APPENDIX 1

AIR QUALITY / GHG ANALYSIS

AIR QUALITY and GHG IMPACT ANALYSES

TI-081 TITAN INDUSTRIAL METAL FACILITY

COUNTY OF SAN BERNARDINO, CALIFORNIA

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ATMOSPHERIC SETTING

The climate the eastern San Bernardino Valley, as with all of Southern California, is governed largely by the strength and location of the semi-permanent high pressure center over the Pacific Ocean and the moderating effects of the nearby vast oceanic heat reservoir. Local climatic conditions are characterized by very warm summers, mild winters, infrequent rainfall, moderate daytime on-shore breezes, and comfortable humidity levels. Unfortunately, the same climatic conditions that create such a desirable living climate combine to severely restrict the ability of the local atmosphere to disperse the large volumes of air pollution generated by the population and industry attracted in part by the climate.

The project will be situated in an area where the pollutants generated in coastal portions of the Los Angeles basin undergo photochemical reactions and then move inland across the project site during the daily sea breeze cycle. The resulting smog at times gives San Bernardino County some of the worst air quality in all of California. Fortunately, significant air quality improvement in the last decade suggests that healthful air quality may someday be attained despite the limited regional meteorological dispersion potential.

Winds across the project area are an important meteorological parameter because they control both the initial rate of dilution of locally generated air pollutant emissions as well as controlling their regional trajectory. Winds across the project site display a very unidirectional onshore flow from the southwest-west that is strongest in summer with a weaker offshore return flow from the northeast that is strongest on winter nights when the land is colder than the ocean. The onshore winds during the day average 6-8 mph while the offshore flow is often calm or drifts slowly westward at 1-3 mph.

During the daytime, any locally generated air emissions are thus rapidly transported eastward toward Banning Pass without generating any localized air quality impacts. The nocturnal drainage winds which move slowly across the area have some potential for localized stagnation, but fortunately, these winds have their origin in the adjacent mountains where background pollution levels are low such that any localized contributions do not create any unhealthful impacts.

In conjunction with the two characteristic wind regimes that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. The summer on-shore flow is capped by a massive dome of warm, sinking air which caps a shallow layer of cooler ocean air. These marine/subsidence inversions act like a giant lid over the basin. They allow for local mixing of emissions, but they confine the entire polluted air mass within the basin until it escapes into the desert or along the thermal chimneys formed along heated mountain slopes.

In winter, when the air near the ground cools while the air aloft remains warm, radiation inversions are formed that trap low-level emissions such as automobile exhaust near their source. As background levels of primary vehicular exhaust rise during the seaward return flow, the combination of rising non-local baseline levels plus emissions trapped locally by these radiation inversions creates micro-scale air pollution "hot spots" near freeways, shopping centers and other traffic concentrations in coastal areas of the Los Angeles Basin. Because the nocturnal airflow

down the adjacent slopes to the north has its origin in very lightly developed areas of the San Bernardino Mountains, background pollution levels at night in winter are very low in the project vicinity. Localized air pollution contributions are insufficient to create a "hot spot" potential when superimposed upon the clean nocturnal baseline. The combination of winds and inversions are thus critical determinants in leading to the degraded air quality in summer, and the generally good air quality in winter in the project area.

AIR QUALITY SETTING

AMBIENT AIR QUALITY STANDARDS (AAQS)

In order to gauge the significance of the air quality impacts of the proposed Project, those impacts, together with existing background air quality levels, must be compared to the applicable ambient air quality standards. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise, called "sensitive receptors." Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research has shown, however, that chronic exposure to ozone (the primary ingredient in photochemical smog) may lead to adverse respiratory health even at concentrations close to the ambient standard.

National AAQS were established in 1971 for six pollution species with states retaining the option to add other pollutants, require more stringent compliance, or to include different exposure periods. The initial attainment deadline of 1977 was extended several times in air quality problem areas like Southern California. In 2003, the Environmental Protection Agency (EPA) adopted a rule, which extended and established a new attainment deadline for ozone for the year 2021. Because the State of California had established AAQS several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table 1. Sources and health effects of various pollutants are shown in Table 2.

The Federal Clean Air Act Amendments (CAAA) of 1990 required that the U.S. Environmental Protection Agency (EPA) review all national AAQS in light of currently known health effects. EPA was charged with modifying existing standards or promulgating new ones where appropriate. EPA subsequently developed standards for chronic ozone exposure (8+ hours per day) and for very small diameter particulate matter (called "PM-2.5"). New national AAQS were adopted in 1997 for these pollutants.

Planning and enforcement of the federal standards for PM-2.5 and for ozone (8-hour) were challenged by trucking and manufacturing organizations. In a unanimous decision, the U.S. Supreme Court ruled that EPA did not require specific congressional authorization to adopt national clean air standards. The Court also ruled that health-based standards did not require preparation of a cost-benefit analysis. The Court did find, however, that there was some inconsistency between existing and "new" standards in their required attainment schedules. Such attainment-planning schedule inconsistencies centered mainly on the 8-hour ozone standard. EPA subsequently agreed to downgrade the attainment designation for a large number of communities to “non-attainment” for the 8-hour ozone standard.

Table 1

Ambient Air Quality Standards

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

See footnotes on next page …

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Table 1 (continued)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

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

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

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

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

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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Table 2
Health Effects of Major Criteria 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 function and nerve construction. • Behavioral and hearing problems in children.
Respirable Particulate Matter (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 cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	• Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics.	• Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

Evaluation of the most current data on the health effects of inhalation of fine particulate matter prompted the California Air Resources Board (ARB) to recommend adoption of the statewide PM-2.5 standard that is more stringent than the federal standard. This standard was adopted in 2002. The State PM-2.5 standard is more of a goal in that it does not have specific attainment planning requirements like a federal clean air standard, but only requires continued progress towards attainment.

Similarly, the ARB extensively evaluated health effects of ozone exposure. A new state standard for an 8-hour ozone exposure was adopted in 2005, which aligned with the exposure period for the federal 8-hour standard. The California 8-hour ozone standard of 0.07 ppm is more stringent than the federal 8-hour standard of 0.075 ppm. The state standard, however, does not have a specific attainment deadline. California air quality jurisdictions are required to make steady progress towards attaining state standards, but there are no hard deadlines or any consequences of non-attainment. During the same re-evaluation process, the ARB adopted an annual state standard for nitrogen dioxide ($NO_{2)}$ that is more stringent than the corresponding federal standard, and strengthened the state one-hour NO_2 standard.

As part of EPA's 2002 consent decree on clean air standards, a further review of airborne particulate matter (PM) and human health was initiated. A substantial modification of federal clean air standards for PM was promulgated in 2006. Standards for PM-2.5 were strengthened, a new class of PM in the 2.5 to 10 micron size was created, some PM-10 standards were revoked, and a distinction between rural and urban air quality was adopted. In December, 2012, the federal annual standard for PM-2.5 was reduced from 15 $\mu g/m^3$ to 12 $\mu g/m^3$ which matches the California AAQS. The severity of the basin's non-attainment status for PM-2.5 may be increased by this action and thus require accelerated planning for future PM-2.5 attainment.

In response to continuing evidence that ozone exposure at levels just meeting federal clean air standards is demonstrably unhealthful, EPA had proposed a further strengthening of the 8-hour standard. A new 8-hour ozone standard was adopted in 2015 after extensive analysis and public input. The adopted national 8-hour ozone standard is 0.07 ppm which matches the current California standard. It will require three years of ambient data collection, then 2 years of non-attainment findings and planning protocol adoption, then several years of plan development and approval. Final air quality plans for the new standard are likely to be adopted around 2022. Ultimate attainment of the new standard in ozone problem areas such as Southern California might be after 2025.

In 2010 a new federal one-hour primary standard for nitrogen dioxide (NO_2) was adopted. This standard is more stringent than the existing state standard. Based upon air quality monitoring data in the South Coast Air Basin, the California Air Resources Board has requested the EPA to designate the basin as being in attainment for this standard. The federal standard for sulfur dioxide (SO_2) was also recently revised. However, with minimal combustion of coal and mandatory use of low sulfur fuels in California, SO_2 is typically not a problem pollutant.

BASELINE AIR QUALITY

Existing and probable future levels of air quality in the project area can be best inferred from ambient air quality measurements conducted by the South Coast Air Quality Management District (SCAQMD) at its Fontana monitoring station. This station measures both regional pollution levels such as dust (particulates) and smog, as well as levels of primary vehicular pollutants such as carbon monoxide. Table 3 summarizes the last four years of the published data from this monitoring station.

Ozone and particulates are seen to be the two most significant air quality concerns. Ozone is the primary ingredient in photochemical smog. Slightly more than 11 percent of all days exceed the California one-hour standard. The 8-hour state ozone standard has been exceeded an average of 19 percent of all days in the past four years. The federal 8-hour standard is exceeded 13 percent of all days. For the last four years, ozone levels have neither improved nor gotten noticeably worse. While ozone levels are still high, they are much lower than 10 to 20 years ago. Attainment of all clean air standards in the project vicinity is not likely to occur soon, but the severity and frequency of violations is expected to continue to slowly decline during the current decade.

In addition to gaseous air pollution concerns, San Bernardino experiences frequent violations of standards for 10-micron diameter respirable particulate matter (PM-10). High dust levels occur during Santa Ana wind conditions, as well as from the trapped accumulation of soot, roadway dust and byproducts of atmospheric chemical reactions during warm season days with poor visibility. Table 3 shows that almost 17 percent of all days in the last four years experienced a violation of the State PM-10 standard. However, the three-times less stringent federal standard has not been exceeded in the same time period.

A substantial fraction of PM-10 is comprised of ultra-small diameter particulates capable of being inhaled into deep lung tissue (PM-2.5). Peak annual PM-2.5 levels are sometimes almost as high as PM-10, which includes PM-2.5 as a sub-set. However, less than one percent of days experience a violation of the 24-hour standard of 35 $\mu g/m^3$.

While many of the major ozone precursor emissions (automobiles, solvents, paints, etc.) have been substantially reduced, most major PM-10 sources (construction dust, vehicular turbulence along roadway shoulders, truck exhaust, etc.) have not been as effectively reduced. Prospects of ultimate attainment of ozone standards are better than for particulate matter.

More localized pollutants such as carbon monoxide, nitrogen oxides, etc. are very low near the project site because background levels, never approach allowable levels. There is substantial excess dispersive capacity to accommodate localized vehicular air pollutants such as NOx or CO without any threat of violating applicable AAQS.

Table 3
Air Quality Monitoring Summary (2017-2020)
(Estimated Number of Days Standards Were Exceeded)

Pollutant/Standard	2017	2018	2019	2020
Ozone				
1-Hour > 0.09 ppm (S)	33	38	41	56
8-Hour > 0.07 ppm (S)	49	69	67	89
8- Hour > 0.075 ppm (F)	38	47	46	65
Max. 1-Hour Conc. (ppm)	0.137	0.141	0.124	0.151
Max. 8-Hour Conc. (ppm)	0.118	0.111	0.109	0.111
Carbon Monoxide				
8- Hour > 9. ppm (S,F)	0	0	0	0
Max 8-hour Conc. (ppm)	1.3	1.1	1.0	1.2
Nitrogen Dioxide				
1-Hour > 0.18 ppm (S)	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.069	0.063	0.076	0.066
Respirable Particulates (PM-10)				
24-Hour > 50 $\mu g/m^3$ (S)	7/43	9/56	12/61	6/40
24-Hour > 150 $\mu g/m^3$ (F)	0/43	0/56	0/61	0/40
Max. 24-Hr. Conc. ($\mu g/m^3$)	75.	64.	88.	61.
Fine Particulates (PM-2.5)				
24-Hour > 35 $\mu g/m^3$ (F)	1/120	0/110	2/114	1/117
Max. 24-Hr. Conc. ($\mu g/m^3$)	39.2	29.2	46.5	46.1

S=State Standard
F=Federal Standard

Source: Fontana SCAQMD Air Monitoring Summary (5197)
data: www.arb.ca.gov/adam/

AIR QUALITY PLANNING

The Federal Clean Air Act (1977 Amendments) required that designated agencies in any area of the nation not meeting national clean air standards must prepare a plan demonstrating the steps that would bring the area into compliance with all national standards. The SCAB could not meet the deadlines for ozone, nitrogen dioxide, carbon monoxide, or PM-10. In the SCAB, the agencies designated by the governor to develop regional air quality plans are the SCAQMD and the Southern California Association of Governments (SCAG). The two agencies first adopted an Air Quality Management Plan (AQMP) in 1979 and revised it several times as earlier attainment forecasts were shown to be overly optimistic.

The 1990 Federal Clean Air Act Amendment (CAAA) required that all states with air-sheds with "serious" or worse ozone problems submit a revision to the State Implementation Plan (SIP). Substantial reductions in emissions of ROG, NOx and CO are forecast to continue throughout the next several decades. Unless new particulate control programs are implemented, PM-10 and PM-2.5 are forecast to slightly increase.

The Air Quality Management District (AQMD) adopted an updated clean air "blueprint" in August 2003. The 2003 Air Quality Management Plan (AQMP) was approved by the EPA in 2004. The AQMP outlined the air pollution measures needed to meet federal health-based standards for ozone by 2010 and for particulates (PM-10) by 2006. The 2003 AQMP was based upon the federal one-hour ozone standard which was revoked late in 2005 and replaced by an 8-hour federal standard. Because of the revocation of the hourly standard, a new air quality planning cycle was initiated.

With re-designation of the air basin as non-attainment for the 8-hour ozone standard, a new attainment plan was developed. This plan shifted most of the one-hour ozone standard attainment strategies to the 8-hour standard. As previously noted, the attainment date was to "slip" from 2010 to 2021. The updated attainment plan also includes strategies for ultimately meeting the federal PM-2.5 standard.

Because Projected attainment by 2021 required control technologies that did not exist yet, the SCAQMD requested a voluntary "bump-up" from a "severe non-attainment" area to an "extreme non-attainment" designation for ozone. The extreme designation was to allow a longer time period for these technologies to develop. If attainment cannot be demonstrated within the specified deadline without relying on "black-box" measures, EPA would have been required to impose sanctions on the region had the bump-up request not been approved. In April 2010, the EPA approved the change in the non-attainment designation from "severe-17" to "extreme." This reclassification set a later attainment deadline (2024), but also required the air basin to adopt even more stringent emissions controls.

In other air quality attainment plan reviews, EPA had disapproved part of the SCAB PM-2.5 attainment plan included in the AQMP. EPA stated that the current attainment plan relied on PM-2.5 control regulations that had not yet been approved or implemented. It was expected that a number of rules that were pending approval would remove the identified deficiencies. If these issues were not resolved within the next several years, federal funding sanctions for transportation

Projects could result. The 2012 AQMP included in the current California State Implementation Plan (SIP) was expected to remedy identified PM-2.5 planning deficiencies.

The federal Clean Air Act requires that non-attainment air basins have EPA approved attainment plans in place. This requirement includes the federal one-hour ozone standard even though that standard was revoked almost ten years ago. There was no approved attainment plan for the one-hour federal standard at the time of revocation. Through a legal quirk, the SCAQMD is now required to develop an AQMP for the long since revoked one-hour federal ozone standard. Because the current SIP for the basin contain a number of control measures for the 8-hour ozone standard that are equally effective for one-hour levels, the 2012 AQMP was believed to satisfy hourly attainment planning requirements.

AQMPs are required to be updated at regular intervals. The 2012 AQMP was adopted in early 2013. An updated 2016 AQMP was adopted by the SCAQMD Board in March 2017. The 2016 AQMD demonstrated the emissions reductions shown in Table 4 compared to the 2012 AQMP.

Table 4
Comparison of Emissions by Major Source Category From 2012 AQMP

Pollutant	Stationary Sources	Mobile Sources
VOC	-12%	-3%
NOx	-13%	-1%
SOx	-34%	-23%
PM2.5	-9%	-7%

*source 2016 AQMP

SCAQMD has initiated the development of the 2022 AQMP to address the attainment of the 2015 8-hour ozone standard (70 ppb) for South Coast Air Basin and Coachella Valley which will focus on attaining the 70 ppb 8-hour ozone National Ambient Air Quality Standard (NAAQS) by 2037. On-road vehicles and off-road mobile sources represent the largest categories of NOx emissions. Accomplishment of attainment goals requires an approximate 70% reduction in NOx emissions. Large scale transition to zero emission technologies is a key strategy. To this end, Governor Executive Order N-79-20 requires 100 percent EV sales by 2035 for automobiles and short haul drayage trucks. A full transition to EV buses and heavy-duty long-haul trucks is required by 2045.

The proposed Project does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing industrial development projects. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of planned growth is determined. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant just because the proposed development is consistent with regional growth Projections. Air quality impact significance for the proposed Project has therefore been analyzed on a Project-specific basis.

AIR QUALITY IMPACT

STANDARDS OF SIGNIFICANCE

Air quality impacts are considered "significant" if they cause clean air standards to be violated where they are currently met, or if they "substantially" contribute to an existing violation of standards. Any substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, would also be considered a significant impact.

Appendix G of the California CEQA Guidelines offers the following four tests of air quality impact significance. A Project would have a potentially significant impact if it:

a) Conflicts with or obstructs implementation of the applicable air quality plan.

b) Results in a cumulatively considerable net increase of any criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.
c) Exposes sensitive receptors to substantial pollutant concentrations.

d) Creates objectionable odors affecting a substantial number of people.

Primary Pollutants

Air quality impacts generally occur on two scales of motion. Near an individual source of emissions or a collection of sources such as a crowded intersection or parking lot, levels of those pollutants that are emitted in their already unhealthful form will be highest. Carbon monoxide (CO) is an example of such a pollutant. Primary pollutant impacts can generally be evaluated directly in comparison to appropriate clean air standards. Violations of these standards where they are currently met, or a measurable worsening of an existing or future violation, would be considered a significant impact. Many particulates, especially fugitive dust emissions, are also primary pollutants. Because of the non-attainment status of the South Coast Air Basin (SCAB) for PM-10, an aggressive dust control program is required to control fugitive dust during Project construction.

Secondary Pollutants

Many pollutants, however, require time to transform from a more benign form to a more unhealthful contaminant. Their impact occurs regionally far from the source. Their incremental regional impact is minute on an individual basis and cannot be quantified except through complex photochemical computer models. Analysis of significance of such emissions is based upon a specified amount of emissions (pounds, tons, etc.) even though there is no way to translate those emissions directly into a corresponding ambient air quality impact.

Because of the chemical complexity of primary versus secondary pollutants, the SCAQMD has designated significant emissions levels as surrogates for evaluating regional air quality impact significance independent of chemical transformation processes. Projects with daily emissions that

exceed any of the following emission thresholds are recommended by the SCAQMD to be considered significant under CEQA guidelines.

Table 5
Daily Emissions Thresholds

Pollutant	Construction	Operations
ROG	75	55
NOx	100	55
CO	550	550
PM-10	150	150
PM-2.5	55	55
SOx	150	150
Lead	3	3

Source: SCAQMD CEQA Air Quality Handbook, November, 1993 Rev.

CONSTRUCTION ACTIVITY IMPACTS

CalEEMod was developed by the SCAQMD to provide a model by which to calculate both construction emissions and operational emissions from a variety of land use Projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions.

The project site is currently developed with light industrial and residential structures totaling 11,264 square feet. All existing structures will be demolished. The project proposes the development of 32,400 square foot of building space with 79 parking spaces. Construction was modeled in CalEEMod2020.4.0 using the construction equipment and schedule for a Project of this size as shown in Table 6.

Table 6
Construction Activity Equipment Fleet

Phase Name and Duration	Equipment
Demo (20 days) 11,264 sf	1 Concrete Saw
	1 Dozer
	3 Loader/Backhoes
Grading (4 days)	1 Grader
	1 Dozer
	2 Loader/Backhoes
Construction (200 days)	1 Crane
	1 Generator Set
	3 Welders
	1 Loader/Backhoe
	1 Forklift
Paving (10 days)	1 Paver
	1 Mixer
	1 Paving Equipment
	1 Loader/Backhoe
	1 Roller

Utilizing this indicated equipment fleet and durations shown in Table 6 the following worst-case daily construction emissions are calculated by CalEEMod and are listed in Table 7.

Table 7
Construction Activity Emissions
Maximum Daily Emissions (pounds/day)

Maximal Construction Emissions	ROG	NOx	CO	SO_2	PM-10	PM-2.5
2022	1.8	17.0	14.6	0.0	3.6	2.0
2023	31.1	12.1	13.8	0.0	0.9	0.6
SCAQMD Thresholds	75	100	550	150	150	55

*Assumes watering 2-3 times per day during grading

Peak daily construction activity emissions are estimated be below SCAQMD CEQA thresholds.

Construction equipment exhaust contains carcinogenic compounds within the diesel exhaust particulates. The toxicity of diesel exhaust is evaluated relative to a 24-hour per day, 365 days per year, 70-year lifetime exposure. The SCAQMD does not generally require the analysis of construction-related diesel emissions relative to health risk due to the short period for which the majority of diesel exhaust would occur. Health risk analyses are typically assessed over a 9-, 30-, or 70-year timeframe and not over a relatively brief construction period due to the lack of health risk associated with such a brief exposure.

LOCALIZED SIGNIFICANCE THRESHOLDS

The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Localized Significance Thresholds (LSTs). LSTs were developed in response to Governing Board's Environmental Justice Enhancement Initiative 1-4 and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005.

Use of an LST analysis for a Project is optional. For the proposed Project, the primary source of possible LST impact would be during construction. LSTs are applicable for a sensitive receptor where it is possible that an individual could remain for 24 hours such as a residence, hospital or convalescent facility.

LSTs are only applicable to the following criteria pollutants: oxides of nitrogen (NOx), carbon monoxide (CO), and particulate matter (PM-10 and PM-2.5). LSTs represent the maximum emissions from a Project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

LST screening tables are available for 25, 50, 100, 200- and 500-meter source-receptor distances. For this Project, there are adjacent residential uses such that the most conservative 25-meter distance was modeled.

The SCAQMD has issued guidance on applying CalEEMod to LSTs. LST pollutant screening level concentration data is currently published for 1, 2- and 5-acre sites for varying distances. For this Project, the most stringent thresholds for a 1-acre site were applied.

The following thresholds and emissions in Table 8 are therefore determined (pounds per day):

Table 8
LST and Project Emissions (pounds/day)

1.0 acre/25 meters Central San Bernardino Valley	CO	NOx	PM-10	PM-2.5
LST Threshold	667	118	4	3
Max On-Site Emissions	12.1	13.8	3.6	2.0

CalEEMod Output in Appendix
*Emissions for LST are limited to those generated on site and do not include regional emissions for on-road truck haul of demolition. Assumes watering 2-3 times per day during the 4 days of grading

LSTs were compared to the maximum daily construction activities. As seen in Table 8, with the watering 2-3 times per day during the 4 days of grading, LST impacts are less-than-significant.

OPERATIONAL IMPACTS

There will be an estimated 19 employees at the site including the truck drivers, office workers and on-site personnel. A typical weekday will experience no more than 150 customers frequenting the recycling facility. The facility will operate 6 trucks averaging 9 truck round trips per day as half (3) of the trucks will return mid-day and depart again. After processing on-site, the baled materials will be loaded onto a truck and transported to the appropriate off-site recycler. An average of two loads of processed (baled) recyclables would be transported from the Recycling Facility per day.

Operational emissions were calculated using CalEEMod2020.4.0 for an assumed completion year of 2023. Only passenger car trips, representing employee trips and recycling center customer trips totaling 364 daily passenger vehicle trips were modeled in CalEEMod.

There is no "recycling center" land use within CaleeMod and CaleeMod is not populated with mileage data for such trips. Emissions data is available in a data base prepared by the California Air Resources Board (CARB), called the EMission FACtors model, or EMFAC. EMFAC2021 is the latest emission inventory model that CARB developed to assess emissions from on-road motor vehicles including cars, trucks, and buses in California.

EMFAC emission rates are based on a grams per mile metric. In order to calculate emissions, the daily mileage data was estimated by the Titan Metal agent. It was assumed that the 6 recycling trucks would make 9 round trips per day (3 would return mid-day and then depart again and return later that afternoon) and that each trip distance could be as high as 100 miles per trip for a total mileage of 900 miles per day by the Projects trucks. The 2 trucks used to transfer recycling bales to off-site facilities were assumed to require a maximum of 40 miles per round trip for total truck travel of 980 miles per day.

EMFAC data for a T7 SWCV Class 8 Heavy-Heavy Duty Solid Waste Collection Truck (GVWR 33001 lbs and over) was modeled. This is one of the most heavily polluting diesel vehicles for which data is available to ensure conservative estimates. The operational impacts are shown in Table 9. Passenger car emissions were derived in CalEEMod while heavy duty truck emissions were calculated with EMFAC. As shown, operational emissions will not exceed applicable

SCAQMD operational emissions CEQA thresholds of significance. This analysis did not take any credit for the existing operation which will be demolished as part of this project.

Table 9
Proposed Uses Daily Operational Impacts (2023)

	Operational Emissions (lbs/day)					
Source	**ROG**	**NOx**	**CO**	**SO_2**	**PM-10**	**PM-2.5**
Area	0.7	0.0	0.0	0.0	0.0	0.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0
Mobile Passenger Cars	0.8	0.7	10.5	0.0	3.0	0.8
Mobile Heavy Truck*	0.1	29.9	0.1	0.1	0.6	0.2
Total	**1.9**	**30.6**	**10.6**	**0.1**	**3.6**	**1.0**
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Output and EMFAC Summary in Appendix
* T7 SWCV Class 8 Heavy-Heavy Duty Solid Waste Collection Truck (GVWR 33001 lbs and over)

CONSTRUCTION EMISSIONS MINIMIZATION

Construction activities are not anticipated to cause dust emissions to exceed SCAQMD CEQA thresholds. Nevertheless, emissions minimization through enhanced dust control measures is recommended for use because of the non-attainment status of the air and proximity of residential uses. Recommended measures include:

Fugitive Dust Control

- Apply soil stabilizers or moisten inactive areas.
- Water exposed surfaces as needed to avoid visible dust leaving the construction site (typically 2-3 times/day).
- Cover all stock piles with tarps at the end of each day or as needed.
- Provide water spray during loading and unloading of earthen materials.
- Minimize in-out traffic from construction zone
- Cover all trucks hauling dirt, sand, or loose material and require all trucks to maintain at least two feet of freeboard
- Sweep streets daily if visible soil material is carried out from the construction site

Similarly, ozone precursor emissions (ROG and NOx) are calculated to be below SCAQMD CEQA thresholds. However, because of the regional non-attainment for photochemical smog, the use of reasonably available control measures for diesel exhaust is recommended. Combustion emissions control options include:

Exhaust Emissions Control

- Utilize well-tuned off-road construction equipment.
- Establish a preference for contractors using Tier 3 or better rated heavy equipment.
- Enforce 5-minute idling limits for both on-road trucks and off-road equipment.

GREENHOUSE GAS EMISSIONS

"Greenhouse gases" (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as "global warming." These greenhouse gases contribute to an increase in the temperature of the earth's atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statues and executive orders (EO) include AB 32, SB 1368, EO S-03-05, EO S-20-06 and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California's reputation as a "national and international leader on energy conservation and environmental stewardship." It will have wide-ranging effects on California businesses and lifestyles as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate "early action" control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California's GHG emissions be reduced to 1990 levels.
- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual, to be achieved by 2020.
- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, from greater use of renewable energy and from increased structural energy efficiency. Additionally, through the California Climate Action Registry (CCAR now called the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been

developed. GHG sources are categorized into direct sources (i.e. company owned) and indirect sources (i.e. not company owned). Direct sources include combustion emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

THRESHOLDS OF SIGNIFICANCE

In response to the requirements of SB97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March, 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A Project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,

- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

Section 15064.4 of the Code specifies how significance of GHG emissions is to be evaluated. The process is broken down into quantification of Project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative or based on performance standards. CEQA guidelines allow the lead agency to "select the model or methodology it considers most appropriate." The most common practice for transportation/combustion GHG emissions quantification is to use a computer model such as CalEEMod, as was used in the ensuing analysis.

The significance of those emissions then must be evaluated; the selection of a threshold of significance must take into consideration what level of GHG emissions would be cumulatively considerable. The guidelines are clear that they do not support a zero net emissions threshold. If the lead agency does not have sufficient expertise in evaluating GHG impacts, it may rely on thresholds adopted by an agency with greater expertise.

On December 5, 2008 the SCAQMD Governing Board adopted an Interim quantitative GHG Significance Threshold for industrial Projects where the SCAQMD is the lead agency (e.g., stationary source permit Projects, rules, plans, etc.) of 10,000 Metric Tons (MT) CO_2 equivalent/year. In the absence of an adopted numerical threshold of significance, Project related GHG emissions in excess of the guideline level are presumed to trigger a requirement for enhanced GHG reduction at the Project level.

PROJECT RELATED GHG EMISSIONS GENERATION

Construction Activity GHG Emissions

CalEEMod assumes the Project construction will overlap a two-year period. During Project construction, the CalEEMod2020.4.0 computer model predicts that the construction activities will generate the annual CO_2e emissions identified in Table 10.

Table 10
Construction Emissions (Metric Tons CO_2e)

	CO_2e
Year 2022	96.4
Year 2023	163.4
Total	259.8
Amortized	**8.7**

CalEEMod Output provided in appendix

SCAQMD GHG emissions policy from construction activities is to amortize emissions over a 30-year lifetime. The amortized level is also provided. GHG impacts from construction are considered individually less-than-significant.

Project Operational GHG Emissions

The input assumptions for operational GHG emissions calculations, and the GHG conversion from consumption to annual regional CO_2e emissions are summarized in the CalEEMod2020.4.0 output files found in the appendix of this report.

The total operational and annualized construction emissions for the proposed Project are identified in Table 11. The Project GHG emissions are considered less-than-significant even using the most stringent threshold. Again, this analysis does not take any credit for existing on-site emissions which would only lessen the Project impact.

Table 11
Operational Emissions
(Metric Tons CO_2e)

Consumption Source	
Area Sources	0.0
Energy Utilization	61.0
Mobile Source Cars	419.0
Mobile Source Trucks	1,452.9
Solid Waste Generation	20.2
Water Consumption	27.6
Construction	8.7
Total	**1,989.4**
Guideline Threshold	10,000

CONSISTENCY WITH GHG PLANS, PROGRAMS AND POLICIES

In March 2014, the San Bernardino Associated Governments and Participating San Bernardino County Cities Partnership (Partnership) created a final draft of the San Bernardino County Regional Greenhouse Gas Reduction Plan (Reduction Plan) for each of the 25 jurisdictional Partner Cities in the County as well as Unincorporated San Bernardino County. The plan was recently updated in March of 2021. The Reduction Plan was created in accordance with AB 32, which established a greenhouse gas limit for the state of California. The Reduction Plan seeks to create an inventory of GHG gases and develop jurisdiction specific GHG reduction measures and baseline information that could be used by the Partnership Cities of San Bernardino County, including the County itself.

Projects that demonstrate consistency with the strategies, actions, and emission reduction targets contained in the Reduction Plan would have a less than significant impact on climate change. The project will generate little GHG emissions as shown in Table 11. The only reduction measure applicable to this project is the effort to increase waste diversion and reduction (Waste-2).

The Project assists in minimizing solid waste ending up in landfills by providing a convenient location for residences to drop off their waste for recycling and providing trucks that will pick up waste from local area businesses. In this manor, the project is GHG positive as it provides a mechanism that will encourage solid waste recycling which in turn eliminates that same waste from ending up in a landfill that generate methane. Therefore, the Project would not conflict with any applicable plan, policy, or regulation to reduce GHG emissions.

CALEEMOD2020.4.0 COMPUTER MODEL OUTPUT

- **DAILY EMISISONS**
- **ANNUAL EMISSIONS**

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

TI-081 Recycling Center San Bernardino County

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	32.40	1000sqft	0.74	32,400.00	0
Parking Lot	79.00	Space	0.71	31,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase -

Demolition - 11264 sf demo

Vehicle Trips - 364 passenger car trips per day
truck trips modeled in EMFAC

Construction Off-road Equipment Mitigation -

Fleet Mix - 50% LDA, 25% LDTi, 25% LDT2
Trucks modeled separately

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.02	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblFleetMix	LDA	0.54	0.50
tblFleetMix	LDT1	0.06	0.25
tblFleetMix	LDT2	0.17	0.25
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.1960e-003	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MH	5.0710e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	5.5900e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5400e-004	0.00
tblVehicleTrips	ST_TR	2.54	11.23
tblVehicleTrips	SU_TR	1.24	11.23
tblVehicleTrips	WD_TR	3.37	11.23

2.0 Emissions Summary

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7804	17.0104	14.5860	0.0270	7.1944	0.8423	7.9372	3.4544	0.7871	4.1378	0.0000	2,622.3018	2,622.3018	0.6481	0.0367	2,646.0918
2023	31.1248	12.1248	13.7737	0.0266	0.3659	0.5186	0.8845	0.0985	0.5007	0.5992	0.0000	2,466.1389	2,466.1389	0.4146	0.0348	2,485.3057
Maximum	**31.1248**	**17.0104**	**14.5860**	**0.0270**	**7.1944**	**0.8423**	**7.9372**	**3.4544**	**0.7871**	**4.1378**	**0.0000**	**2,622.3018**	**2,622.3018**	**0.6481**	**0.0367**	**2,646.0918**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	1.7804	17.0104	14.5860	0.0270	2.8740	0.8423	3.6169	1.3653	0.7871	2.0487	0.0000	2,622.3018	2,622.3018	0.6481	0.0367	2,646.0918
2023	31.1248	12.1248	13.7737	0.0266	0.3659	0.5186	0.8845	0.0985	0.5007	0.5992	0.0000	2,466.1389	2,466.1389	0.4146	0.0348	2,485.3057
Maximum	**31.1248**	**17.0104**	**14.5860**	**0.0270**	**2.8740**	**0.8423**	**3.6169**	**1.3653**	**0.7871**	**2.0487**	**0.0000**	**2,622.3018**	**2,622.3018**	**0.6481**	**0.0367**	**2,646.0918**

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	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	57.15	0.00	48.97	58.80	0.00	44.10	0.00	0.00	0.00	0.00	0.00	0.00

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7385	1.0000e-004	0.0114	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0244	0.0244	6.0000e-005		0.0260
Energy	3.2800e-003	0.0299	0.0251	1.8000e-004		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003		35.8202	35.8202	6.9000e-004	6.6000e-004	36.0330
Mobile	0.7976	0.6776	10.5026	0.0269	3.0201	0.0152	3.0353	0.8006	0.0140	0.8146		2,722.4103	2,722.4103	0.0763	0.0701	2,745.2011
Total	**1.5394**	**0.7076**	**10.5391**	**0.0271**	**3.0201**	**0.0175**	**3.0376**	**0.8006**	**0.0163**	**0.8169**		**2,758.2549**	**2,758.2549**	**0.0770**	**0.0707**	**2,781.2601**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7385	1.0000e-004	0.0114	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0244	0.0244	6.0000e-005		0.0260
Energy	3.2800e-003	0.0299	0.0251	1.8000e-004		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003		35.8202	35.8202	6.9000e-004	6.6000e-004	36.0330
Mobile	0.7976	0.6776	10.5026	0.0269	3.0201	0.0152	3.0353	0.8006	0.0140	0.8146		2,722.4103	2,722.4103	0.0763	0.0701	2,745.2011
Total	**1.5394**	**0.7076**	**10.5391**	**0.0271**	**3.0201**	**0.0175**	**3.0376**	**0.8006**	**0.0163**	**0.8169**		**2,758.2549**	**2,758.2549**	**0.0770**	**0.0707**	**2,781.2601**

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2022	9/28/2022	5	20	
2	Grading	Grading	10/1/2022	10/6/2022	5	4	
3	Building Construction	Building Construction	10/7/2022	7/13/2023	5	200	
4	Paving	Paving	7/14/2023	7/27/2023	5	10	
5	Architectural Coating	Architectural Coating	7/28/2023	8/10/2023	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0.71

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 48,600; Non-Residential Outdoor: 16,200; Striped Parking Area: 1,896 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	51.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	27.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	lb/day										lb/day					
Fugitive Dust					0.5544	0.0000	0.5544	0.0839	0.0000	0.0839			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829		2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.5544**	**0.8379**	**1.3923**	**0.0839**	**0.7829**	**0.8668**		**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.6400e-003	0.3475	0.0907	1.5000e-003	0.0447	3.6500e-003	0.0483	0.0123	3.4900e-003	0.0157		163.3186	163.3186	6.9900e-003	0.0259	171.2059
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
Worker	0.0550	0.0349	0.5348	1.3400e-003	0.1453	7.6000e-004	0.1461	0.0385	7.0000e-004	0.0392		135.5663	135.5663	3.5500e-003	3.4000e-003	136.6669
Total	**0.0647**	**0.3824**	**0.6255**	**2.8400e-003**	**0.1900**	**4.4100e-003**	**0.1944**	**0.0508**	**4.1900e-003**	**0.0550**		**298.8849**	**298.8849**	**0.0105**	**0.0293**	**307.8728**

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2162	0.0000	0.2162	0.0327	0.0000	0.0327			0.0000			0.0000
Off-Road	1.6889	16.6217	13.9605	0.0241		0.8379	0.8379		0.7829	0.7829	0.0000	2,323.4168	2,323.4168	0.5921		2,338.2191
Total	**1.6889**	**16.6217**	**13.9605**	**0.0241**	**0.2162**	**0.8379**	**1.0541**	**0.0327**	**0.7829**	**0.8156**	**0.0000**	**2,323.4168**	**2,323.4168**	**0.5921**		**2,338.2191**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.6400e-003	0.3475	0.0907	1.5000e-003	0.0447	3.6500e-003	0.0483	0.0123	3.4900e-003	0.0157		163.3186	163.3186	6.9900e-003	0.0259	171.2059
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
Worker	0.0550	0.0349	0.5348	1.3400e-003	0.1453	7.6000e-004	0.1461	0.0385	7.0000e-004	0.0392		135.5663	135.5663	3.5500e-003	3.4000e-003	136.6669
Total	**0.0647**	**0.3824**	**0.6255**	**2.8400e-003**	**0.1900**	**4.4100e-003**	**0.1944**	**0.0508**	**4.1900e-003**	**0.0550**		**298.8849**	**298.8849**	**0.0105**	**0.0293**	**307.8728**

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 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	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.5403	16.9836	9.2202	0.0206		0.7423	0.7423		0.6829	0.6829		1,995.4825	1,995.4825	0.6454		2,011.6169
Total	**1.5403**	**16.9836**	**9.2202**	**0.0206**	**7.0826**	**0.7423**	**7.8249**	**3.4247**	**0.6829**	**4.1076**		**1,995.4825**	**1,995.4825**	**0.6454**		**2,011.6169**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.0423	0.0268	0.4114	1.0300e-003	0.1118	5.9000e-004	0.1124	0.0296	5.4000e-004	0.0302		104.2818	104.2818	2.7300e-003	2.6100e-003	105.1284
Total	**0.0423**	**0.0268**	**0.4114**	**1.0300e-003**	**0.1118**	**5.9000e-004**	**0.1124**	**0.0296**	**5.4000e-004**	**0.0302**		**104.2818**	**104.2818**	**2.7300e-003**	**2.6100e-003**	**105.1284**

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7622	0.0000	2.7622	1.3357	0.0000	1.3357			0.0000			0.0000
Off-Road	1.5403	16.9836	9.2202	0.0206		0.7423	0.7423		0.6829	0.6829	0.0000	1,995.4825	1,995.4825	0.6454		2,011.6169
Total	**1.5403**	**16.9836**	**9.2202**	**0.0206**	**2.7622**	**0.7423**	**3.5045**	**1.3357**	**0.6829**	**2.0186**	**0.0000**	**1,995.4825**	**1,995.4825**	**0.6454**		**2,011.6169**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.0423	0.0268	0.4114	1.0300e-003	0.1118	5.9000e-004	0.1124	0.0296	5.4000e-004	0.0302		104.2818	104.2818	2.7300e-003	2.6100e-003	105.1284
Total	**0.0423**	**0.0268**	**0.4114**	**1.0300e-003**	**0.1118**	**5.9000e-004**	**0.1124**	**0.0296**	**5.4000e-004**	**0.0302**		**104.2818**	**104.2818**	**2.7300e-003**	**2.6100e-003**	**105.1284**

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 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	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**		**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0174	0.4379	0.1607	1.8700e-003	0.0641	5.2100e-003	0.0693	0.0185	4.9800e-003	0.0234		200.0688	200.0688	5.4100e-003	0.0296	209.0269
Worker	0.1143	0.0724	1.1107	2.7900e-003	0.3018	1.5800e-003	0.3034	0.0800	1.4600e-003	0.0815		281.5608	281.5608	7.3700e-003	7.0500e-003	283.8466
Total	**0.1317**	**0.5103**	**1.2715**	**4.6600e-003**	**0.3659**	**6.7900e-003**	**0.3727**	**0.0985**	**6.4400e-003**	**0.1049**		**481.6297**	**481.6297**	**0.0128**	**0.0367**	**492.8734**

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**	**0.0000**	**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0174	0.4379	0.1607	1.8700e-003	0.0641	5.2100e-003	0.0693	0.0185	4.9800e-003	0.0234		200.0688	200.0688	5.4100e-003	0.0296	209.0269
Worker	0.1143	0.0724	1.1107	2.7900e-003	0.3018	1.5800e-003	0.3034	0.0800	1.4600e-003	0.0815		281.5608	281.5608	7.3700e-003	7.0500e-003	283.8466
Total	**0.1317**	**0.5103**	**1.2715**	**4.6600e-003**	**0.3659**	**6.7900e-003**	**0.3727**	**0.0985**	**6.4400e-003**	**0.1049**		**481.6297**	**481.6297**	**0.0128**	**0.0367**	**492.8734**

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 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	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968		2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**		**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0117	0.3508	0.1472	1.7900e-003	0.0641	2.6400e-003	0.0667	0.0185	2.5200e-003	0.0210		191.9182	191.9182	5.0200e-003	0.0283	200.4892
Worker	0.1055	0.0637	1.0155	2.7000e-003	0.3018	1.4900e-003	0.3033	0.0800	1.3700e-003	0.0814		272.4330	272.4330	6.5900e-003	6.4900e-003	274.5308
Total	**0.1172**	**0.4144**	**1.1626**	**4.4900e-003**	**0.3659**	**4.1300e-003**	**0.3700**	**0.0985**	**3.8900e-003**	**0.1024**		**464.3512**	**464.3512**	**0.0116**	**0.0348**	**475.0200**

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5233	11.7104	12.6111	0.0221		0.5145	0.5145		0.4968	0.4968	0.0000	2,001.7877	2,001.7877	0.3399		2,010.2858
Total	**1.5233**	**11.7104**	**12.6111**	**0.0221**		**0.5145**	**0.5145**		**0.4968**	**0.4968**	**0.0000**	**2,001.7877**	**2,001.7877**	**0.3399**		**2,010.2858**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0117	0.3508	0.1472	1.7900e-003	0.0641	2.6400e-003	0.0667	0.0185	2.5200e-003	0.0210		191.9182	191.9182	5.0200e-003	0.0283	200.4892
Worker	0.1055	0.0637	1.0155	2.7000e-003	0.3018	1.4900e-003	0.3033	0.0800	1.3700e-003	0.0814		272.4330	272.4330	6.5900e-003	6.4900e-003	274.5308
Total	**0.1172**	**0.4144**	**1.1626**	**4.4900e-003**	**0.3659**	**4.1300e-003**	**0.3700**	**0.0985**	**3.8900e-003**	**0.1024**		**464.3512**	**464.3512**	**0.0116**	**0.0348**	**475.0200**

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 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	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846		1,297.6880	1,297.6880	0.4114		1,307.9725
Paving	0.1860					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8306**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**		**1,297.6880**	**1,297.6880**	**0.4114**		**1,307.9725**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.0508	0.0307	0.4889	1.3000e-003	0.1453	7.2000e-004	0.1460	0.0385	6.6000e-004	0.0392		131.1715	131.1715	3.1700e-003	3.1200e-003	132.1815
Total	**0.0508**	**0.0307**	**0.4889**	**1.3000e-003**	**0.1453**	**7.2000e-004**	**0.1460**	**0.0385**	**6.6000e-004**	**0.0392**		**131.1715**	**131.1715**	**3.1700e-003**	**3.1200e-003**	**132.1815**

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6446	6.2357	8.8024	0.0136		0.3084	0.3084		0.2846	0.2846	0.0000	1,297.6880	1,297.6880	0.4114		1,307.9725
Paving	0.1860					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8306**	**6.2357**	**8.8024**	**0.0136**		**0.3084**	**0.3084**		**0.2846**	**0.2846**	**0.0000**	**1,297.6880**	**1,297.6880**	**0.4114**		**1,307.9725**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.0508	0.0307	0.4889	1.3000e-003	0.1453	7.2000e-004	0.1460	0.0385	6.6000e-004	0.0392		131.1715	131.1715	3.1700e-003	3.1200e-003	132.1815
Total	**0.0508**	**0.0307**	**0.4889**	**1.3000e-003**	**0.1453**	**7.2000e-004**	**0.1460**	**0.0385**	**6.6000e-004**	**0.0392**		**131.1715**	**131.1715**	**3.1700e-003**	**3.1200e-003**	**132.1815**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 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	lb/day										lb/day					
Archit. Coating	30.9136					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**31.1053**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.0195	0.0118	0.1881	5.0000e-004	0.0559	2.8000e-004	0.0562	0.0148	2.5000e-004	0.0151		50.4506	50.4506	1.2200e-003	1.2000e-003	50.8390
Total	**0.0195**	**0.0118**	**0.1881**	**5.0000e-004**	**0.0559**	**2.8000e-004**	**0.0562**	**0.0148**	**2.5000e-004**	**0.0151**		**50.4506**	**50.4506**	**1.2200e-003**	**1.2000e-003**	**50.8390**

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	30.9136					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**31.1053**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	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
Worker	0.0195	0.0118	0.1881	5.0000e-004	0.0559	2.8000e-004	0.0562	0.0148	2.5000e-004	0.0151		50.4506	50.4506	1.2200e-003	1.2000e-003	50.8390
Total	**0.0195**	**0.0118**	**0.1881**	**5.0000e-004**	**0.0559**	**2.8000e-004**	**0.0562**	**0.0148**	**2.5000e-004**	**0.0151**		**50.4506**	**50.4506**	**1.2200e-003**	**1.2000e-003**	**50.8390**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7976	0.6776	10.5026	0.0269	3.0201	0.0152	3.0353	0.8006	0.0140	0.8146		2,722.4103	2,722.4103	0.0763	0.0701	2,745.2011
Unmitigated	0.7976	0.6776	10.5026	0.0269	3.0201	0.0152	3.0353	0.8006	0.0140	0.8146		2,722.4103	2,722.4103	0.0763	0.0701	2,745.2011

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	363.85	363.85	363.85	1,446,998	1,446,998
Parking Lot	0.00	0.00	0.00		
Total	363.85	363.85	363.85	1,446,998	1,446,998

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
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	79	19	2
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Industrial Park	0.500000	0.250000	0.250000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Parking Lot	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.2800e-003	0.0299	0.0251	1.8000e-004		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003		35.8202	35.8202	6.9000e-004	6.6000e-004	36.0330
NaturalGas Unmitigated	3.2800e-003	0.0299	0.0251	1.8000e-004		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003		35.8202	35.8202	6.9000e-004	6.6000e-004	36.0330

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Industrial Park	304.471	3.2800e-003	0.0299	0.0251	1.8000e-004		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003		35.8202	35.8202	6.9000e-004	6.6000e-004	36.0330
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.2800e-003**	**0.0299**	**0.0251**	**1.8000e-004**		**2.2700e-003**	**2.2700e-003**		**2.2700e-003**	**2.2700e-003**		**35.8202**	**35.8202**	**6.9000e-004**	**6.6000e-004**	**36.0330**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Industrial Park	0.304471	3.2800e-003	0.0299	0.0251	1.8000e-004		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003		35.8202	35.8202	6.9000e-004	6.6000e-004	36.0330
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.2800e-003**	**0.0299**	**0.0251**	**1.8000e-004**		**2.2700e-003**	**2.2700e-003**		**2.2700e-003**	**2.2700e-003**		**35.8202**	**35.8202**	**6.9000e-004**	**6.6000e-004**	**36.0330**

6.0 Area Detail

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	lb/day										lb/day					
Mitigated	0.7385	1.0000e-004	0.0114	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0244	0.0244	6.0000e-005		0.0260
Unmitigated	0.7385	1.0000e-004	0.0114	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0244	0.0244	6.0000e-005		0.0260

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0847					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6527					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0500e-003	1.0000e-004	0.0114	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0244	0.0244	6.0000e-005		0.0260
Total	**0.7385**	**1.0000e-004**	**0.0114**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0244**	**0.0244**	**6.0000e-005**		**0.0260**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0847					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6527					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0500e-003	1.0000e-004	0.0114	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0244	0.0244	6.0000e-005		0.0260
Total	**0.7385**	**1.0000e-004**	**0.0114**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0244**	**0.0244**	**6.0000e-005**		**0.0260**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	32.40	1000sqft	0.74	32,400.00	0
Parking Lot	79.00	Space	0.71	31,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase -

Demolition - 11264 sf demo

Vehicle Trips - 364 passenger car trips per day
truck trips modeled in EMFAC

Construction Off-road Equipment Mitigation -

Fleet Mix - 50% LDA, 25% LDTi, 25% LDT2
Trucks modeled separately

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.02	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblFleetMix	LDA	0.54	0.50
tblFleetMix	LDT1	0.06	0.25
tblFleetMix	LDT2	0.17	0.25
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.1960e-003	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MH	5.0710e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	5.5900e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5400e-004	0.00
tblVehicleTrips	ST_TR	2.54	11.23
tblVehicleTrips	SU_TR	1.24	11.23
tblVehicleTrips	WD_TR	3.37	11.23

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.0745	0.6021	0.5866	1.1200e-003	0.0328	0.0281	0.0608	0.0112	0.0268	0.0380	0.0000	95.6067	95.6067	0.0166	1.3000e-003	96.4106
2023	0.2732	0.8823	1.0037	1.9200e-003	0.0260	0.0380	0.0639	6.9900e-003	0.0366	0.0436	0.0000	162.1186	162.1186	0.0241	2.2500e-003	163.3915
Maximum	**0.2732**	**0.8823**	**1.0037**	**1.9200e-003**	**0.0328**	**0.0380**	**0.0639**	**0.0112**	**0.0366**	**0.0436**	**0.0000**	**162.1186**	**162.1186**	**0.0241**	**2.2500e-003**	**163.3915**

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	0.0745	0.6021	0.5866	1.1200e-003	0.0207	0.0281	0.0488	6.5100e-003	0.0268	0.0333	0.0000	95.6066	95.6066	0.0166	1.3000e-003	96.4105
2023	0.2732	0.8823	1.0037	1.9200e-003	0.0260	0.0380	0.0639	6.9900e-003	0.0366	0.0436	0.0000	162.1185	162.1185	0.0241	2.2500e-003	163.3914
Maximum	**0.2732**	**0.8823**	**1.0037**	**1.9200e-003**	**0.0260**	**0.0380**	**0.0639**	**6.9900e-003**	**0.0366**	**0.0436**	**0.0000**	**162.1185**	**162.1185**	**0.0241**	**2.2500e-003**	**163.3914**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	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**	**20.49**	**0.00**	**9.64**	**25.78**	**0.00**	**5.75**	**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	**9-1-2022**	**11-30-2022**	0.5184	0.5184
2	**12-1-2022**	**2-28-2023**	0.4545	0.4545
3	**3-1-2023**	**5-31-2023**	0.4525	0.4525
4	**6-1-2023**	**8-31-2023**	0.4093	0.4093
		Highest	0.5184	0.5184

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	0.1347	1.0000e-005	1.4200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7600e-003	2.7600e-003	1.0000e-005	0.0000	2.9500e-003
Energy	6.0000e-004	5.4500e-003	4.5800e-003	3.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	60.6976	60.6976	4.7400e-003	6.7000e-004	61.0153
Mobile	0.1178	0.1355	1.6722	4.5300e-003	0.5392	2.7600e-003	0.5419	0.1431	2.5400e-003	0.1457	0.0000	414.9960	414.9960	0.0131	0.0123	418.9888
Waste						0.0000	0.0000		0.0000	0.0000	8.1562	0.0000	8.1562	0.4820	0.0000	20.2066
Water						0.0000	0.0000		0.0000	0.0000	2.3770	17.3018	19.6788	0.2456	5.9400e-003	27.5896
Total	**0.2531**	**0.1410**	**1.6782**	**4.5600e-003**	**0.5392**	**3.1800e-003**	**0.5424**	**0.1431**	**2.9600e-003**	**0.1461**	**10.5332**	**492.9982**	**503.5314**	**0.7454**	**0.0189**	**527.8032**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1347	1.0000e-005	1.4200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7600e-003	2.7600e-003	1.0000e-005	0.0000	2.9500e-003
Energy	6.0000e-004	5.4500e-003	4.5800e-003	3.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	60.6976	60.6976	4.7400e-003	6.7000e-004	61.0153
Mobile	0.1178	0.1355	1.6722	4.5300e-003	0.5392	2.7600e-003	0.5419	0.1431	2.5400e-003	0.1457	0.0000	414.9960	414.9960	0.0131	0.0123	418.9888
Waste						0.0000	0.0000		0.0000	0.0000	8.1562	0.0000	8.1562	0.4820	0.0000	20.2066
Water						0.0000	0.0000		0.0000	0.0000	2.3770	17.3018	19.6788	0.2456	5.9400e-003	27.5896
Total	**0.2531**	**0.1410**	**1.6782**	**4.5600e-003**	**0.5392**	**3.1800e-003**	**0.5424**	**0.1431**	**2.9600e-003**	**0.1461**	**10.5332**	**492.9982**	**503.5314**	**0.7454**	**0.0189**	**527.8032**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2022	9/28/2022	5	20	
2	Grading	Grading	10/1/2022	10/6/2022	5	4	
3	Building Construction	Building Construction	10/7/2022	7/13/2023	5	200	

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4	Paving	Paving	7/14/2023	7/27/2023	5	10	
5	Architectural Coating	Architectural Coating	7/28/2023	8/10/2023	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0.71

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 48,600; Non-Residential Outdoor: 16,200; Striped Parking Area: 1,896 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	51.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	27.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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					5.5400e-003	0.0000	5.5400e-003	8.4000e-004	0.0000	8.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1662	0.1396	2.4000e-004		8.3800e-003	8.3800e-003		7.8300e-003	7.8300e-003	0.0000	21.0777	21.0777	5.3700e-003	0.0000	21.2120
Total	**0.0169**	**0.1662**	**0.1396**	**2.4000e-004**	**5.5400e-003**	**8.3800e-003**	**0.0139**	**8.4000e-004**	**7.8300e-003**	**8.6700e-003**	**0.0000**	**21.0777**	**21.0777**	**5.3700e-003**	**0.0000**	**21.2120**

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3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.6700e-003	9.2000e-004	2.0000e-005	4.4000e-004	4.0000e-005	4.8000e-004	1.2000e-004	3.0000e-005	1.6000e-004	0.0000	1.4821	1.4821	6.0000e-005	2.3000e-004	1.5536
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.8000e-004	4.6100e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1360	1.1360	3.0000e-005	3.0000e-005	1.1466
Total	**5.8000e-004**	**4.0500e-003**	**5.5300e-003**	**3.0000e-005**	**1.8700e-003**	**5.0000e-005**	**1.9100e-003**	**5.0000e-004**	**4.0000e-005**	**5.5000e-004**	**0.0000**	**2.6181**	**2.6181**	**9.0000e-005**	**2.6000e-004**	**2.7003**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1600e-003	0.0000	2.1600e-003	3.3000e-004	0.0000	3.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1662	0.1396	2.4000e-004		8.3800e-003	8.3800e-003		7.8300e-003	7.8300e-003	0.0000	21.0777	21.0777	5.3700e-003	0.0000	21.2119
Total	**0.0169**	**0.1662**	**0.1396**	**2.4000e-004**	**2.1600e-003**	**8.3800e-003**	**0.0105**	**3.3000e-004**	**7.8300e-003**	**8.1600e-003**	**0.0000**	**21.0777**	**21.0777**	**5.3700e-003**	**0.0000**	**21.2119**

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3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.6700e-003	9.2000e-004	2.0000e-005	4.4000e-004	4.0000e-005	4.8000e-004	1.2000e-004	3.0000e-005	1.6000e-004	0.0000	1.4821	1.4821	6.0000e-005	2.3000e-004	1.5536
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.8000e-004	4.6100e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1360	1.1360	3.0000e-005	3.0000e-005	1.1466
Total	**5.8000e-004**	**4.0500e-003**	**5.5300e-003**	**3.0000e-005**	**1.8700e-003**	**5.0000e-005**	**1.9100e-003**	**5.0000e-004**	**4.0000e-005**	**5.5000e-004**	**0.0000**	**2.6181**	**2.6181**	**9.0000e-005**	**2.6000e-004**	**2.7003**

3.3 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					0.0142	0.0000	0.0142	6.8500e-003	0.0000	6.8500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0800e-003	0.0340	0.0184	4.0000e-005		1.4800e-003	1.4800e-003		1.3700e-003	1.3700e-003	0.0000	3.6205	3.6205	1.1700e-003	0.0000	3.6498
Total	**3.0800e-003**	**0.0340**	**0.0184**	**4.0000e-005**	**0.0142**	**1.4800e-003**	**0.0157**	**6.8500e-003**	**1.3700e-003**	**8.2200e-003**	**0.0000**	**3.6205**	**3.6205**	**1.1700e-003**	**0.0000**	**3.6498**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	7.1000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1748	0.1748	1.0000e-005	1.0000e-005	0.1764
Total	**8.0000e-005**	**6.0000e-005**	**7.1000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1748**	**0.1748**	**1.0000e-005**	**1.0000e-005**	**0.1764**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.5200e-003	0.0000	5.5200e-003	2.6700e-003	0.0000	2.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0800e-003	0.0340	0.0184	4.0000e-005		1.4800e-003	1.4800e-003		1.3700e-003	1.3700e-003	0.0000	3.6205	3.6205	1.1700e-003	0.0000	3.6498
Total	**3.0800e-003**	**0.0340**	**0.0184**	**4.0000e-005**	**5.5200e-003**	**1.4800e-003**	**7.0000e-003**	**2.6700e-003**	**1.3700e-003**	**4.0400e-003**	**0.0000**	**3.6205**	**3.6205**	**1.1700e-003**	**0.0000**	**3.6498**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	7.1000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1748	0.1748	1.0000e-005	1.0000e-005	0.1764
Total	**8.0000e-005**	**6.0000e-005**	**7.1000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1748**	**0.1748**	**1.0000e-005**	**1.0000e-005**	**0.1764**

3.4 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	0.0503	0.3813	0.3882	6.7000e-004		0.0180	0.0180		0.0174	0.0174	0.0000	55.3810	55.3810	9.6500e-003	0.0000	55.6221
Total	**0.0503**	**0.3813**	**0.3882**	**6.7000e-004**		**0.0180**	**0.0180**		**0.0174**	**0.0174**	**0.0000**	**55.3810**	**55.3810**	**9.6500e-003**	**0.0000**	**55.6221**

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3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.2000e-004	0.0141	4.9800e-003	6.0000e-005	1.9200e-003	1.6000e-004	2.0800e-003	5.6000e-004	1.5000e-004	7.1000e-004	0.0000	5.5383	5.5383	1.5000e-004	8.2000e-004	5.7865
Worker	3.1000e-003	2.4400e-003	0.0292	8.0000e-005	9.0300e-003	5.0000e-005	9.0800e-003	2.4000e-003	4.0000e-005	2.4400e-003	0.0000	7.1964	7.1964	2.1000e-004	2.1000e-004	7.2635
Total	**3.6200e-003**	**0.0165**	**0.0342**	**1.4000e-004**	**0.0110**	**2.1000e-004**	**0.0112**	**2.9600e-003**	**1.9000e-004**	**3.1500e-003**	**0.0000**	**12.7347**	**12.7347**	**3.6000e-004**	**1.0300e-003**	**13.0500**

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	0.0503	0.3813	0.3882	6.7000e-004		0.0180	0.0180		0.0174	0.0174	0.0000	55.3809	55.3809	9.6500e-003	0.0000	55.6220
Total	**0.0503**	**0.3813**	**0.3882**	**6.7000e-004**		**0.0180**	**0.0180**		**0.0174**	**0.0174**	**0.0000**	**55.3809**	**55.3809**	**9.6500e-003**	**0.0000**	**55.6220**

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3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.2000e-004	0.0141	4.9800e-003	6.0000e-005	1.9200e-003	1.6000e-004	2.0800e-003	5.6000e-004	1.5000e-004	7.1000e-004	0.0000	5.5383	5.5383	1.5000e-004	8.2000e-004	5.7865
Worker	3.1000e-003	2.4400e-003	0.0292	8.0000e-005	9.0300e-003	5.0000e-005	9.0800e-003	2.4000e-003	4.0000e-005	2.4400e-003	0.0000	7.1964	7.1964	2.1000e-004	2.1000e-004	7.2635
Total	**3.6200e-003**	**0.0165**	**0.0342**	**1.4000e-004**	**0.0110**	**2.1000e-004**	**0.0112**	**2.9600e-003**	**1.9000e-004**	**3.1500e-003**	**0.0000**	**12.7347**	**12.7347**	**3.6000e-004**	**1.0300e-003**	**13.0500**

3.4 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	0.1059	0.8139	0.8765	1.5300e-003		0.0358	0.0358		0.0345	0.0345	0.0000	126.2114	126.2114	0.0214	0.0000	126.7472
Total	**0.1059**	**0.8139**	**0.8765**	**1.5300e-003**		**0.0358**	**0.0358**		**0.0345**	**0.0345**	**0.0000**	**126.2114**	**126.2114**	**0.0214**	**0.0000**	**126.7472**

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3.4 Building Construction - 2023

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	7.8000e-004	0.0256	0.0104	1.2000e-004	4.3800e-003	1.8000e-004	4.5700e-003	1.2700e-003	1.8000e-004	1.4400e-003	0.0000	12.1127	12.1127	3.2000e-004	1.7900e-003	12.6540
Worker	6.5300e-003	4.8800e-003	0.0609	1.7000e-004	0.0206	1.0000e-004	0.0207	5.4600e-003	1.0000e-004	5.5600e-003	0.0000	15.8706	15.8706	4.2000e-004	4.4000e-004	16.0110
Total	**7.3100e-003**	**0.0305**	**0.0713**	**2.9000e-004**	**0.0250**	**2.8000e-004**	**0.0253**	**6.7300e-003**	**2.8000e-004**	**7.0000e-003**	**0.0000**	**27.9832**	**27.9832**	**7.4000e-004**	**2.2300e-003**	**28.6650**

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	0.1059	0.8139	0.8765	1.5300e-003		0.0358	0.0358		0.0345	0.0345	0.0000	126.2112	126.2112	0.0214	0.0000	126.7470
Total	**0.1059**	**0.8139**	**0.8765**	**1.5300e-003**		**0.0358**	**0.0358**		**0.0345**	**0.0345**	**0.0000**	**126.2112**	**126.2112**	**0.0214**	**0.0000**	**126.7470**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

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	7.8000e-004	0.0256	0.0104	1.2000e-004	4.3800e-003	1.8000e-004	4.5700e-003	1.2700e-003	1.8000e-004	1.4400e-003	0.0000	12.1127	12.1127	3.2000e-004	1.7900e-003	12.6540
Worker	6.5300e-003	4.8800e-003	0.0609	1.7000e-004	0.0206	1.0000e-004	0.0207	5.4600e-003	1.0000e-004	5.5600e-003	0.0000	15.8706	15.8706	4.2000e-004	4.4000e-004	16.0110
Total	**7.3100e-003**	**0.0305**	**0.0713**	**2.9000e-004**	**0.0250**	**2.8000e-004**	**0.0253**	**6.7300e-003**	**2.8000e-004**	**7.0000e-003**	**0.0000**	**27.9832**	**27.9832**	**7.4000e-004**	**2.2300e-003**	**28.6650**

3.5 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	3.2200e-003	0.0312	0.0440	7.0000e-005		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329
Paving	9.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.1500e-003**	**0.0312**	**0.0440**	**7.0000e-005**		**1.5400e-003**	**1.5400e-003**		**1.4200e-003**	**1.4200e-003**	**0.0000**	**5.8862**	**5.8862**	**1.8700e-003**	**0.0000**	**5.9329**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.7000e-004	2.1100e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5497	0.5497	1.0000e-005	2.0000e-005	0.5546
Total	**2.3000e-004**	**1.7000e-004**	**2.1100e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5497**	**0.5497**	**1.0000e-005**	**2.0000e-005**	**0.5546**

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	3.2200e-003	0.0312	0.0440	7.0000e-005		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329
Paving	9.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.1500e-003**	**0.0312**	**0.0440**	**7.0000e-005**		**1.5400e-003**	**1.5400e-003**		**1.4200e-003**	**1.4200e-003**	**0.0000**	**5.8862**	**5.8862**	**1.8700e-003**	**0.0000**	**5.9329**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.7000e-004	2.1100e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5497	0.5497	1.0000e-005	2.0000e-005	0.5546
Total	**2.3000e-004**	**1.7000e-004**	**2.1100e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5497**	**0.5497**	**1.0000e-005**	**2.0000e-005**	**0.5546**

3.6 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	0.1546					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
Total	**0.1555**	**6.5100e-003**	**9.0600e-003**	**1.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2785**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2023

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	9.0000e-005	6.0000e-005	8.1000e-004	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2114	0.2114	1.0000e-005	1.0000e-005	0.2133
Total	**9.0000e-005**	**6.0000e-005**	**8.1000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2114**	**0.2114**	**1.0000e-005**	**1.0000e-005**	**0.2133**

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	0.1546					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
Total	**0.1555**	**6.5100e-003**	**9.0600e-003**	**1.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2785**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2023

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	9.0000e-005	6.0000e-005	8.1000e-004	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2114	0.2114	1.0000e-005	1.0000e-005	0.2133
Total	**9.0000e-005**	**6.0000e-005**	**8.1000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2114**	**0.2114**	**1.0000e-005**	**1.0000e-005**	**0.2133**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.1178	0.1355	1.6722	4.5300e-003	0.5392	2.7600e-003	0.5419	0.1431	2.5400e-003	0.1457	0.0000	414.9960	414.9960	0.0131	0.0123	418.9888
Unmitigated	0.1178	0.1355	1.6722	4.5300e-003	0.5392	2.7600e-003	0.5419	0.1431	2.5400e-003	0.1457	0.0000	414.9960	414.9960	0.0131	0.0123	418.9888

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	363.85	363.85	363.85	1,446,998	1,446,998
Parking Lot	0.00	0.00	0.00		
Total	363.85	363.85	363.85	1,446,998	1,446,998

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
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	79	19	2
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Industrial Park	0.500000	0.250000	0.250000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Parking Lot	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

5.0 Energy Detail

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	54.7671	54.7671	4.6200e-003	5.6000e-004	55.0497
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	54.7671	54.7671	4.6200e-003	5.6000e-004	55.0497
NaturalGas Mitigated	6.0000e-004	5.4500e-003	4.5800e-003	3.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	5.9304	5.9304	1.1000e-004	1.1000e-004	5.9657
NaturalGas Unmitigated	6.0000e-004	5.4500e-003	4.5800e-003	3.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	5.9304	5.9304	1.1000e-004	1.1000e-004	5.9657

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					
Industrial Park	111132	6.0000e-004	5.4500e-003	4.5800e-003	3.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	5.9304	5.9304	1.1000e-004	1.1000e-004	5.9657
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**6.0000e-004**	**5.4500e-003**	**4.5800e-003**	**3.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**5.9304**	**5.9304**	**1.1000e-004**	**1.1000e-004**	**5.9657**

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					
Industrial Park	111132	6.0000e-004	5.4500e-003	4.5800e-003	3.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	5.9304	5.9304	1.1000e-004	1.1000e-004	5.9657
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**6.0000e-004**	**5.4500e-003**	**4.5800e-003**	**3.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**5.9304**	**5.9304**	**1.1000e-004**	**1.1000e-004**	**5.9657**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	297756	52.8057	4.4600e-003	5.4000e-004	53.0781
Parking Lot	11060	1.9614	1.7000e-004	2.0000e-005	1.9716
Total		**54.7671**	**4.6300e-003**	**5.6000e-004**	**55.0497**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	297756	52.8057	4.4600e-003	5.4000e-004	53.0781
Parking Lot	11060	1.9614	1.7000e-004	2.0000e-005	1.9716
Total		**54.7671**	**4.6300e-003**	**5.6000e-004**	**55.0497**

6.0 Area Detail

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	0.1347	1.0000e-005	1.4200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7600e-003	2.7600e-003	1.0000e-005	0.0000	2.9500e-003
Unmitigated	0.1347	1.0000e-005	1.4200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7600e-003	2.7600e-003	1.0000e-005	0.0000	2.9500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0155					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1191					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3000e-004	1.0000e-005	1.4200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7600e-003	2.7600e-003	1.0000e-005	0.0000	2.9500e-003
Total	**0.1347**	**1.0000e-005**	**1.4200e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.7600e-003**	**2.7600e-003**	**1.0000e-005**	**0.0000**	**2.9500e-003**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0155					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1191					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3000e-004	1.0000e-005	1.4200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7600e-003	2.7600e-003	1.0000e-005	0.0000	2.9500e-003
Total	**0.1347**	**1.0000e-005**	**1.4200e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.7600e-003**	**2.7600e-003**	**1.0000e-005**	**0.0000**	**2.9500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	19.6788	0.2456	5.9400e-003	27.5896
Unmitigated	19.6788	0.2456	5.9400e-003	27.5896

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	7.4925 / 0	19.6788	0.2456	5.9400e-003	27.5896
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**19.6788**	**0.2456**	**5.9400e-003**	**27.5896**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	7.4925 / 0	19.6788	0.2456	5.9400e-003	27.5896
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**19.6788**	**0.2456**	**5.9400e-003**	**27.5896**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	8.1562	0.4820	0.0000	20.2066
Unmitigated	8.1562	0.4820	0.0000	20.2066

TI-081 Recycling Center San Bernardino County - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	40.18	8.1562	0.4820	0.0000	20.2066
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**8.1562**	**0.4820**	**0.0000**	**20.2066**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	40.18	8.1562	0.4820	0.0000	20.2066
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**8.1562**	**0.4820**	**0.0000**	**20.2066**

9.0 Operational Offroad

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

Source: EMFAC2021 (v1.0.1) Emission Rates
Region Type: County
Region: San Bernardino
Calendar Year: 2021, 2023, 2024, 2025
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

T7 SWCV Class 8 Heavy-Heavy Duty Solid Waste Collection Truck (GVWR 33001 lbs and over)

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	NOx_RUNEX	NOx_IDLEX	NOx_STREX	M2.5_RUNE	M2.5_IDLE	M2.5_STRE	PM2.5_PMTW	M2.5_PMBV	M10_RUNE	M10_IDLE	M10_STRE	M10_PMTV	M10_PMBW
San Bernardi	2023	T7 SWCV C	Aggregate	Aggregate	Diesel	13.37	59.97	0.49	0.01	0.11	0.00	0.01	0.07	0.01	0.11	0.00	0.04	0.21
		1-Way	RT	Daily Miles	lbs/day	28.8	1.1	0.01	0.03	0.00		0.00	0.16	0.03	0.00		0.08	0.45
6 trucks	9 trips	50	100	900	Total	29.89			0.19					0.56				
2 trucks	2 trips	20	40	80														
Daily trucks	daily trips			**980**														
8	11																	

CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNE	CH4_IDLEX	CH4_STREX	ROG_STREX	OG_HOTSOA	OG_RUNLOS	ROG_DIURN	TOG_RUNE	TOG_IDLEX	TOG_STREX	G_HOTSO	OG_RUNLO	TOG_DIURN	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNEX	SOx_IDLEX
3660.17	3960.37	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	1.07	0.00	0.00	0.00	0.00	0.04	0.01	5.23	0.00	0.03	0.04
7891.32	69.70																0.02	0.09		0.07	0
7961.03																	0.12			0.07	

SUMMARY

	Tons/yr						
	ROG	NOx	CO	SO_2	PM-10	PM-2.5	CO2
lbs/day	0.1	29.9	0.1	0.1	0.6	0.2	1,452.89

Run Ex CaleeMod HHD

	NOx	CO	PM-10	PM2.5	ROG
Run	2.154504	0.330156	0.025971	0.024847	0.023511
Idle	7.123368	8.668401	0.003035	0.002904	0.584779
Strex	2.326316	0.002322	0.000001	0.000001	0.000001