04	5.80E-05	Line-Volume	RRON_PM
Switcher Locomotive On-Site Travel & Idle Emissions	0.2	-	1903	0.2	2.28E-05	2.88E-06	Line-Volume	SWCH_PM
Truck Travel - OnSite								
Plant Area 1	-	-	-	449.1	5.13E-02	6.46E-03		OSV_A1
Plant Area 2	-	-	-	272.2	3.11E-02	3.92E-03		OSV_A2
Plant Area 3	-	-	-	113.1	1.29E-02	1.63E-03		OSV_A3
Recycle Area	-	-	-	139.0	1.59E-02	2.00E-03		OSV_REC
Truck Travel - OffSite			-					
Granite Rock Way	-	-	145	0.997	1.14E-04	1.43E-05	Line-Volume	GRW
Hillcap Ave	-	-	261	1.800	2.06E-04	2.59E-05	Line-Volume	HCAP
Hillsdale Ave	-	-	212	1.460	1.67E-04	2.10E-05	Line-Volume	HDALE
Capitol Expressway East - Eastbound	-	-	541	1.345	1.54E-04	1.93E-05	Line-Volume	CEXPE_EB
Capitol Expressway East - Westbound	-	-	539	1.340	1.53E-04	1.93E-05	Line-Volume	CEXPE_WB
Montery Road North - Northbound	-	-	1152	2.146	2.45E-04	3.09E-05	Line-Volume	MONTYN_NB
Montery Road North - Southbound	-	-	1153	2.149	2.45E-04	3.09E-05	Line-Volume	MONTYN_SB
Aggregate Facility								
Aggregate Rail Unloading - North	20.265	-	-	20.265	2.31E-03	2.91E-04	Area	AGGULD_N
Aggregate Rail Unloading - South	20.265	-	-	20.265	2.31E-03	2.91E-04	Area	AGGULD_S
Aggregate Transfer & Storage Emissions								
DC3 for Bucket Elevator East	161.23	-	-	161.23	1.84E-02	2.32E-03	Point	AG_DC3
DC4 for Bucket Elevator West	161.23	-	-	161.23	1.84E-02	2.32E-03	Point	AG_DC4
DC5 for Silo	11.31	-	-	11.31	1.29E-03	1.63E-04	Point	AG_DC5
DC6 for Silo	11.31	-	-	11.31	1.29E-03	1.63E-04	Point	AG_DC6
DC7 for Silo	11.31	-	-	11.31	1.29E-03	1.63E-04	Point	AG_DC7
DC8 for Silo	11.31	-	-	11.31	1.29E-03	1.63E-04	Point	AG_DC8
DC9 for Silo	11.31	-	-	11.31	1.29E-03	1.63E-04	Point	AG_DC9
DC10 for Silo	11.31	-	-	11.31	1.29E-03	1.63E-04	Point	AG_DC10
DC11 for Silo	11.31	-	-	11.31	1.29E-03	1.63E-04	Point	AG_DC11
DC12 for Silo	11.31	-	-	11.31	1.29E-03	1.63E-04	Point	AG_DC12
DC13 for Silo	11.31	-	-	11.31	1.29E-03	1.63E-04	Point	AG_DC13
Aggregate Truck Loading								
Truck Loading - Silo 1	1.36	-	-	1.36	1.56E-04	1.96E-05	Volume	AG_TRKL1
Truck Loading - Silo 2	1.36	-	-	1.36	1.56E-04	1.96E-05	Volume	AG_TRKL2
Truck Loading - Silo 3	1.36	-	-	1.36	1.56E-04	1.96E-05	Volume	AG_TRKL3
Truck Loading - Silo 4	1.36	-	-	1.36	1.56E-04	1.96E-05	Volume	AG_TRKL4
Truck Loading - Silo 5	1.36	-	-	1.36	1.56E-04	1.96E-05	Volume	AG_TRKL5
Truck Loading - Silo 6	1.36	-	-	1.36	1.56E-04	1.96E-05	Volume	AG_TRKL6
Truck Loading - Silo 7	1.36	-	-	1.36	1.56E-04	1.96E-05	Volume	AG_TRKL7
Truck Loading - Silo 8	1.36	-	-	1.36	1.56E-04	1.96E-05	Volume	AG_TRKL8
Truck Loading - Silo 9	1.36	-	-	1.36	1.56E-04	1.96E-05	Volume	AG_TRKL9
Asphalt Plant								
Asphalt Plant Duct Collector	4,614	-	-	4614	5.27E-01	6.64E-02	Point	ASP_STK
Aggregate Conveyor Transfer Pt #1	12.87	-	-	12.87	1.47E-03	1.85E-04	Volume	APAGG_T1
Aggregate Conveyor Transfer Pt #2	12.87	-	-	12.87	1.47E-03	1.85E-04	Volume	APAGG_T2
Aggregate Conveyor Transfer Pt #3	12.87	-	-	12.87	1.47E-03	1.85E-04	Volume	APAGG_T3
RAP Conveyor Transfer Pt #1	6.50	-	-	6.50	7.42E-04	9.34E-05	Volume	APRAP_T1
RAP Conveyor Transfer Pt #2	6.50	-	-	6.50	7.42E-04	9.34E-05	Volume	APRAP_T2
RAP Conveyor Transfer Pt #3	6.50	-	-	6.50	7.42E-04	9.34E-05	Volume	APRAP_T3
Asphalt Plant Building - North Vent 1	20.31	-	-	20.31	2.32E-03	2.92E-04	Volume	AVENT_N1
Asphalt Plant Building - North Vent 2	20.31	-	-	20.31	2.32E-03	2.92E-04	Volume	AVENT_N2
Asphalt Plant Building - South Vent 1	20.31	-	-	20.31	2.32E-03	2.92E-04	Volume	AVENT_S1
Asphalt Plant Building - South Vent 2	20.31	-	-	20.31	2.32E-03	2.92E-04	Volume	AVENT_S2
Asphalt Loadout 1	6.81	-	-	6.81	7.77E-04	9.79E-05	Volume	APLOAD1
Asphalt Loadout 2	6.81	-	-	6.81	7.77E-04	9.79E-05	Volume	APLOAD2
Concrete Plant								
Agg & Sand Conveyor Transfer Pt.#1	12.23	-	-	12.23	1.40E-03	1.76E-04	Volume	CON_T1
Agg & Sand Conveyor Transfer Pt.#2	12.23	-	-	12.23	1.40E-03	1.76E-04	Volume	CON_T2
Agg & Sand Conveyor Transfer Pt.#3	12.23	-	-	12.23	1.40E-03	1.76E-04	Volume	CON_T3
Agg & Sand Conveyor Transfer Pt.#4	12.23	-	-	12.23	1.40E-03	1.76E-04	Volume	CON_T4
Concrete Plant Building - North Vent 1	104.08	-	-	104.08	1.19E-02	1.50E-03	Volume	CVENT_N1
Concrete Plant Building - North Vent 2	104.08	-	-	104.08	1.19E-02	1.50E-03	Volume	CVENT_N2
Concrete Plant Building - South Vent 1	104.08	-	-	104.08	1.19E-02	1.50E-03	Volume	CVENT_S1
Concrete Plant Building - South Vent 2	104.08	-	-	104.08	1.19E-02	1.50E-03	Volume	CVENT_S2
Cementitious Materials Facility								
North Silo Dust Collector - DC-14	51.43	-	-	51.43	5.87E-03	7.40E-04	Point	CEM_DC14
South Silo Dust Collector - DC-15	51.43	-	-	51.43	5.87E-03	7.40E-04	Point	CEM_DC15
Loadout Silo Dust Collector - DC-16	32.91	-	-	32.91	3.76E-03	4.73E-04	Point	CEM_DC16
Truck Loading Spout Dust Collector - DC-17	51.43	-	-	51.43	5.87E-03	7.40E-04	Point	CEM_DC17
Recycle Area Emissions								
Process Emissions	254.00	-	-	254	2.90E-02	3.65E-03		
Off-Road Mobile Equipment Emissions	68.00	-	-	68	7.76E-03	9.78E-04		
Fugitive Dust Emissions	1,050	-	-	1050	1.20E-01	1.51E-02		
Total	1,372	-	-	1372	1.57E-01	1.97E-02	Area	RECFUG

Emissions Source	Line-Volume Source information Model Source Name	Base Elevation (meters)	Link Length (meters)	Link Width (meters)	Release Height (meters)	Initial Vertical Height (meters)	Sigma z (meters)	PM2.5 Emission Rate (g/sec)
Rail Emission Sources								
UPRR Locomotive - Off-Site Travel Emissions								
Aggregate & Sand								
Cementitious Materials								
Total UPRR Off-Site Locomotive Emissions	RROFF_PM	DEM	1054.30	3.7	5	8.5	3.95	4.95E-05
UPRR Locomotive - On-Site Travel Emissions								
Aggregate & Sand								
Cementitious Materials								
Subtotal								
UPRR Locomotive - On-Site Idle Emissions								
Aggregate & Sand								
Cementitious Materials								
Subtotal								
Total UPRR Locomotive On-Site Emissions	RRON_PM	45.72	377.95	3.7	5	8.5	3.95	5.80E-05
Switcher Locomotive On-Site Travel & Idle Emissions	SWCH_PM	45.72	580.03	3.7	5	8.5	3.95	2.88E-06
Truck Travel - OnSite								
Plant Area 1								
Plant Area 2								
Plant Area 3								
Recycle Area								
Truck Travel - OffSite								
Granite Rock Way	GRW	DEM	145	11	1.3	2.6	1.21	1.43E-05
Hillcap Ave	HCAP	DEM	261	11	1.3	2.6	1.21	2.59E-05
Hillsdale Ave	HDALE	DEM	212	11	1.3	2.6	1.21	2.10E-05
Capitol Expressway East - Eastbound	CEXPE_EB	DEM	541	11	1.3	2.6	1.21	1.93E-05
Capitol Expressway East - Westbound	CEXPE_WB	DEM	539	11	1.3	2.6	1.21	1.93E-05
Montery Road North - Northbound	MONTYN_NB	DEM	1152	11	1.3	2.6	1.21	3.09E-05
Montery Road North - Southbound	MONTYN_SB	DEM	1153	11	1.3	2.6	1.21	3.09E-05
Aggregate Facility								
Aggregate Rail Unloading - North								
Aggregate Rail Unloading - South								
Aggregate Transfer & Storage Emissions								
DC3 for Bucket Elevator East								
DC4 for Bucket Elevator West								
DC5 for Silo								
DC6 for Silo								
DC7 for Silo								
DC8 for Silo								
DC9 for Silo								
DC10 for Silo								
DC11 for Silo								
DC12 for Silo								
DC13 for Silo								
Aggregate Truck Loading								
Truck Loading - Silo 1								
Truck Loading - Silo 2								
Truck Loading - Silo 3								
Truck Loading - Silo 4								
Truck Loading - Silo 5								
Truck Loading - Silo 6								
Truck Loading - Silo 7								
Truck Loading - Silo 8								
Truck Loading - Silo 9								
Asphalt Plant								
Asphalt Plant Duct Collector								
Aggregate Conveyor Transfer Pt #1								
Aggregate Conveyor Transfer Pt #2								
Aggregate Conveyor Transfer Pt #3								
RAP Conveyor Transfer Pt #1								
RAP Conveyor Transfer Pt #2								
RAP Conveyor Transfer Pt #3								
Asphalt Plant Building - North Vent 1								
Asphalt Plant Building - North Vent 2								
Asphalt Plant Building - South Vent 1								
Asphalt Plant Building - South Vent 2								
Asphalt Loadout 1								
Asphalt Loadout 2								
Concrete Plant								
Agg & Sand Conveyor Transfer Pt.#1								
Agg & Sand Conveyor Transfer Pt.#2								
Agg & Sand Conveyor Transfer Pt.#3								
Agg & Sand Conveyor Transfer Pt.#4								
Concrete Plant Building - North Vent 1								
Concrete Plant Building - North Vent 2								
Concrete Plant Building - South Vent 1								
Concrete Plant Building - South Vent 2								
Cementitious Materials Facility								
North Silo Dust Collector - DC-14								
South Silo Dust Collector - DC-15								
Loadout Silo Dust Collector - DC-16								
Truck Loading Spout Dust Collector - DC-17								
Recycle Area Emissions								
Process Emissions								
Off-Road Mobile Equipment Emissions								
Fugitive Dust Emissions								
Total								

Emissions Source	Volume Source Information Model Source Name	Base Elevation (meters)	Volume Center UTM - X (meters)	Volume Center UTM - Y (meters)	Length of Side (meters)	Release Height (meters)	Initial Vertical Height (meters)	Sigma z (meters)	PM2.5 Emission Rate (g/sec)
Rail Emission Sources									
UPRR Locomotive - Off-Site Travel Emissions									
Aggregate & Sand									
Cementitious Materials									
Total UPRR Off-Site Locomotive Emissions									
UPRR Locomotive - On-Site Travel Emissions									
Aggregate & Sand									
Cementitious Materials									
Subtotal									
UPRR Locomotive - On-Site Idle Emissions									
Aggregate & Sand									
Cementitious Materials									
Subtotal									
Total UPRR Locomotive On-Site Emissions									
Switcher Locomotive On-Site Travel & Idle Emissions									
Truck Travel - OnSite									
Plant Area 1									
Plant Area 2									
Plant Area 3									
Recycle Area									
Truck Travel - OffSite									
Granite Rock Way									
Hillcap Ave									
Hillsdale Ave									
Capitol Expressway East - Eastbound									
Capitol Expressway East - Westbound									
Montery Road North - Northbound									
Montery Road North - Southbound									
Aggregate Facility									
Aggregate Rail Unloading - North									
Aggregate Rail Unloading - South									
Aggregate Transfer & Storage Emissions									
DC3 for Bucket Elevator East									
DC4 for Bucket Elevator West									
DC5 for Silo									
DC6 for Silo									
DC7 for Silo									
DC8 for Silo									
DC9 for Silo									
DC10 for Silo									
DC11 for Silo									
DC12 for Silo									
DC13 for Silo									
Aggregate Truck Loading									
Truck Loading - Silo 1	AG_TRKL1	45.72	602583.071	4127030.93	3.65	1.83	3.65	1.70	1.96E-05
Truck Loading - Silo 2	AG_TRKL2	45.72	602575.06	4127040.39	3.65	1.83	3.65	1.70	1.96E-05
Truck Loading - Silo 3	AG_TRKL3	45.72	602567.22	4127049.76	3.65	1.83	3.65	1.70	1.96E-05
Truck Loading - Silo 4	AG_TRKL4	45.72	602573.526	4127023.09	3.65	1.83	3.65	1.70	1.96E-05
Truck Loading - Silo 5	AG_TRKL5	45.72	602565.686	4127032.55	3.65	1.83	3.65	1.70	1.96E-05
Truck Loading - Silo 6	AG_TRKL6	45.72	602557.931	4127041.92	3.65	1.83	3.65	1.70	1.96E-05
Truck Loading - Silo 7	AG_TRKL7	45.72	602564.322	4127015.25	3.65	1.83	3.65	1.70	1.96E-05
Truck Loading - Silo 8	AG_TRKL8	45.72	602556.312	4127024.62	3.65	1.83	3.65	1.70	1.96E-05
Truck Loading - Silo 9	AG_TRKL9	45.72	602548.557	4127034.17	3.65	1.83	3.65	1.70	1.96E-05
Asphalt Plant									
Asphalt Plant Duct Collector									
Aggregate Conveyor Transfer Pt #1	APAGG_T1	45.72	602565.71	4127032.61	2.0	8.1	9.1	2.12	1.85E-04
Aggregate Conveyor Transfer Pt #2	APAGG_T2	45.72	602579.14	4127016.52	2.0	8.1	9.1	2.12	1.85E-04
Aggregate Conveyor Transfer Pt #3	APAGG_T3	45.72	602547.76	4126990.32	2.0	8.1	9.1	2.12	1.85E-04
RAP Conveyor Transfer Pt #1	APRAP_T1	45.72	602583.53	4126914.38	2.0	1.0	2.0	0.93	9.34E-05
RAP Conveyor Transfer Pt #2	APRAP_T2	45.72	602552.15	4126951.88	2.0	8.1	9.1	2.12	9.34E-05
RAP Conveyor Transfer Pt #3	APRAP_T3	45.72	602547.62	4126990.32	2.0	8.1	9.1	2.12	9.34E-05
Asphalt Plant Building - North Vent 1	AVENT_N1	45.72	602529.57	4126980.75	1.22	28.96	30.79	14.32	2.92E-04
Asphalt Plant Building - North Vent 2	AVENT_N2	45.72	602532.64	4126983.39	1.22	28.96	30.79	14.32	2.92E-04
Asphalt Plant Building - South Vent 1	AVENT_S1	45.72	602535.42	4126973.51	1.22	28.96	30.79	14.32	2.92E-04
Asphalt Plant Building - South Vent 2	AVENT_S2	45.72	602538.66	4126976.24	1.22	28.96	30.79	14.32	2.92E-04
Asphalt Loadout 1	APLOAD1	45.72	602528.74	4126984.73	3.96	1.98	3.96	1.84	9.79E-05
Asphalt Loadout 2	APLOAD2	45.72	602540.04	4126971.97	3.96	1.98	3.96	1.84	9.79E-05
Concrete Plant									
Agg & Sand Conveyor Transfer Pt.#1	CON_T1	45.72	602565.66	4127032.55	2.0	8.1	9.1	2.12	1.76E-04
Agg & Sand Conveyor Transfer Pt.#2	CON_T2	45.72	602578.402	4127017.53	2.0	8.1	9.1	2.12	1.76E-04
Agg & Sand Conveyor Transfer Pt.#3	CON_T3	45.72	602563.129	4127005.04	2.0	8.1	9.1	2.12	1.76E-04
Agg & Sand Conveyor Transfer Pt.#4	CON_T4	45.72	602556.631	4127012.04	2.0	2.0	3.0	1.40	1.76E-04
Concrete Plant Building - North Vent 1	CVENT_N1	45.72	602537.25	4127011.67	1.22	30.48	33.53	15.59	1.50E-03
Concrete Plant Building - North Vent 2	CVENT_N2	45.72	602543.40	4127016.72	1.22	30.48	33.53	15.59	1.50E-03
Concrete Plant Building - South Vent 1	CVENT_S1	45.72	602547.59	4126998.87	1.22	30.48	33.53	15.59	1.50E-03
Concrete Plant Building - South Vent 2	CVENT_S2	45.72	602553.91	4127004.02	1.22	30.48	33.53	15.59	1.50E-03
Cementitious Materials Facility									
North Silo Dust Collector - DC-14									
South Silo Dust Collector - DC-15									
Loadout Silo Dust Collector - DC-16									
Truck Loading Spout Dust Collector - DC-17									
Recycle Area Emissions									
Process Emissions									
Off-Road Mobile Equipment Emissions									
Fugitive Dust Emissions									
Total									

Emissions Source	Model Source Name	Base Elevation (meters)	Area (sq. meters)	Release Height (meters)	PM2.5 Emission Rate (g/s/m^2)
	Area Source Information				
Rail Emission Sources					
UPRR Locomotive - Off-Site Travel Emissions					
Aggregate & Sand					
Cementitious Materials					
Total UPRR Off-Site Locomotive Emissions					
UPRR Locomotive - On-Site Travel Emissions					
Aggregate & Sand					
Cementitious Materials					
Subtotal					
UPRR Locomotive - On-Site Idle Emissions					
Aggregate & Sand					
Cementitious Materials					
Subtotal					
Total UPRR Locomotive On-Site Emissions					
Switcher Locomotive On-Site Travel & Idle Emissions					
Truck Travel - OnSite					
Plant Area 1	OSV_A1	45.72	20961.0	2	3.08E-07
Plant Area 2	OSV_A2	45.72	12706.3	2	3.08E-07
Plant Area 3	OSV_A3	45.72	2480.2	2	6.56E-07
Recycle Area	OSV_REC	45.72	5676.4	2	3.52E-07
Truck Travel - OffSite					
Granite Rock Way					
Hillcap Ave					
Hillsdale Ave					
Capitol Expressway East - Eastbound					
Capitol Expressway East - Westbound					
Montery Road North - Northbound					
Montery Road North - Southbound					
Aggregate Facility					
Aggregate Rail Unloading - North	AGGULD_N	45.72	14.6	1	2.00E-05
Aggregate Rail Unloading - South	AGGULD_S	45.72	14.6	1	2.00E-05
Aggregate Transfer & Storage Emissions					
DC3 for Bucket Elevator East					
DC4 for Bucket Elevator West					
DC5 for Silo					
DC6 for Silo					
DC7 for Silo					
DC8 for Silo					
DC9 for Silo					
DC10 for Silo					
DC11 for Silo					
DC12 for Silo					
DC13 for Silo					
Aggregate Truck Loading					
Truck Loading - Silo 1					
Truck Loading - Silo 2					
Truck Loading - Silo 3					
Truck Loading - Silo 4					
Truck Loading - Silo 5					
Truck Loading - Silo 6					
Truck Loading - Silo 7					
Truck Loading - Silo 8					
Truck Loading - Silo 9					
Asphalt Plant					
Asphalt Plant Duct Collector					
Aggregate Conveyor Transfer Pt #1					
Aggregate Conveyor Transfer Pt #2					
Aggregate Conveyor Transfer Pt #3					
RAP Conveyor Transfer Pt #1					
RAP Conveyor Transfer Pt #2					
RAP Conveyor Transfer Pt #3					
Asphalt Plant Building - North Vent 1					
Asphalt Plant Building - North Vent 2					
Asphalt Plant Building - South Vent 1					
Asphalt Plant Building - South Vent 2					
Asphalt Loadout 1					
Asphalt Loadout 2					
Concrete Plant					
Agg & Sand Conveyor Transfer Pt.#1					
Agg & Sand Conveyor Transfer Pt.#2					
Agg & Sand Conveyor Transfer Pt.#3					
Agg & Sand Conveyor Transfer Pt.#4					
Concrete Plant Building - North Vent 1					
Concrete Plant Building - North Vent 2					
Concrete Plant Building - South Vent 1					
Concrete Plant Building - South Vent 2					
Cementitious Materials Facility					
North Silo Dust Collector - DC-14					
South Silo Dust Collector - DC-15					
Loadout Silo Dust Collector - DC-16					
Truck Loading Spout Dust Collector - DC-17					
Recycle Area Emissions					
Process Emissions					
Off-Road Mobile Equipment Emissions					
Fugitive Dust Emissions					
Total	RECFUG	45.72	13954	2	1.41E-06

Emissions Source	Point Source Information Model Source Name	UTM - X (meters)	UTM - Y (meters)	Base Elevation (feet)	Stack Height (feet)	Stack Temp (F)	Stack Diameter (feet)	Stack Velocity (ft/sec)	PM2.5 Emission Rate (lb/hr	Base Elevation (meters)	Stack Height (meters)	Stack Temp (K)	Stack Diameter (meters)	Stack Velocity (m/s)	PM2.5 Emission Rate (g/s)
Rail Emission Sources															
UPRR Locomotive - Off-Site Travel Emissions															
Aggregate & Sand															
Cementitious Materials															
Total UPRR Off-Site Locomotive Emissions															
UPRR Locomotive - On-Site Travel Emissions															
Aggregate & Sand															
Cementitious Materials															
Subtotal															
UPRR Locomotive - On-Site Idle Emissions															
Aggregate & Sand															
Cementitious Materials															
Subtotal															
Total UPRR Locomotive On-Site Emissions															
Switcher Locomotive On-Site Travel & Idle Emissions															
Truck Travel - OnSite															
Plant Area 1															
Plant Area 2															
Plant Area 3															
Recycle Area															
Truck Travel - OffSite															
Granite Rock Way															
Hillcap Ave															
Hillsdale Ave															
Capitol Expressway East - Eastbound															
Capitol Expressway East - Westbound															
Montery Road North - Northbound															
Montery Road North - Southbound															
Aggregate Facility															
Aggregate Rail Unloading - North															
Aggregate Rail Unloading - South															
Aggregate Transfer & Storage Emissions															
DC3 for Bucket Elevator East	AG_DC3	602568.41	4127042.86	150	168.75	Ambient	0.913	76.34	0.018	45.7	51.4	Ambient	0.278	23.27	2.32E-03
DC4 for Bucket Elevator West	AG_DC4	602576.42	4127033.40	150	168.75	Ambient	0.913	76.34	0.018	45.7	51.4	Ambient	0.278	23.27	2.32E-03
DC5 for Silo	AG_DC5	602583.07	4127030.93	150	126.5	Ambient	0.761	60.27	0.001	45.7	38.6	Ambient	0.232	18.37	1.63E-04
DC6 for Silo	AG_DC6	602575.06	4127040.39	150	126.5	Ambient	0.761	60.27	0.001	45.7	38.6	Ambient	0.232	18.37	1.63E-04
DC7 for Silo	AG_DC7	602567.22	4127049.76	150	126.5	Ambient	0.761	60.27	0.001	45.7	38.6	Ambient	0.232	18.37	1.63E-04
DC8 for Silo	AG_DC8	602573.53	4127023.09	150	126.5	Ambient	0.761	60.27	0.001	45.7	38.6	Ambient	0.232	18.37	1.63E-04
DC9 for Silo	AG_DC9	602565.69	4127032.55	150	126.5	Ambient	0.761	60.27	0.001	45.7	38.6	Ambient	0.232	18.37	1.63E-04
DC10 for Silo	AG_DC10	602557.93	4127041.92	150	126.5	Ambient	0.761	60.27	0.001	45.7	38.6	Ambient	0.232	18.37	1.63E-04
DC11 for Silo	AG_DC11	602564.32	4127015.25	150	126.5	Ambient	0.761	60.27	0.001	45.7	38.6	Ambient	0.232	18.37	1.63E-04
DC12 for Silo	AG_DC12	602556.31	4127024.62	150	126.5	Ambient	0.761	60.27	0.001	45.7	38.6	Ambient	0.232	18.37	1.63E-04
DC13 for Silo	AG_DC13	602548.56	4127034.17	150	126.5	Ambient	0.761	60.27	0.001	45.7	38.6	Ambient	0.232	18.37	1.63E-04
Aggregate Truck Loading															
Truck Loading - Silo 1															
Truck Loading - Silo 2															
Truck Loading - Silo 3															
Truck Loading - Silo 4															
Truck Loading - Silo 5															
Truck Loading - Silo 6															
Truck Loading - Silo 7															
Truck Loading - Silo 8															
Truck Loading - Silo 9															
Asphalt Plant															
Asphalt Plant Duct Collector	ASP_STK	602543.9	4126980.4	150	62.65	350	4.6	90.34	0.53	45.7	19.10	449.8	1.400	27.54	6.64E-02
Aggregate Conveyor Transfer Pt #1															
Aggregate Conveyor Transfer Pt #2															
Aggregate Conveyor Transfer Pt #3															
RAP Conveyor Transfer Pt #1															
RAP Conveyor Transfer Pt #2															
RAP Conveyor Transfer Pt #3															
Asphalt Plant Building - North Vent 1															
Asphalt Plant Building - North Vent 2															
Asphalt Plant Building - South Vent 1															
Asphalt Plant Building - South Vent 2															
Asphalt Loadout 1															
Asphalt Loadout 2															
Concrete Plant															
Agg & Sand Conveyor Transfer Pt.#1															
Agg & Sand Conveyor Transfer Pt.#2															
Agg & Sand Conveyor Transfer Pt.#3															
Agg & Sand Conveyor Transfer Pt.#4															
Concrete Plant Building - North Vent 1															
Concrete Plant Building - North Vent 2															
Concrete Plant Building - South Vent 1															
Concrete Plant Building - South Vent 2															
Cementitious Materials Facility															
North Silo Dust Collector - DC-14	CEM_DC14	602624.49	4126976.71	150	121.0	Ambient	0.913	76.34	0.01	45.7	36.9	Ambient	0.278	23.27	7.40E-04
South Silo Dust Collector - DC-15	CEM_DC15	602615.11	4126968.96	150	121.0	Ambient	0.913	76.34	0.01	45.7	36.9	Ambient	0.278	23.27	7.40E-04
Loadout Silo Dust Collector - DC-16	CEM_DC16	602614.49	4126979.35	150	49.0	Ambient	0.593	48.31	0.00	45.7	14.9	Ambient	0.181	14.72	4.73E-04
Truck Loading Spout Dust Collector - DC-17	CEM_DC17	602614.49	4126979.35	150	20.5	Ambient	0.910	51.28	0.01	45.7	6.2	Ambient	0.277	15.63	7.40E-04
Recycle Area Emissions															
Process Emissions															
Off-Road Mobile Equipment Emissions															
Fugitive Dust Emissions															
Total															

Proposed Project
Health Risk Modeling information
Rail, Aggregate, Asphalt Plant, Concrete Plant, Recycle Area, and Cementitious Facility Emission Sources
DPM Emissions and Model Source Parameters

	Emissions Information			Modeling Emissions				
Emissions Source	**Total PM2.5 Emissions (lb/year)**	**Total Travel Distance (mi)**	**Modeling Travel Distance (feet)**	**Annual (lb/year)**	**Hourly (lb/hr)**	**Hourly (g/s)**	**Source Type**	**Model Source Name**
Rail Emission Sources								
UPRR Locomotive - Off-Site Travel Emissions								
Aggregate & Sand	354	74	3459	3.13	3.58E-04	4.51E-05		
Cementitious Materials	53	114	3459	0.30	3.48E-05	4.38E-06		
Total UPRR Off-Site Locomotive Emissions	407	-	-	3.44	3.93E-04	4.95E-05	Line-Volume	RROFF_DPM
UPRR Locomotive - On-Site Travel Emissions	(lb/year)	(mi)	(feet)	(lb/year)	(lb/hr)	(g/s)		
Aggregate & Sand	354	74	1240	1.12	1.28E-04	1.62E-05		
Cementitious Materials	53	114	1240	0.11	1.25E-05	1.57E-06		
Total	407	-	-	1.23	1.41E-04	1.77E-05		
UPRR Locomotive - On-Site Idle Emissions								
Aggregate & Sand	2.32	-	1240	2.32	2.65E-04	3.34E-05		
Cementitious Materials	0.48	-	1240	0.48	5.48E-05	6.90E-06		
Total	2.8	-		2.8	3.20E-04	4.03E-05		
Total UPRR Locomotive On-Site Emissions				4.03	4.60E-04	5.80E-05	Line-Volume	RRON_DPM
Switcher Locomotive On-Site Travel & Idle Emissions	0.2	-	1903	0.2	2.28E-05	2.88E-06	Line-Volume	SWCH_DPM
Truck Travel - On-Site								
Plant Area 1	-	-	-	17.9	2.04E-03	2.57E-04	Area	OSV_A1
Plant Area 2	-	-	-	10.9	1.24E-03	1.57E-04	Area	OSV_A2
Plant Area 3	-	-	-	5.4	6.16E-04	7.77E-05	Area	OSV_A3
Recycle Area	-	-	-	7.6	8.68E-04	1.09E-04	Area	OSV_REC
Truck Travel - Off-Site			-					
Granite Rock Way	-	-	145	0.333	3.80E-05	4.79E-06	Line-Volume	GRW
Hillcap Ave	-	-	261	0.601	6.86E-05	8.64E-06	Line-Volume	HCAP
Hillsdale Ave	-	-	212	0.487	5.56E-05	7.01E-06	Line-Volume	HDALE
Capitol Expressway East - Eastbound	-	-	541	0.449	5.12E-05	6.46E-06	Line-Volume	CEXPE_EB
Capitol Expressway East - Westbound	-	-	539	0.447	5.10E-05	6.43E-06	Line-Volume	CEXPE_WB
Montery Road North - Northbound	-	-	1152	0.716	8.18E-05	1.03E-05	Line-Volume	MONTYN_NB
Montery Road North - Southbound	-	-	1153	0.717	8.19E-05	1.03E-05	Line-Volume	MONTYN_SB
Recycle Area Emissions								
Off-Road Mobile Equipment Emissions	70	-	-	70	7.99E-03	1.01E-03	Area	RECDPM

Emissions Source	Model Source Name	Base Elevation (meters)	Link Length (meters)	Link Width (meters)	Release Height (meters)	Initial Vertical Height (meters)	(Sigma z) (meters)	Emission Rate (g/sec)
	Line-Volume Source information							
Rail Emission Sources								
UPRR Locomotive - Off-Site Travel Emissions								
Aggregate & Sand								
Cementitious Materials								
Total UPRR Off-Site Locomotive Emissions	RROFF_DPM	DEM	1054.30	3.7	5	8.5	3.95	4.95E-05
UPRR Locomotive - On-Site Travel Emissions								
Aggregate & Sand								
Cementitious Materials								
Total								
UPRR Locomotive - On-Site Idle Emissions								
Aggregate & Sand								
Cementitious Materials								
Total								
Total UPRR Locomotive On-Site Emissions	RRON_DPM	45.72	377.95	3.7	5	8.5	3.95	5.80E-05
Switcher Locomotive On-Site Travel & Idle Emissions	SWCH_DPM	45.72	580.03	3.7	5	8.5	3.95	2.88E-06
Truck Travel - On-Site								
Plant Area 1	OSV_A1							
Plant Area 2	OSV_A2							
Plant Area 3	OSV_A3							
Recycle Area	OSV_REC							
Truck Travel - Off-Site								
Granite Rock Way	GRW	DEM	145	11	3.4	6.8	1.21	4.79E-06
Hillcap Ave	HCAP	DEM	261	11	3.4	6.8	1.21	8.64E-06
Hillsdale Ave	HDALE	DEM	212	11	3.4	6.8	1.21	7.01E-06
Capitol Expressway East - Eastbound	CEXPE_EB	DEM	541	11	3.4	6.8	1.21	6.46E-06
Capitol Expressway East - Westbound	CEXPE_WB	DEM	539	11	3.4	6.8	1.21	6.43E-06
Montery Road North - Northbound	MONTYN_NB	DEM	1152	11	3.4	6.8	1.21	1.03E-05
Montery Road North - Southbound	MONTYN_SB	DEM	1153	11	3.4	6.8	1.21	1.03E-05
Recycle Area Emissions								
Off-Road Mobile Equipment Emissions	RECDPM							

Area Source Information					
Emissions Source	Model Source Name	Base Elevation (meters)	Area (sq. meters)	Release Height (meters)	Emission Rate ($g/s/m^2$)
Rail Emission Sources					
UPRR Locomotive - Off-Site Travel Emissions					
Aggregate & Sand					
Cementitious Materials					
Total UPRR Off-Site Locomotive Emissions					
UPRR Locomotive - On-Site Travel Emissions					
Aggregate & Sand					
Cementitious Materials					
Total					
UPRR Locomotive - On-Site Idle Emissions					
Aggregate & Sand					
Cementitious Materials					
Total					
Total UPRR Locomotive On-Site Emissions					
Switcher Locomotive On-Site Travel & Idle Emissions					
Truck Travel - On-Site					
Plant Area 1	OSV_A1	45.72	20961.0	6	1.23E-08
Plant Area 2	OSV_A2	45.72	12706.3	6	1.23E-08
Plant Area 3	OSV_A3	45.72	2480.2	6	3.13E-08
Recycle Area	OSV_REC	45.72	5676.4	6	1.93E-08
Truck Travel - Off-Site					
Granite Rock Way					
Hillcap Ave					
Hillsdale Ave					
Capitol Expressway East - Eastbound					
Capitol Expressway East - Westbound					
Montery Road North - Northbound					
Montery Road North - Southbound					
Recycle Area Emissions					
Off-Road Mobile Equipment Emissions	RECDPM	45.72	13954	6	7.22E-08

Proposed Project Operation – Health Risk Calculations

Graniterock - Proposed Project - DPM/PM2.5 Modeling Information
AERMOD Risk Modeling Parameters and Maximum Concentrations
Project Operation Impacts
Residential 30-Year Exposure (2024-2053)

Receptor Information

Number of Receptors	298
Receptor Height =	1.5 meters
Receptor spacing =	at specific residential locations

Meteorological Conditions

San Jose Airport Airport Hourly Data	2013-2017
Land Use Classification	Urban
Wind speed =	variable
Wind direction =	variable

MEI Maximum DPM Concentrations

Emission Period	Construction DPM Concentration (μg/m^3)	Operation DPM Concentration (μg/m^3)	Total DPM Concentration (μg/m^3)
2024 - Construction/Operation	0	0.01792	0.01792
2025 - Construction/Operation	0	0.01792	0.01792
2026 - Construction/Operation	0	0.01792	0.01792
2027 - Construction/Operation	0	0.01792	0.01792
2028-2053 - Operation	0	0.01792	0.01792

MEI Maximum PM2.5 Concentrations

Emission Period	Construction PM2.5 Concentration (μg/m^3)	Operation PM2.5 Concentration (μg/m^3)	Total PM2.5 PM2.5 Concentration (μg/m^3)
2024 - Construction/Operation	0.00336	0.51681	0.52
2025 - Construction/Operation	0.00687	0.51681	0.52
2026 - Construction/Operation	0.00811	0.51681	**0.52**
2027 - Construction/Operation	0.00459	0.51681	0.52
2028-2053 - Operation	0.00000	0.51681	0.52

Graniterock - Proposed Project
Maximum TAC Cancer Risk Calculations For Project Operation
Off-Site Residential Receptors (1.5 meter receptor heights)
Residential 30-Year Exposure (2024-2053)

Inhalation Cancer Risk Calculation Method*

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

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

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

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00

	Infant/Child			Adult
Age --> Parameter	3rd Trimester	0 - <2	2 - 16	16 - 70
ASF	10	10	3	1
DBR** =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* Refer to OEHHA guidance and HARP2 model for non-inhaltion exposure pathway methods and values

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

Project Operation Cancer Risk - Maximum Impact Receptor Location

				Maximum - Exposure Information		
Exposure Year	Year	Exposure Duration (years)	Age	Age Sensitivity Factor	Annual DPM Conc. (ug/m3)	TAC Cancer Risk (per million)
1	2024	0.25	-0.25 - 0*	10	0.0179	0.244
1	2024	1	1	10	0.0179	2.943
2	2025	1	2	10	0.0179	2.943
3	2026	1	3	3	0.0179	0.463
4	2027	1	4	3	0.0179	0.463
5	2028	1	5	3	0.0179	0.46
6	2029	1	6	3	0.0179	0.46
7	2030	1	7	3	0.0179	0.46
8	2031	1	8	3	0.0179	0.46
9	2032	1	9	3	0.0179	0.46
10	2033	1	10	3	0.0179	0.46
11	2034	1	11	3	0.0179	0.46
12	2035	1	12	3	0.0179	0.46
13	2036	1	13	3	0.0179	0.46
14	2037	1	14	3	0.0179	0.46
15	2038	1	15	3	0.0179	0.46
16	2039	1	16	3	0.0179	0.46
17	2040	1	17	1	0.0179	0.051
18	2041	1	18	1	0.0179	0.051
19	2042	1	19	1	0.0179	0.051
20	2043	1	20	1	0.0179	0.051
21	2044	1	22	1	0.0179	0.051
22	2045	1	23	1	0.0179	0.051
23	2046	1	24	1	0.0179	0.051
24	2047	1	25	1	0.0179	0.051
25	2048	1	26	1	0.0179	0.051
26	2049	1	27	1	0.0179	0.051
27	2050	1	28	1	0.0179	0.051
28	2051	1	29	1	0.0179	0.051
29	2052	1	29	1	0.0179	0.051
30	2053	1	29	1	0.0179	0.051
Increased DPM Cancer Risk - Years 2024-2053						*13.34*
*Non-DPM TACs Cancer Risk - Years 2024-2053 (from HARP2 Model)***						*2.86*
Total Increased Cancer Risk from All TACs - 2022-2051						**16.20**

* Third trimester of pregnancy

** Non-DPM TACs multi-pathway exposure cancer risk for project operation 2024-2053from HARP2 Model

Proposed Project Construction and Operation – Health Risk Calculations

Graniterock - Proposed Project - DPM/PM2.5 Modeling Information
AERMOD Risk Modeling Parameters and Maximum Concentrations
Construction & Operation Impacts
Residential 30-Year Exposure (2022-2051)

Receptor Information

Number of Receptors	298
Receptor Height =	1.5 meters
Receptor spacing =	at specific residential locations

Meteorological Conditions

San Jose Airport Airport Hourly Data	2013-2017
Land Use Classification	Urban
Wind speed =	variable
Wind direction =	variable

MEI Maximum Concentrations

Emission Period	Construction DPM Concentration ($\mu g/m^3$)	Operation DPM Concentration ($\mu g/m^3$)	Total DPM Concentration ($\mu g/m^3$)
2022 - Construction	0.01406	0	0.01406
2023 - Construction	0.00968	0	0.00968
2024 - Construction/Operation	0.00148	0.01792	0.0194
2025 - Construction/Operation	0.00475	0.01792	0.02267
2026 - Construction/Operation	0.00419	0.01792	0.02211
2027 - Construction/Operation	0.00234	0.01792	0.02026
2028-2051 - Operation	0	0.01792	0.01792

Emission Period	Construction PM2.5 Concentration ($\mu g/m^3$)	Operation PM2.5 Concentration ($\mu g/m^3$)	Total PM2.5 PM2.5 Concentration ($\mu g/m^3$)
2022 - Construction	0.02719	0	0.03
2023 - Construction	0.01812	0	0.02
2024 - Construction/Operation	0.00336	0.5168	0.52
2025 - Construction/Operation	0.00687	0.5168	0.52
2026 - Construction/Operation	0.00811	0.5168	**0.52**
2027 - Construction/Operation	0.00459	0.5168	0.52
2028-2051 - Operation	0	0.5168	0.52

Graniterock - Proposed Project
Maximum TAC Cancer Risk Calculations For Construction & Operation
Off-Site Residential Receptors (1.5 meter receptor heights)
Residential 30-Year Exposure (2022-2051)

Inhalation Cancer Risk Calculation Method*

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

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

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

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00

	Infant/Child			Adult
Age -->	3rd Trimester	0 - <2	2 - 16	16 - 70
Parameter				
ASF	10	10	3	1
DBR** =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* Refer to OEHHA guidance and HARP2 model for non-inhaltion exposure pathway methods and values
** 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction & Operation Cancer Risk - Maximum Impact Receptor Location

				Maximum - Exposure Information		
Exposure Year	Year	Exposure Duration (years)	Age	Age Sensitivity Factor	Annual DPM Conc. (ug/m3)	TAC Cancer Risk (per million)
1	2022	0.25	-0.25 - 0*	10	0.0141	0.19
1	2022	1	1	10	0.0141	2.31
2	2023	1	2	10	0.0097	1.59
3	2024	1	3	3	0.0194	0.50
4	2025	1	4	3	0.0227	0.59
5	2026	1	5	3	0.0221	0.57
6	2027	1	6	3	0.0203	0.52
7	2028	1	7	3	0.0179	0.46
8	2029	1	8	3	0.0179	0.46
9	2030	1	9	3	0.0179	0.46
10	2031	1	10	3	0.0179	0.46
11	2032	1	11	3	0.0179	0.46
12	2033	1	12	3	0.0179	0.46
13	2034	1	13	3	0.0179	0.46
14	2035	1	14	3	0.0179	0.46
15	2036	1	15	3	0.0179	0.46
16	2037	1	16	3	0.0179	0.46
17	2038	1	17	1	0.0179	0.051
18	2039	1	18	1	0.0179	0.051
19	2040	1	19	1	0.0179	0.051
20	2041	1	20	1	0.0179	0.051
21	2042	1	22	1	0.0179	0.051
22	2043	1	23	1	0.0179	0.051
23	2044	1	24	1	0.0179	0.051
24	2045	1	25	1	0.0179	0.051
25	2046	1	26	1	0.0179	0.051
26	2047	1	27	1	0.0179	0.051
27	2048	1	28	1	0.0179	0.051
28	2049	1	29	1	0.0179	0.051
29	2050	1	29	1	0.0179	0.051
30	2051	1	29	1	0.0179	0.051
Increased DPM Cancer Risk - Years 2022-2051						*11.63*
*Non-DPM TACs Cancer Risk - Years 2024-2051 (from HARP2 Model)***						*1.33*
Total Increased Cancer Risk from All TACs - 2022-2051						**12.96**

* Third trimester of pregnancy
** Non-DPM TACs multi-pathway exposure cancer risk for project operation 2024-2051from HARP2 Model

Graniterock - Proposed Project - DPM/PM2.5 Modeling Information
AERMOD Risk Modeling Parameters and Maximum Concentrations
Construction & Operation Impacts
Residential 30-Year Exposure (2024-2053)

Receptor Information

Number of Receptors	298
Receptor Height =	1.5 meters
Receptor spacing =	at specific residential locations

Meteorological Conditions

San Jose Airport Airport Hourly Data	2013-2017
Land Use Classification	Urban
Wind speed =	variable
Wind direction =	variable

MEI Maximum DPM Concentrations

Emission Period	Construction DPM Concentration (μg/m^3)	Operation DPM Concentration (μg/m^3)	Total DPM Concentration (μg/m^3)
2024 - Construction/Operation	0.00148	0.01792	0.0194
2025 - Construction/Operation	0.00475	0.01792	0.02267
2026 - Construction/Operation	0.00419	0.01792	0.02211
2027 - Construction/Operation	0.00234	0.01792	0.02026
2028-2053 - Operation	0	0.01792	0.01792

MEI Maximum PM2.5 Concentrations

Emission Period	Construction PM2.5 Concentration (μg/m^3)	Operation PM2.5 Concentration (μg/m^3)	Total PM2.5 PM2.5 Concentration (μg/m^3)
2024 - Construction/Operation	0.00336	0.51681	0.52
2025 - Construction/Operation	0.00687	0.51681	0.52
2026 - Construction/Operation	0.00811	0.51681	**0.52**
2027 - Construction/Operation	0.00459	0.51681	0.52
2028-2053 - Operation	0.00000	0.51681	0.52

Graniterock - Proposed Project
Maximum TAC Cancer Risk Calculations For Construction & Operation
Off-Site Residential Receptors (1.5 meter receptor heights)
Residential 30-Year Exposure (2024-2053)

Inhalation Cancer Risk Calculation Method*

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

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

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

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00

	Infant/Child			Adult
Age -->	3rd Trimester	0 - <2	2 - 16	16 - 70
Parameter				
ASF	10	10	3	1
DBR** =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* Refer to OEHHA guidance and HARP2 model for non-inhaltion exposure pathway methods and values

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

Construction & Operation Cancer Risk - Maximum Impact Receptor Location

				Maximum - Exposure Information		
Exposure Year	**Year**	**Exposure Duration (years)**	**Age**	**Age Sensitivity Factor**	**Annual DPM Conc. (ug/m3)**	**TAC Cancer Risk (per million)**
1	2024	0.25	-0.25 - 0*	10	0.0194	0.264
1	2024	1	1	10	0.0194	3.186
2	2025	1	2	10	0.0227	3.723
3	2026	1	3	3	0.0221	0.572
4	2027	1	4	3	0.0203	0.524
5	2028	1	5	3	0.0179	0.46
6	2029	1	6	3	0.0179	0.46
7	2030	1	7	3	0.0179	0.46
8	2031	1	8	3	0.0179	0.46
9	2032	1	9	3	0.0179	0.46
10	2033	1	10	3	0.0179	0.46
11	2034	1	11	3	0.0179	0.46
12	2035	1	12	3	0.0179	0.46
13	2036	1	13	3	0.0179	0.46
14	2037	1	14	3	0.0179	0.46
15	2038	1	15	3	0.0179	0.46
16	2039	1	16	3	0.0179	0.46
17	2040	1	17	1	0.0179	0.051
18	2041	1	18	1	0.0179	0.051
19	2042	1	19	1	0.0179	0.051
20	2043	1	20	1	0.0179	0.051
21	2044	1	22	1	0.0179	0.051
22	2045	1	23	1	0.0179	0.051
23	2046	1	24	1	0.0179	0.051
24	2047	1	25	1	0.0179	0.051
25	2048	1	26	1	0.0179	0.051
26	2049	1	27	1	0.0179	0.051
27	2050	1	28	1	0.0179	0.051
28	2051	1	29	1	0.0179	0.051
29	2052	1	29	1	0.0179	0.051
30	2053	1	29	1	0.0179	0.051
Increased DPM Cancer Risk - Years 2024-2053						*14.55*
*Non-DPM TACs Cancer Risk - Years 2024-2053 (from HARP2 Model)***						*2.86*
Total Increased Cancer Risk from All TACs - 2022-2051						**17.41**

* Third trimester of pregnancy

** Non-DPM TACs multi-pathway exposure cancer risk for project operation 2024-2053from HARP2 Model

HARP2 Model Output

HARP2 - HRACalc (dated 21081) 5/12/2021 9:44:49 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 30

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 14
16<30 Years Bin: 14
16 to 70 Years Bin: 0
****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: ON

****
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.05
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
TIER 2 SETTINGS
Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: BAY AREA HEALTH TABLE USED|DBRs changed|FAH changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: C:\Projects\Risk\Proposed\GR-Pro_24-51\hra\GR_30Yr_CancerRisk.csv
Cancer risk total by receptor saved to: C:\Projects\Risk\Proposed\GR-Pro_24-51\hra\GR_30Yr_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: C:\Projects\Risk\Proposed\GR-Pro_24-51\hra\GR_30Yr_NCChronicRisk.csv
Chronic risk total by receptor saved to: C:\Projects\Risk\Proposed\GR-Pro_24-51\hra\GR_30Yr_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: C:\Projects\Risk\Proposed\GR-Pro_24-51\hra\GR_30Yr_NCAcuteRisk.csv
Acute risk total by receptor saved to: C:\Projects\Risk\Proposed\GR-Pro_24-51\hra\GR_30Yr_NCAcuteRiskSumByRec.csv
HRA ran successfully

*HARP - HRACalc v21081 5/12/2021 9:44:49 PM - Cancer Risk - Input File: C:\Projects\Risk\Proposed\GR-Pro_24-51\hra\GR_30Yr_HRAInput.hra

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK	SOIL_RISK	DERMAL_RISK	MMILK_RISK	WATER_RISK	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISK	PIG_RISK	CHICKEN_RISK	EGG_RISK
1	ALL		602453.3	4126234	1.23E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.75E-08	6.23E-08	2.59E-09	8.45E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	ALL		602460	4126246	1.28E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.95E-08	6.47E-08	2.69E-09	8.71E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	ALL		602466	4126259	1.30E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.07E-08	6.58E-08	2.74E-09	8.99E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	ALL		602471.9	4126273	1.34E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.25E-08	6.79E-08	2.83E-09	9.34E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	ALL		602480.3	4126288	1.40E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.51E-08	7.10E-08	2.95E-09	9.73E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	ALL		602485	4126301	1.44E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.71E-08	7.33E-08	3.05E-09	1.01E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	ALL		602492.6	4126315	1.48E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.88E-08	7.50E-08	3.12E-09	1.05E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	ALL		602496.5	4126328	1.54E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.13E-08	7.80E-08	3.25E-09	1.09E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	ALL		602504.1	4126344	1.60E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.44E-08	8.14E-08	3.39E-09	1.14E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	ALL		602511.6	4126358	1.67E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.74E-08	8.49E-08	3.54E-09	1.19E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	ALL		602517.6	4126371	1.70E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.91E-08	8.64E-08	3.61E-09	1.24E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	ALL		602432.3	4126255	1.24E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.81E-08	6.29E-08	2.62E-09	8.69E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	ALL		602439	4126270	1.29E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.01E-08	6.51E-08	2.71E-09	9.03E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	ALL		602443	4126284	1.33E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.18E-08	6.71E-08	2.80E-09	9.35E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	ALL		602449.3	4126297	1.36E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.33E-08	6.88E-08	2.87E-09	9.69E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	ALL		602456.5	4126310	1.42E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.58E-08	7.18E-08	2.99E-09	1.00E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	ALL		602462.8	4126324	1.47E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.81E-08	7.44E-08	3.10E-09	1.05E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	ALL		602470	4126337	1.52E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.03E-08	7.69E-08	3.21E-09	1.09E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
19	ALL		602481.9	4126364	1.63E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.54E-08	8.27E-08	3.45E-09	1.18E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
20	ALL		602473.5	4126374	1.64E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.58E-08	8.31E-08	3.47E-09	1.20E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
21	ALL		602462.8	4126388	1.65E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.65E-08	8.37E-08	3.50E-09	1.23E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
22	ALL		602393	4126278	1.23E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.76E-08	6.21E-08	2.59E-09	8.88E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
23	ALL		602400.1	4126294	1.27E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.95E-08	6.42E-08	2.68E-09	9.25E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
24	ALL		602406.9	4126308	1.34E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.23E-08	6.77E-08	2.83E-09	9.61E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
25	ALL		602413.2	4126323	1.38E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.41E-08	6.97E-08	2.91E-09	1.00E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
26	ALL		602419.6	4126336	1.42E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.60E-08	7.18E-08	3.00E-09	1.04E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
27	ALL		602425.5	4126356	1.49E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.91E-08	7.54E-08	3.15E-09	1.10E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
28	ALL		602416.8	4126372	1.52E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.05E-08	7.70E-08	3.22E-09	1.13E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
29	ALL		602408	4126383	1.54E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.15E-08	7.81E-08	3.27E-09	1.15E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
30	ALL		602398.1	4126397	1.53E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.14E-08	7.76E-08	3.25E-09	1.19E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
31	ALL		602369.4	4126300	1.26E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.87E-08	6.34E-08	2.65E-09	9.14E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
32	ALL		602373.8	4126314	1.30E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.06E-08	6.57E-08	2.74E-09	9.45E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
33	ALL		602382.9	4126326	1.34E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.22E-08	6.75E-08	2.82E-09	9.81E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
34	ALL		602390.4	4126346	1.39E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.49E-08	7.05E-08	2.95E-09	1.04E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
35	ALL		602387.2	4126364	1.42E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.64E-08	7.20E-08	3.01E-09	1.08E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
36	ALL		602379.7	4126375	1.45E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.74E-08	7.32E-08	3.07E-09	1.10E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
37	ALL		602354.7	4126321	1.28E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.98E-08	6.46E-08	2.70E-09	9.44E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
38	ALL		602361.8	4126335	1.32E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.16E-08	6.66E-08	2.78E-09	9.81E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
39	ALL		602366.2	4126349	1.36E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.35E-08	6.88E-08	2.88E-09	1.02E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
40	ALL		602331.3	4126346	1.31E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.12E-08	6.62E-08	2.77E-09	9.76E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
41	ALL		602339.6	4126359	1.36E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.34E-08	6.89E-08	2.88E-09	1.01E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
42	ALL		602346.4	4126372	1.40E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.53E-08	7.10E-08	2.97E-09	1.05E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
43	ALL		602350.7	4126387	1.45E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.75E-08	7.36E-08	3.08E-09	1.10E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
44	ALL		602305.9	4126382	1.35E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.32E-08	6.84E-08	2.87E-09	1.03E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
45	ALL		602310.7	4126397	1.40E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.52E-08	7.08E-08	2.96E-09	1.07E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
46	ALL		602315.8	4126411	1.45E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.76E-08	7.35E-08	3.08E-09	1.12E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
47	ALL		602323	4126424	1.50E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.97E-08	7.60E-08	3.19E-09	1.17E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
48	ALL		602328.1	4126439	1.56E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.24E-08	7.90E-08	3.32E-09	1.22E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
49	ALL		602336.1	4126452	1.61E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.49E-08	8.18E-08	3.43E-09	1.28E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
50	ALL		602340	4126466	1.65E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.66E-08	8.36E-08	3.51E-09	1.33E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
51	ALL		602345.2	4126480	1.73E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.00E-08	8.75E-08	3.68E-09	1.39E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
52	ALL		602351.5	4126495	1.81E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.37E-08	9.19E-08	3.86E-09	1.47E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
53	ALL		602286.4	4126416	1.40E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.54E-08	7.09E-08	2.97E-09	1.09E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
54	ALL		602293.6	4126428	1.45E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.74E-08	7.33E-08	3.07E-09	1.13E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55	ALL		602298	4126441	1.49E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.94E-08	7.55E-08	3.17E-09	1.18E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
56	ALL		602303.9	4126455	1.56E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.25E-08	7.93E-08	3.32E-09	1.23E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
57	ALL		602307.9	4126466	1.60E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.44E-08	8.14E-08	3.42E-09	1.27E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
58	ALL		602313.4	4126478	1.66E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.67E-08	8.41E-08	3.53E-09	1.32E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
59	ALL		602321	4126491	1.72E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.96E-08	8.73E-08	3.67E-09	1.39E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
60	ALL		602326.1	4126503	1.77E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.19E-08	8.98E-08	3.78E-09	1.45E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
61	ALL		602270.6	4126439	1.44E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.69E-08	7.27E-08	3.05E-09	1.13E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
62	ALL		602276.9	4126452	1.49E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.90E-08	7.51E-08	3.15E-09	1.18E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
63	ALL		602281.7	4126463	1.54E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.15E-08	7.81E-08	3.28E-09	1.22E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
64	ALL		602289.2	4126476	1.60E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.40E-08	8.10E-08	3.40E-09	1.27E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
65	ALL		602293.6	4126488	1.64E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.59E-08	8.31E-08	3.49E-09	1.32E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
66	ALL		602299.5	4126503	1.72E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.94E-08	8.72E-08	3.66E-09	1.39E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
67	ALL		602309.1	4126518	1.79E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.26E-08	9.07E-08	3.82E-09	1.47E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
68	ALL		602497.6	4126392	1.78E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.21E-08	9.05E-08	3.77E-09	1.29E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
69	ALL		602489.2	4126403	1.79E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.26E-08	9.09E-08	3.80E-09	1.32E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
70	ALL		602479.7	4126416	1.82E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.42E-08	9.28E-08	3.88E-09	1.36E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
71	ALL		602471	4126428	1.86E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.58E-08	9.47E-08	3.96E-09	1.39E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
72	ALL		602462.7	4126440	1.86E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.59E-08	9.45E-08	3.96E-09	1.43E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
73	ALL		602451.5	4126451	1.89E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.74E-08	9.64E-08	4.04E-09	1.46E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
74	ALL		602426.5	4126476	1.89E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.77E-08	9.61E-08	4.04E-09	1.53E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
75	ALL		602411.9	4126486	1.95E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	9.01E-08	9.94E-08	4.17E-09	1.55E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
76	ALL		602399.2	4126494	1.93E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.92E-08	9.82E-08	4.13E-09	1.57E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
77	ALL		602385.3	4126505	1.96E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	9.03E-08	9.96E-08	4.19E-09	1.59E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
78	ALL		602371.8	4126513	1.94E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.96E-08	9.85E-08	4.15E-09	1.60E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
79	ALL		602360.7	4126521	1.94E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.97E-08	9.87E-08	4.15E-09	1.61E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
80	ALL		602346.4	4126529	1.94E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.97E-08	9.88E-08	4.16E-09	1.61E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
81	ALL		602261.8	4126482	1.54E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.16E-08	7.81E-08	3.28E-09	1.24E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
82	ALL		602251.1	4126488	1.53E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.10E-08	7.72E-08	3.25E-09	1.24E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
83	ALL		602242.4	4126497	1.54E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.15E-08	7.80E-08	3.28E-09	1.25E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
84	ALL		602232.1	4126506	1.54E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.15E-08	7.79E-08	3.28E-09	1.25E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
85	ALL		602269	4126504	1.63E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.55E-08	8.27E-08	3.48E-09	1.32E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
86	ALL		602258.3	4126514	1.63E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.56E-08	8.27E-08	3.48E-09	1.34E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
87	ALL		602247.2	4126522	1.62E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.52E-08	8.21E-08	3.46E-09	1.34E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
88	ALL		602238.4	4126529	1.63E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.55E-08	8.25E-08	3.47E-09	1.34E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
89	ALL		602228.1	4126541	1.65E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.64E-08	8.36E-08	3.52E-09	1.36E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
90	ALL		602281.3	4126528	1.72E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.96E-08	8.69E-08	3.66E-09	1.44E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
91	ALL		602285.3	4126541	1.79E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.27E-08	9.06E-08	3.82E-09	1.51E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
92	ALL		602292.4	4126555	1.86E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.61E-08	9.44E-08	3.98E-09	1.58E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
93	ALL		602263.4	4126548	1.75E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.11E-08	8.87E-08	3.74E-09	1.48E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
94	ALL		602268.2	4126562	1.82E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.43E-08	9.24E-08	3.90E-09	1.55E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95	ALL		602239.2	4126564	1.74E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.08E-08	8.84E-08	3.73E-09	1.47E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
96	ALL		602224.9	4126568	1.73E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.02E-08	8.79E-08	3.70E-09	1.45E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
97	ALL		602432.8	4127406	7.53E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.39E-07	3.94E-07	1.61E-08	3.79E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
98	ALL		602440.4	4127398	7.64E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.45E-07	3.99E-07	1.63E-08	3.88E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
99	ALL		602447.3	4127389	7.80E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.54E-07	4.05E-07	1.66E-08	4.01E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
100	ALL		602440.2	4127358	8.78E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.94E-07	4.61E-07	1.88E-08	4.65E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
101	ALL		602449.4	4127365	8.48E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.83E-07	4.43E-07	1.81E-08	4.45E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
102	ALL		602457.6	4127373	8.14E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.71E-07	4.22E-07	1.73E-08	4.26E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
103	ALL		602457.6	4127339	9.25E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.18E-07	4.82E-07	1.98E-08	5.00E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
104	ALL		602464.5	4127346	8.98E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.08E-07	4.66E-07	1.91E-08	4.81E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
105	ALL		602474	4127353	8.58E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.93E-07	4.42E-07	1.81E-08	4.59E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
106	ALL		602484.9	4127337	8.93E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.11E-07	4.59E-07	1.88E-08	4.87E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
107	ALL		602491	4127329	9.13E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.21E-07	4.68E-07	1.92E-08	5.02E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
108	ALL		602497.6	4127320	9.42E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.35E-07	4.82E-07	1.98E-08	5.20E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
109	ALL		602505.3	4127313	9.62E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.45E-07	4.91E-07	2.02E-08	5.33E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
110	ALL		602511.6	4127304	9.81E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.54E-07	5.01E-07	2.06E-08	5.51E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
111	ALL		602518.5	4127296	1.00E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.65E-07	5.12E-07	2.10E-08	5.67E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
112	ALL		602533	4127283	1.03E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.76E-07	5.23E-07	2.15E-08	5.91E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
113	ALL		602525.4	4127276	1.07E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.97E-07	5.47E-07	2.25E-08	6.26E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
114	ALL		602516.6	4127269	1.11E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.14E-07	5.68E-07	2.34E-08	6.64E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
115	ALL		602532.9	4127249	1.18E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.46E-07	6.02E-07	2.49E-08	7.25E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
116	ALL		602540.9	4127256	1.12E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.21E-07	5.73E-07	2.37E-08	6.80E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
117	ALL		602549.6	4127264	1.06E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.89E-07	5.38E-07	2.22E-08	6.33E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
118	ALL		602563.9	4127249	1.03E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.76E-07	5.27E-07	2.18E-08	6.57E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
119	ALL		602568.1	4127241	1.04E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.81E-07	5.34E-07	2.21E-08	6.78E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
120	ALL		602574.2	4127230	1.07E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.89E-07	5.48E-07	2.27E-08	7.05E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
121	ALL		602596.7	4127243	9.94E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.45E-07	5.22E-07	2.15E-08	6.00E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
122	ALL		602591.9	4127251	9.67E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.35E-07	5.05E-07	2.08E-08	5.88E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
123	ALL		602588	4127261	9.34E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.23E-07	4.85E-07	2.00E-08	5.66E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
124	ALL		602602.3	4127273	8.99E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.02E-07	4.73E-07	1.94E-08	5.03E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
125	ALL		602611.5	4127277	8.91E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.95E-07	4.72E-07	1.93E-08	4.78E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
126	ALL		602621.3	4127283	8.55E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.78E-07	4.55E-07	1.86E-08	4.48E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
127	ALL		602649.8	4127273	7.75E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.41E-07	4.13E-07	1.69E-08	4.25E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
128	ALL		602645.3	4127281	7.61E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.36E-07	4.05E-07	1.66E-08	4.16E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
129	ALL		602640.3	4127290	7.55E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.33E-07	4.01E-07	1.64E-08	4.07E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
130	ALL		602672.1	4127285	6.74E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.98E-07	3.58E-07	1.47E-08	3.77E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
131	ALL		602667.3	4127294	6.69E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.95E-07	3.56E-07	1.46E-08	3.68E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
132	ALL		602662	4127304	6.64E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.93E-07	3.53E-07	1.44E-08	3.59E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
133	ALL		602701.4	4127304	5.82E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.57E-07	3.09E-07	1.26E-08	3.23E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
134	ALL		602697.5	4127310	5.67E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.51E-07	3.00E-07	1.23E-08	3.18E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
135	ALL		602693.8	4127318	5.66E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.50E-07	3.00E-07	1.23E-08	3.12E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
136	ALL		602722.6	4127315	5.39E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.38E-07	2.86E-07	1.17E-08	2.94E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
137	ALL		602718.6	4127322	5.23E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.32E-07	2.77E-07	1.14E-08	2.89E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
138	ALL		602715.2	4127330	5.19E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.30E-07	2.75E-07	1.13E-08	2.83E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
139	ALL		602578.4	4127454	5.40E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.46E-07	2.80E-07	1.14E-08	2.58E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
140	ALL		602589	4127447	5.52E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.50E-07	2.88E-07	1.17E-08	2.59E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
141	ALL		602599.3	4127440	5.66E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.55E-07	2.96E-07	1.20E-08	2.59E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
142	ALL		602625.5	4127429	5.54E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.47E-07	2.92E-07	1.19E-08	2.53E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
143	ALL		602634.5	4127423	5.42E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.42E-07	2.86E-07	1.16E-08	2.53E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
144	ALL		602645.1	4127417	5.23E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.33E-07	2.75E-07	1.12E-08	2.51E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
145	ALL		602663.9	4127406	4.98E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.22E-07	2.63E-07	1.07E-08	2.48E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
146	ALL		602673.1	4127400	5.05E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.24E-07	2.68E-07	1.09E-08	2.46E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
147	ALL		602683.2	4127394	4.84E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.15E-07	2.56E-07	1.04E-08	2.45E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
148	ALL		602695.1	4127376	4.89E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.17E-07	2.59E-07	1.06E-08	2.52E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

149	ALL	602699.8	4127369	4.93E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.19E-07	2.61E-07	1.07E-08	2.56E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
150	ALL	602703.3	4127362	5.02E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.22E-07	2.66E-07	1.09E-08	2.60E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
151	ALL	602691.4	4127348	5.35E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.37E-07	2.84E-07	1.16E-08	2.80E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
152	ALL	602684.2	4127345	5.52E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.44E-07	2.93E-07	1.20E-08	2.89E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
153	ALL	602677.1	4127341	5.67E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.51E-07	3.01E-07	1.23E-08	2.98E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
154	ALL	602627.9	4127316	7.48E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.31E-07	3.97E-07	1.62E-08	3.79E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
155	ALL	602617.3	4127311	7.90E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.50E-07	4.18E-07	1.71E-08	4.02E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
156	ALL	602608.3	4127306	8.12E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.62E-07	4.29E-07	1.75E-08	4.23E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
157	ALL	602599.6	4127301	8.18E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.67E-07	4.29E-07	1.76E-08	4.45E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
158	ALL	602589.8	4127295	8.30E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.75E-07	4.32E-07	1.78E-08	4.71E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
159	ALL	602581.6	4127291	8.44E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.85E-07	4.36E-07	1.79E-08	4.95E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
160	ALL	602561.5	4127293	8.86E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.09E-07	4.54E-07	1.87E-08	5.21E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
161	ALL	602554.3	4127302	8.89E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.11E-07	4.55E-07	1.87E-08	5.10E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
162	ALL	602547.7	4127310	8.84E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.09E-07	4.52E-07	1.86E-08	4.96E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
163	ALL	602532.1	4127324	8.95E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.16E-07	4.56E-07	1.87E-08	4.81E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
164	ALL	602540	4127332	8.43E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.91E-07	4.30E-07	1.77E-08	4.55E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
165	ALL	602549.8	4127339	7.89E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.65E-07	4.03E-07	1.65E-08	4.29E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
166	ALL	602532.9	4127359	7.80E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.62E-07	3.98E-07	1.63E-08	4.06E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
167	ALL	602524.7	4127352	8.25E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.84E-07	4.20E-07	1.72E-08	4.28E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
168	ALL	602515.4	4127344	8.65E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.01E-07	4.41E-07	1.81E-08	4.50E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
169	ALL	602505.4	4127360	8.33E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.86E-07	4.26E-07	1.74E-08	4.25E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
170	ALL	602498.8	4127369	8.16E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.78E-07	4.17E-07	1.71E-08	4.14E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
171	ALL	602491.3	4127377	8.01E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.70E-07	4.10E-07	1.68E-08	4.03E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
172	ALL	602486.3	4127384	7.82E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.61E-07	4.01E-07	1.64E-08	3.93E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
173	ALL	602478.9	4127392	7.66E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.53E-07	3.93E-07	1.61E-08	3.83E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
174	ALL	602471.8	4127401	7.47E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.43E-07	3.84E-07	1.57E-08	3.72E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
175	ALL	602456.4	4127441	6.73E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.09E-07	3.47E-07	1.42E-08	3.23E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
176	ALL	602466.5	4127450	6.58E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.03E-07	3.38E-07	1.38E-08	3.10E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
177	ALL	602473.6	4127456	6.45E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.98E-07	3.31E-07	1.35E-08	3.00E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
178	ALL	602481.8	4127462	6.36E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.95E-07	3.25E-07	1.32E-08	2.91E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
179	ALL	602489.2	4127469	6.21E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.89E-07	3.17E-07	1.29E-08	2.82E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
180	ALL	602495	4127475	6.05E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.81E-07	3.08E-07	1.26E-08	2.74E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
181	ALL	602493.5	4127439	6.72E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.12E-07	3.43E-07	1.40E-08	3.13E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
182	ALL	602485	4127432	6.93E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.21E-07	3.55E-07	1.45E-08	3.26E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
183	ALL	602476.8	4127424	7.05E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.25E-07	3.62E-07	1.48E-08	3.38E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
184	ALL	602513.8	4127418	6.83E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.17E-07	3.49E-07	1.42E-08	3.29E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
185	ALL	602522.6	4127413	6.76E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.14E-07	3.45E-07	1.41E-08	3.31E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
186	ALL	602530.8	4127407	6.74E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.13E-07	3.44E-07	1.41E-08	3.34E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
187	ALL	602540.8	4127401	6.65E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.08E-07	3.40E-07	1.39E-08	3.35E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
188	ALL	602548.8	4127398	6.50E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.01E-07	3.32E-07	1.36E-08	3.35E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
189	ALL	602558	4127392	6.35E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.94E-07	3.24E-07	1.33E-08	3.37E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
190	ALL	602567	4127350	7.05E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.26E-07	3.61E-07	1.48E-08	3.91E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
191	ALL	602573.1	4127360	6.78E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.12E-07	3.48E-07	1.43E-08	3.70E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
192	ALL	602578.4	4127370	6.60E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.02E-07	3.40E-07	1.39E-08	3.51E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
193	ALL	602600.4	4127356	6.98E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.14E-07	3.66E-07	1.49E-08	3.51E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
194	ALL	602594.5	4127347	7.07E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.19E-07	3.69E-07	1.51E-08	3.70E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
195	ALL	602589	4127338	7.31E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.31E-07	3.81E-07	1.56E-08	3.90E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
196	ALL	602624.7	4127346	7.01E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.11E-07	3.72E-07	1.51E-08	3.40E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
197	ALL	602634	4127342	6.67E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.96E-07	3.53E-07	1.44E-08	3.36E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
198	ALL	602643.2	4127337	6.56E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.90E-07	3.48E-07	1.42E-08	3.33E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
199	ALL	602660.4	4127357	5.72E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.54E-07	3.03E-07	1.24E-08	2.95E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
200	ALL	602651.7	4127362	5.84E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.59E-07	3.09E-07	1.26E-08	2.97E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
201	ALL	602642.2	4127368	6.03E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.68E-07	3.19E-07	1.30E-08	2.99E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
202	ALL	602628.9	4127373	6.33E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.81E-07	3.35E-07	1.36E-08	3.04E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
203	ALL	602619.7	4127379	6.52E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.90E-07	3.45E-07	1.40E-08	3.06E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
204	ALL	602611.7	4127383	6.51E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.91E-07	3.43E-07	1.40E-08	3.07E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
205	ALL	602601.7	4127389	6.37E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.86E-07	3.34E-07	1.36E-08	3.08E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
206	ALL	602594.3	4127395	6.21E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.81E-07	3.24E-07	1.32E-08	3.07E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
207	ALL	602583.7	4127400	6.14E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.79E-07	3.18E-07	1.30E-08	3.09E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
208	ALL	602574.2	4127413	5.93E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.72E-07	3.05E-07	1.25E-08	3.00E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
209	ALL	602565.2	4127418	5.94E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.74E-07	3.05E-07	1.25E-08	3.01E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
210	ALL	602555.9	4127423	5.96E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.75E-07	3.05E-07	1.25E-08	3.01E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
211	ALL	602762	4127296	5.02E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.22E-07	2.66E-07	1.09E-08	2.90E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
212	ALL	602738	4127287	5.62E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.48E-07	2.99E-07	1.23E-08	3.17E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
213	ALL	602724.5	4127268	6.11E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.69E-07	3.25E-07	1.33E-08	3.54E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
214	ALL	602724.5	4127250	6.39E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.81E-07	3.40E-07	1.40E-08	3.82E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
215	ALL	602737.2	4127234	6.66E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.93E-07	3.55E-07	1.46E-08	3.98E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
216	ALL	602777.4	4127253	5.75E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.54E-07	3.05E-07	1.25E-08	3.31E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
217	ALL	602786.1	4127234	5.98E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.65E-07	3.16E-07	1.30E-08	3.51E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
218	ALL	602747.2	4127213	7.13E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.14E-07	3.79E-07	1.56E-08	4.27E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
219	ALL	602760.2	4127193	7.31E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.22E-07	3.88E-07	1.60E-08	4.49E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
220	ALL	602799.1	4127214	6.31E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.79E-07	3.35E-07	1.37E-08	3.67E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
221	ALL	602770.2	4127170	7.85E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.45E-07	4.18E-07	1.72E-08	4.82E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
222	ALL	602808.3	4127193	6.72E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.95E-07	3.58E-07	1.47E-08	3.87E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
223	ALL	602854.4	4127218	5.49E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.43E-07	2.92E-07	1.20E-08	3.09E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
224	ALL	602782.4	4127152	8.22E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.60E-07	4.39E-07	1.80E-08	4.99E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
225	ALL	602819.2	4127177	6.79E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.98E-07	3.61E-07	1.48E-08	3.96E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
226	ALL	602864.7	4127197	5.56E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.45E-07	2.95E-07	1.21E-08	3.20E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
227	ALL	602871.8	4127175	5.86E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.59E-07	3.11E-07	1.27E-08	3.36E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
228	ALL	602830.6	4127153	7.06E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.11E-07	3.75E-07	1.54E-08	4.17E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
229	ALL	602792.7	4127134	8.39E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.69E-07	4.47E-07	1.84E-08	5.16E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
230	ALL	602803.1	4127110	8.92E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.95E-07	4.72E-07	1.94E-08	5.45E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
231	ALL	602841.2	4127135	7.38E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.28E-07	3.91E-07	1.60E-08	4.28E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
232	ALL	602888.8	4127159	5.93E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.64E-07	3.12E-07	1.28E-08	3.34E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
233	ALL	602901.3	4127138	6.12E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.74E-07	3.21E-07	1.32E-08	3.40E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
234	ALL	602854.4	4127114	7.52E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.35E-07	3.96E-07	1.63E-08	4.34E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
235	ALL	602822.2	4127068	9.96E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.44E-07	5.24E-07	2.16E-08	5.82E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
236	ALL	602864.8	4127094	7.68E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.43E-07	4.04E-07	1.66E-08	4.43E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
237	ALL	602912.6	4127116	6.35E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.84E-07	3.33E-07	1.37E-08	3.47E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
238	ALL	602920.8	4127099	6.49E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	2.91E-07	3.41E-07	1.39E-08	3.52E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
239	ALL	602875.1	4127073	8.40E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.75E-07	4.42E-07	1.81E-08	4.53E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
240	ALL	602838.6	4127050	1.04E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.67E-07	5.47E-07	2.24E-08	5.74E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
241	ALL	602851	4127029	1.08E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.94E-07	5.56E-07	2.28E-08	5.85E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
242	ALL	602885.9	4127056	8.76E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.94E-07	4.58E-07	1.87E-08	4.57E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
243	ALL	602934.1	4127080	6.99E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.13E-07	3.68E-07	1.50E-08	3.53E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
244	ALL	602942.8	4127057	7.11E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.23E-07	3.69E-07	1.51E-08	3.64E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
245	ALL	602900.5	4127036	8.73E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.00E-07	4.50E-07	1.84E-08	4.58E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
246	ALL	602861.6	4127011	1.13E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.29E-07	5.76E-07	2.36E-08	5.98E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
247	ALL	602868.5	4126989	1.34E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.29E-07	6.73E-07	2.75E-08	6.42E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
248	ALL	602911.1	4127012	9.66E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.49E-07	4.91E-07	2.01E-08	4.77E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
249	ALL	602951.8	4127040	7.30E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.36E-07	3.76E-07	1.54E-08	3.70E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
250	ALL	602967.4	4127016	8.05E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	3.75E-07	4.10E-07	1.67E-08	3.76E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
251	ALL	602919.7	4126992	1.08E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.06E-07	5.43E-07	2.22E-08	4.98E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
252	ALL	602883.5	4126972	1.46E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.93E-07	7.32E-07	2.98E-08	6.50E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
253	ALL	602893.3	4126951	1.76E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.45E-07	8.77E-07	3.56E-08	7.06E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
254	ALL	602935.1	4126975	1.15E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.44E-07	5.78E-07	2.35E-08	5.02E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
255	ALL	602975	4126997	8.74E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.10E-07	4.42E-07	1.80E-08	3.90E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
256	ALL	602901.5	4126932	2.12E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.03E-06	1.04E-06	4.22E-08	7.71E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
257	ALL	602922.1	4126921	2.08E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.01E-06	1.02E-06	4.14E-08	7.34E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
258	ALL	602942.5	4126928	1.75E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.43E-07	8.66E-07	3.51E-08	6.31E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
259	ALL	602960.5	4126941	1.41E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.73E-07	7.03E-07	2.85E-08	5.35E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
260	ALL	602980.1	4126953	1.16E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.53E-07	5.82E-07	2.36E-08	4.59E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
261	ALL	603001.2	4126961	1.01E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.81E-07	5.09E-07	2.07E-08	4.07E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
262	ALL	603021.1	4126976	8.67E-07	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	4.11E-07	4.35E-07	1.77E-08	3.57E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
263	ALL	602965.7	4126898	2.01E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	9.84E-07	9.78E-07	3.95E-08	6.57E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
264	ALL	602986.1	4126905	1.71E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.33E-07	8.42E-07	3.40E-08	5.68E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
265	ALL	602989	4126898	1.79E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.75E-07	8.77E-07	3.54E-08	5.84E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
266	ALL	602971.5	4126882	2.17E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.07E-06	1.05E-06	4.24E-08	7.00E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
267	ALL	602975.2	4126876	2.26E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.12E-06	1.09E-06	4.40E-08	7.18E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
268	ALL	602980.3	4126867	2.31E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.15E-06	1.11E-06	4.48E-08	7.33E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
269	ALL	602984	4126860	2.34E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.16E-06	1.13E-06	4.55E-08	7.45E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
270	ALL	602999.6	4126879	1.92E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	9.46E-07	9.33E-07	3.77E-08	6.17E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
271	ALL	603003.6	4126872	2.00E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	9.90E-07	9.66E-07	3.91E-08	6.35E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
272	ALL	602989.5	4126848	2.40E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.19E-06	1.15E-06	4.67E-08	7.64E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
273	ALL	602993.2	4126843	2.41E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.20E-06	1.16E-06	4.69E-08	7.67E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
274	ALL	602998.3	4126835	2.45E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.21E-06	1.18E-06	4.76E-08	7.74E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
275	ALL	603002	4126828	2.50E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.24E-06	1.20E-06	4.87E-08	7.82E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
276	ALL	603020.2	4126845	2.14E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.07E-06	1.03E-06	4.15E-08	6.73E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
277	ALL	603023.4	4126838	2.18E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.09E-06	1.04E-06	4.22E-08	6.82E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
278	ALL	602998.3	4126923	1.39E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.65E-07	6.88E-07	2.78E-08	4.81E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
279	ALL	603003	4126917	1.44E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.94E-07	7.14E-07	2.89E-08	4.89E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
280	ALL	602991.1	4126918	1.50E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.21E-07	7.42E-07	3.00E-08	5.13E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
281	ALL	602995.1	4126910	1.58E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.62E-07	7.77E-07	3.14E-08	5.26E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
282	ALL	602999.3	4126904	1.61E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.77E-07	7.91E-07	3.20E-08	5.34E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
283	ALL	603022.3	4126863	1.93E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	9.57E-07	9.31E-07	3.76E-08	6.08E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
284	ALL	603026.8	4126854	2.02E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.01E-06	9.68E-07	3.91E-08	6.26E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
285	ALL	603031.9	4126844	2.06E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.03E-06	9.86E-07	3.98E-08	6.40E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
286	ALL	603018.1	4126913	1.39E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.71E-07	6.90E-07	2.79E-08	4.68E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
287	ALL	603022.9	4126907	1.43E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.87E-07	7.06E-07	2.85E-08	4.74E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
288	ALL	603031.3	4126920	1.24E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.93E-07	6.17E-07	2.49E-08	4.24E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
289	ALL	603040.6	4126926	1.14E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.44E-07	5.69E-07	2.30E-08	3.97E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
290	ALL	603035.3	4126914	1.29E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	6.21E-07	6.41E-07	2.59E-08	4.33E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
291	ALL	603044.6	4126918	1.20E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	5.76E-07	5.98E-07	2.42E-08	4.07E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
292	ALL	603031.1	4126890	1.56E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.60E-07	7.67E-07	3.10E-08	5.02E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
293	ALL	603039.5	4126894	1.45E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.04E-07	7.17E-07	2.89E-08	4.71E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
294	ALL	603037.2	4126879	1.64E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.03E-07	8.01E-07	3.23E-08	5.19E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
295	ALL	603044.6	4126884	1.53E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	7.45E-07	7.50E-07	3.03E-08	4.88E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
296	ALL	603047.7	4126863	1.73E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.51E-07	8.35E-07	3.37E-08	5.41E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
297	ALL	603051.7	4126856	1.74E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.60E-07	8.42E-07	3.40E-08	5.48E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
298	ALL	603019.2	4126783	2.86E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.40E-06	1.39E-06	5.60E-08	8.24E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v21081 5/12/2021 9:44:49 PM - Chronic Risk - Input File: C:\Projects\Risk\Proposed\GR-Pro_24-51\hra\GR_30Yr_HRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL	MAXHI
1	ALL		602453.3	4126234	NonCancerChronicDerived_InhSoilDermMMilk	3.72E-03	3.79E-03	1.16E-05	4.37E-05	2.32E-06	3.75E-03	3.92E-03	3.72E-03	2.41E-06	0.00E+00	4.00E-07	1.74E-04	0.00E+00	0.00E+00	3.92E-03
2	ALL		602460	4126246	NonCancerChronicDerived_InhSoilDermMMilk	3.87E-03	3.94E-03	1.20E-05	4.46E-05	2.38E-06	3.90E-03	4.07E-03	3.87E-03	2.47E-06	0.00E+00	4.09E-07	1.80E-04	0.00E+00	0.00E+00	4.07E-03
3	ALL		602466	4126259	NonCancerChronicDerived_InhSoilDermMMilk	3.93E-03	4.00E-03	1.22E-05	4.57E-05	2.43E-06	3.96E-03	4.14E-03	3.93E-03	2.53E-06	0.00E+00	4.18E-07	1.83E-04	0.00E+00	0.00E+00	4.14E-03
4	ALL		602471.9	4126273	NonCancerChronicDerived_InhSoilDermMMilk	4.06E-03	4.13E-03	1.26E-05	4.69E-05	2.50E-06	4.09E-03	4.27E-03	4.06E-03	2.60E-06	0.00E+00	4.30E-07	1.89E-04	0.00E+00	0.00E+00	4.27E-03
5	ALL		602480.3	4126288	NonCancerChronicDerived_InhSoilDermMMilk	4.24E-03	4.31E-03	1.30E-05	4.83E-05	2.59E-06	4.27E-03	4.46E-03	4.24E-03	2.68E-06	0.00E+00	4.44E-07	1.96E-04	0.00E+00	0.00E+00	4.46E-03
6	ALL		602485	4126301	NonCancerChronicDerived_InhSoilDermMMilk	4.38E-03	4.45E-03	1.34E-05	4.95E-05	2.67E-06	4.41E-03	4.61E-03	4.38E-03	2.75E-06	0.00E+00	4.55E-07	2.02E-04	0.00E+00	0.00E+00	4.61E-03
7	ALL		602492.6	4126315	NonCancerChronicDerived_InhSoilDermMMilk	4.47E-03	4.55E-03	1.38E-05	5.09E-05	2.74E-06	4.51E-03	4.71E-03	4.47E-03	2.84E-06	0.00E+00	4.69E-07	2.07E-04	0.00E+00	0.00E+00	4.71E-03
8	ALL		602496.5	4126328	NonCancerChronicDerived_InhSoilDermMMilk	4.65E-03	4.74E-03	1.42E-05	5.23E-05	2.83E-06	4.69E-03	4.90E-03	4.65E-03	2.92E-06	0.00E+00	4.83E-07	2.14E-04	0.00E+00	0.00E+00	4.90E-03
9	ALL		602504.1	4126344	NonCancerChronicDerived_InhSoilDermMMilk	4.86E-03	4.94E-03	1.48E-05	5.42E-05	2.94E-06	4.89E-03	5.11E-03	4.86E-03	3.03E-06	0.00E+00	5.01E-07	2.23E-04	0.00E+00	0.00E+00	5.11E-03
10	ALL		602511.6	4126358	NonCancerChronicDerived_InhSoilDermMMilk	5.06E-03	5.15E-03	1.54E-05	5.60E-05	3.04E-06	5.10E-03	5.32E-03	5.06E-03	3.14E-06	0.00E+00	5.18E-07	2.31E-04	0.00E+00	0.00E+00	5.32E-03
11	ALL		602517.6	4126371	NonCancerChronicDerived_InhSoilDermMMilk	5.15E-03	5.24E-03	1.57E-05	5.77E-05	3.13E-06	5.19E-03	5.42E-03	5.15E-03	3.24E-06	0.00E+00	5.35E-07	2.37E-04	0.00E+00	0.00E+00	5.42E-03
12	ALL		602432.3	4126255	NonCancerChronicDerived_InhSoilDermMMilk	3.75E-03	3.82E-03	1.17E-05	4.41E-05	2.34E-06	3.78E-03	3.95E-03	3.75E-03	2.44E-06	0.00E+00	4.04E-07	1.76E-04	0.00E+00	0.00E+00	3.95E-03
13	ALL		602439	4126270	NonCancerChronicDerived_InhSoilDermMMilk	3.89E-03	3.96E-03	1.21E-05	4.53E-05	2.41E-06	3.92E-03	4.09E-03	3.89E-03	2.51E-06	0.00E+00	4.16E-07	1.82E-04	0.00E+00	0.00E+00	4.09E-03
14	ALL		602443	4126284	NonCancerChronicDerived_InhSoilDermMMilk	4.01E-03	4.08E-03	1.24E-05	4.63E-05	2.48E-06	4.03E-03	4.22E-03	4.00E-03	2.57E-06	0.00E+00	4.26E-07	1.86E-04	0.00E+00	0.00E+00	4.22E-03
15	ALL		602449.3	4126297	NonCancerChronicDerived_InhSoilDermMMilk	4.10E-03	4.17E-03	1.27E-05	4.74E-05	2.54E-06	4.13E-03	4.32E-03	4.10E-03	2.64E-06	0.00E+00	4.37E-07	1.91E-04	0.00E+00	0.00E+00	4.32E-03
16	ALL		602456.5	4126310	NonCancerChronicDerived_InhSoilDermMMilk	4.28E-03	4.36E-03	1.32E-05	4.87E-05	2.62E-06	4.31E-03	4.51E-03	4.28E-03	2.72E-06	0.00E+00	4.49E-07	1.98E-04	0.00E+00	0.00E+00	4.51E-03
17	ALL		602462.8	4126324	NonCancerChronicDerived_InhSoilDermMMilk	4.44E-03	4.51E-03	1.36E-05	5.01E-05	2.70E-06	4.47E-03	4.67E-03	4.44E-03	2.80E-06	0.00E+00	4.63E-07	2.05E-04	0.00E+00	0.00E+00	4.67E-03
18	ALL		602470	4126337	NonCancerChronicDerived_InhSoilDermMMilk	4.59E-03	4.67E-03	1.40E-05	5.15E-05	2.79E-06	4.62E-03	4.83E-03	4.59E-03	2.88E-06	0.00E+00	4.76E-07	2.11E-04	0.00E+00	0.00E+00	4.83E-03
19	ALL		602481.9	4126364	NonCancerChronicDerived_InhSoilDermMMilk	4.93E-03	5.01E-03	1.50E-05	5.46E-05	2.97E-06	4.96E-03	5.18E-03	4.93E-03	3.07E-06	0.00E+00	5.06E-07	2.25E-04	0.00E+00	0.00E+00	5.18E-03
20	ALL		602473.5	4126374	NonCancerChronicDerived_InhSoilDermMMilk	4.95E-03	5.04E-03	1.51E-05	5.50E-05	2.99E-06	4.99E-03	5.21E-03	4.95E-03	3.10E-06	0.00E+00	5.11E-07	2.27E-04	0.00E+00	0.00E+00	5.21E-03
21	ALL		602462.8	4126388	NonCancerChronicDerived_InhSoilDermMMilk	4.98E-03	5.07E-03	1.52E-05	5.57E-05	3.02E-06	5.02E-03	5.24E-03	4.98E-03	3.15E-06	0.00E+00	5.18E-07	2.29E-04	0.00E+00	0.00E+00	5.24E-03
22	ALL		602393	4126278	NonCancerChronicDerived_InhSoilDermMMilk	3.70E-03	3.77E-03	1.16E-05	4.41E-05	2.33E-06	3.73E-03	3.90E-03	3.70E-03	2.45E-06	0.00E+00	4.05E-07	1.75E-04	0.00E+00	0.00E+00	3.90E-03
23	ALL		602400.1	4126294	NonCancerChronicDerived_InhSoilDermMMilk	3.83E-03	3.90E-03	1.20E-05	4.53E-05	2.41E-06	3.86E-03	4.03E-03	3.83E-03	2.52E-06	0.00E+00	4.17E-07	1.80E-04	0.00E+00	0.00E+00	4.03E-03
24	ALL		602406.9	4126308	NonCancerChronicDerived_InhSoilDermMMilk	4.04E-03	4.11E-03	1.25E-05	4.65E-05	2.49E-06	4.07E-03	4.25E-03	4.04E-03	2.60E-06	0.00E+00	4.29E-07	1.88E-04	0.00E+00	0.00E+00	4.25E-03
25	ALL		602413.2	4126323	NonCancerChronicDerived_InhSoilDermMMilk	4.15E-03	4.23E-03	1.28E-05	4.78E-05	2.56E-06	4.18E-03	4.37E-03	4.15E-03	2.67E-06	0.00E+00	4.41E-07	1.93E-04	0.00E+00	0.00E+00	4.37E-03
26	ALL		602419.6	4126336	NonCancerChronicDerived_InhSoilDermMMilk	4.28E-03	4.36E-03	1.32E-05	4.90E-05	2.63E-06	4.31E-03	4.50E-03	4.28E-03	2.74E-06	0.00E+00	4.53E-07	1.99E-04	0.00E+00	0.00E+00	4.50E-03
27	ALL		602425.5	4126356	NonCancerChronicDerived_InhSoilDermMMilk	4.49E-03	4.57E-03	1.38E-05	5.09E-05	2.75E-06	4.52E-03	4.72E-03	4.49E-03	2.86E-06	0.00E+00	4.71E-07	2.07E-04	0.00E+00	0.00E+00	4.72E-03
28	ALL		602416.8	4126372	NonCancerChronicDerived_InhSoilDermMMilk	4.58E-03	4.66E-03	1.40E-05	5.17E-05	2.80E-06	4.61E-03	4.82E-03	4.58E-03	2.92E-06	0.00E+00	4.80E-07	2.11E-04	0.00E+00	0.00E+00	4.82E-03
29	ALL		602408	4126383	NonCancerChronicDerived_InhSoilDermMMilk	4.65E-03	4.73E-03	1.42E-05	5.22E-05	2.83E-06	4.68E-03	4.89E-03	4.64E-03	2.95E-06	0.00E+00	4.86E-07	2.14E-04	0.00E+00	0.00E+00	4.89E-03
30	ALL		602398.1	4126397	NonCancerChronicDerived_InhSoilDermMMilk	4.61E-03	4.69E-03	1.42E-05	5.29E-05	2.85E-06	4.64E-03	4.85E-03	4.61E-03	3.00E-06	0.00E+00	4.93E-07	2.15E-04	0.00E+00	0.00E+00	4.85E-03
31	ALL		602369.4	4126300	NonCancerChronicDerived_InhSoilDermMMilk	3.78E-03	3.84E-03	1.18E-05	4.46E-05	2.37E-06	3.80E-03	3.98E-03	3.77E-03	2.49E-06	0.00E+00	4.11E-07	1.78E-04	0.00E+00	0.00E+00	3.98E-03
32	ALL		602373.8	4126314	NonCancerChronicDerived_InhSoilDermMMilk	3.91E-03	3.98E-03	1.22E-05	4.56E-05	2.44E-06	3.94E-03	4.12E-03	3.91E-03	2.55E-06	0.00E+00	4.21E-07	1.83E-04	0.00E+00	0.00E+00	4.12E-03
33	ALL		602382.9	4126326	NonCancerChronicDerived_InhSoilDermMMilk	4.02E-03	4.09E-03	1.25E-05	4.68E-05	2.50E-06	4.05E-03	4.23E-03	4.02E-03	2.62E-06	0.00E+00	4.32E-07	1.88E-04	0.00E+00	0.00E+00	4.23E-03
34	ALL		602390.4	4126346	NonCancerChronicDerived_InhSoilDermMMilk	4.20E-03	4.27E-03	1.30E-05	4.85E-05	2.60E-06	4.23E-03	4.42E-03	4.19E-03	2.72E-06	0.00E+00	4.49E-07	1.96E-04	0.00E+00	0.00E+00	4.42E-03
35	ALL		602387.2	4126364	NonCancerChronicDerived_InhSoilDermMMilk	4.28E-03	4.36E-03	1.33E-05	4.97E-05	2.66E-06	4.31E-03	4.51E-03	4.28E-03	2.80E-06	0.00E+00	4.61E-07	2.00E-04	0.00E+00	0.00E+00	4.51E-03
36	ALL		602379.7	4126375	NonCancerChronicDerived_InhSoilDermMMilk	4.35E-03	4.43E-03	1.35E-05	5.02E-05	2.70E-06	4.38E-03	4.58E-03	4.35E-03	2.83E-06	0.00E+00	4.67E-07	2.03E-04	0.00E+00	0.00E+00	4.58E-03
37	ALL		602354.7	4126321	NonCancerChronicDerived_InhSoilDermMMilk	3.84E-03	3.91E-03	1.20E-05	4.54E-05	2.41E-06	3.87E-03	4.05E-03	3.84E-03	2.54E-06	0.00E+00	4.19E-07	1.81E-04	0.00E+00	0.00E+00	4.05E-03
38	ALL		602361.8	4126335	NonCancerChronicDerived_InhSoilDermMMilk	3.96E-03	4.03E-03	1.24E-05	4.66E-05	2.48E-06	3.99E-03	4.17E-03	3.96E-03	2.61E-06	0.00E+00	4.30E-07	1.86E-04	0.00E+00	0.00E+00	4.17E-03
39	ALL		602366.2	4126349	NonCancerChronicDerived_InhSoilDermMMilk	4.09E-03	4.16E-03	1.27E-05	4.77E-05	2.55E-06	4.12E-03	4.31E-03	4.09E-03	2.68E-06	0.00E+00	4.42E-07	1.92E-04	0.00E+00	0.00E+00	4.31E-03
40	ALL		602331.3	4126346	NonCancerChronicDerived_InhSoilDermMMilk	3.94E-03	4.01E-03	1.23E-05	4.61E-05	2.46E-06	3.97E-03	4.15E-03	3.94E-03	2.58E-06	0.00E+00	4.26E-07	1.85E-04	0.00E+00	0.00E+00	4.15E-03
41	ALL		602339.6	4126359	NonCancerChronicDerived_InhSoilDermMMilk	4.10E-03	4.17E-03	1.27E-05	4.73E-05	2.54E-06	4.13E-03	4.32E-03	4.10E-03	2.66E-06	0.00E+00	4.38E-07	1.91E-04	0.00E+00	0.00E+00	4.32E-03
42	ALL		602346.4	4126372	NonCancerChronicDerived_InhSoilDermMMilk	4.22E-03	4.30E-03	1.30E-05	4.84E-05	2.61E-06	4.25E-03	4.44E-03	4.22E-03	2.73E-06	0.00E+00	4.50E-07	1.96E-04	0.00E+00	0.00E+00	4.44E-03
43	ALL		602350.7	4126387	NonCancerChronicDerived_InhSoilDermMMilk	4.37E-03	4.45E-03	1.35E-05	4.98E-05	2.69E-06	4.41E-03	4.60E-03	4.37E-03	2.81E-06	0.00E+00	4.63E-07	2.03E-04	0.00E+00	0.00E+00	4.60E-03
44	ALL		602305.9	4126382	NonCancerChronicDerived_InhSoilDermMMilk	4.07E-03	4.14E-03	1.26E-05	4.74E-05	2.54E-06	4.10E-03	4.28E-03	4.06E-03	2.67E-06	0.00E+00	4.40E-07	1.90E-04	0.00E+00	0.00E+00	4.28E-03
45	ALL		602310.7	4126397	NonCancerChronicDerived_InhSoilDermMMilk	4.20E-03	4.28E-03	1.30E-05	4.86E-05	2.61E-06	4.23E-03	4.42E-03	4.20E-03	2.75E-06	0.00E+00	4.52E-07	1.96E-04	0.00E+00	0.00E+00	4.42E-03
46	ALL		602315.8	4126411	NonCancerChronicDerived_InhSoilDermMMilk	4.37E-03	4.44E-03	1.35E-05	4.99E-05	2.69E-06	4.40E-03	4.60E-03	4.37E-03	2.82E-06	0.00E+00	4.65E-07	2.03E-04	0.00E+00	0.00E+00	4.60E-03
47	ALL		602323	4126424	NonCancerChronicDerived_InhSoilDermMMilk	4.51E-03	4.59E-03	1.39E-05	5.13E-05	2.77E-06	4.54E-03	4.75E-03	4.51E-03	2.91E-06	0.00E+00	4.79E-07	2.09E-04	0.00E+00	0.00E+00	4.75E-03
48	ALL		602328.1	4126439	NonCancerChronicDerived_InhSoilDermMMilk	4.69E-03	4.77E-03	1.44E-05	5.28E-05	2.87E-06	4.72E-03	4.93E-03	4.69E-03	3.01E-06	0.00E+00	4.94E-07	2.17E-04	0.00E+00	0.00E+00	4.93E-03
49	ALL		602336.1	4126452	NonCancerChronicDerived_InhSoilDermMMilk	4.85E-03	4.94E-03	1.48E-05	5.44E-05	2.96E-06	4.89E-03	5.10E-03	4.85E-03	3.11E-06	0.00E+00	5.10E-07	2.24E-04	0.00E+00	0.00E+00	5.10E-03
50	ALL		602340	4126466	NonCancerChronicDerived_InhSoilDermMMilk	4.95E-03	5.04E-03	1.52E-05	5.59E-05	3.04E-06	4.99E-03	5.21E-03	4.95E-03	3.20E-06	0.00E+00	5.25E-07	2.29E-04	0.00E+00	0.00E+00	5.21E-03
51	ALL		602345.2	4126480	NonCancerChronicDerived_InhSoilDermMMilk	5.18E-03	5.27E-03	1.58E-05	5.76E-05	3.15E-06	5.22E-03	5.45E-03	5.18E-03	3.31E-06	0.00E+00	5.42E-07	2.38E-04	0.00E+00	0.00E+00	5.45E-03
52	ALL		602351.5	4126495	NonCancerChronicDerived_InhSoilDermMMilk	5.44E-03	5.53E-03	1.65E-05	5.98E-05	3.28E-06	5.48E-03	5.72E-03	5.44E-03	3.45E-06	0.00E+00	5.64E-07	2.49E-04	0.00E+00	0.00E+00	5.72E-03
53	ALL		602286.4	4126416	NonCancerChronicDerived_InhSoilDermMMilk	4.21E-03	4.28E-03	1.30E-05	4.87E-05	2.62E-06	4.24E-03	4.43E-03	4.21E-03	2.76E-06	0.00E+00	4.54E-07	1.97E-04	0.00E+00	0.00E+00	4.43E-03
54	ALL		602293.6	4126428	NonCancerChronicDerived_InhSoilDermMMilk	4.35E-03	4.42E-03	1.34E-05	5.00E-05	2.69E-06	4.38E-03	4.58E-03	4.35E-03	2.84E-06	0.00E+00	4.66E-07	2.03E-04	0.00E+00	0.00E+00	4.58E-03
55	ALL		602298	4126441	NonCancerChronicDerived_InhSoilDermMMilk	4.48E-03	4.55E-03	1.38E-05	5.12E-05	2.77E-06	4.51E-03	4.71E-03	4.47E-03	2.91E-06	0.00E+00	4.79E-07	2.08E-04	0.00E+00	0.00E+00	4.71E-03
56	ALL		602303.9	4126455	NonCancerChronicDerived_InhSoilDermMMilk	4.70E-03	4.78E-03	1.44E-05	5.26E-05	2.86E-06	4.73E-03	4.94E-03	4.70E-03	3.00E-06	0.00E+00	4.93E-07	2.17E-04	0.00E+00	0.00E+00	4.94E-03
57	ALL		602307.9	4126466	NonCancerChronicDerived_InhSoilDermMMilk	4.82E-03	4.91E-03	1.47E-05	5.38E-05	2.94E-06	4.86E-03	5.07E-03	4.82E-03	3.08E-06	0.00E+00	5.05E-07	2.22E-04	0.00E+00	0.00E+00	5.07E-03
58	ALL		602313.4	4126478	NonCancerChronicDerived_InhSoilDermMMilk	4.98E-03	5.07E-03	1.51E-05	5.52E-05	3.02E-06	5.02E-03	5.24E-03	4.98E-03	3.17E-06	0.00E+00	5.19E-07	2.29E-04	0.00E+00	0.00E+00	5.24E-03
59	ALL		602321	4126491	NonCancerChronicDerived_InhSoilDermMMilk	5.17E-03	5.26E-03	1.57E-05	5.70E-05	3.13E-06	5.21E-03	5.44E-03	5.17E-03	3.28E-06	0.00E+00	5.37E-07	2.37E-04	0.00E+00	0.00E+00	5.44E-03
60	ALL		602326.1	4126503	NonCancerChronicDerived_InhSoilDermMMilk	5.31E-03	5.40E-03	1.61E-05	5.87E-05	3.22E-06	5.35E-03	5.59E-03	5.31E-03	3.39E-06	0.00E+00	5.54E-07	2.44E-04	0.00E+00	0.00E+00	5.59E-03
61	ALL		602270.6	4126439	NonCancerChronicDerived_InhSoilDermMMilk	4.31E-03	4.39E-03	1.33E-05	4.95E-05	2.67E-06	4.34E-03	4.54E-03	4.31E-03	2.81E-06	0.00E+00	4.62E-07	2.01E-04	0.00E+00	0.00E+00	4.54E-03
62	ALL		602276.9	4126452	NonCancerChronicDerived_InhSoilDermMMilk	4.45E-03	4.53E-03	1.37E-05	5.08E-05	2.75E-06	4.49E-03	4.69E-03	4.45E-03	2.90E-06	0.00E+00	4.76E-07	2.07E-04	0.00E+00	0.00E+00	4.69E-03
63	ALL		602281.7	4126463	NonCancerChronicDerived_InhSoilDermMMilk	4.63E-03	4.71E-03	1.42E-05	5.19E-05	2.83E-06	4.67E-03	4.87E-03	4.63E-03	2.97E-06	0.00E+00	4.87E-07	2.14E-04	0.00E+00	0.00E+00	4.87E-03
64	ALL		602289.2	4126476	NonCancerChronicDerived_InhSoilDermMMilk	4.80E-03	4.88E-03	1.46E-05	5.35E-05	2.92E-06	4.84E-03	5.05E-03	4.80E-03	3.07E-06	0.00E+00	5.02E-07	2.21E-04	0.00E+00	0.00E+00	5.05E-03
65	ALL		602293.6	4126488	NonCancerChronicDerived_InhSoilDermMMilk	4.92E-03	5.00E-03	1.50E-05	5.48E-05	2.99E-06	4.95E-03	5.17E-03	4.92E-03	3.15E-06	0.00E+00	5.16E-07	2.26E-04	0.00E+00	0.00E+00	5.17E-03
66	ALL		602299.5	4126503	NonCancerChronicDerived_InhSoilDermMMilk	5.16E-03	5.25E-03	1.56E-05	5.66E-05	3.11E-06	5.20E-03	5.43E-03	5.16E-03	3.26E-06	0.00E+00	5.34E-07	2.36E-04	0.00E+00	0.00E+00	5.43E-03
67	ALL		602309.1	4126518	NonCancerChronicDerived_InhSoilDermMMilk	5.37E-03	5.46E-03	1.62E-05	5.88E-05	3.24E-06	5.40E-03	5.64E-03	5.36E-03	3.40E-06	0.00E+00	5.56E-07	2.45E-04	0.00E+00	0.00E+00	5.64E-03
68	ALL		602497.6	4126392	NonCancerChronicDerived_InhSoilDermMMilk	5.39E-03	5.48E-03	1.63E-05	5.84E-05	3.20E-06	5.43E-03	5.67E-03	5.39E-03	3.30E-06	0.00E+00	5.43E-07	2.44E-04	0.00E+00	0.00E+00	5.67E-03
69	ALL		602489.2	4126403	NonCancerChronicDerived_InhSoilDermMMilk	5.41E-03	5.51E-03	1.64E-05	5.90E-05	3.23E-06	5.45E-03	5.69E-03	5.41E-03	3.34E-06	0.00E+00	5.49E-07	2.46E-04	0.00E+00	0.00E+00	5.69E-03
70	ALL		602479.7	4126416	NonCancerChronicDerived_InhSoilDermMMilk	5.52E-03	5.62E-03	1.66E-05	5.98E-05	3.28E-06	5.56E-03	5.80E-03	5.52E-03	3.39E-06	0.00E+00	5.58E-07	2.50E-04	0.00E+00	0.00E+00	5.80E-03
71	ALL		602471	4126428	NonCancerChronicDerived_InhSoilDermMMilk	5.64E-03	5.73E-03	1.69E-05	6.05E-05	3.33E-06	5.68E-03	5.92E-03	5.64E-03	3.44E-06	0.00E+00	5.65E-07	2.55E-04	0.00E+00	0.00E+00	5.92E-03
72	ALL		602462.7	4126440	NonCancerChronicDerived_InhSoilDermMMilk	5.61E-03	5.71E-03	1.70E-05	6.13E-05	3.36E-06	5.65E-03	5.90E-03	5.61E-03	3.50E-06	0.00E+00	5.74E-07	2.56E-04	0.00E+00	0.00E+00	5.90E-03
73	ALL		602451.5	4126451	NonCancerChronicDerived_InhSoilDermMMilk	5.73E-03	5.82E-03	1.72E-05	6.18E-05	3.41E-06	5.77E-03	6.02E-03	5.73E-03	3.54E-06	0.00E+00	5.80E-07	2.60E-04	0.00E+00	0.00E+00	6.02E-03
74	ALL		602426.5	4126476	NonCancerChronicDerived_InhSoilDermMMilk	5.69E-03	5.79E-03	1.73E-05	6.30E-05	3.45E-06	5.73E-03	5.99E-03	5.69E-03	3.63E-06	0.00E+00	5.93E-07	2.61E-04	0.00E+00	0.00E+00	5.99E-03
75	ALL		602411.9	4126486	NonCancerChronicDerived_InhSoilDermMMilk	5.89E-03	5.99E-03	1.77E-05	6.32E-05	3.50E-06	5.94E-03	6.20E-03	5.89E-03	3.64E-06	0.00E+00	5.96E-07	2.67E-04	0.00E+00	0.00E+00	6.20E-03
76	ALL		602399.2	4126494	NonCancerChronicDerived_InhSoilDermMMilk	5.81E-03	5.91E-03	1.75E-05	6.33E-05	3.49E-06	5.85E-03	6.11E-03	5.81E-03	3.66E-06	0.00E+00	5.98E-07	2.65E-04	0.00E+00	0.00E+00	6.11E-03
77	ALL		602385.3	4126505	NonCancerChronicDerived_InhSoilDermMMilk	5.89E-03	5.99E-03	1.77E-05	6.35E-05	3.52E-06	5.94E-03	6.20E-03	5.89E-03	3.68E-06	0.00E+00	6.01E-07	2.68E-04	0.00E+00	0.00E+00	6.20E-03
78	ALL		602371.8	4126513	NonCancerChronicDerived_InhSoilDermMMilk	5.83E-03	5.92E-03	1.76E-05	6.35E-05	3.51E-06	5.87E-03	6.13E-03	5.82E-03	3.68E-06	0.00E+00	6.02E-07	2.66E-04	0.00E+00	0.00E+00	6.13E-03
79	ALL		602360.7	4126521	NonCancerChronicDerived_InhSoilDermMMilk	5.83E-03	5.93E-03	1.76E-05	6.36E-05	3.51E-06	5.87E-03	6.13E-03	5.83E-03	3.69E-06	0.00E+00	6.03E-07	2.66E-04	0.00E+00	0.00E+00	6.13E-03
80	ALL		602346.4	4126529	NonCancerChronicDerived_InhSoilDermMMilk	5.84E-03	5.94E-03	1.76E-05	6.33E-05	3.50E-06	5.88E-03	6.14E-03	5.84E-03	3.68E-06	0.00E+00	6.00E-07	2.66E-04	0.00E+00	0.00E+00	6.14E-03
81	ALL		602261.8	4126482	NonCancerChronicDerived_InhSoilDermMMilk	4.62E-03	4.70E-03	1.42E-05	5.21E-05	2.84E-06	4.66E-03	4.87E-03	4.62E-03	2.99E-06	0.00E+00	4.90E-07	2.14E-04	0.00E+00	0.00E+00	4.87E-03
82	ALL		602251.1	4126488	NonCancerChronicDerived_InhSoilDermMMilk	4.57E-03	4.65E-03	1.41E-05	5.20E-05	2.82E-06	4.61E-03	4.81E-03	4.57E-03	2.98E-06	0.00E+00	4.89E-07	2.12E-04	0.00E+00	0.00E+00	4.81E-03
83	ALL		602242.4	4126497	NonCancerChronicDerived_InhSoilDermMMilk	4.62E-03	4.70E-03	1.42E-05	5.21E-05	2.83E-06	4.65E-03	4.86E-03	4.62E-03	2.99E-06	0.00E+00	4.90E-07	2.14E-04	0.00E+00	0.00E+00	4.86E-03
84	ALL		602232.1	4126506	NonCancerChronicDerived_InhSoilDermMMilk	4.61E-03	4.69E-03	1.42E-05	5.23E-05	2.84E-06	4.64E-03	4.85E-03	4.61E-03	3.00E-06	0.00E+00	4.92E-07	2.14E-04	0.00E+00	0.00E+00	4.85E-03
85	ALL		602269	4126504	NonCancerChronicDerived_InhSoilDermMMilk	4.89E-03	4.98E-03	1.49E-05	5.44E-05	2.98E-06	4.93E-03	5.15E-03	4.89E-03	3.13E-06	0.00E+00	5.13E-07	2.25E-04	0.00E+00	0.00E+00	5.15E-03
86	ALL		602258.3	4126514	NonCancerChronicDerived_InhSoilDermMMilk	4.89E-03	4.98E-03	1.49E-05	5.46E-05	2.98E-06	4.93E-03	5.15E-03	4.89E-03	3.15E-06	0.00E+00	5.15E-07	2.25E-04	0.00E+00	0.00E+00	5.15E-03
87	ALL		602247.2	4126522	NonCancerChronicDerived_InhSoilDermMMilk	4.86E-03	4.94E-03	1.48E-05	5.45E-05	2.97E-06	4.89E-03	5.11E-03	4.86E-03	3.14E-06	0.00E+00	5.14E-07	2.24E-04	0.00E+00	0.00E+00	5.11E-03
88	ALL		602238.4	4126529	NonCancerChronicDerived_InhSoilDermMMilk	4.88E-03	4.96E-03	1.49E-05	5.45E-05	2.98E-06	4.91E-03	5.13E-03	4.88E-03	3.15E-06	0.00E+00	5.15E-07	2.25E-04	0.00E+00	0.00E+00	5.13E-03
89	ALL		602228.1	4126541	NonCancerChronicDerived_InhSoilDermMMilk	4.94E-03	5.03E-03	1.50E-05	5.49E-05	3.01E-06	4.98E-03	5.20E-03	4.94E-03	3.17E-06	0.00E+00	5.18E-07	2.27E-04	0.00E+00	0.00E+00	5.20E-03
90	ALL		602281.3	4126528	NonCancerChronicDerived_InhSoilDermMMilk	5.13E-03	5.22E-03	1.57E-05	5.75E-05	3.14E-06	5.17E-03	5.40E-03	5.13E-03	3.33E-06	0.00E+00	5.45E-07	2.37E-04	0.00E+00	0.00E+00	5.40E-03
91	ALL		602285.3	4126541	NonCancerChronicDerived_InhSoilDermMMilk	5.35E-03	5.44E-03	1.63E-05	5.92E-05	3.25E-06	5.38E-03	5.62E-03	5.35E-03	3.44E-06	0.00E+00	5.62E-07	2.46E-04	0.00E+00	0.00E+00	5.62E-03
92	ALL		602292.4	4126555	NonCancerChronicDerived_InhSoilDermMMilk	5.57E-03	5.67E-03	1.69E-05	6.13E-05	3.38E-06	5.61E-03	5.86E-03	5.57E-03	3.58E-06	0.00E+00	5.83E-07	2.56E-04	0.00E+00	0.00E+00	5.86E-03
93	ALL		602263.4	4126548	NonCancerChronicDerived_InhSoilDermMMilk	5.23E-03	5.32E-03	1.59E-05	5.82E-05	3.19E-06	5.27E-03	5.51E-03	5.23E-03	3.38E-06	0.00E+00	5.52E-07	2.41E-04	0.00E+00	0.00E+00	5.51E-03
94	ALL		602268.2	4126562	NonCancerChronicDerived_InhSoilDermMMilk	5.45E-03	5.55E-03	1.65E-05	6.01E-05	3.31E-06	5.49E-03	5.74E-03	5.45E-03	3.50E-06	0.00E+00	5.71E-07	2.50E-04	0.00E+00	0.00E+00	5.74E-03
95	ALL		602239.2	4126564	NonCancerChronicDerived_InhSoilDermMMilk	5.22E-03	5.31E-03	1.59E-05	5.79E-05	3.18E-06	5.25E-03	5.49E-03	5.21E-03	3.37E-06	0.00E+00	5.49E-07	2.40E-04	0.00E+00	0.00E+00	5.49E-03
96	ALL		602224.9	4126568	NonCancerChronicDerived_InhSoilDermMMilk	5.19E-03	5.28E-03	1.58E-05	5.72E-05	3.15E-06	5.23E-03	5.46E-03	5.19E-03	3.32E-06	0.00E+00	5.43E-07	2.38E-04	0.00E+00	0.00E+00	5.46E-03
97	ALL		602432.8	4127406	NonCancerChronicDerived_InhSoilDermMMilk	2.39E-02	2.42E-02	6.44E-05	1.94E-04	1.17E-05	2.40E-02	2.50E-02	2.39E-02	1.07E-05	0.00E+00	1.77E-06	9.65E-04	0.00E+00	0.00E+00	2.50E-02
98	ALL		602440.4	4127398	NonCancerChronicDerived_InhSoilDermMMilk	2.42E-02	2.45E-02	6.62E-05	2.05E-04	1.22E-05	2.43E-02	2.53E-02	2.41E-02	1.12E-05	0.00E+00	1.87E-06	9.92E-04	0.00E+00	0.00E+00	2.53E-02
99	ALL		602447.3	4127389	NonCancerChronicDerived_InhSoilDermMMilk	2.45E-02	2.49E-02	6.83E-05	2.17E-04	1.27E-05	2.47E-02	2.57E-02	2.45E-02	1.19E-05	0.00E+00	1.98E-06	1.02E-03	0.00E+00	0.00E+00	2.57E-02
100	ALL		602440.2	4127358	NonCancerChronicDerived_InhSoilDermMMilk	2.79E-02	2.83E-02	7.44E-05	2.19E-04	1.34E-05	2.80E-02	2.91E-02	2.79E-02	1.23E-05	0.00E+00	2.02E-06	1.12E-03	0.00E+00	0.00E+00	2.91E-02
101	ALL		602449.4	4127365	NonCancerChronicDerived_InhSoilDermMMilk	2.68E-02	2.72E-02	7.32E-05	2.25E-04	1.34E-05	2.70E-02	2.80E-02	2.68E-02	1.24E-05	0.00E+00	2.06E-06	1.10E-03	0.00E+00	0.00E+00	2.80E-02
102	ALL		602457.6	4127373	NonCancerChronicDerived_InhSoilDermMMilk	2.55E-02	2.59E-02	7.21E-05	2.35E-04	1.35E-05	2.57E-02	2.68E-02	2.55E-02	1.28E-05	0.00E+00	2.13E-06	1.08E-03	0.00E+00	0.00E+00	2.68E-02
103	ALL		602457.6	4127339	NonCancerChronicDerived_InhSoilDermMMilk	2.91E-02	2.96E-02	8.01E-05	2.49E-04	1.48E-05	2.93E-02	3.05E-02	2.91E-02	1.38E-05	0.00E+00	2.28E-06	1.20E-03	0.00E+00	0.00E+00	3.05E-02
104	ALL		602464.5	4127346	NonCancerChronicDerived_InhSoilDermMMilk	2.82E-02	2.86E-02	7.90E-05	2.54E-04	1.47E-05	2.84E-02	2.95E-02	2.82E-02	1.40E-05	0.00E+00	2.32E-06	1.18E-03	0.00E+00	0.00E+00	2.95E-02
105	ALL		602474	4127353	NonCancerChronicDerived_InhSoilDermMMilk	2.67E-02	2.72E-02	7.74E-05	2.63E-04	1.47E-05	2.69E-02	2.80E-02	2.67E-02	1.42E-05	0.00E+00	2.37E-06	1.16E-03	0.00E+00	0.00E+00	2.80E-02
106	ALL		602484.9	4127337	NonCancerChronicDerived_InhSoilDermMMilk	2.77E-02	2.82E-02	8.15E-05	2.83E-04	1.56E-05	2.79E-02	2.91E-02	2.77E-02	1.53E-05	0.00E+00	2.55E-06	1.22E-03	0.00E+00	0.00E+00	2.91E-02
107	ALL		602491	4127329	NonCancerChronicDerived_InhSoilDermMMilk	2.83E-02	2.87E-02	8.38E-05	2.95E-04	1.62E-05	2.84E-02	2.97E-02	2.82E-02	1.59E-05	0.00E+00	2.66E-06	1.25E-03	0.00E+00	0.00E+00	2.97E-02
108	ALL		602497.6	4127320	NonCancerChronicDerived_InhSoilDermMMilk	2.91E-02	2.96E-02	8.71E-05	3.10E-04	1.69E-05	2.93E-02	3.06E-02	2.91E-02	1.67E-05	0.00E+00	2.79E-06	1.30E-03	0.00E+00	0.00E+00	3.06E-02
109	ALL		602505.3	4127313	NonCancerChronicDerived_InhSoilDermMMilk	2.97E-02	3.02E-02	8.93E-05	3.21E-04	1.74E-05	2.99E-02	3.12E-02	2.97E-02	1.73E-05	0.00E+00	2.88E-06	1.33E-03	0.00E+00	0.00E+00	3.12E-02
110	ALL		602511.6	4127304	NonCancerChronicDerived_InhSoilDermMMilk	3.02E-02	3.07E-02	9.14E-05	3.31E-04	1.78E-05	3.04E-02	3.18E-02	3.02E-02	1.78E-05	0.00E+00	2.98E-06	1.37E-03	0.00E+00	0.00E+00	3.18E-02
111	ALL		602518.5	4127296	NonCancerChronicDerived_InhSoilDermMMilk	3.09E-02	3.14E-02	9.39E-05	3.42E-04	1.84E-05	3.11E-02	3.25E-02	3.09E-02	1.84E-05	0.00E+00	3.07E-06	1.40E-03	0.00E+00	0.00E+00	3.25E-02
112	ALL		602533	4127283	NonCancerChronicDerived_InhSoilDermMMilk	3.15E-02	3.21E-02	9.62E-05	3.52E-04	1.88E-05	3.18E-02	3.32E-02	3.15E-02	1.90E-05	0.00E+00	3.17E-06	1.44E-03	0.00E+00	0.00E+00	3.32E-02
113	ALL		602525.4	4127276	NonCancerChronicDerived_InhSoilDermMMilk	3.30E-02	3.35E-02	1.00E-04	3.63E-04	1.96E-05	3.32E-02	3.46E-02	3.29E-02	1.97E-05	0.00E+00	3.28E-06	1.49E-03	0.00E+00	0.00E+00	3.46E-02
114	ALL		602516.6	4127269	NonCancerChronicDerived_InhSoilDermMMilk	3.42E-02	3.48E-02	1.03E-04	3.69E-04	2.00E-05	3.44E-02	3.59E-02	3.42E-02	2.01E-05	0.00E+00	3.34E-06	1.54E-03	0.00E+00	0.00E+00	3.59E-02
115	ALL		602532.9	4127249	NonCancerChronicDerived_InhSoilDermMMilk	3.62E-02	3.68E-02	1.09E-04	3.93E-04	2.13E-05	3.64E-02	3.80E-02	3.62E-02	2.15E-05	0.00E+00	3.58E-06	1.63E-03	0.00E+00	0.00E+00	3.80E-02
116	ALL		602540.9	4127256	NonCancerChronicDerived_InhSoilDermMMilk	3.45E-02	3.51E-02	1.05E-04	3.80E-04	2.05E-05	3.47E-02	3.63E-02	3.45E-02	2.07E-05	0.00E+00	3.44E-06	1.56E-03	0.00E+00	0.00E+00	3.63E-02
117	ALL		602549.6	4127264	NonCancerChronicDerived_InhSoilDermMMilk	3.24E-02	3.29E-02	9.81E-05	3.55E-04	1.92E-05	3.26E-02	3.40E-02	3.24E-02	1.93E-05	0.00E+00	3.22E-06	1.47E-03	0.00E+00	0.00E+00	3.40E-02
118	ALL		602563.9	4127249	NonCancerChronicDerived_InhSoilDermMMilk	3.16E-02	3.22E-02	9.43E-05	3.34E-04	1.84E-05	3.19E-02	3.32E-02	3.16E-02	1.85E-05	0.00E+00	3.06E-06	1.41E-03	0.00E+00	0.00E+00	3.32E-02
119	ALL		602568.1	4127241	NonCancerChronicDerived_InhSoilDermMMilk	3.20E-02	3.26E-02	9.51E-05	3.35E-04	1.85E-05	3.22E-02	3.36E-02	3.20E-02	1.86E-05	0.00E+00	3.08E-06	1.43E-03	0.00E+00	0.00E+00	3.36E-02
120	ALL		602574.2	4127230	NonCancerChronicDerived_InhSoilDermMMilk	3.28E-02	3.33E-02	9.57E-05	3.28E-04	1.84E-05	3.30E-02	3.44E-02	3.28E-02	1.84E-05	0.00E+00	3.04E-06	1.44E-03	0.00E+00	0.00E+00	3.44E-02
121	ALL		602596.7	4127243	NonCancerChronicDerived_InhSoilDermMMilk	3.14E-02	3.18E-02	8.41E-05	2.48E-04	1.53E-05	3.15E-02	3.28E-02	3.14E-02	1.43E-05	0.00E+00	2.34E-06	1.26E-03	0.00E+00	0.00E+00	3.28E-02
122	ALL		602591.9	4127251	NonCancerChronicDerived_InhSoilDermMMilk	3.04E-02	3.08E-02	8.29E-05	2.53E-04	1.53E-05	3.06E-02	3.18E-02	3.04E-02	1.44E-05	0.00E+00	2.37E-06	1.24E-03	0.00E+00	0.00E+00	3.18E-02
123	ALL		602588	4127261	NonCancerChronicDerived_InhSoilDermMMilk	2.92E-02	2.96E-02	8.14E-05	2.59E-04	1.52E-05	2.94E-02	3.06E-02	2.92E-02	1.46E-05	0.00E+00	2.40E-06	1.22E-03	0.00E+00	0.00E+00	3.06E-02
124	ALL		602602.3	4127273	NonCancerChronicDerived_InhSoilDermMMilk	2.85E-02	2.89E-02	7.61E-05	2.23E-04	1.38E-05	2.87E-02	2.98E-02	2.85E-02	1.26E-05	0.00E+00	2.07E-06	1.13E-03	0.00E+00	0.00E+00	2.98E-02
125	ALL		602611.5	4127277	NonCancerChronicDerived_InhSoilDermMMilk	2.85E-02	2.89E-02	7.41E-05	2.05E-04	1.31E-05	2.87E-02	2.98E-02	2.85E-02	1.17E-05	0.00E+00	1.92E-06	1.10E-03	0.00E+00	0.00E+00	2.98E-02
126	ALL		602621.3	4127283	NonCancerChronicDerived_InhSoilDermMMilk	2.75E-02	2.78E-02	7.04E-05	1.89E-04	1.23E-05	2.76E-02	2.87E-02	2.75E-02	1.08E-05	0.00E+00	1.77E-06	1.05E-03	0.00E+00	0.00E+00	2.87E-02
127	ALL		602649.8	4127273	NonCancerChronicDerived_InhSoilDermMMilk	2.50E-02	2.52E-02	6.28E-05	1.62E-04	1.09E-05	2.51E-02	2.60E-02	2.50E-02	9.46E-06	0.00E+00	1.54E-06	9.36E-04	0.00E+00	0.00E+00	2.60E-02
128	ALL		602645.3	4127281	NonCancerChronicDerived_InhSoilDermMMilk	2.45E-02	2.48E-02	6.22E-05	1.64E-04	1.09E-05	2.46E-02	2.55E-02	2.45E-02	9.50E-06	0.00E+00	1.55E-06	9.26E-04	0.00E+00	0.00E+00	2.55E-02
129	ALL		602640.3	4127290	NonCancerChronicDerived_InhSoilDermMMilk	2.43E-02	2.46E-02	6.19E-05	1.64E-04	1.08E-05	2.44E-02	2.53E-02	2.43E-02	9.47E-06	0.00E+00	1.55E-06	9.21E-04	0.00E+00	0.00E+00	2.53E-02
130	ALL		602672.1	4127285	NonCancerChronicDerived_InhSoilDermMMilk	2.16E-02	2.19E-02	5.49E-05	1.45E-04	9.62E-06	2.17E-02	2.25E-02	2.16E-02	8.44E-06	0.00E+00	1.38E-06	8.20E-04	0.00E+00	0.00E+00	2.25E-02
131	ALL		602667.3	4127294	NonCancerChronicDerived_InhSoilDermMMilk	2.15E-02	2.17E-02	5.46E-05	1.44E-04	9.55E-06	2.16E-02	2.24E-02	2.15E-02	8.36E-06	0.00E+00	1.36E-06	8.14E-04	0.00E+00	0.00E+00	2.24E-02
132	ALL		602662	4127304	NonCancerChronicDerived_InhSoilDermMMilk	2.13E-02	2.16E-02	5.44E-05	1.44E-04	9.52E-06	2.14E-02	2.22E-02	2.13E-02	8.33E-06	0.00E+00	1.36E-06	8.10E-04	0.00E+00	0.00E+00	2.22E-02
133	ALL		602701.4	4127304	NonCancerChronicDerived_InhSoilDermMMilk	1.86E-02	1.89E-02	4.75E-05	1.27E-04	8.34E-06	1.87E-02	1.94E-02	1.86E-02	7.34E-06	0.00E+00	1.20E-06	7.10E-04	0.00E+00	0.00E+00	1.94E-02
134	ALL		602697.5	4127310	NonCancerChronicDerived_InhSoilDermMMilk	1.81E-02	1.83E-02	4.66E-05	1.26E-04	8.23E-06	1.82E-02	1.89E-02	1.81E-02	7.31E-06	0.00E+00	1.19E-06	6.96E-04	0.00E+00	0.00E+00	1.89E-02
135	ALL		602693.8	4127318	NonCancerChronicDerived_InhSoilDermMMilk	1.81E-02	1.83E-02	4.65E-05	1.26E-04	8.20E-06	1.82E-02	1.89E-02	1.81E-02	7.26E-06	0.00E+00	1.19E-06	6.94E-04	0.00E+00	0.00E+00	1.89E-02
136	ALL		602722.6	4127315	NonCancerChronicDerived_InhSoilDermMMilk	1.73E-02	1.75E-02	4.41E-05	1.17E-04	7.73E-06	1.74E-02	1.80E-02	1.73E-02	6.77E-06	0.00E+00	1.11E-06	6.58E-04	0.00E+00	0.00E+00	1.80E-02
137	ALL		602718.6	4127322	NonCancerChronicDerived_InhSoilDermMMilk	1.67E-02	1.70E-02	4.30E-05	1.17E-04	7.60E-06	1.68E-02	1.75E-02	1.67E-02	6.73E-06	0.00E+00	1.10E-06	6.43E-04	0.00E+00	0.00E+00	1.75E-02
138	ALL		602715.2	4127330	NonCancerChronicDerived_InhSoilDermMMilk	1.66E-02	1.68E-02	4.28E-05	1.16E-04	7.54E-06	1.67E-02	1.73E-02	1.66E-02	6.67E-06	0.00E+00	1.09E-06	6.39E-04	0.00E+00	0.00E+00	1.73E-02
139	ALL		602578.4	4127454	NonCancerChronicDerived_InhSoilDermMMilk	1.70E-02	1.73E-02	4.84E-05	1.59E-04	9.05E-06	1.71E-02	1.78E-02	1.70E-02	8.53E-06	0.00E+00	1.43E-06	7.20E-04	0.00E+00	0.00E+00	1.78E-02
140	ALL		602589	4127447	NonCancerChronicDerived_InhSoilDermMMilk	1.75E-02	1.77E-02	4.89E-05	1.56E-04	9.03E-06	1.76E-02	1.83E-02	1.75E-02	8.38E-06	0.00E+00	1.40E-06	7.26E-04	0.00E+00	0.00E+00	1.83E-02
141	ALL		602599.3	4127440	NonCancerChronicDerived_InhSoilDermMMilk	1.80E-02	1.83E-02	4.94E-05	1.53E-04	9.02E-06	1.81E-02	1.88E-02	1.80E-02	8.23E-06	0.00E+00	1.37E-06	7.33E-04	0.00E+00	0.00E+00	1.88E-02
142	ALL		602625.5	4127429	NonCancerChronicDerived_InhSoilDermMMilk	1.78E-02	1.80E-02	4.73E-05	1.38E-04	8.47E-06	1.79E-02	1.86E-02	1.78E-02	7.53E-06	0.00E+00	1.25E-06	7.02E-04	0.00E+00	0.00E+00	1.86E-02
143	ALL		602634.5	4127423	NonCancerChronicDerived_InhSoilDermMMilk	1.74E-02	1.76E-02	4.61E-05	1.34E-04	8.25E-06	1.75E-02	1.82E-02	1.74E-02	7.34E-06	0.00E+00	1.22E-06	6.85E-04	0.00E+00	0.00E+00	1.82E-02
144	ALL		602645.1	4127417	NonCancerChronicDerived_InhSoilDermMMilk	1.67E-02	1.69E-02	4.45E-05	1.29E-04	7.97E-06	1.68E-02	1.75E-02	1.67E-02	7.12E-06	0.00E+00	1.18E-06	6.61E-04	0.00E+00	0.00E+00	1.75E-02
145	ALL		602663.9	4127406	NonCancerChronicDerived_InhSoilDermMMilk	1.59E-02	1.62E-02	4.19E-05	1.19E-04	7.48E-06	1.60E-02	1.66E-02	1.59E-02	6.66E-06	0.00E+00	1.10E-06	6.25E-04	0.00E+00	0.00E+00	1.66E-02
146	ALL		602673.1	4127400	NonCancerChronicDerived_InhSoilDermMMilk	1.62E-02	1.65E-02	4.22E-05	1.17E-04	7.44E-06	1.63E-02	1.70E-02	1.62E-02	6.53E-06	0.00E+00	1.08E-06	6.27E-04	0.00E+00	0.00E+00	1.70E-02
147	ALL		602683.2	4127394	NonCancerChronicDerived_InhSoilDermMMilk	1.55E-02	1.57E-02	4.03E-05	1.12E-04	7.14E-06	1.56E-02	1.62E-02	1.55E-02	6.31E-06	0.00E+00	1.04E-06	6.01E-04	0.00E+00	0.00E+00	1.62E-02
148	ALL		602695.1	4127376	NonCancerChronicDerived_InhSoilDermMMilk	1.57E-02	1.59E-02	4.06E-05	1.12E-04	7.19E-06	1.58E-02	1.64E-02	1.57E-02	6.35E-06	0.00E+00	1.04E-06	6.06E-04	0.00E+00	0.00E+00	1.64E-02

149	ALL	602699.8	4127369	NonCancerChronicDerived_InhSoilDermMMilk	1.58E-02	1.60E-02	4.08E-05	1.12E-04	7.21E-06	1.59E-02	1.65E-02	1.58E-02	6.36E-06	0.00E+00	1.04E-06	6.09E-04	0.00E+00	0.00E+00	1.65E-02
150	ALL	602703.3	4127362	NonCancerChronicDerived_InhSoilDermMMilk	1.61E-02	1.63E-02	4.14E-05	1.12E-04	7.28E-06	1.62E-02	1.68E-02	1.61E-02	6.38E-06	0.00E+00	1.05E-06	6.17E-04	0.00E+00	0.00E+00	1.68E-02
151	ALL	602691.4	4127348	NonCancerChronicDerived_InhSoilDermMMilk	1.72E-02	1.74E-02	4.41E-05	1.19E-04	7.76E-06	1.73E-02	1.79E-02	1.72E-02	6.81E-06	0.00E+00	1.12E-06	6.58E-04	0.00E+00	0.00E+00	1.79E-02
152	ALL	602684.2	4127345	NonCancerChronicDerived_InhSoilDermMMilk	1.77E-02	1.79E-02	4.55E-05	1.23E-04	8.00E-06	1.78E-02	1.85E-02	1.77E-02	7.01E-06	0.00E+00	1.15E-06	6.78E-04	0.00E+00	0.00E+00	1.85E-02
153	ALL	602677.1	4127341	NonCancerChronicDerived_InhSoilDermMMilk	1.82E-02	1.84E-02	4.68E-05	1.27E-04	8.24E-06	1.83E-02	1.90E-02	1.82E-02	7.24E-06	0.00E+00	1.19E-06	6.97E-04	0.00E+00	0.00E+00	1.90E-02
154	ALL	602627.9	4127316	NonCancerChronicDerived_InhSoilDermMMilk	2.40E-02	2.43E-02	6.21E-05	1.70E-04	1.09E-05	2.42E-02	2.51E-02	2.40E-02	9.60E-06	0.00E+00	1.58E-06	9.22E-04	0.00E+00	0.00E+00	2.51E-02
155	ALL	602617.3	4127311	NonCancerChronicDerived_InhSoilDermMMilk	2.53E-02	2.56E-02	6.61E-05	1.85E-04	1.17E-05	2.55E-02	2.64E-02	2.53E-02	1.04E-05	0.00E+00	1.71E-06	9.81E-04	0.00E+00	0.00E+00	2.64E-02
156	ALL	602608.3	4127306	NonCancerChronicDerived_InhSoilDermMMilk	2.59E-02	2.63E-02	6.86E-05	1.97E-04	1.23E-05	2.61E-02	2.71E-02	2.59E-02	1.11E-05	0.00E+00	1.82E-06	1.02E-03	0.00E+00	0.00E+00	2.71E-02
157	ALL	602599.6	4127301	NonCancerChronicDerived_InhSoilDermMMilk	2.59E-02	2.63E-02	7.03E-05	2.13E-04	1.28E-05	2.60E-02	2.71E-02	2.59E-02	1.19E-05	0.00E+00	1.96E-06	1.05E-03	0.00E+00	0.00E+00	2.71E-02
158	ALL	602589.8	4127295	NonCancerChronicDerived_InhSoilDermMMilk	2.61E-02	2.65E-02	7.24E-05	2.28E-04	1.34E-05	2.62E-02	2.73E-02	2.61E-02	1.27E-05	0.00E+00	2.10E-06	1.08E-03	0.00E+00	0.00E+00	2.73E-02
159	ALL	602581.6	4127291	NonCancerChronicDerived_InhSoilDermMMilk	2.62E-02	2.67E-02	7.55E-05	2.53E-04	1.43E-05	2.64E-02	2.75E-02	2.62E-02	1.40E-05	0.00E+00	2.31E-06	1.13E-03	0.00E+00	0.00E+00	2.75E-02
160	ALL	602561.5	4127293	NonCancerChronicDerived_InhSoilDermMMilk	2.73E-02	2.78E-02	8.13E-05	2.87E-04	1.57E-05	2.75E-02	2.87E-02	2.73E-02	1.56E-05	0.00E+00	2.60E-06	1.22E-03	0.00E+00	0.00E+00	2.87E-02
161	ALL	602554.3	4127302	NonCancerChronicDerived_InhSoilDermMMilk	2.74E-02	2.79E-02	8.22E-05	2.93E-04	1.60E-05	2.76E-02	2.88E-02	2.74E-02	1.59E-05	0.00E+00	2.65E-06	1.23E-03	0.00E+00	0.00E+00	2.88E-02
162	ALL	602547.7	4127310	NonCancerChronicDerived_InhSoilDermMMilk	2.73E-02	2.77E-02	8.23E-05	2.97E-04	1.60E-05	2.74E-02	2.86E-02	2.72E-02	1.60E-05	0.00E+00	2.67E-06	1.23E-03	0.00E+00	0.00E+00	2.86E-02
163	ALL	602532.1	4127324	NonCancerChronicDerived_InhSoilDermMMilk	2.76E-02	2.81E-02	8.43E-05	3.09E-04	1.65E-05	2.78E-02	2.90E-02	2.76E-02	1.65E-05	0.00E+00	2.76E-06	1.26E-03	0.00E+00	0.00E+00	2.90E-02
164	ALL	602540	4127332	NonCancerChronicDerived_InhSoilDermMMilk	2.60E-02	2.65E-02	7.90E-05	2.87E-04	1.54E-05	2.62E-02	2.73E-02	2.60E-02	1.54E-05	0.00E+00	2.57E-06	1.18E-03	0.00E+00	0.00E+00	2.73E-02
165	ALL	602549.8	4127339	NonCancerChronicDerived_InhSoilDermMMilk	2.44E-02	2.48E-02	7.34E-05	2.64E-04	1.43E-05	2.45E-02	2.56E-02	2.44E-02	1.42E-05	0.00E+00	2.37E-06	1.10E-03	0.00E+00	0.00E+00	2.56E-02
166	ALL	602532.9	4127359	NonCancerChronicDerived_InhSoilDermMMilk	2.41E-02	2.45E-02	7.34E-05	2.68E-04	1.43E-05	2.43E-02	2.53E-02	2.41E-02	1.43E-05	0.00E+00	2.39E-06	1.09E-03	0.00E+00	0.00E+00	2.53E-02
167	ALL	602524.7	4127352	NonCancerChronicDerived_InhSoilDermMMilk	2.54E-02	2.59E-02	7.81E-05	2.88E-04	1.53E-05	2.56E-02	2.67E-02	2.54E-02	1.53E-05	0.00E+00	2.56E-06	1.16E-03	0.00E+00	0.00E+00	2.67E-02
168	ALL	602515.4	4127344	NonCancerChronicDerived_InhSoilDermMMilk	2.67E-02	2.72E-02	8.12E-05	2.95E-04	1.58E-05	2.69E-02	2.81E-02	2.67E-02	1.57E-05	0.00E+00	2.63E-06	1.21E-03	0.00E+00	0.00E+00	2.81E-02
169	ALL	602505.4	4127360	NonCancerChronicDerived_InhSoilDermMMilk	2.58E-02	2.62E-02	7.81E-05	2.83E-04	1.52E-05	2.60E-02	2.71E-02	2.58E-02	1.50E-05	0.00E+00	2.52E-06	1.16E-03	0.00E+00	0.00E+00	2.71E-02
170	ALL	602498.8	4127369	NonCancerChronicDerived_InhSoilDermMMilk	2.53E-02	2.57E-02	7.63E-05	2.75E-04	1.48E-05	2.54E-02	2.66E-02	2.53E-02	1.46E-05	0.00E+00	2.45E-06	1.14E-03	0.00E+00	0.00E+00	2.66E-02
171	ALL	602491.3	4127377	NonCancerChronicDerived_InhSoilDermMMilk	2.49E-02	2.53E-02	7.45E-05	2.66E-04	1.44E-05	2.50E-02	2.61E-02	2.49E-02	1.41E-05	0.00E+00	2.37E-06	1.11E-03	0.00E+00	0.00E+00	2.61E-02
172	ALL	602486.3	4127384	NonCancerChronicDerived_InhSoilDermMMilk	2.43E-02	2.47E-02	7.23E-05	2.56E-04	1.39E-05	2.44E-02	2.55E-02	2.43E-02	1.36E-05	0.00E+00	2.28E-06	1.08E-03	0.00E+00	0.00E+00	2.55E-02
173	ALL	602478.9	4127392	NonCancerChronicDerived_InhSoilDermMMilk	2.38E-02	2.42E-02	7.03E-05	2.45E-04	1.35E-05	2.40E-02	2.50E-02	2.38E-02	1.31E-05	0.00E+00	2.19E-06	1.05E-03	0.00E+00	0.00E+00	2.50E-02
174	ALL	602471.8	4127401	NonCancerChronicDerived_InhSoilDermMMilk	2.33E-02	2.37E-02	6.81E-05	2.35E-04	1.30E-05	2.34E-02	2.44E-02	2.33E-02	1.25E-05	0.00E+00	2.10E-06	1.02E-03	0.00E+00	0.00E+00	2.44E-02
175	ALL	602456.4	4127441	NonCancerChronicDerived_InhSoilDermMMilk	2.11E-02	2.14E-02	6.11E-05	2.07E-04	1.15E-05	2.12E-02	2.21E-02	2.11E-02	1.10E-05	0.00E+00	1.85E-06	9.12E-04	0.00E+00	0.00E+00	2.21E-02
176	ALL	602466.5	4127450	NonCancerChronicDerived_InhSoilDermMMilk	2.05E-02	2.09E-02	6.07E-05	2.13E-04	1.16E-05	2.07E-02	2.16E-02	2.05E-02	1.12E-05	0.00E+00	1.89E-06	9.05E-04	0.00E+00	0.00E+00	2.16E-02
177	ALL	602473.6	4127456	NonCancerChronicDerived_InhSoilDermMMilk	2.01E-02	2.04E-02	6.01E-05	2.14E-04	1.16E-05	2.02E-02	2.11E-02	2.01E-02	1.13E-05	0.00E+00	1.89E-06	8.95E-04	0.00E+00	0.00E+00	2.11E-02
178	ALL	602481.8	4127462	NonCancerChronicDerived_InhSoilDermMMilk	1.98E-02	2.01E-02	5.98E-05	2.16E-04	1.16E-05	1.99E-02	2.08E-02	1.98E-02	1.13E-05	0.00E+00	1.91E-06	8.90E-04	0.00E+00	0.00E+00	2.08E-02
179	ALL	602489.2	4127469	NonCancerChronicDerived_InhSoilDermMMilk	1.93E-02	1.96E-02	5.88E-05	2.15E-04	1.14E-05	1.94E-02	2.03E-02	1.93E-02	1.12E-05	0.00E+00	1.89E-06	8.74E-04	0.00E+00	0.00E+00	2.03E-02
180	ALL	602495	4127475	NonCancerChronicDerived_InhSoilDermMMilk	1.88E-02	1.91E-02	5.74E-05	2.11E-04	1.12E-05	1.89E-02	1.97E-02	1.88E-02	1.10E-05	0.00E+00	1.85E-06	8.53E-04	0.00E+00	0.00E+00	1.97E-02
181	ALL	602493.5	4127439	NonCancerChronicDerived_InhSoilDermMMilk	2.09E-02	2.12E-02	6.33E-05	2.30E-04	1.23E-05	2.10E-02	2.19E-02	2.08E-02	1.21E-05	0.00E+00	2.03E-06	9.42E-04	0.00E+00	0.00E+00	2.19E-02
182	ALL	602485	4127432	NonCancerChronicDerived_InhSoilDermMMilk	2.15E-02	2.19E-02	6.48E-05	2.33E-04	1.25E-05	2.17E-02	2.26E-02	2.15E-02	1.22E-05	0.00E+00	2.06E-06	9.65E-04	0.00E+00	0.00E+00	2.26E-02
183	ALL	602476.8	4127424	NonCancerChronicDerived_InhSoilDermMMilk	2.20E-02	2.24E-02	6.50E-05	2.27E-04	1.24E-05	2.22E-02	2.31E-02	2.20E-02	1.20E-05	0.00E+00	2.02E-06	9.69E-04	0.00E+00	0.00E+00	2.31E-02
184	ALL	602513.8	4127418	NonCancerChronicDerived_InhSoilDermMMilk	2.12E-02	2.15E-02	6.45E-05	2.36E-04	1.25E-05	2.13E-02	2.23E-02	2.12E-02	1.24E-05	0.00E+00	2.08E-06	9.59E-04	0.00E+00	0.00E+00	2.23E-02
185	ALL	602522.6	4127413	NonCancerChronicDerived_InhSoilDermMMilk	2.09E-02	2.13E-02	6.38E-05	2.33E-04	1.24E-05	2.11E-02	2.20E-02	2.09E-02	1.23E-05	0.00E+00	2.06E-06	9.50E-04	0.00E+00	0.00E+00	2.20E-02
186	ALL	602530.8	4127407	NonCancerChronicDerived_InhSoilDermMMilk	2.09E-02	2.12E-02	6.34E-05	2.31E-04	1.23E-05	2.10E-02	2.19E-02	2.09E-02	1.22E-05	0.00E+00	2.05E-06	9.44E-04	0.00E+00	0.00E+00	2.19E-02
187	ALL	602540.8	4127401	NonCancerChronicDerived_InhSoilDermMMilk	2.06E-02	2.09E-02	6.22E-05	2.25E-04	1.21E-05	2.07E-02	2.16E-02	2.06E-02	1.19E-05	0.00E+00	2.00E-06	9.27E-04	0.00E+00	0.00E+00	2.16E-02
188	ALL	602548.8	4127398	NonCancerChronicDerived_InhSoilDermMMilk	2.01E-02	2.04E-02	6.06E-05	2.18E-04	1.17E-05	2.02E-02	2.11E-02	2.01E-02	1.16E-05	0.00E+00	1.95E-06	9.04E-04	0.00E+00	0.00E+00	2.11E-02
189	ALL	602558	4127392	NonCancerChronicDerived_InhSoilDermMMilk	1.96E-02	1.99E-02	5.93E-05	2.14E-04	1.15E-05	1.97E-02	2.06E-02	1.96E-02	1.14E-05	0.00E+00	1.92E-06	8.85E-04	0.00E+00	0.00E+00	2.06E-02
190	ALL	602567	4127350	NonCancerChronicDerived_InhSoilDermMMilk	2.18E-02	2.22E-02	6.50E-05	2.30E-04	1.26E-05	2.20E-02	2.29E-02	2.18E-02	1.24E-05	0.00E+00	2.08E-06	9.72E-04	0.00E+00	0.00E+00	2.29E-02
191	ALL	602573.1	4127360	NonCancerChronicDerived_InhSoilDermMMilk	2.10E-02	2.14E-02	6.20E-05	2.15E-04	1.19E-05	2.12E-02	2.21E-02	2.10E-02	1.17E-05	0.00E+00	1.94E-06	9.25E-04	0.00E+00	0.00E+00	2.21E-02
192	ALL	602578.4	4127370	NonCancerChronicDerived_InhSoilDermMMilk	2.06E-02	2.09E-02	5.97E-05	2.03E-04	1.14E-05	2.07E-02	2.16E-02	2.06E-02	1.10E-05	0.00E+00	1.83E-06	8.91E-04	0.00E+00	0.00E+00	2.16E-02
193	ALL	602600.4	4127356	NonCancerChronicDerived_InhSoilDermMMilk	2.22E-02	2.25E-02	6.05E-05	1.85E-04	1.11E-05	2.23E-02	2.32E-02	2.22E-02	1.02E-05	0.00E+00	1.69E-06	9.00E-04	0.00E+00	0.00E+00	2.32E-02
194	ALL	602594.5	4127347	NonCancerChronicDerived_InhSoilDermMMilk	2.23E-02	2.27E-02	6.18E-05	1.94E-04	1.14E-05	2.25E-02	2.34E-02	2.23E-02	1.07E-05	0.00E+00	1.77E-06	9.21E-04	0.00E+00	0.00E+00	2.34E-02
195	ALL	602589	4127338	NonCancerChronicDerived_InhSoilDermMMilk	2.30E-02	2.34E-02	6.43E-05	2.05E-04	1.19E-05	2.32E-02	2.41E-02	2.30E-02	1.13E-05	0.00E+00	1.87E-06	9.58E-04	0.00E+00	0.00E+00	2.41E-02
196	ALL	602624.7	4127346	NonCancerChronicDerived_InhSoilDermMMilk	2.26E-02	2.28E-02	5.88E-05	1.64E-04	1.04E-05	2.27E-02	2.35E-02	2.26E-02	9.14E-06	0.00E+00	1.51E-06	8.72E-04	0.00E+00	0.00E+00	2.35E-02
197	ALL	602634	4127342	NonCancerChronicDerived_InhSoilDermMMilk	2.14E-02	2.17E-02	5.58E-05	1.56E-04	9.90E-06	2.15E-02	2.23E-02	2.14E-02	8.75E-06	0.00E+00	1.44E-06	8.29E-04	0.00E+00	0.00E+00	2.23E-02
198	ALL	602643.2	4127337	NonCancerChronicDerived_InhSoilDermMMilk	2.11E-02	2.14E-02	5.44E-05	1.48E-04	9.57E-06	2.12E-02	2.20E-02	2.11E-02	8.38E-06	0.00E+00	1.38E-06	8.08E-04	0.00E+00	0.00E+00	2.20E-02
199	ALL	602660.4	4127357	NonCancerChronicDerived_InhSoilDermMMilk	1.83E-02	1.86E-02	4.76E-05	1.32E-04	8.43E-06	1.84E-02	1.91E-02	1.83E-02	7.45E-06	0.00E+00	1.23E-06	7.09E-04	0.00E+00	0.00E+00	1.91E-02
200	ALL	602651.7	4127362	NonCancerChronicDerived_InhSoilDermMMilk	1.87E-02	1.89E-02	4.88E-05	1.36E-04	8.65E-06	1.88E-02	1.95E-02	1.87E-02	7.66E-06	0.00E+00	1.26E-06	7.26E-04	0.00E+00	0.00E+00	1.95E-02
201	ALL	602642.2	4127368	NonCancerChronicDerived_InhSoilDermMMilk	1.93E-02	1.96E-02	5.05E-05	1.41E-04	8.95E-06	1.94E-02	2.02E-02	1.93E-02	7.91E-06	0.00E+00	1.30E-06	7.50E-04	0.00E+00	0.00E+00	2.02E-02
202	ALL	602628.9	4127373	NonCancerChronicDerived_InhSoilDermMMilk	2.03E-02	2.06E-02	5.34E-05	1.51E-04	9.48E-06	2.04E-02	2.12E-02	2.03E-02	8.37E-06	0.00E+00	1.38E-06	7.91E-04	0.00E+00	0.00E+00	2.12E-02
203	ALL	602619.7	4127379	NonCancerChronicDerived_InhSoilDermMMilk	2.09E-02	2.12E-02	5.53E-05	1.58E-04	9.84E-06	2.10E-02	2.19E-02	2.09E-02	8.70E-06	0.00E+00	1.44E-06	8.19E-04	0.00E+00	0.00E+00	2.19E-02
204	ALL	602611.7	4127383	NonCancerChronicDerived_InhSoilDermMMilk	2.08E-02	2.11E-02	5.56E-05	1.63E-04	9.99E-06	2.09E-02	2.18E-02	2.08E-02	8.93E-06	0.00E+00	1.48E-06	8.25E-04	0.00E+00	0.00E+00	2.18E-02
205	ALL	602601.7	4127389	NonCancerChronicDerived_InhSoilDermMMilk	2.03E-02	2.05E-02	5.53E-05	1.69E-04	1.01E-05	2.04E-02	2.12E-02	2.02E-02	9.23E-06	0.00E+00	1.53E-06	8.21E-04	0.00E+00	0.00E+00	2.12E-02
206	ALL	602594.3	4127395	NonCancerChronicDerived_InhSoilDermMMilk	1.96E-02	1.99E-02	5.46E-05	1.73E-04	1.01E-05	1.98E-02	2.06E-02	1.96E-02	9.39E-06	0.00E+00	1.56E-06	8.12E-04	0.00E+00	0.00E+00	2.06E-02
207	ALL	602583.7	4127400	NonCancerChronicDerived_InhSoilDermMMilk	1.93E-02	1.96E-02	5.47E-05	1.79E-04	1.02E-05	1.94E-02	2.02E-02	1.93E-02	9.70E-06	0.00E+00	1.62E-06	8.15E-04	0.00E+00	0.00E+00	2.02E-02
208	ALL	602574.2	4127413	NonCancerChronicDerived_InhSoilDermMMilk	1.85E-02	1.88E-02	5.39E-05	1.84E-04	1.02E-05	1.86E-02	1.94E-02	1.85E-02	9.86E-06	0.00E+00	1.65E-06	8.03E-04	0.00E+00	0.00E+00	1.94E-02
209	ALL	602565.2	4127418	NonCancerChronicDerived_InhSoilDermMMilk	1.85E-02	1.88E-02	5.48E-05	1.93E-04	1.05E-05	1.86E-02	1.94E-02	1.85E-02	1.03E-05	0.00E+00	1.72E-06	8.17E-04	0.00E+00	0.00E+00	1.94E-02
210	ALL	602555.9	4127423	NonCancerChronicDerived_InhSoilDermMMilk	1.85E-02	1.88E-02	5.54E-05	1.97E-04	1.07E-05	1.86E-02	1.94E-02	1.85E-02	1.05E-05	0.00E+00	1.76E-06	8.26E-04	0.00E+00	0.00E+00	1.94E-02
211	ALL	602762	4127296	NonCancerChronicDerived_InhSoilDermMMilk	1.60E-02	1.62E-02	4.10E-05	1.10E-04	7.23E-06	1.61E-02	1.67E-02	1.60E-02	6.43E-06	0.00E+00	1.05E-06	6.14E-04	0.00E+00	0.00E+00	1.67E-02
212	ALL	602738	4127287	NonCancerChronicDerived_InhSoilDermMMilk	1.80E-02	1.82E-02	4.56E-05	1.19E-04	7.97E-06	1.81E-02	1.88E-02	1.80E-02	6.98E-06	0.00E+00	1.14E-06	6.82E-04	0.00E+00	0.00E+00	1.88E-02
213	ALL	602724.5	4127268	NonCancerChronicDerived_InhSoilDermMMilk	1.96E-02	1.98E-02	4.93E-05	1.28E-04	8.62E-06	1.97E-02	2.04E-02	1.96E-02	7.55E-06	0.00E+00	1.23E-06	7.38E-04	0.00E+00	0.00E+00	2.04E-02
214	ALL	602724.5	4127250	NonCancerChronicDerived_InhSoilDermMMilk	2.04E-02	2.07E-02	5.14E-05	1.32E-04	8.96E-06	2.05E-02	2.13E-02	2.04E-02	7.88E-06	0.00E+00	1.28E-06	7.69E-04	0.00E+00	0.00E+00	2.13E-02
215	ALL	602737.2	4127234	NonCancerChronicDerived_InhSoilDermMMilk	2.14E-02	2.16E-02	5.34E-05	1.36E-04	9.28E-06	2.14E-02	2.22E-02	2.14E-02	8.12E-06	0.00E+00	1.31E-06	7.99E-04	0.00E+00	0.00E+00	2.22E-02
216	ALL	602777.4	4127253	NonCancerChronicDerived_InhSoilDermMMilk	1.84E-02	1.86E-02	4.68E-05	1.24E-04	8.21E-06	1.85E-02	1.92E-02	1.84E-02	7.25E-06	0.00E+00	1.18E-06	6.99E-04	0.00E+00	0.00E+00	1.92E-02
217	ALL	602786.1	4127234	NonCancerChronicDerived_InhSoilDermMMilk	1.91E-02	1.93E-02	4.91E-05	1.34E-04	8.72E-06	1.91E-02	1.99E-02	1.91E-02	7.83E-06	0.00E+00	1.28E-06	7.35E-04	0.00E+00	0.00E+00	1.99E-02
218	ALL	602747.2	4127213	NonCancerChronicDerived_InhSoilDermMMilk	2.28E-02	2.31E-02	5.74E-05	1.48E-04	1.00E-05	2.29E-02	2.38E-02	2.28E-02	8.80E-06	0.00E+00	1.43E-06	8.58E-04	0.00E+00	0.00E+00	2.38E-02
219	ALL	602760.2	4127193	NonCancerChronicDerived_InhSoilDermMMilk	2.33E-02	2.36E-02	5.92E-05	1.56E-04	1.04E-05	2.34E-02	2.43E-02	2.33E-02	9.29E-06	0.00E+00	1.50E-06	8.86E-04	0.00E+00	0.00E+00	2.43E-02
220	ALL	602799.1	4127214	NonCancerChronicDerived_InhSoilDermMMilk	2.02E-02	2.04E-02	5.16E-05	1.38E-04	9.10E-06	2.03E-02	2.10E-02	2.02E-02	8.09E-06	0.00E+00	1.32E-06	7.71E-04	0.00E+00	0.00E+00	2.10E-02
221	ALL	602770.2	4127170	NonCancerChronicDerived_InhSoilDermMMilk	2.51E-02	2.54E-02	6.28E-05	1.59E-04	1.09E-05	2.53E-02	2.62E-02	2.51E-02	9.58E-06	0.00E+00	1.55E-06	9.39E-04	0.00E+00	0.00E+00	2.62E-02
222	ALL	602808.3	4127193	NonCancerChronicDerived_InhSoilDermMMilk	2.16E-02	2.18E-02	5.41E-05	1.39E-04	9.41E-06	2.17E-02	2.25E-02	2.16E-02	8.20E-06	0.00E+00	1.33E-06	8.08E-04	0.00E+00	0.00E+00	2.25E-02
223	ALL	602854.4	4127218	NonCancerChronicDerived_InhSoilDermMMilk	1.76E-02	1.78E-02	4.48E-05	1.19E-04	7.87E-06	1.77E-02	1.84E-02	1.76E-02	6.93E-06	0.00E+00	1.13E-06	6.70E-04	0.00E+00	0.00E+00	1.84E-02
224	ALL	602782.4	4127152	NonCancerChronicDerived_InhSoilDermMMilk	2.64E-02	2.67E-02	6.55E-05	1.63E-04	1.13E-05	2.65E-02	2.75E-02	2.64E-02	9.87E-06	0.00E+00	1.59E-06	9.79E-04	0.00E+00	0.00E+00	2.75E-02
225	ALL	602819.2	4127177	NonCancerChronicDerived_InhSoilDermMMilk	2.18E-02	2.20E-02	5.46E-05	1.40E-04	9.50E-06	2.19E-02	2.27E-02	2.18E-02	8.29E-06	0.00E+00	1.34E-06	8.16E-04	0.00E+00	0.00E+00	2.27E-02
226	ALL	602864.7	4127197	NonCancerChronicDerived_InhSoilDermMMilk	1.78E-02	1.80E-02	4.52E-05	1.20E-04	7.94E-06	1.79E-02	1.85E-02	1.78E-02	7.01E-06	0.00E+00	1.14E-06	6.76E-04	0.00E+00	0.00E+00	1.85E-02
227	ALL	602871.8	4127175	NonCancerChronicDerived_InhSoilDermMMilk	1.87E-02	1.90E-02	4.81E-05	1.30E-04	8.50E-06	1.88E-02	1.95E-02	1.87E-02	7.57E-06	0.00E+00	1.23E-06	7.19E-04	0.00E+00	0.00E+00	1.95E-02
228	ALL	602830.6	4127153	NonCancerChronicDerived_InhSoilDermMMilk	2.26E-02	2.28E-02	5.74E-05	1.52E-04	1.01E-05	2.27E-02	2.35E-02	2.25E-02	8.97E-06	0.00E+00	1.46E-06	8.58E-04	0.00E+00	0.00E+00	2.35E-02
229	ALL	602792.7	4127134	NonCancerChronicDerived_InhSoilDermMMilk	2.68E-02	2.71E-02	6.74E-05	1.73E-04	1.18E-05	2.70E-02	2.80E-02	2.68E-02	1.04E-05	0.00E+00	1.68E-06	1.01E-03	0.00E+00	0.00E+00	2.80E-02
230	ALL	602803.1	4127110	NonCancerChronicDerived_InhSoilDermMMilk	2.84E-02	2.87E-02	7.34E-05	2.01E-04	1.31E-05	2.85E-02	2.96E-02	2.84E-02	1.18E-05	0.00E+00	1.92E-06	1.10E-03	0.00E+00	0.00E+00	2.96E-02
231	ALL	602841.2	4127135	NonCancerChronicDerived_InhSoilDermMMilk	2.35E-02	2.38E-02	6.12E-05	1.70E-04	1.09E-05	2.37E-02	2.46E-02	2.35E-02	9.83E-06	0.00E+00	1.61E-06	9.13E-04	0.00E+00	0.00E+00	2.46E-02
232	ALL	602888.8	4127159	NonCancerChronicDerived_InhSoilDermMMilk	1.88E-02	1.91E-02	4.98E-05	1.43E-04	8.96E-06	1.89E-02	1.97E-02	1.88E-02	8.16E-06	0.00E+00	1.34E-06	7.43E-04	0.00E+00	0.00E+00	1.97E-02
233	ALL	602901.3	4127138	NonCancerChronicDerived_InhSoilDermMMilk	1.94E-02	1.97E-02	5.22E-05	1.55E-04	9.49E-06	1.95E-02	2.03E-02	1.94E-02	8.74E-06	0.00E+00	1.44E-06	7.78E-04	0.00E+00	0.00E+00	2.03E-02
234	ALL	602854.4	4127114	NonCancerChronicDerived_InhSoilDermMMilk	2.39E-02	2.42E-02	6.34E-05	1.84E-04	1.15E-05	2.40E-02	2.49E-02	2.38E-02	1.05E-05	0.00E+00	1.73E-06	9.45E-04	0.00E+00	0.00E+00	2.49E-02
235	ALL	602822.2	4127068	NonCancerChronicDerived_InhSoilDermMMilk	3.16E-02	3.20E-02	8.39E-05	2.43E-04	1.52E-05	3.18E-02	3.30E-02	3.16E-02	1.39E-05	0.00E+00	2.28E-06	1.25E-03	0.00E+00	0.00E+00	3.30E-02
236	ALL	602864.8	4127094	NonCancerChronicDerived_InhSoilDermMMilk	2.43E-02	2.47E-02	6.51E-05	1.92E-04	1.18E-05	2.45E-02	2.54E-02	2.43E-02	1.09E-05	0.00E+00	1.79E-06	9.71E-04	0.00E+00	0.00E+00	2.54E-02
237	ALL	602912.6	4127116	NonCancerChronicDerived_InhSoilDermMMilk	2.01E-02	2.04E-02	5.43E-05	1.62E-04	9.86E-06	2.03E-02	2.11E-02	2.01E-02	9.07E-06	0.00E+00	1.50E-06	8.08E-04	0.00E+00	0.00E+00	2.11E-02
238	ALL	602920.8	4127099	NonCancerChronicDerived_InhSoilDermMMilk	2.06E-02	2.09E-02	5.58E-05	1.68E-04	1.02E-05	2.07E-02	2.15E-02	2.06E-02	9.40E-06	0.00E+00	1.55E-06	8.30E-04	0.00E+00	0.00E+00	2.15E-02
239	ALL	602875.1	4127073	NonCancerChronicDerived_InhSoilDermMMilk	2.67E-02	2.71E-02	7.17E-05	2.12E-04	1.30E-05	2.69E-02	2.79E-02	2.67E-02	1.19E-05	0.00E+00	1.96E-06	1.06E-03	0.00E+00	0.00E+00	2.79E-02
240	ALL	602838.6	4127050	NonCancerChronicDerived_InhSoilDermMMilk	3.30E-02	3.35E-02	8.98E-05	2.72E-04	1.64E-05	3.32E-02	3.45E-02	3.30E-02	1.52E-05	0.00E+00	2.51E-06	1.33E-03	0.00E+00	0.00E+00	3.45E-02
241	ALL	602851	4127029	NonCancerChronicDerived_InhSoilDermMMilk	3.36E-02	3.42E-02	9.85E-05	3.39E-04	1.88E-05	3.39E-02	3.53E-02	3.36E-02	1.83E-05	0.00E+00	3.06E-06	1.46E-03	0.00E+00	0.00E+00	3.53E-02
242	ALL	602885.9	4127056	NonCancerChronicDerived_InhSoilDermMMilk	2.78E-02	2.81E-02	7.63E-05	2.36E-04	1.40E-05	2.79E-02	2.90E-02	2.78E-02	1.30E-05	0.00E+00	2.15E-06	1.13E-03	0.00E+00	0.00E+00	2.90E-02
243	ALL	602934.1	4127080	NonCancerChronicDerived_InhSoilDermMMilk	2.23E-02	2.26E-02	6.00E-05	1.78E-04	1.08E-05	2.24E-02	2.33E-02	2.23E-02	9.84E-06	0.00E+00	1.63E-06	8.89E-04	0.00E+00	0.00E+00	2.33E-02
244	ALL	602942.8	4127057	NonCancerChronicDerived_InhSoilDermMMilk	2.23E-02	2.27E-02	6.37E-05	2.10E-04	1.20E-05	2.25E-02	2.34E-02	2.23E-02	1.14E-05	0.00E+00	1.90E-06	9.46E-04	0.00E+00	0.00E+00	2.34E-02
245	ALL	602900.5	4127036	NonCancerChronicDerived_InhSoilDermMMilk	2.73E-02	2.77E-02	7.97E-05	2.73E-04	1.52E-05	2.74E-02	2.86E-02	2.73E-02	1.47E-05	0.00E+00	2.46E-06	1.18E-03	0.00E+00	0.00E+00	2.86E-02
246	ALL	602861.6	4127011	NonCancerChronicDerived_InhSoilDermMMilk	3.49E-02	3.55E-02	1.09E-04	4.10E-04	2.15E-05	3.51E-02	3.67E-02	3.49E-02	2.17E-05	0.00E+00	3.64E-06	1.62E-03	0.00E+00	0.00E+00	3.67E-02
247	ALL	602868.5	4126989	NonCancerChronicDerived_InhSoilDermMMilk	4.09E-02	4.17E-02	1.33E-04	5.23E-04	2.66E-05	4.12E-02	4.31E-02	4.09E-02	2.71E-05	0.00E+00	4.58E-06	1.96E-03	0.00E+00	0.00E+00	4.31E-02
248	ALL	602911.1	4127012	NonCancerChronicDerived_InhSoilDermMMilk	2.98E-02	3.04E-02	9.25E-05	3.45E-04	1.81E-05	3.01E-02	3.14E-02	2.98E-02	1.81E-05	0.00E+00	3.05E-06	1.37E-03	0.00E+00	0.00E+00	3.14E-02
249	ALL	602951.8	4127040	NonCancerChronicDerived_InhSoilDermMMilk	2.28E-02	2.31E-02	6.75E-05	2.36E-04	1.29E-05	2.29E-02	2.39E-02	2.28E-02	1.26E-05	0.00E+00	2.11E-06	1.00E-03	0.00E+00	0.00E+00	2.39E-02
250	ALL	602967.4	4127016	NonCancerChronicDerived_InhSoilDermMMilk	2.50E-02	2.54E-02	7.73E-05	2.88E-04	1.51E-05	2.51E-02	2.63E-02	2.50E-02	1.50E-05	0.00E+00	2.53E-06	1.14E-03	0.00E+00	0.00E+00	2.63E-02
251	ALL	602919.7	4126992	NonCancerChronicDerived_InhSoilDermMMilk	3.31E-02	3.37E-02	1.06E-04	4.16E-04	2.12E-05	3.33E-02	3.49E-02	3.31E-02	2.14E-05	0.00E+00	3.63E-06	1.57E-03	0.00E+00	0.00E+00	3.49E-02
252	ALL	602883.5	4126972	NonCancerChronicDerived_InhSoilDermMMilk	4.46E-02	4.55E-02	1.49E-04	6.04E-04	3.00E-05	4.50E-02	4.71E-02	4.46E-02	3.08E-05	0.00E+00	5.24E-06	2.19E-03	0.00E+00	0.00E+00	4.71E-02
253	ALL	602893.3	4126951	NonCancerChronicDerived_InhSoilDermMMilk	5.37E-02	5.48E-02	1.85E-04	7.82E-04	3.79E-05	5.42E-02	5.68E-02	5.37E-02	3.93E-05	0.00E+00	6.71E-06	2.72E-03	0.00E+00	0.00E+00	5.68E-02
254	ALL	602935.1	4126975	NonCancerChronicDerived_InhSoilDermMMilk	3.53E-02	3.59E-02	1.16E-04	4.64E-04	2.33E-05	3.56E-02	3.72E-02	3.53E-02	2.37E-05	0.00E+00	4.02E-06	1.71E-03	0.00E+00	0.00E+00	3.72E-02
255	ALL	602975	4126997	NonCancerChronicDerived_InhSoilDermMMilk	2.69E-02	2.74E-02	8.62E-05	3.35E-04	1.71E-05	2.71E-02	2.84E-02	2.69E-02	1.72E-05	0.00E+00	2.92E-06	1.27E-03	0.00E+00	0.00E+00	2.84E-02
256	ALL	602901.5	4126932	NonCancerChronicDerived_InhSoilDermMMilk	6.40E-02	6.54E-02	2.31E-04	1.02E-03	4.81E-05	6.47E-02	6.79E-02	6.40E-02	5.05E-05	0.00E+00	8.67E-06	3.38E-03	0.00E+00	0.00E+00	6.79E-02
257	ALL	602922.1	4126921	NonCancerChronicDerived_InhSoilDermMMilk	6.28E-02	6.42E-02	2.28E-04	1.01E-03	4.75E-05	6.35E-02	6.66E-02	6.28E-02	4.99E-05	0.00E+00	8.58E-06	3.33E-03	0.00E+00	0.00E+00	6.66E-02
258	ALL	602942.5	4126928	NonCancerChronicDerived_InhSoilDermMMilk	5.32E-02	5.43E-02	1.88E-04	8.11E-04	3.87E-05	5.37E-02	5.63E-02	5.32E-02	4.02E-05	0.00E+00	6.90E-06	2.74E-03	0.00E+00	0.00E+00	5.63E-02
259	ALL	602960.5	4126941	NonCancerChronicDerived_InhSoilDermMMilk	4.31E-02	4.40E-02	1.47E-04	6.13E-04	2.99E-05	4.35E-02	4.56E-02	4.31E-02	3.07E-05	0.00E+00	5.25E-06	2.15E-03	0.00E+00	0.00E+00	4.56E-02
260	ALL	602980.1	4126953	NonCancerChronicDerived_InhSoilDermMMilk	3.57E-02	3.64E-02	1.20E-04	4.90E-04	2.42E-05	3.60E-02	3.77E-02	3.56E-02	2.47E-05	0.00E+00	4.21E-06	1.76E-03	0.00E+00	0.00E+00	3.77E-02
261	ALL	603001.2	4126961	NonCancerChronicDerived_InhSoilDermMMilk	3.11E-02	3.17E-02	1.04E-04	4.21E-04	2.09E-05	3.14E-02	3.29E-02	3.11E-02	2.13E-05	0.00E+00	3.62E-06	1.52E-03	0.00E+00	0.00E+00	3.29E-02
262	ALL	603021.1	4126976	NonCancerChronicDerived_InhSoilDermMMilk	2.66E-02	2.71E-02	8.78E-05	3.54E-04	1.77E-05	2.68E-02	2.81E-02	2.66E-02	1.79E-05	0.00E+00	3.05E-06	1.29E-03	0.00E+00	0.00E+00	2.81E-02
263	ALL	602965.7	4126898	NonCancerChronicDerived_InhSoilDermMMilk	6.03E-02	6.17E-02	2.26E-04	1.03E-03	4.76E-05	6.09E-02	6.40E-02	6.03E-02	5.05E-05	0.00E+00	8.70E-06	3.29E-03	0.00E+00	0.00E+00	6.40E-02
264	ALL	602986.1	4126905	NonCancerChronicDerived_InhSoilDermMMilk	5.19E-02	5.30E-02	1.88E-04	8.36E-04	3.92E-05	5.24E-02	5.50E-02	5.19E-02	4.11E-05	0.00E+00	7.07E-06	2.75E-03	0.00E+00	0.00E+00	5.50E-02
265	ALL	602989	4126898	NonCancerChronicDerived_InhSoilDermMMilk	5.40E-02	5.53E-02	2.00E-04	9.01E-04	4.19E-05	5.46E-02	5.74E-02	5.40E-02	4.41E-05	0.00E+00	7.60E-06	2.91E-03	0.00E+00	0.00E+00	5.74E-02
266	ALL	602971.5	4126882	NonCancerChronicDerived_InhSoilDermMMilk	6.47E-02	6.62E-02	2.48E-04	1.16E-03	5.29E-05	6.54E-02	6.88E-02	6.47E-02	5.65E-05	0.00E+00	9.75E-06	3.61E-03	0.00E+00	0.00E+00	6.88E-02
267	ALL	602975.2	4126876	NonCancerChronicDerived_InhSoilDermMMilk	6.72E-02	6.89E-02	2.63E-04	1.25E-03	5.64E-05	6.80E-02	7.16E-02	6.72E-02	6.07E-05	0.00E+00	1.05E-05	3.83E-03	0.00E+00	0.00E+00	7.16E-02
268	ALL	602980.3	4126867	NonCancerChronicDerived_InhSoilDermMMilk	6.85E-02	7.01E-02	2.69E-04	1.28E-03	5.78E-05	6.93E-02	7.29E-02	6.84E-02	6.23E-05	0.00E+00	1.08E-05	3.92E-03	0.00E+00	0.00E+00	7.29E-02
269	ALL	602984	4126860	NonCancerChronicDerived_InhSoilDermMMilk	6.94E-02	7.12E-02	2.73E-04	1.30E-03	5.88E-05	7.03E-02	7.40E-02	6.94E-02	6.34E-05	0.00E+00	1.09E-05	3.98E-03	0.00E+00	0.00E+00	7.40E-02
270	ALL	602999.6	4126879	NonCancerChronicDerived_InhSoilDermMMilk	5.76E-02	5.89E-02	2.18E-04	1.01E-03	4.63E-05	5.82E-02	6.12E-02	5.75E-02	4.93E-05	0.00E+00	8.50E-06	3.18E-03	0.00E+00	0.00E+00	6.12E-02
271	ALL	603003.6	4126872	NonCancerChronicDerived_InhSoilDermMMilk	5.96E-02	6.11E-02	2.30E-04	1.08E-03	4.92E-05	6.03E-02	6.35E-02	5.96E-02	5.27E-05	0.00E+00	9.09E-06	3.35E-03	0.00E+00	0.00E+00	6.35E-02
272	ALL	602989.5	4126848	NonCancerChronicDerived_InhSoilDermMMilk	7.13E-02	7.30E-02	2.80E-04	1.33E-03	6.02E-05	7.21E-02	7.59E-02	7.12E-02	6.49E-05	0.00E+00	1.12E-05	4.08E-03	0.00E+00	0.00E+00	7.59E-02
273	ALL	602993.2	4126843	NonCancerChronicDerived_InhSoilDermMMilk	7.16E-02	7.33E-02	2.80E-04	1.33E-03	6.02E-05	7.24E-02	7.62E-02	7.16E-02	6.48E-05	0.00E+00	1.12E-05	4.08E-03	0.00E+00	0.00E+00	7.62E-02
274	ALL	602998.3	4126835	NonCancerChronicDerived_InhSoilDermMMilk	7.27E-02	7.45E-02	2.84E-04	1.34E-03	6.08E-05	7.35E-02	7.74E-02	7.27E-02	6.54E-05	0.00E+00	1.13E-05	4.13E-03	0.00E+00	0.00E+00	7.74E-02
275	ALL	603002	4126828	NonCancerChronicDerived_InhSoilDermMMilk	7.44E-02	7.62E-02	2.91E-04	1.38E-03	6.23E-05	7.52E-02	7.92E-02	7.43E-02	6.70E-05	0.00E+00	1.16E-05	4.23E-03	0.00E+00	0.00E+00	7.92E-02
276	ALL	603020.2	4126845	NonCancerChronicDerived_InhSoilDermMMilk	6.35E-02	6.50E-02	2.51E-04	1.21E-03	5.42E-05	6.42E-02	6.76E-02	6.34E-02	5.86E-05	0.00E+00	1.01E-05	3.66E-03	0.00E+00	0.00E+00	6.76E-02
277	ALL	603023.4	4126838	NonCancerChronicDerived_InhSoilDermMMilk	6.44E-02	6.60E-02	2.56E-04	1.23E-03	5.51E-05	6.52E-02	6.87E-02	6.44E-02	5.96E-05	0.00E+00	1.03E-05	3.72E-03	0.00E+00	0.00E+00	6.87E-02
278	ALL	602998.3	4126923	NonCancerChronicDerived_InhSoilDermMMilk	4.23E-02	4.32E-02	1.47E-04	6.26E-04	3.01E-05	4.27E-02	4.48E-02	4.23E-02	3.10E-05	0.00E+00	5.32E-06	2.15E-03	0.00E+00	0.00E+00	4.48E-02
279	ALL	603003	4126917	NonCancerChronicDerived_InhSoilDermMMilk	4.39E-02	4.49E-02	1.54E-04	6.65E-04	3.18E-05	4.44E-02	4.65E-02	4.39E-02	3.28E-05	0.00E+00	5.64E-06	2.26E-03	0.00E+00	0.00E+00	4.65E-02
280	ALL	602991.1	4126918	NonCancerChronicDerived_InhSoilDermMMilk	4.56E-02	4.66E-02	1.60E-04	6.90E-04	3.30E-05	4.61E-02	4.83E-02	4.56E-02	3.41E-05	0.00E+00	5.86E-06	2.34E-03	0.00E+00	0.00E+00	4.83E-02
281	ALL	602995.1	4126910	NonCancerChronicDerived_InhSoilDermMMilk	4.78E-02	4.89E-02	1.71E-04	7.50E-04	3.55E-05	4.83E-02	5.07E-02	4.78E-02	3.69E-05	0.00E+00	6.34E-06	2.50E-03	0.00E+00	0.00E+00	5.07E-02
282	ALL	602999.3	4126904	NonCancerChronicDerived_InhSoilDermMMilk	4.87E-02	4.98E-02	1.74E-04	7.65E-04	3.62E-05	4.92E-02	5.16E-02	4.87E-02	3.76E-05	0.00E+00	6.47E-06	2.55E-03	0.00E+00	0.00E+00	5.16E-02
283	ALL	603022.3	4126863	NonCancerChronicDerived_InhSoilDermMMilk	5.75E-02	5.89E-02	2.23E-04	1.05E-03	4.77E-05	5.81E-02	6.12E-02	5.75E-02	5.12E-05	0.00E+00	8.84E-06	3.25E-03	0.00E+00	0.00E+00	6.12E-02
284	ALL	603026.8	4126854	NonCancerChronicDerived_InhSoilDermMMilk	5.98E-02	6.13E-02	2.37E-04	1.14E-03	5.11E-05	6.05E-02	6.37E-02	5.98E-02	5.52E-05	0.00E+00	9.53E-06	3.45E-03	0.00E+00	0.00E+00	6.37E-02
285	ALL	603031.9	4126844	NonCancerChronicDerived_InhSoilDermMMilk	6.09E-02	6.24E-02	2.42E-04	1.17E-03	5.23E-05	6.16E-02	6.49E-02	6.09E-02	5.66E-05	0.00E+00	9.78E-06	3.53E-03	0.00E+00	0.00E+00	6.49E-02
286	ALL	603018.1	4126913	NonCancerChronicDerived_InhSoilDermMMilk	4.25E-02	4.34E-02	1.49E-04	6.44E-04	3.07E-05	4.29E-02	4.50E-02	4.25E-02	3.18E-05	0.00E+00	5.46E-06	2.18E-03	0.00E+00	0.00E+00	4.50E-02
287	ALL	603022.9	4126907	NonCancerChronicDerived_InhSoilDermMMilk	4.35E-02	4.44E-02	1.53E-04	6.63E-04	3.16E-05	4.39E-02	4.60E-02	4.34E-02	3.27E-05	0.00E+00	5.61E-06	2.24E-03	0.00E+00	0.00E+00	4.60E-02
288	ALL	603031.3	4126920	NonCancerChronicDerived_InhSoilDermMMilk	3.79E-02	3.87E-02	1.31E-04	5.50E-04	2.66E-05	3.83E-02	4.01E-02	3.79E-02	2.73E-05	0.00E+00	4.68E-06	1.91E-03	0.00E+00	0.00E+00	4.01E-02
289	ALL	603040.6	4126926	NonCancerChronicDerived_InhSoilDermMMilk	3.50E-02	3.57E-02	1.19E-04	4.97E-04	2.42E-05	3.53E-02	3.69E-02	3.50E-02	2.47E-05	0.00E+00	4.23E-06	1.74E-03	0.00E+00	0.00E+00	3.69E-02
290	ALL	603035.3	4126914	NonCancerChronicDerived_InhSoilDermMMilk	3.95E-02	4.03E-02	1.38E-04	5.88E-04	2.82E-05	3.98E-02	4.17E-02	3.94E-02	2.90E-05	0.00E+00	4.99E-06	2.01E-03	0.00E+00	0.00E+00	4.17E-02
291	ALL	603044.6	4126918	NonCancerChronicDerived_InhSoilDermMMilk	3.68E-02	3.76E-02	1.27E-04	5.35E-04	2.59E-05	3.72E-02	3.89E-02	3.68E-02	2.65E-05	0.00E+00	4.54E-06	1.85E-03	0.00E+00	0.00E+00	3.89E-02
292	ALL	603031.1	4126890	NonCancerChronicDerived_InhSoilDermMMilk	4.73E-02	4.83E-02	1.72E-04	7.69E-04	3.60E-05	4.78E-02	5.01E-02	4.73E-02	3.77E-05	0.00E+00	6.48E-06	2.51E-03	0.00E+00	0.00E+00	5.01E-02
293	ALL	603039.5	4126894	NonCancerChronicDerived_InhSoilDermMMilk	4.42E-02	4.51E-02	1.58E-04	6.95E-04	3.28E-05	4.46E-02	4.68E-02	4.42E-02	3.41E-05	0.00E+00	5.87E-06	2.31E-03	0.00E+00	0.00E+00	4.68E-02
294	ALL	603037.2	4126879	NonCancerChronicDerived_InhSoilDermMMilk	4.94E-02	5.05E-02	1.84E-04	8.38E-04	3.87E-05	4.99E-02	5.24E-02	4.94E-02	4.09E-05	0.00E+00	7.05E-06	2.68E-03	0.00E+00	0.00E+00	5.24E-02
295	ALL	603044.6	4126884	NonCancerChronicDerived_InhSoilDermMMilk	4.63E-02	4.73E-02	1.69E-04	7.55E-04	3.53E-05	4.67E-02	4.91E-02	4.62E-02	3.70E-05	0.00E+00	6.37E-06	2.46E-03	0.00E+00	0.00E+00	4.91E-02
296	ALL	603047.7	4126863	NonCancerChronicDerived_InhSoilDermMMilk	5.16E-02	5.28E-02	1.97E-04	9.18E-04	4.19E-05	5.21E-02	5.48E-02	5.16E-02	4.47E-05	0.00E+00	7.71E-06	2.87E-03	0.00E+00	0.00E+00	5.48E-02
297	ALL	603051.7	4126856	NonCancerChronicDerived_InhSoilDermMMilk	5.20E-02	5.32E-02	2.00E-04	9.33E-04	4.25E-05	5.26E-02	5.53E-02	5.20E-02	4.54E-05	0.00E+00	7.84E-06	2.91E-03	0.00E+00	0.00E+00	5.53E-02
298	ALL	603019.2	4126783	NonCancerChronicDerived_InhSoilDermMMilk	8.60E-02	8.80E-02	3.26E-04	1.50E-03	6.89E-05	8.70E-02	9.14E-02	8.60E-02	7.29E-05	0.00E+00	1.26E-05	4.72E-03	0.00E+00	0.00E+00	9.14E-02

*HARP - HRACalc v21081 5/12/2021 9:44:49 PM - Acute Risk - Input File: C:\Projects\Risk\Proposed\GR-Pro_24-51\hra\GR_30Yr_HRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL	MAXHI
1	ALL		602453.3	4126234	NonCancerAcute	8.85E-03	9.07E-03	2.67E-02	0.00E+00	0.00E+00	1.13E-02	1.47E-03	0.00E+00	3.21E-03	0.00E+00	0.00E+00	2.28E-03	0.00E+00	0.00E+00	2.67E-02
2	ALL		602460	4126246	NonCancerAcute	9.44E-03	9.67E-03	2.84E-02	0.00E+00	0.00E+00	1.20E-02	1.50E-03	0.00E+00	3.41E-03	0.00E+00	0.00E+00	2.42E-03	0.00E+00	0.00E+00	2.84E-02
3	ALL		602466	4126259	NonCancerAcute	9.95E-03	1.02E-02	3.00E-02	0.00E+00	0.00E+00	1.27E-02	1.53E-03	0.00E+00	3.59E-03	0.00E+00	0.00E+00	2.55E-03	0.00E+00	0.00E+00	3.00E-02
4	ALL		602471.9	4126273	NonCancerAcute	1.05E-02	1.08E-02	3.16E-02	0.00E+00	0.00E+00	1.34E-02	1.56E-03	0.00E+00	3.78E-03	0.00E+00	0.00E+00	2.69E-03	0.00E+00	0.00E+00	3.16E-02
5	ALL		602480.3	4126288	NonCancerAcute	1.10E-02	1.12E-02	3.31E-02	0.00E+00	0.00E+00	1.40E-02	1.60E-03	0.00E+00	4.05E-03	0.00E+00	0.00E+00	2.88E-03	0.00E+00	0.00E+00	3.31E-02
6	ALL		602485	4126301	NonCancerAcute	1.15E-02	1.18E-02	3.47E-02	0.00E+00	0.00E+00	1.47E-02	1.63E-03	0.00E+00	4.21E-03	0.00E+00	0.00E+00	2.99E-03	0.00E+00	0.00E+00	3.47E-02
7	ALL		602492.6	4126315	NonCancerAcute	1.26E-02	1.29E-02	3.76E-02	0.00E+00	0.00E+00	1.59E-02	1.66E-03	0.00E+00	4.44E-03	0.00E+00	0.00E+00	3.15E-03	0.00E+00	0.00E+00	3.76E-02
8	ALL		602496.5	4126328	NonCancerAcute	1.33E-02	1.36E-02	3.96E-02	0.00E+00	0.00E+00	1.67E-02	1.68E-03	0.00E+00	4.56E-03	0.00E+00	0.00E+00	3.23E-03	0.00E+00	0.00E+00	3.96E-02
9	ALL		602504.1	4126344	NonCancerAcute	1.44E-02	1.47E-02	4.25E-02	0.00E+00	0.00E+00	1.80E-02	1.71E-03	0.00E+00	4.75E-03	0.00E+00	0.00E+00	3.37E-03	0.00E+00	0.00E+00	4.25E-02
10	ALL		602511.6	4126358	NonCancerAcute	1.52E-02	1.56E-02	4.49E-02	0.00E+00	0.00E+00	1.89E-02	1.75E-03	0.00E+00	4.93E-03	0.00E+00	0.00E+00	3.50E-03	0.00E+00	0.00E+00	4.49E-02
11	ALL		602517.6	4126371	NonCancerAcute	1.58E-02	1.62E-02	4.66E-02	0.00E+00	0.00E+00	1.97E-02	1.78E-03	0.00E+00	5.10E-03	0.00E+00	0.00E+00	3.62E-03	0.00E+00	0.00E+00	4.66E-02
12	ALL		602432.3	4126255	NonCancerAcute	1.01E-02	1.03E-02	3.06E-02	0.00E+00	0.00E+00	1.30E-02	1.50E-03	0.00E+00	3.89E-03	0.00E+00	0.00E+00	2.76E-03	0.00E+00	0.00E+00	3.06E-02
13	ALL		602439	4126270	NonCancerAcute	1.06E-02	1.09E-02	3.20E-02	0.00E+00	0.00E+00	1.36E-02	1.53E-03	0.00E+00	3.93E-03	0.00E+00	0.00E+00	2.79E-03	0.00E+00	0.00E+00	3.20E-02
14	ALL		602443	4126284	NonCancerAcute	1.12E-02	1.14E-02	3.35E-02	0.00E+00	0.00E+00	1.42E-02	1.56E-03	0.00E+00	4.02E-03	0.00E+00	0.00E+00	2.85E-03	0.00E+00	0.00E+00	3.35E-02
15	ALL		602449.3	4126297	NonCancerAcute	1.16E-02	1.18E-02	3.42E-02	0.00E+00	0.00E+00	1.44E-02	1.57E-03	0.00E+00	3.76E-03	0.00E+00	0.00E+00	2.67E-03	0.00E+00	0.00E+00	3.42E-02
16	ALL		602456.5	4126310	NonCancerAcute	1.20E-02	1.22E-02	3.52E-02	0.00E+00	0.00E+00	1.48E-02	1.60E-03	0.00E+00	3.74E-03	0.00E+00	0.00E+00	2.65E-03	0.00E+00	0.00E+00	3.52E-02
17	ALL		602462.8	4126324	NonCancerAcute	1.25E-02	1.28E-02	3.65E-02	0.00E+00	0.00E+00	1.53E-02	1.63E-03	0.00E+00	3.73E-03	0.00E+00	0.00E+00	2.65E-03	0.00E+00	0.00E+00	3.65E-02
18	ALL		602470	4126337	NonCancerAcute	1.28E-02	1.31E-02	3.74E-02	0.00E+00	0.00E+00	1.57E-02	1.66E-03	0.00E+00	3.78E-03	0.00E+00	0.00E+00	2.68E-03	0.00E+00	0.00E+00	3.74E-02
19	ALL		602481.9	4126364	NonCancerAcute	1.36E-02	1.39E-02	4.00E-02	0.00E+00	0.00E+00	1.69E-02	1.74E-03	0.00E+00	4.33E-03	0.00E+00	0.00E+00	3.08E-03	0.00E+00	0.00E+00	4.00E-02
20	ALL		602473.5	4126374	NonCancerAcute	1.47E-02	1.50E-02	4.25E-02	0.00E+00	0.00E+00	1.78E-02	1.74E-03	0.00E+00	4.07E-03	0.00E+00	0.00E+00	2.90E-03	0.00E+00	0.00E+00	4.25E-02
21	ALL		602462.8	4126388	NonCancerAcute	1.61E-02	1.64E-02	4.71E-02	0.00E+00	0.00E+00	1.98E-02	1.81E-03	0.00E+00	4.98E-03	0.00E+00	0.00E+00	3.53E-03	0.00E+00	0.00E+00	4.71E-02
22	ALL		602393	4126278	NonCancerAcute	8.72E-03	9.04E-03	2.83E-02	0.00E+00	0.00E+00	1.22E-02	1.59E-03	0.00E+00	4.66E-03	0.00E+00	0.00E+00	3.30E-03	0.00E+00	0.00E+00	2.83E-02
23	ALL		602400.1	4126294	NonCancerAcute	9.29E-03	9.62E-03	2.99E-02	0.00E+00	0.00E+00	1.29E-02	1.62E-03	0.00E+00	4.82E-03	0.00E+00	0.00E+00	3.42E-03	0.00E+00	0.00E+00	2.99E-02
24	ALL		602406.9	4126308	NonCancerAcute	1.02E-02	1.06E-02	3.25E-02	0.00E+00	0.00E+00	1.40E-02	1.65E-03	0.00E+00	4.97E-03	0.00E+00	0.00E+00	3.52E-03	0.00E+00	0.00E+00	3.25E-02
25	ALL		602413.2	4126323	NonCancerAcute	1.10E-02	1.14E-02	3.47E-02	0.00E+00	0.00E+00	1.49E-02	1.68E-03	0.00E+00	5.12E-03	0.00E+00	0.00E+00	3.63E-03	0.00E+00	0.00E+00	3.47E-02
26	ALL		602419.6	4126336	NonCancerAcute	1.18E-02	1.22E-02	3.68E-02	0.00E+00	0.00E+00	1.57E-02	1.71E-03	0.00E+00	5.23E-03	0.00E+00	0.00E+00	3.71E-03	0.00E+00	0.00E+00	3.68E-02
27	ALL		602425.5	4126356	NonCancerAcute	1.28E-02	1.31E-02	3.94E-02	0.00E+00	0.00E+00	1.69E-02	1.77E-03	0.00E+00	5.47E-03	0.00E+00	0.00E+00	3.87E-03	0.00E+00	0.00E+00	3.94E-02
28	ALL		602416.8	4126372	NonCancerAcute	1.20E-02	1.24E-02	3.81E-02	0.00E+00	0.00E+00	1.64E-02	1.82E-03	0.00E+00	5.81E-03	0.00E+00	0.00E+00	4.11E-03	0.00E+00	0.00E+00	3.81E-02
29	ALL		602408	4126383	NonCancerAcute	1.25E-02	1.29E-02	3.94E-02	0.00E+00	0.00E+00	1.70E-02	1.87E-03	0.00E+00	5.99E-03	0.00E+00	0.00E+00	4.24E-03	0.00E+00	0.00E+00	3.94E-02
30	ALL		602398.1	4126397	NonCancerAcute	1.36E-02	1.41E-02	4.25E-02	0.00E+00	0.00E+00	1.82E-02	1.91E-03	0.00E+00	6.08E-03	0.00E+00	0.00E+00	4.30E-03	0.00E+00	0.00E+00	4.25E-02
31	ALL		602369.4	4126300	NonCancerAcute	9.10E-03	9.42E-03	2.94E-02	0.00E+00	0.00E+00	1.27E-02	1.65E-03	0.00E+00	4.78E-03	0.00E+00	0.00E+00	3.38E-03	0.00E+00	0.00E+00	2.94E-02
32	ALL		602373.8	4126314	NonCancerAcute	9.64E-03	9.97E-03	3.10E-02	0.00E+00	0.00E+00	1.34E-02	1.69E-03	0.00E+00	4.94E-03	0.00E+00	0.00E+00	3.50E-03	0.00E+00	0.00E+00	3.10E-02
33	ALL		602382.9	4126326	NonCancerAcute	1.01E-02	1.04E-02	3.24E-02	0.00E+00	0.00E+00	1.40E-02	1.72E-03	0.00E+00	5.16E-03	0.00E+00	0.00E+00	3.65E-03	0.00E+00	0.00E+00	3.24E-02
34	ALL		602390.4	4126346	NonCancerAcute	1.09E-02	1.12E-02	3.47E-02	0.00E+00	0.00E+00	1.50E-02	1.77E-03	0.00E+00	5.43E-03	0.00E+00	0.00E+00	3.85E-03	0.00E+00	0.00E+00	3.47E-02
35	ALL		602387.2	4126364	NonCancerAcute	1.19E-02	1.23E-02	3.74E-02	0.00E+00	0.00E+00	1.61E-02	1.82E-03	0.00E+00	5.58E-03	0.00E+00	0.00E+00	3.95E-03	0.00E+00	0.00E+00	3.74E-02
36	ALL		602379.7	4126375	NonCancerAcute	1.27E-02	1.31E-02	3.98E-02	0.00E+00	0.00E+00	1.71E-02	1.85E-03	0.00E+00	5.89E-03	0.00E+00	0.00E+00	4.17E-03	0.00E+00	0.00E+00	3.98E-02
37	ALL		602354.7	4126321	NonCancerAcute	1.01E-02	1.04E-02	3.26E-02	0.00E+00	0.00E+00	1.41E-02	1.71E-03	0.00E+00	5.36E-03	0.00E+00	0.00E+00	3.79E-03	0.00E+00	0.00E+00	3.26E-02
38	ALL		602361.8	4126335	NonCancerAcute	1.07E-02	1.11E-02	3.44E-02	0.00E+00	0.00E+00	1.49E-02	1.74E-03	0.00E+00	5.49E-03	0.00E+00	0.00E+00	3.89E-03	0.00E+00	0.00E+00	3.44E-02
39	ALL		602366.2	4126349	NonCancerAcute	1.14E-02	1.18E-02	3.63E-02	0.00E+00	0.00E+00	1.56E-02	1.78E-03	0.00E+00	5.68E-03	0.00E+00	0.00E+00	4.02E-03	0.00E+00	0.00E+00	3.63E-02
40	ALL		602331.3	4126346	NonCancerAcute	1.05E-02	1.09E-02	3.43E-02	0.00E+00	0.00E+00	1.48E-02	1.81E-03	0.00E+00	5.76E-03	0.00E+00	0.00E+00	4.07E-03	0.00E+00	0.00E+00	3.43E-02
41	ALL		602339.6	4126359	NonCancerAcute	1.11E-02	1.15E-02	3.60E-02	0.00E+00	0.00E+00	1.56E-02	1.84E-03	0.00E+00	5.96E-03	0.00E+00	0.00E+00	4.22E-03	0.00E+00	0.00E+00	3.60E-02
42	ALL		602346.4	4126372	NonCancerAcute	1.17E-02	1.21E-02	3.77E-02	0.00E+00	0.00E+00	1.63E-02	1.88E-03	0.00E+00	6.15E-03	0.00E+00	0.00E+00	4.35E-03	0.00E+00	0.00E+00	3.77E-02
43	ALL		602350.7	4126387	NonCancerAcute	1.25E-02	1.29E-02	4.00E-02	0.00E+00	0.00E+00	1.73E-02	1.93E-03	0.00E+00	6.36E-03	0.00E+00	0.00E+00	4.50E-03	0.00E+00	0.00E+00	4.00E-02
44	ALL		602305.9	4126382	NonCancerAcute	1.00E-02	1.05E-02	3.43E-02	0.00E+00	0.00E+00	1.50E-02	2.02E-03	0.00E+00	6.60E-03	0.00E+00	0.00E+00	4.67E-03	0.00E+00	0.00E+00	3.43E-02
45	ALL		602310.7	4126397	NonCancerAcute	1.06E-02	1.11E-02	3.59E-02	0.00E+00	0.00E+00	1.57E-02	2.06E-03	0.00E+00	6.73E-03	0.00E+00	0.00E+00	4.76E-03	0.00E+00	0.00E+00	3.59E-02
46	ALL		602315.8	4126411	NonCancerAcute	1.12E-02	1.17E-02	3.75E-02	0.00E+00	0.00E+00	1.64E-02	2.10E-03	0.00E+00	6.84E-03	0.00E+00	0.00E+00	4.84E-03	0.00E+00	0.00E+00	3.75E-02
47	ALL		602323	4126424	NonCancerAcute	1.19E-02	1.24E-02	3.93E-02	0.00E+00	0.00E+00	1.71E-02	2.14E-03	0.00E+00	6.93E-03	0.00E+00	0.00E+00	4.90E-03	0.00E+00	0.00E+00	3.93E-02
48	ALL		602328.1	4126439	NonCancerAcute	1.26E-02	1.31E-02	4.14E-02	0.00E+00	0.00E+00	1.80E-02	2.19E-03	0.00E+00	7.06E-03	0.00E+00	0.00E+00	5.00E-03	0.00E+00	0.00E+00	4.14E-02
49	ALL		602336.1	4126452	NonCancerAcute	1.34E-02	1.39E-02	4.34E-02	0.00E+00	0.00E+00	1.88E-02	2.23E-03	0.00E+00	7.12E-03	0.00E+00	0.00E+00	5.04E-03	0.00E+00	0.00E+00	4.34E-02
50	ALL		602340	4126466	NonCancerAcute	1.43E-02	1.48E-02	4.57E-02	0.00E+00	0.00E+00	1.97E-02	2.28E-03	0.00E+00	7.27E-03	0.00E+00	0.00E+00	5.14E-03	0.00E+00	0.00E+00	4.57E-02
51	ALL		602345.2	4126480	NonCancerAcute	1.51E-02	1.56E-02	4.82E-02	0.00E+00	0.00E+00	2.08E-02	2.34E-03	0.00E+00	7.56E-03	0.00E+00	0.00E+00	5.35E-03	0.00E+00	0.00E+00	4.82E-02
52	ALL		602351.5	4126495	NonCancerAcute	1.61E-02	1.66E-02	5.11E-02	0.00E+00	0.00E+00	2.20E-02	2.40E-03	0.00E+00	7.89E-03	0.00E+00	0.00E+00	5.58E-03	0.00E+00	0.00E+00	5.11E-02
53	ALL		602286.4	4126416	NonCancerAcute	1.00E-02	1.05E-02	3.44E-02	0.00E+00	0.00E+00	1.51E-02	2.07E-03	0.00E+00	6.73E-03	0.00E+00	0.00E+00	4.77E-03	0.00E+00	0.00E+00	3.44E-02
54	ALL		602293.6	4126428	NonCancerAcute	1.05E-02	1.10E-02	3.58E-02	0.00E+00	0.00E+00	1.57E-02	2.11E-03	0.00E+00	6.87E-03	0.00E+00	0.00E+00	4.86E-03	0.00E+00	0.00E+00	3.58E-02
55	ALL		602298	4126441	NonCancerAcute	1.07E-02	1.12E-02	3.64E-02	0.00E+00	0.00E+00	1.59E-02	2.15E-03	0.00E+00	6.94E-03	0.00E+00	0.00E+00	4.92E-03	0.00E+00	0.00E+00	3.64E-02
56	ALL		602303.9	4126455	NonCancerAcute	1.14E-02	1.19E-02	3.84E-02	0.00E+00	0.00E+00	1.67E-02	2.19E-03	0.00E+00	7.05E-03	0.00E+00	0.00E+00	4.99E-03	0.00E+00	0.00E+00	3.84E-02
57	ALL		602307.9	4126466	NonCancerAcute	1.23E-02	1.28E-02	4.07E-02	0.00E+00	0.00E+00	1.77E-02	2.23E-03	0.00E+00	7.12E-03	0.00E+00	0.00E+00	5.04E-03	0.00E+00	0.00E+00	4.07E-02
58	ALL		602313.4	4126478	NonCancerAcute	1.31E-02	1.36E-02	4.29E-02	0.00E+00	0.00E+00	1.86E-02	2.27E-03	0.00E+00	7.22E-03	0.00E+00	0.00E+00	5.12E-03	0.00E+00	0.00E+00	4.29E-02
59	ALL		602321	4126491	NonCancerAcute	1.41E-02	1.46E-02	4.57E-02	0.00E+00	0.00E+00	1.98E-02	2.34E-03	0.00E+00	7.57E-03	0.00E+00	0.00E+00	5.36E-03	0.00E+00	0.00E+00	4.57E-02
60	ALL		602326.1	4126503	NonCancerAcute	1.51E-02	1.56E-02	4.86E-02	0.00E+00	0.00E+00	2.10E-02	2.39E-03	0.00E+00	7.82E-03	0.00E+00	0.00E+00	5.54E-03	0.00E+00	0.00E+00	4.86E-02
61	ALL		602270.6	4126439	NonCancerAcute	1.11E-02	1.15E-02	3.62E-02	0.00E+00	0.00E+00	1.56E-02	1.98E-03	0.00E+00	5.98E-03	0.00E+00	0.00E+00	4.24E-03	0.00E+00	0.00E+00	3.62E-02
62	ALL		602276.9	4126452	NonCancerAcute	1.17E-02	1.21E-02	3.77E-02	0.00E+00	0.00E+00	1.63E-02	2.02E-03	0.00E+00	6.07E-03	0.00E+00	0.00E+00	4.30E-03	0.00E+00	0.00E+00	3.77E-02
63	ALL		602281.7	4126463	NonCancerAcute	1.22E-02	1.26E-02	3.89E-02	0.00E+00	0.00E+00	1.68E-02	2.05E-03	0.00E+00	6.12E-03	0.00E+00	0.00E+00	4.33E-03	0.00E+00	0.00E+00	3.89E-02
64	ALL		602289.2	4126476	NonCancerAcute	1.29E-02	1.33E-02	4.09E-02	0.00E+00	0.00E+00	1.76E-02	2.10E-03	0.00E+00	6.26E-03	0.00E+00	0.00E+00	4.44E-03	0.00E+00	0.00E+00	4.09E-02
65	ALL		602293.6	4126488	NonCancerAcute	1.33E-02	1.37E-02	4.20E-02	0.00E+00	0.00E+00	1.80E-02	2.13E-03	0.00E+00	6.29E-03	0.00E+00	0.00E+00	4.46E-03	0.00E+00	0.00E+00	4.20E-02
66	ALL		602299.5	4126503	NonCancerAcute	1.38E-02	1.42E-02	4.35E-02	0.00E+00	0.00E+00	1.87E-02	2.18E-03	0.00E+00	6.51E-03	0.00E+00	0.00E+00	4.61E-03	0.00E+00	0.00E+00	4.35E-02
67	ALL		602309.1	4126518	NonCancerAcute	1.47E-02	1.52E-02	4.64E-02	0.00E+00	0.00E+00	1.99E-02	2.27E-03	0.00E+00	6.91E-03	0.00E+00	0.00E+00	4.90E-03	0.00E+00	0.00E+00	4.64E-02
68	ALL		602497.6	4126392	NonCancerAcute	1.52E-02	1.56E-02	4.50E-02	0.00E+00	0.00E+00	1.90E-02	1.82E-03	0.00E+00	4.97E-03	0.00E+00	0.00E+00	3.53E-03	0.00E+00	0.00E+00	4.50E-02
69	ALL		602489.2	4126403	NonCancerAcute	1.54E-02	1.57E-02	4.52E-02	0.00E+00	0.00E+00	1.90E-02	1.84E-03	0.00E+00	4.81E-03	0.00E+00	0.00E+00	3.41E-03	0.00E+00	0.00E+00	4.52E-02
70	ALL		602479.7	4126416	NonCancerAcute	1.71E-02	1.74E-02	4.91E-02	0.00E+00	0.00E+00	2.05E-02	1.84E-03	0.00E+00	4.51E-03	0.00E+00	0.00E+00	3.20E-03	0.00E+00	0.00E+00	4.91E-02
71	ALL		602471	4126428	NonCancerAcute	1.81E-02	1.85E-02	5.27E-02	0.00E+00	0.00E+00	2.22E-02	1.91E-03	0.00E+00	5.33E-03	0.00E+00	0.00E+00	3.79E-03	0.00E+00	0.00E+00	5.27E-02
72	ALL		602462.7	4126440	NonCancerAcute	1.78E-02	1.82E-02	5.27E-02	0.00E+00	0.00E+00	2.23E-02	1.97E-03	0.00E+00	5.98E-03	0.00E+00	0.00E+00	4.24E-03	0.00E+00	0.00E+00	5.27E-02
73	ALL		602451.5	4126451	NonCancerAcute	1.75E-02	1.79E-02	5.28E-02	0.00E+00	0.00E+00	2.25E-02	2.05E-03	0.00E+00	6.67E-03	0.00E+00	0.00E+00	4.73E-03	0.00E+00	0.00E+00	5.28E-02
74	ALL		602426.5	4126476	NonCancerAcute	1.85E-02	1.90E-02	5.67E-02	0.00E+00	0.00E+00	2.42E-02	2.17E-03	0.00E+00	7.55E-03	0.00E+00	0.00E+00	5.35E-03	0.00E+00	0.00E+00	5.67E-02
75	ALL		602411.9	4126486	NonCancerAcute	1.85E-02	1.90E-02	5.67E-02	0.00E+00	0.00E+00	2.43E-02	2.20E-03	0.00E+00	7.60E-03	0.00E+00	0.00E+00	5.39E-03	0.00E+00	0.00E+00	5.67E-02
76	ALL		602399.2	4126494	NonCancerAcute	1.89E-02	1.94E-02	5.84E-02	0.00E+00	0.00E+00	2.51E-02	2.26E-03	0.00E+00	8.20E-03	0.00E+00	0.00E+00	5.80E-03	0.00E+00	0.00E+00	5.84E-02
77	ALL		602385.3	4126505	NonCancerAcute	1.73E-02	1.79E-02	5.50E-02	0.00E+00	0.00E+00	2.37E-02	2.40E-03	0.00E+00	8.46E-03	0.00E+00	0.00E+00	5.98E-03	0.00E+00	0.00E+00	5.50E-02
78	ALL		602371.8	4126513	NonCancerAcute	1.75E-02	1.80E-02	5.50E-02	0.00E+00	0.00E+00	2.37E-02	2.47E-03	0.00E+00	8.19E-03	0.00E+00	0.00E+00	5.80E-03	0.00E+00	0.00E+00	5.50E-02
79	ALL		602360.7	4126521	NonCancerAcute	1.74E-02	1.80E-02	5.51E-02	0.00E+00	0.00E+00	2.37E-02	2.52E-03	0.00E+00	8.40E-03	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	5.51E-02
80	ALL		602346.4	4126529	NonCancerAcute	1.65E-02	1.71E-02	5.31E-02	0.00E+00	0.00E+00	2.30E-02	2.55E-03	0.00E+00	8.55E-03	0.00E+00	0.00E+00	6.05E-03	0.00E+00	0.00E+00	5.31E-02
81	ALL		602261.8	4126482	NonCancerAcute	1.01E-02	1.04E-02	3.08E-02	0.00E+00	0.00E+00	1.31E-02	1.81E-03	0.00E+00	3.91E-03	0.00E+00	0.00E+00	2.79E-03	0.00E+00	0.00E+00	3.08E-02
82	ALL		602251.1	4126488	NonCancerAcute	9.71E-03	9.93E-03	2.90E-02	0.00E+00	0.00E+00	1.22E-02	1.75E-03	0.00E+00	3.24E-03	0.00E+00	0.00E+00	2.31E-03	0.00E+00	0.00E+00	2.90E-02
83	ALL		602242.4	4126497	NonCancerAcute	9.84E-03	1.00E-02	2.85E-02	0.00E+00	0.00E+00	1.19E-02	1.69E-03	0.00E+00	2.66E-03	0.00E+00	0.00E+00	1.91E-03	0.00E+00	0.00E+00	2.85E-02
84	ALL		602232.1	4126506	NonCancerAcute	9.97E-03	1.01E-02	2.84E-02	0.00E+00	0.00E+00	1.17E-02	1.70E-03	0.00E+00	2.30E-03	0.00E+00	0.00E+00	1.66E-03	0.00E+00	0.00E+00	2.84E-02
85	ALL		602269	4126504	NonCancerAcute	1.07E-02	1.10E-02	3.22E-02	0.00E+00	0.00E+00	1.36E-02	1.85E-03	0.00E+00	3.79E-03	0.00E+00	0.00E+00	2.70E-03	0.00E+00	0.00E+00	3.22E-02
86	ALL		602258.3	4126514	NonCancerAcute	1.10E-02	1.12E-02	3.19E-02	0.00E+00	0.00E+00	1.33E-02	1.78E-03	0.00E+00	3.01E-03	0.00E+00	0.00E+00	2.16E-03	0.00E+00	0.00E+00	3.19E-02
87	ALL		602247.2	4126522	NonCancerAcute	1.08E-02	1.10E-02	3.08E-02	0.00E+00	0.00E+00	1.27E-02	1.75E-03	0.00E+00	2.46E-03	0.00E+00	0.00E+00	1.77E-03	0.00E+00	0.00E+00	3.08E-02
88	ALL		602238.4	4126529	NonCancerAcute	1.07E-02	1.09E-02	3.02E-02	0.00E+00	0.00E+00	1.25E-02	1.75E-03	0.00E+00	2.28E-03	0.00E+00	0.00E+00	1.64E-03	0.00E+00	0.00E+00	3.02E-02
89	ALL		602228.1	4126541	NonCancerAcute	1.06E-02	1.07E-02	2.98E-02	0.00E+00	0.00E+00	1.23E-02	1.75E-03	0.00E+00	2.27E-03	0.00E+00	0.00E+00	1.64E-03	0.00E+00	0.00E+00	2.98E-02
90	ALL		602281.3	4126528	NonCancerAcute	1.21E-02	1.24E-02	3.61E-02	0.00E+00	0.00E+00	1.52E-02	1.92E-03	0.00E+00	4.02E-03	0.00E+00	0.00E+00	2.87E-03	0.00E+00	0.00E+00	3.61E-02
91	ALL		602285.3	4126541	NonCancerAcute	1.31E-02	1.34E-02	3.83E-02	0.00E+00	0.00E+00	1.61E-02	1.95E-03	0.00E+00	3.92E-03	0.00E+00	0.00E+00	2.80E-03	0.00E+00	0.00E+00	3.83E-02
92	ALL		602292.4	4126555	NonCancerAcute	1.40E-02	1.42E-02	4.06E-02	0.00E+00	0.00E+00	1.70E-02	1.99E-03	0.00E+00	4.02E-03	0.00E+00	0.00E+00	2.87E-03	0.00E+00	0.00E+00	4.06E-02
93	ALL		602263.4	4126548	NonCancerAcute	1.24E-02	1.26E-02	3.48E-02	0.00E+00	0.00E+00	1.44E-02	1.82E-03	0.00E+00	2.59E-03	0.00E+00	0.00E+00	1.87E-03	0.00E+00	0.00E+00	3.48E-02
94	ALL		602268.2	4126562	NonCancerAcute	1.29E-02	1.31E-02	3.61E-02	0.00E+00	0.00E+00	1.49E-02	1.86E-03	0.00E+00	2.59E-03	0.00E+00	0.00E+00	1.87E-03	0.00E+00	0.00E+00	3.61E-02
95	ALL		602239.2	4126564	NonCancerAcute	1.12E-02	1.14E-02	3.16E-02	0.00E+00	0.00E+00	1.31E-02	1.80E-03	0.00E+00	2.40E-03	0.00E+00	0.00E+00	1.73E-03	0.00E+00	0.00E+00	3.16E-02
96	ALL		602224.9	4126568	NonCancerAcute	1.05E-02	1.06E-02	2.98E-02	0.00E+00	0.00E+00	1.23E-02	1.78E-03	0.00E+00	2.46E-03	0.00E+00	0.00E+00	1.77E-03	0.00E+00	0.00E+00	2.98E-02
97	ALL		602432.8	4127406	NonCancerAcute	1.96E-02	2.05E-02	6.72E-02	0.00E+00	0.00E+00	2.96E-02	3.40E-03	0.00E+00	1.33E-02	0.00E+00	0.00E+00	9.41E-03	0.00E+00	0.00E+00	6.72E-02
98	ALL		602440.4	4127398	NonCancerAcute	1.96E-02	2.06E-02	6.80E-02	0.00E+00	0.00E+00	3.00E-02	3.50E-03	0.00E+00	1.38E-02	0.00E+00	0.00E+00	9.80E-03	0.00E+00	0.00E+00	6.80E-02
99	ALL		602447.3	4127389	NonCancerAcute	1.96E-02	2.06E-02	6.86E-02	0.00E+00	0.00E+00	3.04E-02	3.65E-03	0.00E+00	1.43E-02	0.00E+00	0.00E+00	1.01E-02	0.00E+00	0.00E+00	6.86E-02
100	ALL		602440.2	4127358	NonCancerAcute	2.24E-02	2.33E-02	7.52E-02	0.00E+00	0.00E+00	3.30E-02	3.76E-03	0.00E+00	1.40E-02	0.00E+00	0.00E+00	9.96E-03	0.00E+00	0.00E+00	7.52E-02
101	ALL		602449.4	4127365	NonCancerAcute	2.12E-02	2.22E-02	7.33E-02	0.00E+00	0.00E+00	3.23E-02	3.75E-03	0.00E+00	1.47E-02	0.00E+00	0.00E+00	1.04E-02	0.00E+00	0.00E+00	7.33E-02
102	ALL		602457.6	4127373	NonCancerAcute	1.96E-02	2.06E-02	6.94E-02	0.00E+00	0.00E+00	3.08E-02	3.87E-03	0.00E+00	1.48E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	6.94E-02
103	ALL		602457.6	4127339	NonCancerAcute	2.26E-02	2.36E-02	7.77E-02	0.00E+00	0.00E+00	3.43E-02	3.97E-03	0.00E+00	1.55E-02	0.00E+00	0.00E+00	1.10E-02	0.00E+00	0.00E+00	7.77E-02
104	ALL		602464.5	4127346	NonCancerAcute	2.11E-02	2.22E-02	7.43E-02	0.00E+00	0.00E+00	3.29E-02	4.08E-03	0.00E+00	1.56E-02	0.00E+00	0.00E+00	1.11E-02	0.00E+00	0.00E+00	7.43E-02
105	ALL		602474	4127353	NonCancerAcute	1.99E-02	2.10E-02	7.13E-02	0.00E+00	0.00E+00	3.17E-02	4.17E-03	0.00E+00	1.56E-02	0.00E+00	0.00E+00	1.10E-02	0.00E+00	0.00E+00	7.13E-02
106	ALL		602484.9	4127337	NonCancerAcute	2.13E-02	2.24E-02	7.56E-02	0.00E+00	0.00E+00	3.35E-02	4.41E-03	0.00E+00	1.62E-02	0.00E+00	0.00E+00	1.15E-02	0.00E+00	0.00E+00	7.56E-02
107	ALL		602491	4127329	NonCancerAcute	2.19E-02	2.30E-02	7.73E-02	0.00E+00	0.00E+00	3.42E-02	4.49E-03	0.00E+00	1.64E-02	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	7.73E-02
108	ALL		602497.6	4127320	NonCancerAcute	2.22E-02	2.34E-02	7.87E-02	0.00E+00	0.00E+00	3.49E-02	4.59E-03	0.00E+00	1.67E-02	0.00E+00	0.00E+00	1.19E-02	0.00E+00	0.00E+00	7.87E-02
109	ALL		602505.3	4127313	NonCancerAcute	2.25E-02	2.36E-02	7.98E-02	0.00E+00	0.00E+00	3.54E-02	4.64E-03	0.00E+00	1.71E-02	0.00E+00	0.00E+00	1.21E-02	0.00E+00	0.00E+00	7.98E-02
110	ALL		602511.6	4127304	NonCancerAcute	2.23E-02	2.35E-02	8.03E-02	0.00E+00	0.00E+00	3.57E-02	4.72E-03	0.00E+00	1.77E-02	0.00E+00	0.00E+00	1.26E-02	0.00E+00	0.00E+00	8.03E-02
111	ALL		602518.5	4127296	NonCancerAcute	2.18E-02	2.30E-02	7.99E-02	0.00E+00	0.00E+00	3.57E-02	4.80E-03	0.00E+00	1.85E-02	0.00E+00	0.00E+00	1.31E-02	0.00E+00	0.00E+00	7.99E-02
112	ALL		602533	4127283	NonCancerAcute	1.93E-02	2.06E-02	7.48E-02	0.00E+00	0.00E+00	3.38E-02	5.19E-03	0.00E+00	1.92E-02	0.00E+00	0.00E+00	1.36E-02	0.00E+00	0.00E+00	7.48E-02
113	ALL		602525.4	4127276	NonCancerAcute	2.23E-02	2.36E-02	8.23E-02	0.00E+00	0.00E+00	3.68E-02	5.32E-03	0.00E+00	1.93E-02	0.00E+00	0.00E+00	1.37E-02	0.00E+00	0.00E+00	8.23E-02
114	ALL		602516.6	4127269	NonCancerAcute	2.46E-02	2.59E-02	8.77E-02	0.00E+00	0.00E+00	3.89E-02	5.34E-03	0.00E+00	1.89E-02	0.00E+00	0.00E+00	1.34E-02	0.00E+00	0.00E+00	8.77E-02
115	ALL		602532.9	4127249	NonCancerAcute	2.32E-02	2.46E-02	8.62E-02	0.00E+00	0.00E+00	3.85E-02	6.08E-03	0.00E+00	2.02E-02	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	8.62E-02
116	ALL		602540.9	4127256	NonCancerAcute	1.98E-02	2.12E-02	7.72E-02	0.00E+00	0.00E+00	3.49E-02	5.84E-03	0.00E+00	1.99E-02	0.00E+00	0.00E+00	1.41E-02	0.00E+00	0.00E+00	7.72E-02
117	ALL		602549.6	4127264	NonCancerAcute	1.65E-02	1.78E-02	6.85E-02	0.00E+00	0.00E+00	3.14E-02	5.49E-03	0.00E+00	1.97E-02	0.00E+00	0.00E+00	1.40E-02	0.00E+00	0.00E+00	6.85E-02
118	ALL		602563.9	4127249	NonCancerAcute	1.66E-02	1.81E-02	7.14E-02	0.00E+00	0.00E+00	3.28E-02	6.19E-03	0.00E+00	2.15E-02	0.00E+00	0.00E+00	1.52E-02	0.00E+00	0.00E+00	7.14E-02
119	ALL		602568.1	4127241	NonCancerAcute	1.70E-02	1.85E-02	7.41E-02	0.00E+00	0.00E+00	3.42E-02	6.48E-03	0.00E+00	2.27E-02	0.00E+00	0.00E+00	1.61E-02	0.00E+00	0.00E+00	7.41E-02
120	ALL		602574.2	4127230	NonCancerAcute	2.04E-02	2.21E-02	8.44E-02	0.00E+00	0.00E+00	3.85E-02	6.70E-03	0.00E+00	2.40E-02	0.00E+00	0.00E+00	1.70E-02	0.00E+00	0.00E+00	8.44E-02
121	ALL		602596.7	4127243	NonCancerAcute	4.33E-02	4.48E-02	1.40E-01	0.00E+00	0.00E+00	6.05E-02	6.13E-03	0.00E+00	2.28E-02	0.00E+00	0.00E+00	1.62E-02	0.00E+00	0.00E+00	1.40E-01
122	ALL		602591.9	4127251	NonCancerAcute	3.98E-02	4.13E-02	1.30E-01	0.00E+00	0.00E+00	5.66E-02	5.94E-03	0.00E+00	2.23E-02	0.00E+00	0.00E+00	1.58E-02	0.00E+00	0.00E+00	1.30E-01
123	ALL		602588	4127261	NonCancerAcute	3.61E-02	3.76E-02	1.20E-01	0.00E+00	0.00E+00	5.22E-02	5.65E-03	0.00E+00	2.13E-02	0.00E+00	0.00E+00	1.51E-02	0.00E+00	0.00E+00	1.20E-01
124	ALL		602602.3	4127273	NonCancerAcute	4.32E-02	4.46E-02	1.37E-01	0.00E+00	0.00E+00	5.94E-02	5.43E-03	0.00E+00	2.15E-02	0.00E+00	0.00E+00	1.53E-02	0.00E+00	0.00E+00	1.37E-01
125	ALL		602611.5	4127277	NonCancerAcute	4.27E-02	4.41E-02	1.36E-01	0.00E+00	0.00E+00	5.87E-02	5.24E-03	0.00E+00	2.11E-02	0.00E+00	0.00E+00	1.50E-02	0.00E+00	0.00E+00	1.36E-01
126	ALL		602621.3	4127283	NonCancerAcute	4.26E-02	4.39E-02	1.34E-01	0.00E+00	0.00E+00	5.80E-02	4.92E-03	0.00E+00	2.04E-02	0.00E+00	0.00E+00	1.45E-02	0.00E+00	0.00E+00	1.34E-01
127	ALL		602649.8	4127273	NonCancerAcute	4.10E-02	4.23E-02	1.29E-01	0.00E+00	0.00E+00	5.57E-02	4.08E-03	0.00E+00	1.96E-02	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.29E-01
128	ALL		602645.3	4127281	NonCancerAcute	4.10E-02	4.23E-02	1.28E-01	0.00E+00	0.00E+00	5.50E-02	3.99E-03	0.00E+00	1.85E-02	0.00E+00	0.00E+00	1.31E-02	0.00E+00	0.00E+00	1.28E-01
129	ALL		602640.3	4127290	NonCancerAcute	3.88E-02	4.01E-02	1.23E-01	0.00E+00	0.00E+00	5.31E-02	4.20E-03	0.00E+00	1.90E-02	0.00E+00	0.00E+00	1.34E-02	0.00E+00	0.00E+00	1.23E-01
130	ALL		602672.1	4127285	NonCancerAcute	4.21E-02	4.34E-02	1.31E-01	0.00E+00	0.00E+00	5.64E-02	4.15E-03	0.00E+00	1.90E-02	0.00E+00	0.00E+00	1.34E-02	0.00E+00	0.00E+00	1.31E-01
131	ALL		602667.3	4127294	NonCancerAcute	4.11E-02	4.23E-02	1.28E-01	0.00E+00	0.00E+00	5.51E-02	3.96E-03	0.00E+00	1.87E-02	0.00E+00	0.00E+00	1.32E-02	0.00E+00	0.00E+00	1.28E-01
132	ALL		602662	4127304	NonCancerAcute	3.87E-02	3.99E-02	1.21E-01	0.00E+00	0.00E+00	5.21E-02	3.70E-03	0.00E+00	1.79E-02	0.00E+00	0.00E+00	1.27E-02	0.00E+00	0.00E+00	1.21E-01
133	ALL		602701.4	4127304	NonCancerAcute	3.79E-02	3.91E-02	1.19E-01	0.00E+00	0.00E+00	5.11E-02	4.05E-03	0.00E+00	1.75E-02	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.19E-01
134	ALL		602697.5	4127310	NonCancerAcute	3.74E-02	3.86E-02	1.17E-01	0.00E+00	0.00E+00	5.06E-02	3.98E-03	0.00E+00	1.75E-02	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.17E-01
135	ALL		602693.8	4127318	NonCancerAcute	3.94E-02	4.05E-02	1.22E-01	0.00E+00	0.00E+00	5.23E-02	3.87E-03	0.00E+00	1.72E-02	0.00E+00	0.00E+00	1.21E-02	0.00E+00	0.00E+00	1.22E-01
136	ALL		602722.6	4127315	NonCancerAcute	3.81E-02	3.93E-02	1.19E-01	0.00E+00	0.00E+00	5.16E-02	4.00E-03	0.00E+00	1.79E-02	0.00E+00	0.00E+00	1.26E-02	0.00E+00	0.00E+00	1.19E-01
137	ALL		602718.6	4127322	NonCancerAcute	3.82E-02	3.93E-02	1.18E-01	0.00E+00	0.00E+00	5.09E-02	3.90E-03	0.00E+00	1.70E-02	0.00E+00	0.00E+00	1.20E-02	0.00E+00	0.00E+00	1.18E-01
138	ALL		602715.2	4127330	NonCancerAcute	3.61E-02	3.72E-02	1.12E-01	0.00E+00	0.00E+00	4.83E-02	3.79E-03	0.00E+00	1.63E-02	0.00E+00	0.00E+00	1.15E-02	0.00E+00	0.00E+00	1.12E-01
139	ALL		602578.4	4127454	NonCancerAcute	2.61E-02	2.71E-02	8.49E-02	0.00E+00	0.00E+00	3.70E-02	3.10E-03	0.00E+00	1.46E-02	0.00E+00	0.00E+00	1.03E-02	0.00E+00	0.00E+00	8.49E-02
140	ALL		602589	4127447	NonCancerAcute	2.80E-02	2.90E-02	9.01E-02	0.00E+00	0.00E+00	3.92E-02	3.23E-03	0.00E+00	1.48E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	9.01E-02
141	ALL		602599.3	4127440	NonCancerAcute	2.89E-02	2.99E-02	9.24E-02	0.00E+00	0.00E+00	4.01E-02	3.36E-03	0.00E+00	1.48E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	9.24E-02
142	ALL		602625.5	4127429	NonCancerAcute	3.01E-02	3.12E-02	9.73E-02	0.00E+00	0.00E+00	4.23E-02	3.65E-03	0.00E+00	1.63E-02	0.00E+00	0.00E+00	1.15E-02	0.00E+00	0.00E+00	9.73E-02
143	ALL		602634.5	4127423	NonCancerAcute	3.04E-02	3.15E-02	9.85E-02	0.00E+00	0.00E+00	4.29E-02	3.68E-03	0.00E+00	1.67E-02	0.00E+00	0.00E+00	1.18E-02	0.00E+00	0.00E+00	9.85E-02
144	ALL		602645.1	4127417	NonCancerAcute	2.93E-02	3.04E-02	9.57E-02	0.00E+00	0.00E+00	4.18E-02	3.62E-03	0.00E+00	1.66E-02	0.00E+00	0.00E+00	1.17E-02	0.00E+00	0.00E+00	9.57E-02
145	ALL		602663.9	4127406	NonCancerAcute	3.03E-02	3.14E-02	9.74E-02	0.00E+00	0.00E+00	4.24E-02	3.37E-03	0.00E+00	1.61E-02	0.00E+00	0.00E+00	1.14E-02	0.00E+00	0.00E+00	9.74E-02
146	ALL		602673.1	4127400	NonCancerAcute	3.06E-02	3.16E-02	9.75E-02	0.00E+00	0.00E+00	4.23E-02	3.26E-03	0.00E+00	1.56E-02	0.00E+00	0.00E+00	1.10E-02	0.00E+00	0.00E+00	9.75E-02
147	ALL		602683.2	4127394	NonCancerAcute	3.25E-02	3.35E-02	1.01E-01	0.00E+00	0.00E+00	4.37E-02	3.16E-03	0.00E+00	1.49E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.01E-01
148	ALL		602695.1	4127376	NonCancerAcute	3.55E-02	3.65E-02	1.09E-01	0.00E+00	0.00E+00	4.66E-02	3.13E-03	0.00E+00	1.48E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.09E-01

149	ALL	602699.8	4127369	NonCancerAcute	3.60E-02	3.70E-02	1.11E-01	0.00E+00	0.00E+00	4.74E-02	3.27E-03	0.00E+00	1.52E-02	0.00E+00	0.00E+00	1.07E-02	0.00E+00	0.00E+00	1.11E-01
150	ALL	602703.3	4127362	NonCancerAcute	3.50E-02	3.61E-02	1.08E-01	0.00E+00	0.00E+00	4.65E-02	3.37E-03	0.00E+00	1.53E-02	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-01
151	ALL	602691.4	4127348	NonCancerAcute	3.83E-02	3.94E-02	1.17E-01	0.00E+00	0.00E+00	5.04E-02	3.44E-03	0.00E+00	1.61E-02	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	1.17E-01
152	ALL	602684.2	4127345	NonCancerAcute	3.68E-02	3.79E-02	1.14E-01	0.00E+00	0.00E+00	4.90E-02	3.42E-03	0.00E+00	1.62E-02	0.00E+00	0.00E+00	1.15E-02	0.00E+00	0.00E+00	1.14E-01
153	ALL	602677.1	4127341	NonCancerAcute	3.72E-02	3.82E-02	1.15E-01	0.00E+00	0.00E+00	4.93E-02	3.37E-03	0.00E+00	1.62E-02	0.00E+00	0.00E+00	1.14E-02	0.00E+00	0.00E+00	1.15E-01
154	ALL	602627.9	4127316	NonCancerAcute	3.83E-02	3.96E-02	1.22E-01	0.00E+00	0.00E+00	5.29E-02	4.37E-03	0.00E+00	1.94E-02	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.22E-01
155	ALL	602617.3	4127311	NonCancerAcute	3.98E-02	4.12E-02	1.27E-01	0.00E+00	0.00E+00	5.49E-02	4.62E-03	0.00E+00	2.00E-02	0.00E+00	0.00E+00	1.42E-02	0.00E+00	0.00E+00	1.27E-01
156	ALL	602608.3	4127306	NonCancerAcute	3.98E-02	4.12E-02	1.27E-01	0.00E+00	0.00E+00	5.52E-02	4.78E-03	0.00E+00	2.04E-02	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	1.27E-01
157	ALL	602599.6	4127301	NonCancerAcute	4.00E-02	4.14E-02	1.27E-01	0.00E+00	0.00E+00	5.52E-02	4.84E-03	0.00E+00	2.02E-02	0.00E+00	0.00E+00	1.43E-02	0.00E+00	0.00E+00	1.27E-01
158	ALL	602589.8	4127295	NonCancerAcute	3.66E-02	3.79E-02	1.18E-01	0.00E+00	0.00E+00	5.12E-02	5.08E-03	0.00E+00	1.94E-02	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.18E-01
159	ALL	602581.6	4127291	NonCancerAcute	3.05E-02	3.18E-02	1.03E-01	0.00E+00	0.00E+00	4.52E-02	5.30E-03	0.00E+00	1.95E-02	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.03E-01
160	ALL	602561.5	4127293	NonCancerAcute	1.51E-02	1.63E-02	6.33E-02	0.00E+00	0.00E+00	2.90E-02	5.10E-03	0.00E+00	1.85E-02	0.00E+00	0.00E+00	1.31E-02	0.00E+00	0.00E+00	6.33E-02
161	ALL	602554.3	4127302	NonCancerAcute	1.49E-02	1.61E-02	6.27E-02	0.00E+00	0.00E+00	2.88E-02	4.76E-03	0.00E+00	1.85E-02	0.00E+00	0.00E+00	1.31E-02	0.00E+00	0.00E+00	6.27E-02
162	ALL	602547.7	4127310	NonCancerAcute	1.47E-02	1.59E-02	6.19E-02	0.00E+00	0.00E+00	2.85E-02	4.51E-03	0.00E+00	1.83E-02	0.00E+00	0.00E+00	1.30E-02	0.00E+00	0.00E+00	6.19E-02
163	ALL	602532.1	4127324	NonCancerAcute	1.57E-02	1.70E-02	6.41E-02	0.00E+00	0.00E+00	2.93E-02	4.35E-03	0.00E+00	1.80E-02	0.00E+00	0.00E+00	1.28E-02	0.00E+00	0.00E+00	6.41E-02
164	ALL	602540	4127332	NonCancerAcute	1.44E-02	1.55E-02	5.99E-02	0.00E+00	0.00E+00	2.76E-02	4.16E-03	0.00E+00	1.75E-02	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	5.99E-02
165	ALL	602549.8	4127339	NonCancerAcute	1.43E-02	1.55E-02	5.98E-02	0.00E+00	0.00E+00	2.75E-02	4.03E-03	0.00E+00	1.75E-02	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	5.98E-02
166	ALL	602532.9	4127359	NonCancerAcute	1.40E-02	1.52E-02	5.84E-02	0.00E+00	0.00E+00	2.69E-02	3.91E-03	0.00E+00	1.70E-02	0.00E+00	0.00E+00	1.21E-02	0.00E+00	0.00E+00	5.84E-02
167	ALL	602524.7	4127352	NonCancerAcute	1.53E-02	1.65E-02	6.20E-02	0.00E+00	0.00E+00	2.83E-02	4.12E-03	0.00E+00	1.73E-02	0.00E+00	0.00E+00	1.22E-02	0.00E+00	0.00E+00	6.20E-02
168	ALL	602515.4	4127344	NonCancerAcute	1.81E-02	1.92E-02	6.88E-02	0.00E+00	0.00E+00	3.10E-02	4.28E-03	0.00E+00	1.72E-02	0.00E+00	0.00E+00	1.22E-02	0.00E+00	0.00E+00	6.88E-02
169	ALL	602505.4	4127360	NonCancerAcute	1.88E-02	1.99E-02	6.92E-02	0.00E+00	0.00E+00	3.10E-02	4.19E-03	0.00E+00	1.61E-02	0.00E+00	0.00E+00	1.14E-02	0.00E+00	0.00E+00	6.92E-02
170	ALL	602498.8	4127369	NonCancerAcute	1.93E-02	2.03E-02	6.91E-02	0.00E+00	0.00E+00	3.07E-02	4.10E-03	0.00E+00	1.52E-02	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	6.91E-02
171	ALL	602491.3	4127377	NonCancerAcute	1.96E-02	2.06E-02	6.94E-02	0.00E+00	0.00E+00	3.08E-02	4.03E-03	0.00E+00	1.48E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	6.94E-02
172	ALL	602486.3	4127384	NonCancerAcute	1.97E-02	2.07E-02	6.96E-02	0.00E+00	0.00E+00	3.08E-02	4.00E-03	0.00E+00	1.48E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	6.96E-02
173	ALL	602478.9	4127392	NonCancerAcute	1.93E-02	2.03E-02	6.84E-02	0.00E+00	0.00E+00	3.03E-02	3.93E-03	0.00E+00	1.46E-02	0.00E+00	0.00E+00	1.04E-02	0.00E+00	0.00E+00	6.84E-02
174	ALL	602471.8	4127401	NonCancerAcute	1.90E-02	2.00E-02	6.74E-02	0.00E+00	0.00E+00	2.99E-02	3.83E-03	0.00E+00	1.43E-02	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	6.74E-02
175	ALL	602456.4	4127441	NonCancerAcute	1.75E-02	1.84E-02	6.22E-02	0.00E+00	0.00E+00	2.76E-02	3.50E-03	0.00E+00	1.33E-02	0.00E+00	0.00E+00	9.45E-03	0.00E+00	0.00E+00	6.22E-02
176	ALL	602466.5	4127450	NonCancerAcute	1.77E-02	1.86E-02	6.25E-02	0.00E+00	0.00E+00	2.77E-02	3.54E-03	0.00E+00	1.33E-02	0.00E+00	0.00E+00	9.41E-03	0.00E+00	0.00E+00	6.25E-02
177	ALL	602473.6	4127456	NonCancerAcute	1.69E-02	1.77E-02	6.02E-02	0.00E+00	0.00E+00	2.67E-02	3.52E-03	0.00E+00	1.31E-02	0.00E+00	0.00E+00	9.29E-03	0.00E+00	0.00E+00	6.02E-02
178	ALL	602481.8	4127462	NonCancerAcute	1.54E-02	1.63E-02	5.63E-02	0.00E+00	0.00E+00	2.51E-02	3.47E-03	0.00E+00	1.29E-02	0.00E+00	0.00E+00	9.14E-03	0.00E+00	0.00E+00	5.63E-02
179	ALL	602489.2	4127469	NonCancerAcute	1.38E-02	1.47E-02	5.24E-02	0.00E+00	0.00E+00	2.36E-02	3.42E-03	0.00E+00	1.29E-02	0.00E+00	0.00E+00	9.16E-03	0.00E+00	0.00E+00	5.24E-02
180	ALL	602495	4127475	NonCancerAcute	1.30E-02	1.39E-02	5.08E-02	0.00E+00	0.00E+00	2.30E-02	3.39E-03	0.00E+00	1.34E-02	0.00E+00	0.00E+00	9.45E-03	0.00E+00	0.00E+00	5.08E-02
181	ALL	602493.5	4127439	NonCancerAcute	1.51E-02	1.60E-02	5.66E-02	0.00E+00	0.00E+00	2.54E-02	3.58E-03	0.00E+00	1.37E-02	0.00E+00	0.00E+00	9.72E-03	0.00E+00	0.00E+00	5.66E-02
182	ALL	602485	4127432	NonCancerAcute	1.69E-02	1.78E-02	6.09E-02	0.00E+00	0.00E+00	2.71E-02	3.64E-03	0.00E+00	1.36E-02	0.00E+00	0.00E+00	9.60E-03	0.00E+00	0.00E+00	6.09E-02
183	ALL	602476.8	4127424	NonCancerAcute	1.83E-02	1.92E-02	6.47E-02	0.00E+00	0.00E+00	2.87E-02	3.69E-03	0.00E+00	1.38E-02	0.00E+00	0.00E+00	9.80E-03	0.00E+00	0.00E+00	6.47E-02
184	ALL	602513.8	4127418	NonCancerAcute	1.37E-02	1.47E-02	5.55E-02	0.00E+00	0.00E+00	2.53E-02	3.70E-03	0.00E+00	1.54E-02	0.00E+00	0.00E+00	1.09E-02	0.00E+00	0.00E+00	5.55E-02
185	ALL	602522.6	4127413	NonCancerAcute	1.33E-02	1.43E-02	5.47E-02	0.00E+00	0.00E+00	2.51E-02	3.64E-03	0.00E+00	1.57E-02	0.00E+00	0.00E+00	1.11E-02	0.00E+00	0.00E+00	5.47E-02
186	ALL	602530.8	4127407	NonCancerAcute	1.34E-02	1.45E-02	5.51E-02	0.00E+00	0.00E+00	2.53E-02	3.62E-03	0.00E+00	1.58E-02	0.00E+00	0.00E+00	1.12E-02	0.00E+00	0.00E+00	5.51E-02
187	ALL	602540.8	4127401	NonCancerAcute	1.35E-02	1.46E-02	5.53E-02	0.00E+00	0.00E+00	2.53E-02	3.60E-03	0.00E+00	1.57E-02	0.00E+00	0.00E+00	1.11E-02	0.00E+00	0.00E+00	5.53E-02
188	ALL	602548.8	4127398	NonCancerAcute	1.35E-02	1.45E-02	5.56E-02	0.00E+00	0.00E+00	2.55E-02	3.58E-03	0.00E+00	1.60E-02	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	5.56E-02
189	ALL	602558	4127392	NonCancerAcute	1.39E-02	1.50E-02	5.66E-02	0.00E+00	0.00E+00	2.60E-02	3.53E-03	0.00E+00	1.60E-02	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	5.66E-02
190	ALL	602567	4127350	NonCancerAcute	2.01E-02	2.13E-02	7.37E-02	0.00E+00	0.00E+00	3.30E-02	4.23E-03	0.00E+00	1.70E-02	0.00E+00	0.00E+00	1.21E-02	0.00E+00	0.00E+00	7.37E-02
191	ALL	602573.1	4127360	NonCancerAcute	2.49E-02	2.60E-02	8.53E-02	0.00E+00	0.00E+00	3.76E-02	4.15E-03	0.00E+00	1.68E-02	0.00E+00	0.00E+00	1.19E-02	0.00E+00	0.00E+00	8.53E-02
192	ALL	602578.4	4127370	NonCancerAcute	2.85E-02	2.96E-02	9.39E-02	0.00E+00	0.00E+00	4.10E-02	4.05E-03	0.00E+00	1.67E-02	0.00E+00	0.00E+00	1.18E-02	0.00E+00	0.00E+00	9.39E-02
193	ALL	602600.4	4127356	NonCancerAcute	3.56E-02	3.68E-02	1.13E-01	0.00E+00	0.00E+00	4.88E-02	4.10E-03	0.00E+00	1.75E-02	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.13E-01
194	ALL	602594.5	4127347	NonCancerAcute	3.52E-02	3.64E-02	1.12E-01	0.00E+00	0.00E+00	4.82E-02	4.26E-03	0.00E+00	1.72E-02	0.00E+00	0.00E+00	1.22E-02	0.00E+00	0.00E+00	1.12E-01
195	ALL	602589	4127338	NonCancerAcute	3.43E-02	3.55E-02	1.09E-01	0.00E+00	0.00E+00	4.74E-02	4.45E-03	0.00E+00	1.73E-02	0.00E+00	0.00E+00	1.23E-02	0.00E+00	0.00E+00	1.09E-01
196	ALL	602624.7	4127346	NonCancerAcute	3.63E-02	3.76E-02	1.16E-01	0.00E+00	0.00E+00	5.05E-02	4.11E-03	0.00E+00	1.88E-02	0.00E+00	0.00E+00	1.33E-02	0.00E+00	0.00E+00	1.16E-01
197	ALL	602634	4127342	NonCancerAcute	3.61E-02	3.73E-02	1.15E-01	0.00E+00	0.00E+00	5.01E-02	4.00E-03	0.00E+00	1.87E-02	0.00E+00	0.00E+00	1.32E-02	0.00E+00	0.00E+00	1.15E-01
198	ALL	602643.2	4127337	NonCancerAcute	3.51E-02	3.63E-02	1.12E-01	0.00E+00	0.00E+00	4.88E-02	3.84E-03	0.00E+00	1.82E-02	0.00E+00	0.00E+00	1.29E-02	0.00E+00	0.00E+00	1.12E-01
199	ALL	602660.4	4127357	NonCancerAcute	3.37E-02	3.48E-02	1.07E-01	0.00E+00	0.00E+00	4.64E-02	3.51E-03	0.00E+00	1.68E-02	0.00E+00	0.00E+00	1.19E-02	0.00E+00	0.00E+00	1.07E-01
200	ALL	602651.7	4127362	NonCancerAcute	3.45E-02	3.57E-02	1.10E-01	0.00E+00	0.00E+00	4.75E-02	3.62E-03	0.00E+00	1.73E-02	0.00E+00	0.00E+00	1.22E-02	0.00E+00	0.00E+00	1.10E-01
201	ALL	602642.2	4127368	NonCancerAcute	3.26E-02	3.38E-02	1.06E-01	0.00E+00	0.00E+00	4.60E-02	3.81E-03	0.00E+00	1.79E-02	0.00E+00	0.00E+00	1.26E-02	0.00E+00	0.00E+00	1.06E-01
202	ALL	602628.9	4127373	NonCancerAcute	3.39E-02	3.51E-02	1.09E-01	0.00E+00	0.00E+00	4.74E-02	3.95E-03	0.00E+00	1.80E-02	0.00E+00	0.00E+00	1.28E-02	0.00E+00	0.00E+00	1.09E-01
203	ALL	602619.7	4127379	NonCancerAcute	3.45E-02	3.57E-02	1.10E-01	0.00E+00	0.00E+00	4.80E-02	3.96E-03	0.00E+00	1.79E-02	0.00E+00	0.00E+00	1.27E-02	0.00E+00	0.00E+00	1.10E-01
204	ALL	602611.7	4127383	NonCancerAcute	3.34E-02	3.46E-02	1.07E-01	0.00E+00	0.00E+00	4.64E-02	3.90E-03	0.00E+00	1.73E-02	0.00E+00	0.00E+00	1.22E-02	0.00E+00	0.00E+00	1.07E-01
205	ALL	602601.7	4127389	NonCancerAcute	3.26E-02	3.37E-02	1.03E-01	0.00E+00	0.00E+00	4.47E-02	3.72E-03	0.00E+00	1.60E-02	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	1.03E-01
206	ALL	602594.3	4127395	NonCancerAcute	3.22E-02	3.32E-02	1.02E-01	0.00E+00	0.00E+00	4.41E-02	3.70E-03	0.00E+00	1.59E-02	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	1.02E-01
207	ALL	602583.7	4127400	NonCancerAcute	2.99E-02	3.10E-02	9.64E-02	0.00E+00	0.00E+00	4.19E-02	3.69E-03	0.00E+00	1.60E-02	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	9.64E-02
208	ALL	602574.2	4127413	NonCancerAcute	2.57E-02	2.67E-02	8.52E-02	0.00E+00	0.00E+00	3.73E-02	3.48E-03	0.00E+00	1.55E-02	0.00E+00	0.00E+00	1.09E-02	0.00E+00	0.00E+00	8.52E-02
209	ALL	602565.2	4127418	NonCancerAcute	2.06E-02	2.17E-02	7.23E-02	0.00E+00	0.00E+00	3.21E-02	3.34E-03	0.00E+00	1.52E-02	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	7.23E-02
210	ALL	602555.9	4127423	NonCancerAcute	1.60E-02	1.70E-02	6.09E-02	0.00E+00	0.00E+00	2.75E-02	3.36E-03	0.00E+00	1.53E-02	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	6.09E-02
211	ALL	602762	4127296	NonCancerAcute	3.48E-02	3.59E-02	1.08E-01	0.00E+00	0.00E+00	4.65E-02	3.47E-03	0.00E+00	1.54E-02	0.00E+00	0.00E+00	1.09E-02	0.00E+00	0.00E+00	1.08E-01
212	ALL	602738	4127287	NonCancerAcute	3.55E-02	3.67E-02	1.13E-01	0.00E+00	0.00E+00	4.92E-02	3.97E-03	0.00E+00	1.82E-02	0.00E+00	0.00E+00	1.29E-02	0.00E+00	0.00E+00	1.13E-01
213	ALL	602724.5	4127268	NonCancerAcute	3.81E-02	3.94E-02	1.21E-01	0.00E+00	0.00E+00	5.25E-02	4.17E-03	0.00E+00	1.91E-02	0.00E+00	0.00E+00	1.35E-02	0.00E+00	0.00E+00	1.21E-01
214	ALL	602724.5	4127250	NonCancerAcute	3.95E-02	4.07E-02	1.23E-01	0.00E+00	0.00E+00	5.33E-02	4.07E-03	0.00E+00	1.83E-02	0.00E+00	0.00E+00	1.29E-02	0.00E+00	0.00E+00	1.23E-01
215	ALL	602737.2	4127234	NonCancerAcute	4.22E-02	4.33E-02	1.29E-01	0.00E+00	0.00E+00	5.55E-02	4.07E-03	0.00E+00	1.77E-02	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	1.29E-01
216	ALL	602777.4	4127253	NonCancerAcute	3.55E-02	3.66E-02	1.10E-01	0.00E+00	0.00E+00	4.73E-02	3.80E-03	0.00E+00	1.56E-02	0.00E+00	0.00E+00	1.10E-02	0.00E+00	0.00E+00	1.10E-01
217	ALL	602786.1	4127234	NonCancerAcute	3.74E-02	3.85E-02	1.14E-01	0.00E+00	0.00E+00	4.90E-02	3.76E-03	0.00E+00	1.53E-02	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.14E-01
218	ALL	602747.2	4127213	NonCancerAcute	4.23E-02	4.35E-02	1.30E-01	0.00E+00	0.00E+00	5.56E-02	4.21E-03	0.00E+00	1.77E-02	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	1.30E-01
219	ALL	602760.2	4127193	NonCancerAcute	4.34E-02	4.46E-02	1.34E-01	0.00E+00	0.00E+00	5.75E-02	4.13E-03	0.00E+00	1.88E-02	0.00E+00	0.00E+00	1.33E-02	0.00E+00	0.00E+00	1.34E-01
220	ALL	602799.1	4127214	NonCancerAcute	3.60E-02	3.71E-02	1.13E-01	0.00E+00	0.00E+00	4.86E-02	3.61E-03	0.00E+00	1.67E-02	0.00E+00	0.00E+00	1.18E-02	0.00E+00	0.00E+00	1.13E-01
221	ALL	602770.2	4127170	NonCancerAcute	4.25E-02	4.38E-02	1.31E-01	0.00E+00	0.00E+00	5.63E-02	3.88E-03	0.00E+00	1.83E-02	0.00E+00	0.00E+00	1.30E-02	0.00E+00	0.00E+00	1.31E-01
222	ALL	602808.3	4127193	NonCancerAcute	3.70E-02	3.81E-02	1.15E-01	0.00E+00	0.00E+00	4.93E-02	3.50E-03	0.00E+00	1.63E-02	0.00E+00	0.00E+00	1.15E-02	0.00E+00	0.00E+00	1.15E-01
223	ALL	602854.4	4127218	NonCancerAcute	3.33E-02	3.42E-02	1.03E-01	0.00E+00	0.00E+00	4.41E-02	3.18E-03	0.00E+00	1.44E-02	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	1.03E-01
224	ALL	602782.4	4127152	NonCancerAcute	4.46E-02	4.57E-02	1.35E-01	0.00E+00	0.00E+00	5.77E-02	4.02E-03	0.00E+00	1.74E-02	0.00E+00	0.00E+00	1.23E-02	0.00E+00	0.00E+00	1.35E-01
225	ALL	602819.2	4127177	NonCancerAcute	3.91E-02	4.02E-02	1.19E-01	0.00E+00	0.00E+00	5.08E-02	3.47E-03	0.00E+00	1.55E-02	0.00E+00	0.00E+00	1.10E-02	0.00E+00	0.00E+00	1.19E-01
226	ALL	602864.7	4127197	NonCancerAcute	2.94E-02	3.02E-02	9.09E-02	0.00E+00	0.00E+00	3.91E-02	3.10E-03	0.00E+00	1.28E-02	0.00E+00	0.00E+00	9.09E-03	0.00E+00	0.00E+00	9.09E-02
227	ALL	602871.8	4127175	NonCancerAcute	2.86E-02	2.93E-02	8.45E-02	0.00E+00	0.00E+00	3.57E-02	2.88E-03	0.00E+00	9.44E-03	0.00E+00	0.00E+00	6.70E-03	0.00E+00	0.00E+00	8.45E-02
228	ALL	602830.6	4127153	NonCancerAcute	3.22E-02	3.29E-02	9.51E-02	0.00E+00	0.00E+00	4.03E-02	3.14E-03	0.00E+00	1.07E-02	0.00E+00	0.00E+00	7.58E-03	0.00E+00	0.00E+00	9.51E-02
229	ALL	602792.7	4127134	NonCancerAcute	4.30E-02	4.39E-02	1.24E-01	0.00E+00	0.00E+00	5.23E-02	3.76E-03	0.00E+00	1.22E-02	0.00E+00	0.00E+00	8.71E-03	0.00E+00	0.00E+00	1.24E-01
230	ALL	602803.1	4127110	NonCancerAcute	4.00E-02	4.09E-02	1.19E-01	0.00E+00	0.00E+00	5.06E-02	3.78E-03	0.00E+00	1.41E-02	0.00E+00	0.00E+00	9.99E-03	0.00E+00	0.00E+00	1.19E-01
231	ALL	602841.2	4127135	NonCancerAcute	3.37E-02	3.45E-02	1.01E-01	0.00E+00	0.00E+00	4.29E-02	3.24E-03	0.00E+00	1.22E-02	0.00E+00	0.00E+00	8.70E-03	0.00E+00	0.00E+00	1.01E-01
232	ALL	602888.8	4127159	NonCancerAcute	2.89E-02	2.97E-02	8.71E-02	0.00E+00	0.00E+00	3.71E-02	2.93E-03	0.00E+00	1.09E-02	0.00E+00	0.00E+00	7.70E-03	0.00E+00	0.00E+00	8.71E-02
233	ALL	602901.3	4127138	NonCancerAcute	3.02E-02	3.09E-02	9.01E-02	0.00E+00	0.00E+00	3.83E-02	2.95E-03	0.00E+00	1.07E-02	0.00E+00	0.00E+00	7.59E-03	0.00E+00	0.00E+00	9.01E-02
234	ALL	602854.4	4127114	NonCancerAcute	3.58E-02	3.66E-02	1.06E-01	0.00E+00	0.00E+00	4.50E-02	3.26E-03	0.00E+00	1.23E-02	0.00E+00	0.00E+00	8.72E-03	0.00E+00	0.00E+00	1.06E-01
235	ALL	602822.2	4127068	NonCancerAcute	4.41E-02	4.50E-02	1.29E-01	0.00E+00	0.00E+00	5.46E-02	3.64E-03	0.00E+00	1.40E-02	0.00E+00	0.00E+00	9.91E-03	0.00E+00	0.00E+00	1.29E-01
236	ALL	602864.8	4127094	NonCancerAcute	3.70E-02	3.79E-02	1.10E-01	0.00E+00	0.00E+00	4.65E-02	3.24E-03	0.00E+00	1.26E-02	0.00E+00	0.00E+00	8.90E-03	0.00E+00	0.00E+00	1.10E-01
237	ALL	602912.6	4127116	NonCancerAcute	3.09E-02	3.17E-02	9.21E-02	0.00E+00	0.00E+00	3.92E-02	2.92E-03	0.00E+00	1.09E-02	0.00E+00	0.00E+00	7.74E-03	0.00E+00	0.00E+00	9.21E-02
238	ALL	602920.8	4127099	NonCancerAcute	3.16E-02	3.24E-02	9.42E-02	0.00E+00	0.00E+00	4.00E-02	2.95E-03	0.00E+00	1.11E-02	0.00E+00	0.00E+00	7.87E-03	0.00E+00	0.00E+00	9.42E-02
239	ALL	602875.1	4127073	NonCancerAcute	3.80E-02	3.88E-02	1.11E-01	0.00E+00	0.00E+00	4.70E-02	3.32E-03	0.00E+00	1.20E-02	0.00E+00	0.00E+00	8.49E-03	0.00E+00	0.00E+00	1.11E-01
240	ALL	602838.6	4127050	NonCancerAcute	4.48E-02	4.56E-02	1.29E-01	0.00E+00	0.00E+00	5.44E-02	3.68E-03	0.00E+00	1.27E-02	0.00E+00	0.00E+00	9.03E-03	0.00E+00	0.00E+00	1.29E-01
241	ALL	602851	4127029	NonCancerAcute	3.93E-02	4.02E-02	1.16E-01	0.00E+00	0.00E+00	4.92E-02	3.60E-03	0.00E+00	1.31E-02	0.00E+00	0.00E+00	9.28E-03	0.00E+00	0.00E+00	1.16E-01
242	ALL	602885.9	4127056	NonCancerAcute	3.81E-02	3.89E-02	1.11E-01	0.00E+00	0.00E+00	4.70E-02	3.40E-03	0.00E+00	1.19E-02	0.00E+00	0.00E+00	8.42E-03	0.00E+00	0.00E+00	1.11E-01
243	ALL	602934.1	4127080	NonCancerAcute	3.28E-02	3.35E-02	9.59E-02	0.00E+00	0.00E+00	4.05E-02	3.01E-03	0.00E+00	1.03E-02	0.00E+00	0.00E+00	7.29E-03	0.00E+00	0.00E+00	9.59E-02
244	ALL	602942.8	4127057	NonCancerAcute	3.11E-02	3.18E-02	9.27E-02	0.00E+00	0.00E+00	3.93E-02	3.12E-03	0.00E+00	1.09E-02	0.00E+00	0.00E+00	7.73E-03	0.00E+00	0.00E+00	9.27E-02
245	ALL	602900.5	4127036	NonCancerAcute	3.05E-02	3.13E-02	9.22E-02	0.00E+00	0.00E+00	3.93E-02	3.30E-03	0.00E+00	1.17E-02	0.00E+00	0.00E+00	8.29E-03	0.00E+00	0.00E+00	9.22E-02
246	ALL	602861.6	4127011	NonCancerAcute	1.62E-02	1.71E-02	5.79E-02	0.00E+00	0.00E+00	2.57E-02	3.29E-03	0.00E+00	1.26E-02	0.00E+00	0.00E+00	8.94E-03	0.00E+00	0.00E+00	5.79E-02
247	ALL	602868.5	4126989	NonCancerAcute	1.51E-02	1.60E-02	5.56E-02	0.00E+00	0.00E+00	2.49E-02	3.52E-03	0.00E+00	1.29E-02	0.00E+00	0.00E+00	9.15E-03	0.00E+00	0.00E+00	5.56E-02
248	ALL	602911.1	4127012	NonCancerAcute	1.56E-02	1.64E-02	5.48E-02	0.00E+00	0.00E+00	2.43E-02	3.02E-03	0.00E+00	1.16E-02	0.00E+00	0.00E+00	8.21E-03	0.00E+00	0.00E+00	5.48E-02
249	ALL	602951.8	4127040	NonCancerAcute	2.10E-02	2.16E-02	6.58E-02	0.00E+00	0.00E+00	2.83E-02	2.96E-03	0.00E+00	9.71E-03	0.00E+00	0.00E+00	6.89E-03	0.00E+00	0.00E+00	6.58E-02
250	ALL	602967.4	4127016	NonCancerAcute	1.54E-02	1.61E-02	5.27E-02	0.00E+00	0.00E+00	2.32E-02	2.75E-03	0.00E+00	1.03E-02	0.00E+00	0.00E+00	7.29E-03	0.00E+00	0.00E+00	5.27E-02
251	ALL	602919.7	4126992	NonCancerAcute	1.46E-02	1.54E-02	5.23E-02	0.00E+00	0.00E+00	2.33E-02	3.05E-03	0.00E+00	1.15E-02	0.00E+00	0.00E+00	8.17E-03	0.00E+00	0.00E+00	5.23E-02
252	ALL	602883.5	4126972	NonCancerAcute	1.87E-02	1.95E-02	6.42E-02	0.00E+00	0.00E+00	2.82E-02	3.61E-03	0.00E+00	1.27E-02	0.00E+00	0.00E+00	8.98E-03	0.00E+00	0.00E+00	6.42E-02
253	ALL	602893.3	4126951	NonCancerAcute	2.24E-02	2.33E-02	7.31E-02	0.00E+00	0.00E+00	3.17E-02	3.64E-03	0.00E+00	1.23E-02	0.00E+00	0.00E+00	8.73E-03	0.00E+00	0.00E+00	7.31E-02
254	ALL	602935.1	4126975	NonCancerAcute	1.66E-02	1.73E-02	5.71E-02	0.00E+00	0.00E+00	2.51E-02	3.18E-03	0.00E+00	1.13E-02	0.00E+00	0.00E+00	8.03E-03	0.00E+00	0.00E+00	5.71E-02
255	ALL	602975	4126997	NonCancerAcute	1.46E-02	1.53E-02	5.07E-02	0.00E+00	0.00E+00	2.24E-02	2.75E-03	0.00E+00	1.03E-02	0.00E+00	0.00E+00	7.31E-03	0.00E+00	0.00E+00	5.07E-02
256	ALL	602901.5	4126932	NonCancerAcute	2.30E-02	2.39E-02	7.63E-02	0.00E+00	0.00E+00	3.34E-02	3.65E-03	0.00E+00	1.38E-02	0.00E+00	0.00E+00	9.80E-03	0.00E+00	0.00E+00	7.63E-02
257	ALL	602922.1	4126921	NonCancerAcute	2.25E-02	2.34E-02	7.46E-02	0.00E+00	0.00E+00	3.26E-02	3.48E-03	0.00E+00	1.34E-02	0.00E+00	0.00E+00	9.51E-03	0.00E+00	0.00E+00	7.46E-02
258	ALL	602942.5	4126928	NonCancerAcute	2.23E-02	2.32E-02	7.33E-02	0.00E+00	0.00E+00	3.20E-02	3.40E-03	0.00E+00	1.28E-02	0.00E+00	0.00E+00	9.11E-03	0.00E+00	0.00E+00	7.33E-02
259	ALL	602960.5	4126941	NonCancerAcute	2.14E-02	2.21E-02	6.89E-02	0.00E+00	0.00E+00	2.98E-02	3.23E-03	0.00E+00	1.12E-02	0.00E+00	0.00E+00	7.96E-03	0.00E+00	0.00E+00	6.89E-02
260	ALL	602980.1	4126953	NonCancerAcute	2.00E-02	2.07E-02	6.43E-02	0.00E+00	0.00E+00	2.78E-02	3.04E-03	0.00E+00	1.04E-02	0.00E+00	0.00E+00	7.36E-03	0.00E+00	0.00E+00	6.43E-02
261	ALL	603001.2	4126961	NonCancerAcute	1.78E-02	1.85E-02	5.80E-02	0.00E+00	0.00E+00	2.52E-02	2.85E-03	0.00E+00	9.80E-03	0.00E+00	0.00E+00	6.94E-03	0.00E+00	0.00E+00	5.80E-02
262	ALL	603021.1	4126976	NonCancerAcute	1.36E-02	1.43E-02	4.71E-02	0.00E+00	0.00E+00	2.07E-02	2.62E-03	0.00E+00	9.43E-03	0.00E+00	0.00E+00	6.68E-03	0.00E+00	0.00E+00	4.71E-02
263	ALL	602965.7	4126898	NonCancerAcute	2.14E-02	2.22E-02	6.92E-02	0.00E+00	0.00E+00	3.01E-02	3.05E-03	0.00E+00	1.15E-02	0.00E+00	0.00E+00	8.15E-03	0.00E+00	0.00E+00	6.92E-02
264	ALL	602986.1	4126905	NonCancerAcute	2.10E-02	2.17E-02	6.85E-02	0.00E+00	0.00E+00	2.98E-02	3.08E-03	0.00E+00	1.17E-02	0.00E+00	0.00E+00	8.34E-03	0.00E+00	0.00E+00	6.85E-02
265	ALL	602989	4126898	NonCancerAcute	2.08E-02	2.16E-02	6.74E-02	0.00E+00	0.00E+00	2.93E-02	2.99E-03	0.00E+00	1.12E-02	0.00E+00	0.00E+00	7.95E-03	0.00E+00	0.00E+00	6.74E-02
266	ALL	602971.5	4126882	NonCancerAcute	2.10E-02	2.18E-02	6.86E-02	0.00E+00	0.00E+00	2.99E-02	2.92E-03	0.00E+00	1.18E-02	0.00E+00	0.00E+00	8.39E-03	0.00E+00	0.00E+00	6.86E-02
267	ALL	602975.2	4126876	NonCancerAcute	2.06E-02	2.14E-02	6.75E-02	0.00E+00	0.00E+00	2.95E-02	2.89E-03	0.00E+00	1.17E-02	0.00E+00	0.00E+00	8.35E-03	0.00E+00	0.00E+00	6.75E-02
268	ALL	602980.3	4126867	NonCancerAcute	1.96E-02	2.03E-02	6.47E-02	0.00E+00	0.00E+00	2.83E-02	2.87E-03	0.00E+00	1.15E-02	0.00E+00	0.00E+00	8.21E-03	0.00E+00	0.00E+00	6.47E-02
269	ALL	602984	4126860	NonCancerAcute	1.84E-02	1.92E-02	6.18E-02	0.00E+00	0.00E+00	2.71E-02	2.86E-03	0.00E+00	1.15E-02	0.00E+00	0.00E+00	8.20E-03	0.00E+00	0.00E+00	6.18E-02
270	ALL	602999.6	4126879	NonCancerAcute	2.04E-02	2.12E-02	6.62E-02	0.00E+00	0.00E+00	2.88E-02	2.80E-03	0.00E+00	1.11E-02	0.00E+00	0.00E+00	7.87E-03	0.00E+00	0.00E+00	6.62E-02
271	ALL	603003.6	4126872	NonCancerAcute	2.00E-02	2.08E-02	6.52E-02	0.00E+00	0.00E+00	2.84E-02	2.77E-03	0.00E+00	1.11E-02	0.00E+00	0.00E+00	7.88E-03	0.00E+00	0.00E+00	6.52E-02
272	ALL	602989.5	4126848	NonCancerAcute	1.62E-02	1.70E-02	5.67E-02	0.00E+00	0.00E+00	2.51E-02	2.85E-03	0.00E+00	1.18E-02	0.00E+00	0.00E+00	8.37E-03	0.00E+00	0.00E+00	5.67E-02
273	ALL	602993.2	4126843	NonCancerAcute	1.56E-02	1.64E-02	5.50E-02	0.00E+00	0.00E+00	2.44E-02	2.83E-03	0.00E+00	1.17E-02	0.00E+00	0.00E+00	8.33E-03	0.00E+00	0.00E+00	5.50E-02
274	ALL	602998.3	4126835	NonCancerAcute	1.74E-02	1.82E-02	5.94E-02	0.00E+00	0.00E+00	2.62E-02	2.79E-03	0.00E+00	1.15E-02	0.00E+00	0.00E+00	8.20E-03	0.00E+00	0.00E+00	5.94E-02
275	ALL	603002	4126828	NonCancerAcute	1.93E-02	2.00E-02	6.35E-02	0.00E+00	0.00E+00	2.78E-02	2.76E-03	0.00E+00	1.13E-02	0.00E+00	0.00E+00	8.01E-03	0.00E+00	0.00E+00	6.35E-02
276	ALL	603020.2	4126845	NonCancerAcute	1.67E-02	1.74E-02	5.67E-02	0.00E+00	0.00E+00	2.49E-02	2.70E-03	0.00E+00	1.09E-02	0.00E+00	0.00E+00	7.75E-03	0.00E+00	0.00E+00	5.67E-02
277	ALL	603023.4	4126838	NonCancerAcute	1.54E-02	1.62E-02	5.36E-02	0.00E+00	0.00E+00	2.37E-02	2.69E-03	0.00E+00	1.10E-02	0.00E+00	0.00E+00	7.79E-03	0.00E+00	0.00E+00	5.36E-02
278	ALL	602998.3	4126923	NonCancerAcute	2.07E-02	2.14E-02	6.70E-02	0.00E+00	0.00E+00	2.91E-02	3.08E-03	0.00E+00	1.12E-02	0.00E+00	0.00E+00	7.94E-03	0.00E+00	0.00E+00	6.70E-02
279	ALL	603003	4126917	NonCancerAcute	2.07E-02	2.14E-02	6.71E-02	0.00E+00	0.00E+00	2.92E-02	3.06E-03	0.00E+00	1.13E-02	0.00E+00	0.00E+00	8.01E-03	0.00E+00	0.00E+00	6.71E-02
280	ALL	602991.1	4126918	NonCancerAcute	2.10E-02	2.18E-02	6.85E-02	0.00E+00	0.00E+00	2.98E-02	3.13E-03	0.00E+00	1.17E-02	0.00E+00	0.00E+00	8.33E-03	0.00E+00	0.00E+00	6.85E-02
281	ALL	602995.1	4126910	NonCancerAcute	2.08E-02	2.16E-02	6.79E-02	0.00E+00	0.00E+00	2.95E-02	3.07E-03	0.00E+00	1.15E-02	0.00E+00	0.00E+00	8.18E-03	0.00E+00	0.00E+00	6.79E-02
282	ALL	602999.3	4126904	NonCancerAcute	2.06E-02	2.13E-02	6.68E-02	0.00E+00	0.00E+00	2.91E-02	3.01E-03	0.00E+00	1.12E-02	0.00E+00	0.00E+00	7.99E-03	0.00E+00	0.00E+00	6.68E-02
283	ALL	603022.3	4126863	NonCancerAcute	1.93E-02	2.00E-02	6.27E-02	0.00E+00	0.00E+00	2.73E-02	2.67E-03	0.00E+00	1.07E-02	0.00E+00	0.00E+00	7.58E-03	0.00E+00	0.00E+00	6.27E-02
284	ALL	603026.8	4126854	NonCancerAcute	1.84E-02	1.91E-02	6.03E-02	0.00E+00	0.00E+00	2.63E-02	2.65E-03	0.00E+00	1.05E-02	0.00E+00	0.00E+00	7.46E-03	0.00E+00	0.00E+00	6.03E-02
285	ALL	603031.9	4126844	NonCancerAcute	1.69E-02	1.77E-02	5.68E-02	0.00E+00	0.00E+00	2.49E-02	2.64E-03	0.00E+00	1.06E-02	0.00E+00	0.00E+00	7.50E-03	0.00E+00	0.00E+00	5.68E-02
286	ALL	603018.1	4126913	NonCancerAcute	2.02E-02	2.10E-02	6.56E-02	0.00E+00	0.00E+00	2.85E-02	2.97E-03	0.00E+00	1.10E-02	0.00E+00	0.00E+00	7.79E-03	0.00E+00	0.00E+00	6.56E-02
287	ALL	603022.9	4126907	NonCancerAcute	2.01E-02	2.09E-02	6.52E-02	0.00E+00	0.00E+00	2.83E-02	2.93E-03	0.00E+00	1.09E-02	0.00E+00	0.00E+00	7.73E-03	0.00E+00	0.00E+00	6.52E-02
288	ALL	603031.3	4126920	NonCancerAcute	1.96E-02	2.03E-02	6.34E-02	0.00E+00	0.00E+00	2.75E-02	2.91E-03	0.00E+00	1.05E-02	0.00E+00	0.00E+00	7.43E-03	0.00E+00	0.00E+00	6.34E-02
289	ALL	603040.6	4126926	NonCancerAcute	1.93E-02	1.99E-02	6.18E-02	0.00E+00	0.00E+00	2.68E-02	2.84E-03	0.00E+00	9.92E-03	0.00E+00	0.00E+00	7.04E-03	0.00E+00	0.00E+00	6.18E-02
290	ALL	603035.3	4126914	NonCancerAcute	1.97E-02	2.05E-02	6.39E-02	0.00E+00	0.00E+00	2.77E-02	2.89E-03	0.00E+00	1.06E-02	0.00E+00	0.00E+00	7.51E-03	0.00E+00	0.00E+00	6.39E-02
291	ALL	603044.6	4126918	NonCancerAcute	1.93E-02	2.00E-02	6.23E-02	0.00E+00	0.00E+00	2.70E-02	2.85E-03	0.00E+00	1.02E-02	0.00E+00	0.00E+00	7.27E-03	0.00E+00	0.00E+00	6.23E-02
292	ALL	603031.1	4126890	NonCancerAcute	1.97E-02	2.04E-02	6.31E-02	0.00E+00	0.00E+00	2.74E-02	2.77E-03	0.00E+00	1.02E-02	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	6.31E-02
293	ALL	603039.5	4126894	NonCancerAcute	1.94E-02	2.01E-02	6.26E-02	0.00E+00	0.00E+00	2.72E-02	2.78E-03	0.00E+00	1.03E-02	0.00E+00	0.00E+00	7.30E-03	0.00E+00	0.00E+00	6.26E-02
294	ALL	603037.2	4126879	NonCancerAcute	1.94E-02	2.01E-02	6.22E-02	0.00E+00	0.00E+00	2.70E-02	2.67E-03	0.00E+00	1.00E-02	0.00E+00	0.00E+00	7.10E-03	0.00E+00	0.00E+00	6.22E-02
295	ALL	603044.6	4126884	NonCancerAcute	1.92E-02	1.98E-02	6.13E-02	0.00E+00	0.00E+00	2.65E-02	2.67E-03	0.00E+00	9.75E-03	0.00E+00	0.00E+00	6.93E-03	0.00E+00	0.00E+00	6.13E-02
296	ALL	603047.7	4126863	NonCancerAcute	1.89E-02	1.96E-02	6.10E-02	0.00E+00	0.00E+00	2.65E-02	2.58E-03	0.00E+00	1.01E-02	0.00E+00	0.00E+00	7.19E-03	0.00E+00	0.00E+00	6.10E-02
297	ALL	603051.7	4126856	NonCancerAcute	1.85E-02	1.92E-02	6.01E-02	0.00E+00	0.00E+00	2.61E-02	2.55E-03	0.00E+00	1.01E-02	0.00E+00	0.00E+00	7.14E-03	0.00E+00	0.00E+00	6.01E-02
298	ALL	603019.2	4126783	NonCancerAcute	2.82E-02	2.90E-02	8.54E-02	0.00E+00	0.00E+00	3.65E-02	2.58E-03	0.00E+00	1.10E-02	0.00E+00	0.00E+00	7.83E-03	0.00E+00	0.00E+00	8.54E-02

Attachment 5

Cumulative Health Risks

RE: 20-018 Graniterock San Jose SSIF Request

Areana Flores <aflores@baaqmd.gov>
To Casey Divine
Cc James Reyff

Reply | Reply All | Forward

Thu 10/8/2020 2:57 PM

Data

20-018 Graniterock SS 2018_af.xlsx
.xlsx File

emissions_651_2019.txt
.txt File

emissions_9910_2020.txt
.txt File

Hi Casey,

Attached is your request for:

1. 20-018 Graniterock

Please note that for *Particulates (part not spec elsewhere) (1990)*, you can use ARB's speciation profile to pull the fraction that is PM2.5 for that specific source and then use the Health Risk Calculator to calculate that portion. PM10 is not considered respirable so you may exclude that from the HRA analysis.

https://www.arb.ca.gov/ei/speciate/speciate.htm#assnfrac

Please let me know if you need anything else.

Best,

AREANA FLORES, MSc
ENVIRONMENTAL PLANNER
Bay Area Air Quality Management District
375 Beale St. Suite 600 | San Francisco, CA 94105
415-749-4616 | aflores@baaqmd.gov

From: Casey Divine
Sent: Tuesday, October 6, 2020 4:18 PM
To: Areana Flores
Cc: James Reyff
Subject: 20-018 Graniterock San Jose SSIF Request

Hi Areana,

I have a stationary source request for industrial project in San Jose. I've included the SSIF request and screening reports. Several sources are "contact BAAQMD". Can you please provide the risk impacts for these sources? Also, source #9910 and #651 have high PM2.5 concentrations; can you please provided the emissions data for these sources?

Thank you!

Mrs. Casey Divine
Illingworth & Rodkin, Inc.
429 E. Cotati Ave
Cotati, CA 94931
Phone: (707) 794-0400 x103
Fax: (707) 794-0405

FID	OBJECTID	FACID	Name	Address	City	St	Zip	County	Cancer	Hazard	PM_25	Type	Latitude	Longitude	x	y
75	75	651	Granite Ro	110 Granit	San Jose	CA	95136	Santa Clara	4.94	0	6.21	See attached emissions report.	37.282	-121.843	-13563475	4478477
482	482	4118	Mission Cit	3408 Hillca	San Jose	CA	95136	Santa Clara	0	0	0.06	Woodworking	37.28	-121.845	-13563761	4478242
1029	1,029	9910	Concrete R	111 Hillsda	San Jose	CA	95136	Santa Clara	0.18	0	45.22	Generators	37.286	-121.845	-13563709	4479013
3938	3,938	18935	Verizon Wi	3616 Hillca	San Jose	CA	95136	Santa Clara	1.19	0	0	Generators	37.281	-121.844	-13563562	4478354
6058	6,058	23102	Caliber Col	3517 Hillca	San Jose	CA	95136	Santa Clara	0.01	0	0.02	Auto Body Coating Operation	37.28	-121.846	-13563816	4478235
6953	6,953	104052	Rotten Rol	3090 Mont	San Jose	CA	95111	Santa Clara	21.77	0.1	0	Gas Dispensing Facility	37.288	-121.845	-13563730	4479310
8050	8,050	111370	Graniteroc	120 Granit	San Jose	CA	95136	Santa Clara	0.26	0	0	Gas Dispensing Facility	37.281	-121.842	-13563399	4478415
8090	8,090	111466	Capitol Bea	175 W Cap	San Jose	CA	95136	Santa Clara	18.34	0.08	0	Gas Dispensing Facility	37.278	-121.842	-13563366	4477859

BAY AREA AIR QUALITY MANAGEMENT DISTRICT Printed: OCT 8, 2020
DETAIL POLLUTANTS - ABATED
MOST RECENT P/O APPROVED (2020)

Concrete ReadyMix, Inc (P# 9910)

S#	SOURCE NAME				
MATERIAL	SOURCE CODE				
THROUGHPUT		DATE	POLLUTANT	CODE	LBS/DAY
1	Cement Silo				
	G4067065				
			Particulates (part not spe	1990	8.56E+00
2	Conveyor & Weigh Hopper				
	G4030083				
			Particulates (part not spe	1990	1.00E+01
6	Conveyor Stacker				
	G4030244				
			Particulates (part not spe	1990	9.76E-01
7	Material Stockpile				
	G4067244				
			Particulates (part not spe	1990	3.04E-01
8	Weigh Hopper Batch #2				
	G4029083				
			Particulates (part not spe	1990	3.67E-01
9	Cement Silo #1				
	G4067065				
			Particulates (part not spe	1990	4.94E-02
10	Cement Silo #2				
	G4067064				
			Particulates (part not spe	1990	3.39E-02
11	Funnel Bin #1				
	G4067244				
			Particulates (part not spe	1990	1.97E-02
12	Funnel Bin #2				
	G4067244				
			Particulates (part not spe	1990	4.38E-02
13	Grizzly #1				
	G4067244				
			Particulates (part not spe	1990	1.48E-02
14	Grizzly #2				
	G4067244				
			Particulates (part not spe	1990	1.57E-01
15	Material Stockpiles (4)				
	G4076244				
			Particulates (part not spe	1990	9.06E-01
16	Cement Weigh Hopper				
	G4029064				
			Particulates (part not spe	1990	6.28E-02
17	Diesel Engine, Generac model 95A005365, emergency standby				
	C22AG098				
				0	0.00E+00
19	Lo-Pro Batching Silo				
	G4029123				
			Particulates (part not spe	1990	5.57E-03

PLANT TOTAL:

lbs/day	Pollutant
2.15E+01	Particulates (part not spec elsewhere) (1990)

BAY AREA AIR QUALITY MANAGEMENT DISTRICT Printed: OCT 8, 2020
DETAIL POLLUTANTS - ABATED
MOST RECENT P/O APPROVED (2019)

Granite Rock Company (P# 651)

```
  S#  SOURCE NAME
MATERIAL          SOURCE CODE
  THROUGHPUT            DATE  POLLUTANT                 CODE  LBS/DAY
---------------------------------------------------------------------------
   6  ASPHALT TANK
                  T43??030
                        Asphalt                      30  0.00E+00
   7  ASPHALT TANK
                  T43??030
                        Asphalt                      30  0.00E+00
   8  EMULSIFIED ASPHALT TANK
                  T43??201
                        Organic liquid evap - othe   201  0.00E+00
  13  Concrete Batching/Truck Loadout
                  G4028083
                        Chromium (hexavalent)      1095  1.81E-06
                        Particulates (part not spe 1990  4.41E-01
  14  Cement Silo
                  G4067065
                        Chromium (hexavalent)      1095  1.06E-10
                        Particulates (part not spe 1990  1.93E-03
  15  Flyash Silo
                  G4067123
                        Chromium (hexavalent)      1095  7.54E-14
                        Particulates (part not spe 1990  1.51E-04
  16  Aggregate Stockpiles (6)
                  G4076244
                        Particulates (part not spe 1990  3.65E-01
  17  Aggregate Storage Bins (4)
                  G4067244
                        Particulates (part not spe 1990  3.65E-01
  18  Aggregate Weigh Hopper
                  G4079244
                        Particulates (part not spe 1990  8.86E-01
  19  Aggregate Loading Conveyor #1 (Rotary)
                  G4030244
                        Particulates (part not spe 1990  8.53E-01
  20  Cement/Flyash Weigh Hopper
                  G4079065
                        Chromium (hexavalent)      1095  1.82E-08
                        Particulates (part not spe 1990  2.14E-03
  21  Aggregate Loading Hopper
                  G4079244
                        Particulates (part not spe 1990  8.53E-01
  22  Aggregate Conveyor #2
                  G4030244
                        Particulates (part not spe 1990  8.53E-01
```

PLANT TOTAL:
lbs/day Pollutant

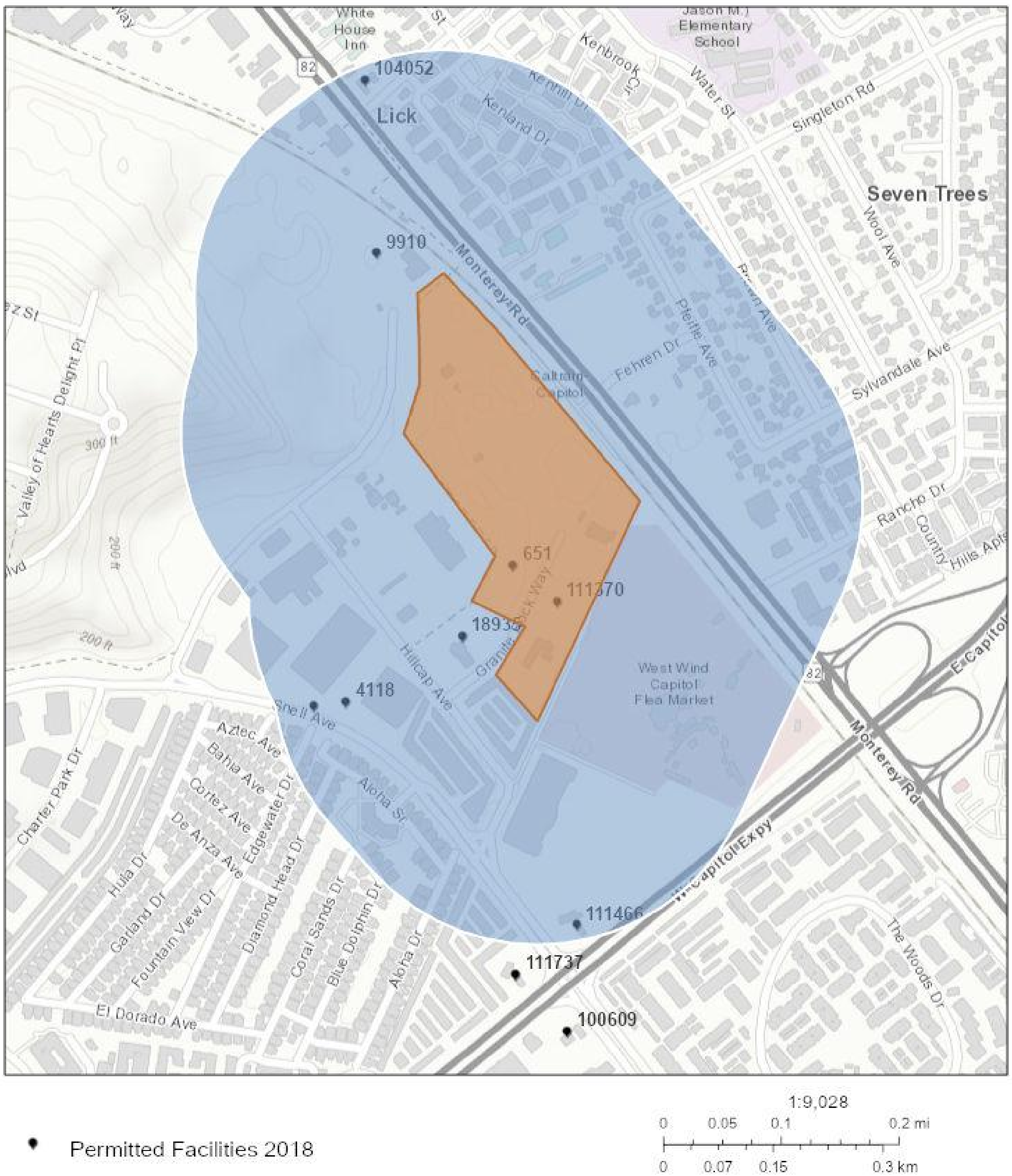
0.00E+00 Asphalt (30)
1.83E-06 Chromium (hexavalent) (1095)
0.00E+00 Organic liquid evap - other/not spec (201)
4.62E+00 Particulates (part not spec elsewhere) (1990)

Stationary Source Risk & Hazards Screening Report

Area of Interest (AOI) Information

Area : 8,834,857.09 ft²

Oct 6 2020 16:01:29 Pacific Daylight Time



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Facilities 2018	8	N/A	N/A

Permitted Facilities 2018

#	FACID	Name	Address	City	St
1	651	Granite Rock Company	110 Granite Rock Way	San Jose	CA
2	4118	Mission City Millwork, Co	3408 Hillcap Avenue	San Jose	CA
3	9910	Concrete ReadyMix, Inc	111 Hillsdale Avenue	San Jose	CA
4	18935	Verizon Wireless (Capitol Monterey)	3616 Hillcap Avenue	San Jose	CA
5	23102	Caliber Collision Center	3517 Hillcap Drive	San Jose	CA
6	104052	Rotten Robbie #53	3090 Monterey Hwy	San Jose	CA
7	111370	Graniterock Company	120 Granite Rock Way	San Jose	CA
8	111466	Capitol Beacon	175 W Capitol Expy	San Jose	CA

#	Zip	County	Cancer	Hazard	PM_25	Type	Count
1	95136	Santa Clara	4.940	0.000	6.210	Contact BAAQMD	1
2	95136	Santa Clara	0.000	0.000	0.060	Contact BAAQMD	1
3	95136	Santa Clara	0.180	0.000	45.220	Generators	1
4	95136	Santa Clara	1.190	0.000	0.000	Generators	1
5	95136	Santa Clara	0.010	0.000	0.020	Contact BAAQMD	1
6	95111	Santa Clara	21.770	0.100	0.000	Gas Dispensing Facility	1
7	95136	Santa Clara	0.260	0.000	0.000	Gas Dispensing Facility	1
8	95136	Santa Clara	18.340	0.080	0.000	Gas Dispensing Facility	1

Note: The estimated risk and hazard impacts from these sources would be expected to be substantially lower when site specific Health Risk Screening Assessments are conducted.

The screening level map is not recommended for evaluating sensitive land uses such as schools, senior centers, day cares, and health facilities.

Bay Area Air Quality Management District

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

Click here for guidance on coducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.

Table A: Requester Contact Information

Date of Request	**10/6/2020**
Contact Name	Casey Divine
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x103
Email	cdivine@illingworthrodkin.com
Project Name	Graniterock Concrete and Asphalt Processing Facility
Address	100 Granite Rock Way
City	San Jose
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Industrial
Project Size (# of units or building square feet)	
Comments:	

For Air District assistance, the following steps must be completed:

1. Complete all the contact and project information requested in **Table A** complete forms will not be processed. Please include a project site map.

2. Download and install the free program Google Earth, **http://www.google.com/earth/download/ge/,** and then download the county specific Google Earth stationary source application files from the District's website, **http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.** The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.

3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.

4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in **Table B** ue section only.

6. Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.

7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Areana Flores at 415-749-4616, or aflores@baaqmd.gov

Table B: Google Earth data

Distance from Receptor (feet) or MEI[1]	Plant No.	Facility Name	Address	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments
Part of Project, to be removed	651	Granite Rock Company	110 Granite Rock Way	4.94	--	6.21		Cement and Rock Equipment		2018 Dataset
+1000	4118	Mission City Millwork, Co	3408 Hillcap Avenue	--	--	0.06		Woodworking		2018 Dataset
+1000	9910	Concrete ReadyMix, Inc	111 Hillsdale Avenue	0.18	--	45.22		Generators		Provided PM2.5 emissions modeled in AERMOD
+1000	18935	Verizon Wireless (Capitol Monterey)	3616 Hillcap Avenue	1.19	--	--		Generators		2018 Dataset
+1000	23102	Caliber Collision Center	3517 Hillcap Drive	0.01	--	0.02		Auto Body Coating Operation		2018 Dataset
+1000	104052	Rotten Robbie #53	3090 Monterey Hwy	21.77	0.10	--		Gas Dispensing Facility		2018 Dataset
Part of Project, to be removed	111370	Graniterock Company	120 Granite Rock Way	0.26	--	--		Gas Dispensing Facility		2018 Dataset
+1000	111466	Capitol Beacon	175 W Capitol Expy	18.34	0.08	--		Gas Dispensing Facility		2018 Dataset

Construction MEI

Plant No.	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
651	NA	NA	NA	NA
4118	0.13	#VALUE!	#VALUE!	0.01
9910	0.04	0.01	#VALUE!	0.24
18935	0.04	0.05	#VALUE!	#VALUE!
23102	0.13	0.001	#VALUE!	0.003
104052	0.01	0.33	0.001	#VALUE!
111370	NA	NA	NA	NA
111466	0.01	0.27	0.001	#VALUE!

Footnotes:
1. Maximally exposed individual
2. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 189 = Natural Gas.
6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
7. The date that the HRSA was completed.
8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
   a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
   b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of
   c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
   d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead
   e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.
   f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
   g. This spray booth is considered to be insignificant.

Date last updated:
03/13/2018

FW: 20-018 Graniterock San Jose SSIF Request

Areana Flores <aflores@baaqmd.gov>
To Casey Divine
Cc James Reyff

Mon 11/16/2020 7:21 PM

Data

Follow up. Completed on Tuesday, November 17, 2020.

Hi Casey,

It appears that quarry next door is not associated with Concrete ReadyMix. Plant #9910 is permitted to have 2 sources totaling 5 stockpiles. Based on aerial images, there are 5 stockpiles associated with facility boundary without taking into consideration the quarry (see circles below).

The facility next door is not showing up on our database as an active site. If you are able to verify that they are still operating, please let us know so we can take appropriate action.

Let me know if you have any other questions.

Best,
Areana

From: Casey Divine
Sent: Friday, October 23, 2020 8:32 AM
To: Areana Flores
Cc: James Reyff
Subject: RE: 20-018 Graniterock San Jose SSIF Request

Hi Areana,

Do you know whether or not the quarry site to the west of Stationary Source #9910 is part of #9910 (see image below)? If not, do you know how we can get the emissions data for that quarry or if it's part of another stationary source?

Graniterock, San Jose, CA - Plant #9910

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2022	Operation	9910		2613.2	0.29831	3.76E-02	9664.2	3.89E-06
Total			***0.0000***	***2613.2***	***0.2983***	***0.0376***		

Construction Hours

hr/day =	24
days/yr =	365
hours/year =	8760

PM2.5 Concentration

0.24309 at MEI

Granite Rock Daily Truck Traffic Volumes

	Intersection	Link	% of total	Existing	Proposed	Net Increase	Cumulative Daily Volumes (computed from Peak Hr) Background
			Volume:	664	1316	652	
Hillsdale Ave South	3	north	100%	664	1316	**652**	**25,045**
Hillsdale Ave North	7	north	0%	0	0	**0**	**11,510**
Capitol Expressway West	3	west	28%	186	368	**183**	**40,220**
Capitol Expressway East	3	east	72%	478	948	**469**	**56,720**
Monterey Rd North	4	north	54%	359	711	**352**	**35,985**
Monterey Rd South	5	south	0%	0	0	**0**	**41,170**
Hillcap Ave East	7	north	0%	0	0	**0**	**3,440**

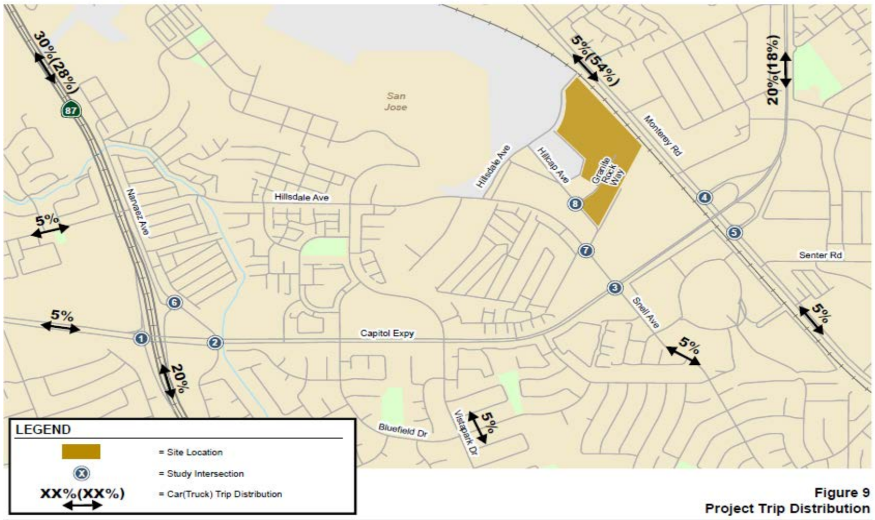


Figure 9
Project Trip Distribution

HEXAGON

PM Peak Hour

		North Approach			East Approach			South Approach			West Approach						
		R	T	L	R	T	L	R	T	L	R	T	L	North	East	South	West
Background Traffic 1	SR 87 &													0	0	0	0
2	Ave &													0	0	0	0
3	& Capitol	85	431	904	463	1284	521	370	148	240	593	1734	63	2094	5276	2303	3999
4	Rd &	0	2055	261	95	0	215	305	1215	0	0	0	0	3626	876	3790	0
5	Rd &	0	2177	122	319	0	298	336	1203	0	0	0	0	3821	1075	4014	0
6	Ave & SR													0	0	0	0
7	& Hillcap	0	583	4	14	0	119	50	411	12	0	0	0	1012	187	1175	12
8	Ave &													0	0	0	0

AM Peak Hour

		North Approach			East Approach			South Approach			West Approach						
		R	T	L	R	T	L	R	T	L	R	T	L	North	East	South	West
Background Traffic 1	Capitol													0	0	0	0
2	Ave &													0	0	0	0
3	& Capitol	87	160	555	1438	1908	232	933	505	697	181	1002	170	2915	6068	2708	4045
4	Rd &	0	717	265	143	0	254	597	2446	0	0	0	0	3571	1259	4014	0
5	Rd &	0	915	54	345	0	152	474	2679	0	0	0	0	3993	1025	4220	0
6	Ave & SR													0	0	0	0
7	& Hillcap	0	443	16	20	0	86	379	811	10	0	0	0	1290	501	1729	10
8	Ave &													0	0	0	0

Attachment 6

Odor Complaint History

Public Records Request No. 2020-11-0126

Public Records <PublicRecords@baaqmd.gov>
To Casey Divine

Reply | Reply All | Forward | ...

Tue 11/17/2020 2:04 PM

Dear Casey Divine,

Thank you for your request. We have searched our records and have no records that respond to your below request for:

Granite Rock Company
1321 Lowrie Avenue
South San Francisco

If you have any questions or concerns, please call or e-mail me.

Sincerely,

Rochele Henderson
Public Records Section
BAAQMD
415-516-1916

Public Records Request No. 2020-11-0129

Public Records <PublicRecords@baaqmd.gov>
To Casey Divine

Reply | Reply All | Forward | ...

Tue 11/17/2020 2:06 PM

Dear Casey Divine,

Thank you for your request. We have searched our records and have no records that respond to your below request for:

BoDean Company
1060 Maxwell Drive
Santa Rosa

If you have any questions or concerns, please call or e-mail me.

Sincerely,

Rochele Henderson
Public Records Section
BAAQMD
415-516-1916

Public Record Request No.

PR

Public Records <PublicRecords@baaqmd.gov>

To Casey Divine

Reply | Reply All | Forward | ...

Tue 11/17/2020 2:26 PM

2020-11 Casey Divine.xlsx
.xlsx File

Hello,

Enclosed are the records you requested. If you have any questions or concerns, please call or e-mail me. Thank you.

Sincerely,

Rochele Henderson
Public Records Section
BAAQMD
415-516-1916

C#	Complaint @	Type	Description	Status	Site #	Site Name	Site Address	Site City	Zip
222941	09/24/15	Dust		Unconfirmed	A3259	CEMEX Construction Materials Pacific, LLC	1555 Russell Avenue	Santa Clara	95054
222984	09/28/15	Dust	particulates	Unconfirmed	A3259	CEMEX Construction Materials Pacific, LLC	1555 Russell Avenue	Santa Clara	95054
223635	10/29/15	Odor	tar like	Unconfirmed	A3259	CEMEX Construction Materials Pacific, LLC	1555 Russell Avenue	Santa Clara	95054
225247	03/03/16	Dust	not watering down	Unconfirmed	A3259	CEMEX Construction Materials Pacific, LLC	1555 Russell Avenue	Santa Clara	95054
232443	08/17/17	Dust	Cement	Unconfirmed	A3259	CEMEX Construction Materials Pacific, LLC	1555 Russell Avenue	Santa Clara	95054
232802	09/21/17	Dust		Unconfirmed	A3259	CEMEX Construction Materials Pacific, LLC	1555 Russell Avenue	Santa Clara	95054
235707	05/31/18	Dust	heavy dust	Unconfirmed	A3259	CEMEX Construction Materials Pacific, LLC	1555 Russell Avenue	Santa Clara	95054
236124	07/05/18	Dust	large plumes	Unconfirmed	A3259	CEMEX Construction Materials Pacific, LLC	1555 Russell Avenue	Santa Clara	95054
236207	07/05/18	Smoke	smoke	Unconfirmed	A3259	CEMEX Construction Materials Pacific, LLC	1555 Russell Avenue	Santa Clara	95054
237444	09/21/18	Soot		Unconfirmed	A3259	CEMEX Construction Materials Pacific, LLC	1555 Russell Avenue	Santa Clara	95054
241446	09/30/19	Smoke	black	Unconfirmed	A3259	CEMEX Construction Materials Pacific, LLC	1555 Russell Avenue	Santa Clara	95054

C#	Complaint @	Type	Description	Status	Site #	Site Name	Site Address	Site City	Zip
221812	07/06/15	Odor	asphalt	Unconfirmed	A0107	Reed & Graham, Inc	690 Sunol Street	San Jose	95126

C#	Complaint @	Type	Description	Status	Site #	Site Name	Site Address	Site City	Zip
218494	01/07/15	Odor	burnt tires	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
218536	01/08/15	Odor	strong very bad	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
218567	01/08/15	Odor	bad	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
218571	01/08/15	Odor	tar sulfur soap	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
218584	01/08/15	Odor	tar, asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
218827	01/12/15	Odor	bitter	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
218989	01/16/15	Odor	burnt rubber	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219141	01/20/15	Odor		Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219142	01/20/15	Odor		Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219143	01/20/15	Odor		Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219146	01/20/15	Odor	sulphur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219147	01/20/15	Odor	asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219182	01/21/15	Odor	road tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219183	01/21/15	Odor	strong sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219199	01/22/15	Odor	burning asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219235	01/23/15	Odor	asphalt	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219239	01/23/15	Odor	sulfer	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219252	01/23/15	Odor	tar	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219479	01/29/15	Odor	sulphur like	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219486	01/29/15	Odor	asphalt fumes	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219488	01/29/15	Odor	asphalt/tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219506	01/30/15	Odor	sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219605	02/02/15	Odor	chemical/sulfer	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219814	02/09/15	Odor	burning plastic	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219839	02/11/15	Odor	chemicals	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219840	02/11/15	Odor	bad	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219943	02/13/15	Odor	asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
219981	02/14/15	Odor	asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
220026	02/17/15	Odor	asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
220046	02/16/15	Odor	asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
220846	03/31/15	Odor	sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
220847	03/31/15	Odor	bad	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
220867	04/01/15	Odor	burning plastic	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710

220914	04/08/15	Odor	very strong	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
220915	04/08/15	Odor	strong	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
221118	04/24/15	Odor	tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
221238	05/04/15	Odor	big plume, iritating	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
221245	05/04/15	Odor	bad	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
221254	05/02/15	Odor	tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
221266	05/04/15	Odor	asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
221324	05/12/15	Odor	road tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
221327	05/12/15	Odor	chemical	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
221460	06/01/15	Odor	sewage	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
221461	06/01/15	Odor	tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
221835	07/09/15	Odor	bad	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222161	08/07/15	Odor	strong rotten eggs	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222229	08/13/15	Odor	bad	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222304	08/19/15	Odor	Gas	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222312	08/19/15	Odor	asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222420	08/28/15	Odor	tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222590	09/08/15	Odor	tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222595	09/09/15	Odor	metallic/burning	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222597	09/09/15	Odor	road tar/asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222694	09/11/15	Odor	tar like	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222697	09/11/15	Odor	asphalt, road tar	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222770	09/15/15	Odor	burnt rubber	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222806	09/18/15	Odor	tar like	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222840	09/19/15	Odor	chemical	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222860	09/19/15	Odor	bad	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222861	09/19/15	Odor	asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222862	09/19/15	Odor	tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
222923	09/24/15	Odor	smokey	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
223027	09/29/15	Odor	bad	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
223034	09/29/15	Odor	very strong	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
223035	09/29/15	Odor	sulphur	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
223036	09/29/15	Odor	asphalt	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
223046	09/29/15	Odor	bad	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
223064	09/30/15	Odor	strong	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
223075	10/02/15	Odor	asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
223229	10/12/15	Odor	tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
223917	12/01/15	Odor	vile	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
225003	02/24/16	Odor	road tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
225107	02/27/16	Odor	burning chemical	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
225220	03/02/16	Odor	asphalt/exhaust	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
225349	03/17/16	Smoke	black	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
225862	04/15/16	Odor	burnt gravel	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
225972	04/19/16	Odor	tar like	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
226082	04/25/16	Odor	bad	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
226143	04/28/16	Odor	rotten eggs	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
226149	04/28/16	Odor	sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
226362	05/05/16	Odor	horrible	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
226517	05/18/16	Odor	burnt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
226724	06/02/16	Odor	burnt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
226729	06/02/16	Odor	ASPHALT	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710

226928	06/15/16	Odor	burnt tires	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
227220	07/16/16	Odor	asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
228224	10/03/16	Odor	burnt tires	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
229341	12/29/16	Odor	chemical	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
229574	01/17/17	Odor	burnt chemicals	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
229976	02/14/17	Odor	sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
230037	02/14/17	Odor	sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
230039	02/14/17	Odor	tar/burning oil	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
230912	03/30/17	Odor	sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
232273	08/01/17	Odor	sulphur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
232334	08/03/17	Odor	burnt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
232427	08/16/17	Odor	tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
232779	09/19/17	Odor	sulfur like	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
232861	09/28/17	Odor	rotten eggs	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
233296	10/27/17	Odor	Asphalt smell	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
233412	11/07/17	Odor	Chemical fumes	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
233484	11/17/17	Odor	burnt rocks	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
233593	11/28/17	Odor	Sulphur Chemical	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
233633	11/30/17	Odor	asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
234097	01/23/18	Odor	burning tires	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
234099	01/23/18	Odor	burnt tires	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
234117	01/26/18	Odor	chemical	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
234468	02/21/18	Odor	Burnt plastic	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
234474	02/22/18	Odor	melting rubber	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
234478	02/22/18	Odor	tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
234630	03/12/18	Odor	ashphalt	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
236256	07/12/18	Odor	tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
236370	07/18/18	Odor	petroleum fumes	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
237088	08/22/18	Odor	tar, burning oil	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
237137	08/29/18	Odor	tar	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
237139	08/29/18	Odor	sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
237151	08/30/18	Odor	rotten egg	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
237201	09/05/18	Odor	rotten eggs	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
237402	09/19/18	Odor	wet cement/oily	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
238844	01/14/19	Odor	burnt glue	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
238929	01/24/19	Odor	Asphalt	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
239575	03/29/19	Odor	asphalt burning	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
240253	06/12/19	Odor	burnt rubber	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
240254	06/12/19	Odor	burning oil	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
240255	06/12/19	Odor	Tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
240256	06/12/19	Odor	Tar/asphalt	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
240318	06/19/19	Odor	sulfur	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
240324	06/20/19	Odor	heavy tar	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
240325	06/20/19	Odor	burning tar	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
240327	06/20/19	Odor	burning tires	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
240422	07/01/19	Odor	burning asphalt	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
240923	08/21/19	Odor	TAR	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
240942	08/23/19	Odor	tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
240943	08/23/19	Odor	TAR	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
241510	10/05/19	Odor	gas	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
241511	10/05/19	Odor	very bad	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710

241535	10/07/19	Odor	TAR	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
242245	12/23/19	Odor	sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
242689	02/20/20	Odor	asphalt/tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
242690	02/20/20	Odor	wet cement	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243001	03/26/20	Odor	sulfur/chemical	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243005	03/26/20	Odor	tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243007	03/27/20	Odor	tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243008	03/27/20	Odor	rubber	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243009	03/27/20	Odor	Burning Tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243010	03/27/20	Smoke		Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243011	03/27/20	Odor	heavy smoke	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243024	03/31/20	Odor	sulphur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243134	04/17/20	Odor	exhaust	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243135	04/17/20	Odor	burnt matches	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243143	04/21/20	Odor	dirty oil	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243154	04/23/20	Odor	BAD OIL/BURNING	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243373	05/28/20	Odor	burning sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243381	05/29/20	Odor	asphalt	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243382	05/29/20	Odor	gas	Confirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243384	05/29/20	Odor	TAR / GAS	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243458	06/08/20	Odor	horrible	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243720	07/18/20	Odor	visible pollution	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243724	07/20/20	Odor	sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
243756	07/23/20	Odor	noxious	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244081	08/15/20	Dust	white	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244131	08/21/20	Odor	Tar	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244163	08/27/20	Odor	chemical or asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244190	08/31/20	Odor	Bad	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244283	09/16/20	Odor	sulfur	Pending	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244408	10/01/20	Odor	burnt asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244475	10/12/20	Odor	Asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244693	10/30/20	Odor	sulphur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244715	11/02/20	Odor	sulfur	Pending	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244716	11/02/20	Odor	sulfur	Pending	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244723	11/02/20	Odor	sour	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244773	11/03/20	Odor	Sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244775	11/03/20	Odor	sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244788	11/04/20	Odor	Sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244789	11/04/20	Odor		Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244790	11/03/20	Odor	Sulfur	Pending	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244791	11/04/20	Odor	burning chemicals	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244796	11/04/20	Odor	burning asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244797	11/04/20	Odor	acrid sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244799	11/04/20	Odor	burning sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244800	11/04/20	Odor	burning	Pending	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244807	11/05/20	Odor	sulpher	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244842	11/06/20	Odor	burning asphalt	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244846	11/06/20	Odor	burning metal	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244851	11/06/20	Odor	sulfur/burning metal	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244853	11/06/20	Odor		Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244862	11/07/20	Odor	sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710

244863	11/07/20	Odor	sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244864	11/07/20	Odor		Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244869	11/09/20	Odor	sulfer/dirty oil	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244873	11/09/20	Odor	sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244886	11/09/20	Odor	sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244889	11/09/20	Odor	sulfur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244899	11/10/20	Odor	SULPHUR	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244902	11/10/20	Odor	sewage/sulphur	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244910	11/12/20	Odor		Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244931	11/16/20	Odor	sulfur/oil	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710
244935	11/16/20	Odor	sulfer	Unconfirmed	A0123	Berkeley Asphalt Co	699 Virginia Street	Berkeley	94710