Appendix A:
Air Quality, Greenhouse Gas Emissions, and Energy Supporting Information

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A.1 - Air Quality Impact Analysis

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Mapes & Sherman Commerce Center (DEV2022-003)

Air Quality Impact Analysis

City of Menifee

PREPARED BY:

Haseeb Qureshi
hqureshi@urbanxroads.com

Alyssa Barnett
abarnett@urbanxroads.com

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LIST OF ABBREVIATED TERMS

%	Percent
°F	Degrees Fahrenheit
(1)	Reference
$\mu g/m^3$	Microgram per Cubic Meter
1992 CO Plan	*1992 Federal Attainment Plan for Carbon Monoxide*
1993 CEQA Handbook	*SCAQMD's CEQA Air Quality Handbook (1993)*
2016-2040 RTP/SCS	*2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*
AB 2595	California Clean Air Act
AQIA	Air Quality Impact Analysis
AQMP	Air Quality Management Plan
BACT	Best Available Control Technology
BC	Black Carbon
Brief	*Brief of Amicus Curiae by the SCAQMD in the Friant Ranch Case*
C_2Cl_4	Perchloroethylene
C_4H_6	1,3-butadiene
C_6H_6	Benzene
C_2H_3Cl	Vinyl Chloride
C_2H_4O	Acetaldehyde
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CEQA Guidelines	*2019 CEQA Statute and Guidelines*
CH_2O	Formaldehyde
City	City of Menifee
CO	Carbon Monoxide
COH	Coefficient of Haze

COHb	Carboxyhemoglobin
Cr(VI)	Chromium
CTP	Clean Truck Program
DPM	Diesel Particulate Matter
DRRP	Diesel Risk Reduction Plan
EC	Elemental Carbon
EIR	Environmental Impact Report
EMFAC	Emissions FACtor Model
EPA	Environmental Protection Agency
ETW	Equivalent Test Weight
EV	Electric Vehicle
GHG	Greenhouse Gas
GVWR	Gross Vehicle Weight Rating
H_2S	Hydrogen Sulfide
HDT	Heavy-Duty Trucks
HHDT	Heavy-Heavy-Duty Trucks
HI	Hazard Index
hp	Horsepower
I-215	Interstate 215
lbs	Pounds
lbs/day	Pounds Per Day
LDA	Light Duty Auto
LDT1/LDT2	Light-Duty Trucks
LHDT1/LHDT2	Light-Heavy-Duty Trucks
LST	Localized Significance Threshold
LST Methodology	*Final Localized Significance Threshold Methodology*
MATES	Multiple Air Toxics Exposure Study
MCY	Motorcycles
MDV	Medium-Duty Vehicles
MHDT	Medium-Heavy-Duty Trucks
MICR	Maximum Individual Cancer Risk
MM	Mitigation Measures
mph	Miles Per Hour
MWELO	California Department of Water Resources' Model Water Efficient
N_2	Nitrogen
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards

NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
O_2	Oxygen
O_3	Ozone
O_2 Deficiency	Chronic Hypoxemia
OBD-II	On-Board Diagnostic
ODC	Ozone Depleting Compounds
Pb	Lead
PM	Particulate Matter
PM_{10}	Particulate Matter 10 microns in diameter or less
$PM_{2.5}$	Particulate Matter 2.5 microns in diameter or less
POLA	Port of Los Angeles
POLB	Port of Long Beach
ppm	Parts Per Million
Project	Mapes & Sherman Commerce Center (DEV2022-003)
RECLAIM	Regional Clean Air Incentives Market
RFG-2	Reformulated Gasoline Regulation
ROG	Reactive Organic Gases
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
sf	Square Feet
SIPs	State Implementation Plans
SO_2	Sulfur Dioxide
SO_4	Sulfates
SO_X	Sulfur Oxides
SR-74	State Route 74
SRA	Source Receptor Area
TAC	Toxic Air Contaminant
Title 24	California Building Code
TITLE I	Non-Attainment Provisions
TITLE II	Mobile Sources Provisions
UFP	Ultrafine Particles
URBEMIS	URBan EMISsions
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds

vph	Vehicles Per Hour

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Mapes & Sherman Commerce Center (DEV2022-003) Air Quality Impact Analysis* (AQIA) are summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the *CEQA Guidelines* (*CEQA Guidelines*) (1). Table ES-1 shows the findings of significance for each potential air quality impact under CEQA before and after any required mitigation measures (MM) described below.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Regional Construction Emissions	3.4	*Less Than Significant*	*n/a*
Localized Construction Emissions	3.7	*Less Than Significant*	*n/a*
Regional Operational Emissions	3.5	*Less Than Significant*	*n/a*
Localized Operational Emissions	3.8	*Less Than Significant*	*n/a*
CO “Hot Spot” Analysis	3.9	*Less Than Significant*	*n/a*
Air Quality Management Plan	3.10	*Less Than Significant*	*n/a*
Sensitive Receptors	3.11	*Less Than Significant*	*n/a*
Odors	3.12	*Less Than Significant*	*n/a*
Cumulative Impacts	3.13	*Less Than Significant*	*n/a*

ES.2 REGULATORY REQUIREMENTS

There are numerous requirements that development projects must comply with by law, and that were put in place by federal, State, and local regulatory agencies for the improvement of air quality.

Any operation or activity that might cause the emission of any smoke, fly ash, dust, fumes, vapors, gases, or other forms of air pollution, which can cause damage to human health, vegetation, or other forms of property, or can cause excessive soiling on any other parcel shall conform to the requirements of the SCAQMD.

SCAQMD RULES

SCAQMD Rules that are currently applicable during construction activity for this Project are described below.

SCAQMD RULE 402

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Odor Emissions. All uses shall be operated in a manner such that no offensive odor is perceptible at or beyond the property line of that use.

SCAQMD RULE 403

This rule is intended to reduce the amount of particulate matter (PM) entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent and reduce fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities.

Dust Control, Operations. Any operation or activity that might cause the emission of any smoke, fly ash, dust, fumes, vapors, gases, or other forms of air pollution, which can cause damage to human health, vegetation, or other forms of property, or can cause excessive soiling on any other parcel, shall conform to the requirements of the SCAQMD.

SCAQMD RULE 1113

This rule serves to limit the Volatile Organic Compound (VOC) content of architectural coatings used on projects in the SCAQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects.

SCAQMD RULE 1301

This rule is intended to provide that pre-construction review requirements to ensure that new or relocated facilities do not interfere with progress in attainment of the National Ambient Air Quality Standards (NAAQS), while future economic growth within the SCAQMD is not unnecessarily restricted. The specific air quality goal is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors. Rule 1301 also limits emission increases of ammonia, and Ozone Depleting Compounds (ODCs) from new, modified or relocated facilities by requiring the use of Best Available Control Technology (BACT).

SCAQMD RULE 1401

A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any 1 hour that is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States (U.S.) Bureau of Mines.

SCAQMD RULE 2305

The SCAQMD adopted Rule 2305, the Warehouse Indirect Source Rule, on May 7, 2021. Owners and operators associated with warehouses 100,000 square feet (sf) or larger are required to directly reduce nitrogen oxides (NO_X) and particulate matter emissions, or to otherwise facilitate emission and exposure reductions of these pollutants in nearby communities.

Although the Project would comply with the above regulatory requirements, it should be noted that there is no way to quantify these reductions in the California Emissions Estimator Model (CalEEMod). The two most pertinent regulatory requirements that could be modeled, are Rule 403 (Fugitive Dust) (2) and Rule 1113 (Architectural Coatings) (3). Because they are required by law, credit for emissions reductions resulting from application of Rule 403 and Rule 1113 are reflected in the analyses presented here.

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1 INTRODUCTION

This report presents the results of the AQIA prepared by Urban Crossroads, Inc., for the proposed Mapes & Sherman Commerce Center (DEV2022-003) (Project). The purpose of this AQIA is to evaluate the potential impacts to air quality associated with construction and operation of the Project and recommend measures to mitigate impacts considered potentially significant in comparison to thresholds established by the SCAQMD.

1.1 SITE LOCATION

The proposed Project is located in the City of Menifee at the southwest corner of Sherman Road and Mapes Road, as shown on Exhibit 1-A. The City is surrounded by the City of Moreno Valley to the north, unincorporated Riverside County to the east, the City of Murrieta and unincorporated Riverside County to the south, and the Cities of Perris and Lake Elsinore to the west. Regional access to the site is provided via Interstate 215 (I-215) and State Route 74 (SR-74). Local access to the site is provided via Mapes Road and Sherman Avenue.

1.2 PROJECT DESCRIPTION

The Project is proposed to consist of the development of 277,578 sf of high-cube fulfillment center warehouse use within a single building. It is anticipated that the Project would operate seven days a week 24 hours a day and be developed in a single phase with an anticipated Opening Year of 2024. The site plan for the proposed Project is shown on Exhibit 1-B.

EXHIBIT 1-A: LOCATION MAP

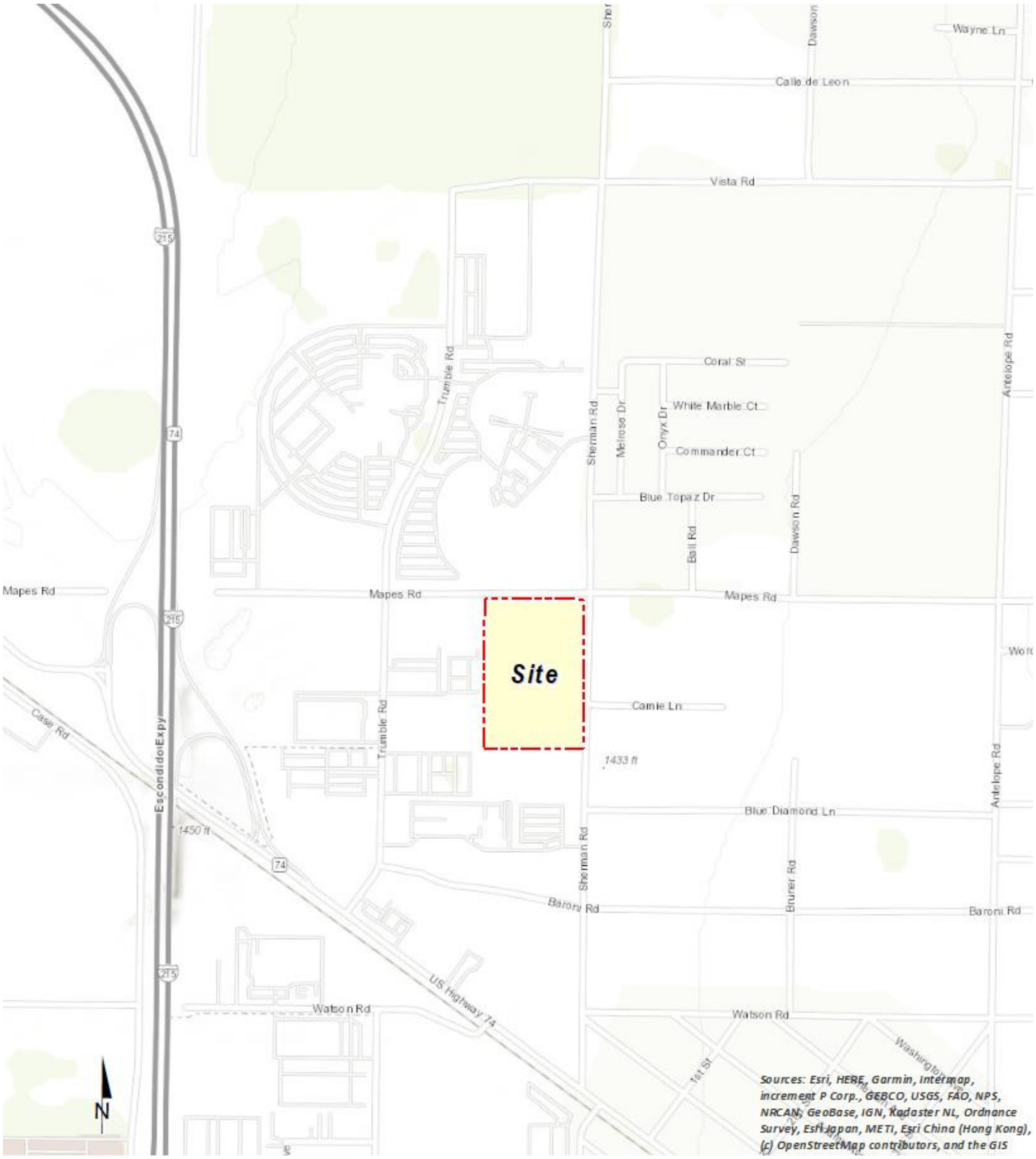
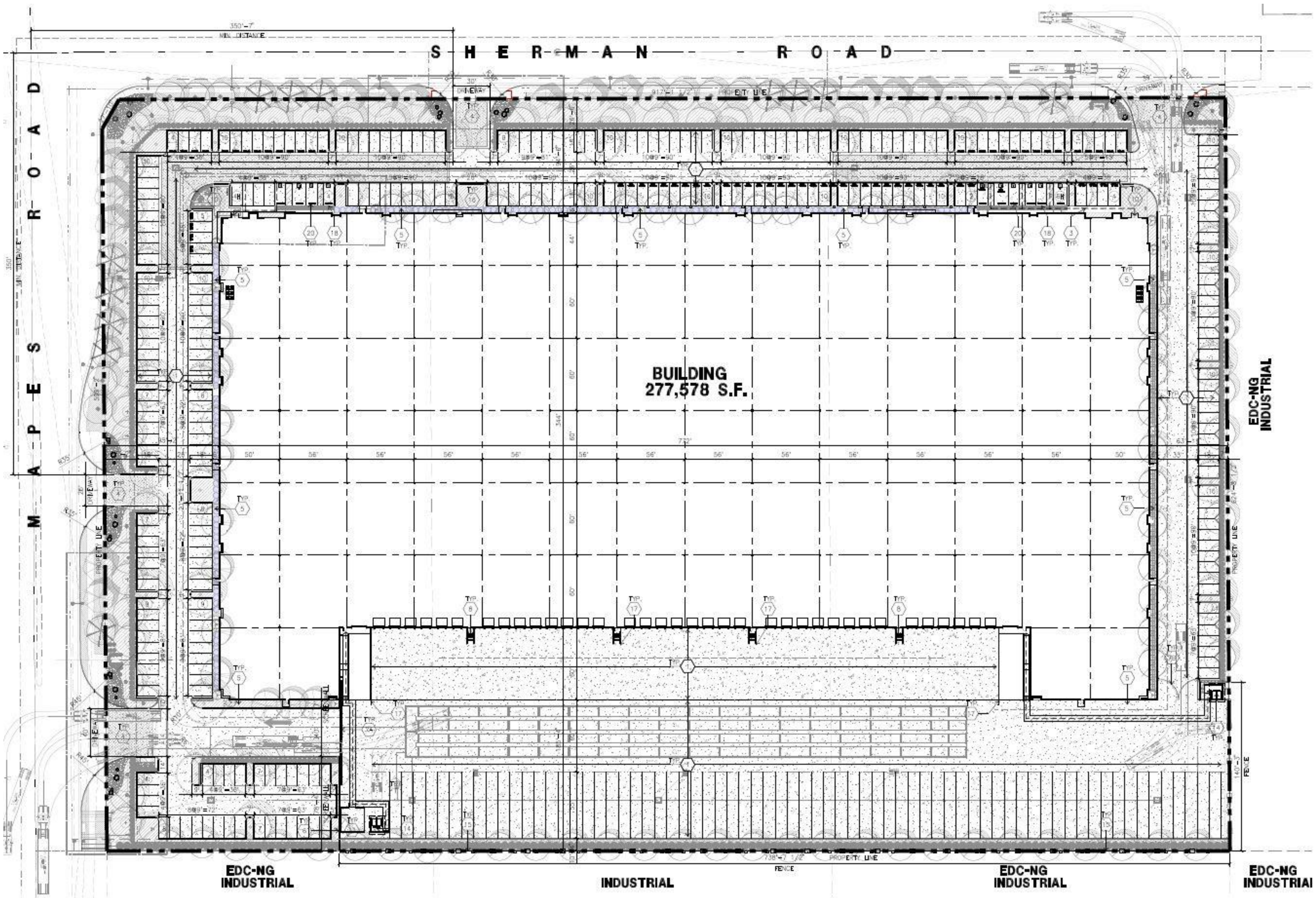


EXHIBIT 1-B: SITE PLAN



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2 AIR QUALITY SETTING

This section provides an overview of the existing air quality conditions in the Project area and region.

2.1 SOUTH COAST AIR BASIN

The Project site is located in the South Coast Air Basin (SCAB) within the jurisdiction of SCAQMD (4). The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. As previously stated, the Project site is located within the SCAB, a 6,745-square mile subregion of the SCAQMD, which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

The SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and the San Diego Air Basin to the south.

2.2 REGIONAL CLIMATE

The regional climate has a substantial influence on air quality in the SCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SCAB vary from the low to middle 60s degrees Fahrenheit (°F). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide (SO_2) to sulfates (SO_4) is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71% along the coast and 59% inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90% of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

Due to its clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year, there are approximately 10 hours of sunshine, and on the longest day of the year, there are approximately 14½ hours of sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed “Santa Anas” each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the “Catalina Eddy,” a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as nitrogen oxides (NO_X) and carbon monoxide (CO) from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

2.3 WIND PATTERNS AND PROJECT LOCATION

The distinctive climate of the Project area and the SCAB is determined by its terrain and geographical location. The SCAB is located in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

Wind patterns across the south coastal region are characterized by westerly and southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is greater during the dry summer months than during the rainy winter season.

2.4 CRITERIA POLLUTANTS

Criteria pollutants are pollutants that are regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and health effects are identified below (5):

TABLE 2-1: CRITERIA POLLUTANTS

Criteria Pollutant	Description	Sources	Health Effects
CO	CO is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone (O_3), motor vehicles operating at slow speeds are the primary source of CO in the SCAB. The highest ambient CO concentrations are found near congested transportation corridors and intersections.	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen (O_2) supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with O_2 transport and competing with O_2 to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for O_2 supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (O_2 deficiency) as seen at high altitudes.
SO_2	SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant	Coal or oil burning power plants and industries,	A few minutes of exposure to low levels of SO_2 can result in airway constriction in some

Criteria Pollutant	Description	Sources	Health Effects
	mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms SO_4. Collectively, these pollutants are referred to as sulfur oxides (SO_X).	refineries, diesel engines	asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2. Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.
NO_X	NO_X consist of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O) and are formed when nitrogen (N_2) combines with O_2. Their lifespan in the atmosphere ranges from	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming	Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is

Criteria Pollutant	Description	Sources	Health Effects
	one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. NO_X is typically created during combustion processes and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Of the seven types of nitrogen oxide compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitoring station.	equipment and residential heating.	associated with long-term exposure to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. In animals, exposure to levels of NO_2 higher than ambient concentrations result in increased susceptibility to infections, due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of O_3 exposure increases when animals are exposed to a combination of O_3 and NO_2.
O_3	O_3 is a highly reactive and unstable gas that is formed when VOCs and NO_X, both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. O_3 concentrations are highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.	Formed when reactive organic gases (ROG) and NO_X react in the presence of sunlight. ROG sources include any source that burns fuels, (e.g., gasoline, natural gas, wood, oil) solvents, petroleum	Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for O_3 effects. Short-term exposure (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased

Criteria Pollutant	Description	Sources	Health Effects
		processing, storage, and pesticides.	susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated O_3 levels are associated with increased school absences. In recent years, a correlation between elevated ambient O_3 levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple outdoor sports and live in communities with high O_3 levels. O_3 exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes O_3 may be more toxic than exposure to O_3 alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.
Particulate Matter	PM_{10}: A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. Particulate matter pollution is a major cause of reduce visibility (haze) which is caused by the scattering of light and consequently the significant reduction air clarity. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be	Sources of PM_{10} include road dust, windblown dust and construction. Also formed from other pollutants (acid rain, NO_X, SO_X, organics). Incomplete combustion of any fuel. $PM_{2.5}$ comes from	A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In

Criteria Pollutant	Description	Sources	Health Effects
	deposited, resulting in adverse health effects. Additionally, it should be noted that PM_{10} is considered a criteria air pollutant. $PM_{2.5}$: A similar air pollutant to PM_{10} consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include SO_4 formed from SO_2 release from power plants and industrial facilities and nitrates that are formed from NO_X release from power plants, automobiles, and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. $PM_{2.5}$ is a criteria air pollutant.	fuel combustion in motor vehicles, equipment, and industrial sources, residential and agricultural burning. Also formed from reaction of other pollutants (acid rain, NO_X, SO_X, organics).	recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in lifespan, and an increased mortality from lung cancer. Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease, and children are more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.
VOC	VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form O_3 to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the	Organic chemicals are widely used as ingredients in household products. Paints, varnishes, and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing and hobby products. Fuels are made up of organic chemicals. All of these products can release organic	Breathing VOCs can irritate the eyes, nose, and throat, can cause difficulty breathing and nausea, and can damage the central nervous system as well as other organs. Some VOCs can cause cancer. Not all VOCs have all these health effects, though many have several.

Criteria Pollutant	Description	Sources	Health Effects
	solvents used in paints. Exceptions to the VOC designation include CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms VOC and ROG (see below) interchangeably.	compounds while you are using them, and, to some degree, when they are stored.	
ROG	Similar to VOC, ROGs are also precursors in forming O_3 and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and NO_X react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms ROG and VOC (see previous) interchangeably.	Sources similar to VOCs.	Health effects similar to VOCs.
Lead (Pb)	Pb is a heavy metal that is highly persistent in the environment and is considered a criteria pollutant. In the past, the primary source of Pb in the air was emissions from vehicles burning leaded gasoline. The major sources of Pb emissions are ore and metals processing, particularly Pb smelters, and piston-engine aircraft operating on leaded aviation gasoline. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. It should be noted that the Project does not include operational activities such as metal processing or Pb acid battery manufacturing. As such, the Project is not anticipated to	Metal smelters, resource recovery, leaded gasoline, deterioration of Pb paint.	Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure. Pb poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of Pb on the respiratory system. Pb can be

Criteria Pollutant	Description	Sources	Health Effects
	generate a quantifiable amount of Pb emissions.		stored in the bone from early age environmental exposure, and elevated blood Pb levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental Pb exposure of their mothers.
Odor	Odor means the perception experienced by a person when one or more chemical substances in the air come into contact with the human olfactory nerves (6).	Odors can come from many sources including animals, human activities, industry, natures, and vehicles.	Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

2.5 EXISTING AIR QUALITY

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect are shown in Table 2-2 (7).

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards. At the time of this AQIA, the most recent state and federal standards were updated by CARB on May ,4 2016 and are presented in Table 2-2. The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, PM_{10}, and $PM_{2.5}$ are not to be exceeded. All others are not to be equaled or exceeded. It should be noted that the three-year period is presented for informational purposes and is not the basis for how the State assigns attainment status. Attainment status for a pollutant means that the SCAQMD meets the standards set by the EPA or the California EPA (CalEPA). Conversely, nonattainment means that an area has monitored air quality that does not meet the NAAQS or CAAQS standards. In order to improve air quality in nonattainment areas, a State Implementation Plan (SIP) is drafted by CARB. The SIP outlines the measures that the state will take to improve air quality. Once nonattainment areas meet the standards and additional redesignation requirements, the EPA will designate the area as a maintenance area (8).

TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (1 OF 2)

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 2-2: AMBIENT AIR QUALITY STANDARDS (2 OF 2)

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.

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (5/4/16)**

2.6 REGIONAL AIR QUALITY

Air pollution contributes to a wide variety of adverse health effects. The EPA has established NAAQS for six of the most common air pollutants: CO, Pb, O_3, particulate matter (PM_{10} and $PM_{2.5}$), NO_2, and SO_2 which are known as criteria pollutants. The SCAQMD monitors levels of various criteria pollutants at 37 permanent monitoring stations and 5 single-pollutant source Pb air monitoring sites throughout the air district (9). On January 5, 2021, CARB posted the 2020 amendments to the state and national area designations. See Table 2-3 for attainment designations for the SCAB (10). Appendix 2.1 provides geographic representation of the state and federal attainment status for applicable criteria pollutants within the SCAB.

TABLE 2-3: ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SCAB

Criteria Pollutant	State Designation	Federal Designation
O_3 – 1-hour standard	Nonattainment	--
O_3 – 8-hour standard	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Unclassifiable/Attainment
NO_2	Attainment	Unclassifiable/Attainment
SO_2	Attainment	Unclassifiable/Attainment
Pb[1]	Attainment	Unclassifiable/Attainment

Note: See Appendix 2.1 for a detailed map of State/National Area Designations within the SCAB
"-" = The national 1-hour O_3 standard was revoked effective June 15, 2005.

2.7 LOCAL AIR QUALITY

The SCAQMD has designated general forecast areas and air monitoring areas (referred to as Source Receptor Areas [SRA]) throughout the district in order to provide Southern California residents about the air quality conditions. The Project site is located within SRA 24. Within SRA 24, the Perris Valley monitoring station, located approximately 3.5 miles northwest of the Project site, reports air quality statistics for O_3 and PM_{10}. It should be noted that the Perris Valley monitoring station does not provide data for CO, NO_2, or $PM_{2.5}$. As such, the next nearest monitoring stations will be utilized. Data for CO and NO_2 was obtained from the Lake Elsinore monitoring station, located in SRA 25, approximately 9.8 miles southwest of the Project site. Data for $PM_{2.5}$ was obtained from the Metropolitan Riverside County 1 monitoring station, located in SRA 23 approximately 21.5 miles northwest of the Project site. It should be noted that data from Lake Elsinore and Metropolitan Riverside County 1 monitoring stations were utilized in lieu of the Perris Valley monitoring station only in instances where data was not available.

The most recent three (3) years of data available is shown on Table 2-4 and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to

[1] The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

be representative of the local air quality at the Project site. Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ for 2018 through 2020 was obtained from the SCAQMD Air Quality Data Tables (11). Additionally, data for SO_2 has been omitted as attainment is regularly met in the SCAB and few monitoring stations measure SO_2 concentrations.

TABLE 2-4: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2018-2020

Pollutant	Standard	Year		
		2018	2019	2020
O_3				
Maximum Federal 1-Hour Concentration (ppm)		0.103	0.118	0.125
Maximum Federal 8-Hour Concentration (ppm)		0.117	0.095	0.106
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	31	26	34
Number of Days Exceeding State/Federal 8-Hour Standard	> 0.070 ppm	67	64	74
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	1.1	1.6	0.9
Maximum Federal 8-Hour Concentration	> 20 ppm	0.8	0.7	0.7
NO_2				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	0.041	0.038	0.044
Annual Federal Standard Design Value		0.009	0.007	0.007
PM_{10}				
Maximum Federal 24-Hour Concentration (μg/m^3)	> 150 μg/m^3	64	97	77
Annual Federal Arithmetic Mean (μg/m^3)		29.7	25.3	35.9
Number of Days Exceeding Federal 24-Hour Standard	> 150 μg/m^3	0	0	0
Number of Days Exceeding State 24-Hour Standard	> 50 μg/m^3	3	4	6
$PM_{2.5}$				
Maximum Federal 24-Hour Concentration (μg/m^3)	> 35 μg/m^3	50.70	46.70	41.00
Annual Federal Arithmetic Mean (μg/m^3)	> 12 μg/m^3	12.41	11.13	12.63
Number of Days Exceeding Federal 24-Hour Standard	> 35 μg/m^3	2	4	4

ppm = Parts Per Million
μg/m^3 = Microgram per Cubic Meter
Source: Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ was obtained from SCAQMD Air Quality Data Tables.

2.8 REGULATORY BACKGROUND

2.8.1 FEDERAL REGULATIONS

The EPA is responsible for setting and enforcing the NAAQS for O_3, CO, NO_X, SO_2, PM_{10}, and Pb (12). The EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance (13). The CAA also mandates that states submit and implement SIPs for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions) (14) (15). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O_3, NO_2, SO_2, PM_{10}, CO, $PM_{2.5}$, and Pb. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$. Table 2-3 (previously presented) provides the NAAQS within the SCAB.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and NO_X. NO_X is a collective term that includes all forms of NO_X which are emitted as byproducts of the combustion process.

2.8.2 California Regulations

CARB

CARB, which became part of CalEPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. AB 2595 mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for SO_4, visibility, hydrogen sulfide (H_2S), and vinyl chloride (C_2H_3Cl). However, at this time, H_2S and C_2H_3Cl are not measured at any monitoring stations in the SCAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (16) (12).

Local air quality management districts, such as the SCAQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare Air Quality Management Plans (AQMP) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;

- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g. motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a 5% or more annual reduction in emissions or 15% or more in a period of three years for ROGs, NO_X, CO and PM_{10}. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than 5% per year under certain circumstances.

TITLE 24 ENERGY EFFICIENCY STANDARDS AND CALIFORNIA GREEN BUILDING STANDARDS

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on August 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that will be effective on January 1, 2023. The CEC anticipates that the 2022 energy code will provide $1.5 billion in consumer benefits and reduce GHG emissions by 10 million metric tons (17). The Project would be required to comply with the applicable standards in place at the time plan check submittals are made. These require, among other items (18):

NONRESIDENTIAL MANDATORY MEASURES

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).

- EV charging stations. New construction shall facilitate the future installation of EV supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106. 5.3.3 (5.106.5.3). Additionally, Table 5.106.5.4.1 specifies requirements for the installation of raceway conduit and panel power requirements for medium- and heavy-duty EV supply equipment for warehouses, grocery stores, and retail stores.
- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Table 5.106.8 (5.106.8).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1. 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reuse or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
  - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
  - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor- mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
  - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
  - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).
- Outdoor potable water uses in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (5.304.1).

- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day (GPD) (5.303.1.1 and 5.303.1.2).
- Outdoor water uses in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

2.8.3 AQMP

Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMP to meet the state and federal ambient air quality standards (19). AQMPs are updated regularly to ensure an effective reduction in emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy. A detailed discussion on the AQMP and Project consistency with the AQMP is provided in Section 3.10.

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3 PROJECT AIR QUALITY IMPACT

3.1 INTRODUCTION

This study quantifies air quality emissions generated by construction and operation of the Project and addresses whether the Project conflicts with implementation of the SCAQMD's AQMP and Lead Agency planning regulations. The analysis of Project-generated air emissions determines whether the Project would result in a cumulatively considerable net increase of any criteria pollutant for which the SCAB is in non-attainment under an applicable NAAQS and CAAQS. Additionally, the Project has been evaluated to determine whether the Project would expose sensitive receptors to substantial pollutant concentrations and the impacts of odors. The significance of these potential impacts is described in the following sections.

3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the *CEQA Guidelines* (14 CCR §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (1):

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

The SCAQMD has also developed regional significance thresholds for other regulated pollutants, as summarized at Table 3-1 (20). The SCAQMD's *CEQA Air Quality Significance Thresholds* (April 2019) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

TABLE 3-1: MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS

Pollutant	Regional Construction Threshold	Regional Operational Thresholds
NO_X	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_X	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Pb	3 lbs/day	3 lbs/day

lbs/day = Pounds Per Day

3.3 MODELS EMPLOYED TO ANALYZE AIR QUALITY

3.3.1 CALEEMOD

Land uses such as the Project affect air quality through construction-source and operational-source emissions.

In May 2022, the California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including SCAQMD, released the latest version of CalEEMod version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (21). Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Appendices 3.1 through 3.3.

3.4 CONSTRUCTION EMISSIONS

3.4.1 CONSTRUCTION ACTIVITIES

Construction activities associated with the Project would result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Construction related emissions are expected from the following construction activities:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

GRADING ACTIVITIES

Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions". Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. The site requires 12,100 cubic yards of cut and 22,200 cubic yards of fill. The Project would therefore require 10,100 cubic yards of import.

OFF-SITE UTILITY AND INFRASTRUCTURE IMPROVEMENTS

In addition, to support the Project development, there may be paving for off-site improvements associated with roadway construction and utility installation for the Project. It is expected that the off-site construction activities would not take place at one location for the entire duration of construction. Impacts associated with these activities are not expected to exceed the emissions identified for Project-related construction activities since the off-site construction areas would have physical constraints on the amount of daily activity that could occur. The physical constraints would limit the amount of construction equipment that could be used, and any off-site and utility infrastructure construction would not use equipment totals that would exceed the equipment totals on Table 3-5. As such, no impacts beyond what has already been identified in this report are expected to occur.

ON-ROAD TRIPS

Construction generates on-road vehicle emissions from vehicle usage for workers, vendors, and haul trucks commuting to and from the site. The number of worker, vendor, and hauling trips are presented below in Table 3-2. Worker trips are based on CalEEMod defaults. It should be noted that for vendor trips, specifically, CalEEMod only assigns vendor trips to the Building Construction phase. Vendor trips would occur during all phases of construction. As such, the CalEEMod defaults for vendor trips have been adjusted based on a ratio of the total vendor trips to the number of days of each subphase of activity.

TABLE 3-2: CONSTRUCTION TRIP ASSUMPTIONS

Construction Activity	Worker Trips Per Day	Vendor Trips Per Day	Hauling Trips Per Day
Site Preparation	18	3	0
Grading	20	7	42
Building Construction	117	37	0
Paving	15	0	0
Architectural Coating	23	0	0

3.4.2 CONSTRUCTION DURATION

For purposes of analysis, construction of Project is expected to commence in July 2023 and would last through September 2024. The construction schedule utilized in the analysis, shown in Table 3-3, represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent[2]. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (1).

3.4.3 CONSTRUCTION EQUIPMENT

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 3-4 will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code.

[2] As shown in the CalEEMod User's Guide Version 2022.1, Section 4.3 "Off-Road Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

TABLE 3-3: CONSTRUCTION DURATION

Construction Activity	Start Date	End Date	Working Days
Site Preparation	10/03/2023	10/16/2023	10
Grading	10/17/2023	11/27/2023	30
Building Construction	11/28/2023	08/05/2024	180
Paving	07/09/2024	08/05/2024	20
Architectural Coating	06/11/2024	08/05/2024	40

TABLE 3-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Activity	Equipment[1]	Amount	Hours Per Day
Site Preparation	Rubber Tired Dozers	3	8
	Crawler Tractors	4	8
Grading	Graders	1	8
	Excavators	2	8
	Scrapers	2	8
	Rubber Tired Dozers	1	8
	Crawler Tractors	2	8
Building Construction	Forklifts	3	8
	Generator Sets	1	8
	Cranes	1	8
	Welders	1	8
	Crawler Tractors	3	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

[1] In order to account for fugitive dust emissions, Crawler Tractors were used in lieu of Tractors/Loaders/Backhoes during the site preparation and grading phases of Project construction.

3.4.4 CONSTRUCTION EMISSIONS SUMMARY

IMPACTS WITHOUT MITIGATION

The estimated maximum daily construction emissions without mitigation are summarized on Table 3-5. Detailed construction model outputs are presented in Appendix 3.1. Under the assumed scenarios, emissions resulting from the Project construction will not exceed the thresholds established by the SCAQMD for emissions of any criteria pollutant.

TABLE 3-5: OVERALL CONSTRUCTION EMISSIONS SUMMARY

Year	Emissions (lbs/day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Summer						
2023	n/a	n/a	n/a	n/a	n/a	n/a
2024	39.20	28.20	40.90	0.05	3.82	1.92
Winter						
2023	4.99	47.20	39.30	0.08	8.46	5.08
2024	2.53	19.10	23.80	0.04	2.89	1.41
Maximum Daily Emissions	**39.20**	**47.20**	**40.90**	**0.08**	**8.46**	**5.08**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Source: CalEEMod construction-source (unmitigated) emissions are presented in Appendix 3.1.

3.5 OPERATIONAL EMISSIONS

Operational activities associated with the Project would result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Operational emissions are expected from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- On-Site Cargo Handling Equipment Emissions
- Stationary Source Emissions

3.5.1 AREA SOURCE EMISSIONS

ARCHITECTURAL COATINGS

Over a period of time the buildings that are part of this Project would require maintenance and would therefore produce emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings. The emissions associated with architectural coatings were calculated using CalEEMod.

CONSUMER PRODUCTS

Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within CalEEMod.

LANDSCAPE MAINTENANCE EQUIPMENT

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. It should be noted that as October 9, 2021, Governor Gavin Newsom signed AB 1346. The bill aims to ban the sale of new gasoline-powered equipment under 25 gross horsepower (known as small off-road engines [SOREs]) by 2024. For purposes of analysis, the emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

3.5.2 ENERGY SOURCE EMISSIONS

COMBUSTION EMISSIONS ASSOCIATED WITH ELECTRICITY

Criteria pollutant emissions are emitted through the generation of electricity. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the SCAB, criteria pollutant emissions from offsite generation of electricity are excluded from the evaluation of significance. Based on information provided by the Project applicant, the site is also not expected to utilize natural gas for the building envelope, and therefore would not generate any emissions from direct energy consumption.

3.5.3 MOBILE SOURCE EMISSIONS

The Project related operational air quality emissions derive primarily from vehicle trips generated by the Project, including employee trips to and from the site and truck trips associated with the proposed uses. Trip characteristics available from the *Mapes & Sherman Commerce Center (DEV2022-003) Traffic Analysis* were utilized in this analysis (22).

APPROACH FOR ANALYSIS OF THE PROJECT

In order to determine emissions from passenger car vehicles, CalEEMod defaults for trip length and trip purpose were utilized. Default vehicle trip lengths for primary trips will be populated using data from the local metropolitan planning organizations/Regional Transportation Planning Agencies (MPO/RTPA). Trip type percentages and trip lengths provided by MPO/RTPAs truncate data at their demonstrative borders. This analysis assumes that passenger cars include Light-Duty-Auto vehicles (LDA), Light-Duty-Trucks (LDT1[3] & LDT2[4]), Medium-Duty-Vehicles (MDV), and Motorcycles (MCY) vehicle types. In order to account for emissions generated by passenger cars, the fleet mix in Table 3-6 was utilized.

[3] Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs.

[4] Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

TABLE 3-6: PASSENGER CAR FLEET MIX

Land Use	% Vehicle Type				
	LDA	LDT1	LDT2	MDV	MCY
High-Cube Fulfillment	55.76%	4.52%	22.17%	15.30%	2.25%

Note: The Project-specific passenger car fleet mix used in this analysis is based on a proportional split utilizing the default CalEEMod percentages assigned to LDA, LDT1, LDT2, and MDV vehicle types.

To determine emissions from trucks for the proposed industrial uses, the analysis incorporated the SCAQMD recommended truck trip length of 15.3 miles for 2-axle (LHDT1, LHDT2), 14.2 miles for 3-axle (MHDT) trucks, and 40 miles for 4+-axle (HHDT) trucks and weighting the average trip lengths using traffic trip percentages. The trip length function for the industrial uses have been revised to 34.44 miles for the high-cube fulfillment center use, respectively, an assumption of 100% primary trips for the proposed industrial land uses. Trucks are broken down by truck type. The truck fleet mix is estimated by rationing the trip rates for each truck type based on information provided by the SCAQMD recommended truck mix, by axle type. Heavy trucks are broken down by truck type (or axle type) and are categorized as either Light-Heavy-Duty Trucks (LHDT1[5] & LHDT2 [6])/2-axle, Medium-Heavy-Duty Trucks (MHDT)/3-axle, and Heavy-Heavy-Duty Trucks (HHDT)/4+-axle. To account for emissions generated by trucks, the fleet mix in Table 3-7 was utilized.

TABLE 3-7: TRUCK FLEET MIX

Land Use	% Vehicle Type			
	LHDT1	LHDT2	MHDT	HHDT
High-Cube Fulfillment	8.75%	2.47%	11.21%	77.57%

Note: Project-specific truck fleet mix is based on the number of trips generated by each truck type (LHDT1, LHDT2, MHDT, and HHDT) relative to the total number of truck trips.

FUGITIVE DUST RELATED TO VEHICULAR TRAVEL

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of brake and tire wear particulates. The emissions estimate for travel on paved roads were calculated using CalEEMod.

3.5.4 ON-SITE CARGO HANDLING EQUIPMENT SOURCE EMISSIONS

It is common for industrial buildings to require the operation of exterior cargo handling equipment in the building's truck court areas. For this Project, on-site modeled operational equipment includes up to three (3) 175 horsepower (hp), natural gas-powered cargo handling equipment – port tractor operating 4 hours a day[7] for 365 days of the year.

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[5] Vehicles under the LHDT1 category have a GVWR of 8,501 to 10,000 lbs.

[6] Vehicles under the LHDT2 category have a GVWR of 10,001 to 14,000 lbs.

[7] Based on Table II-3, Port and Rail Cargo Handling Equipment Demographics by Type, from CARB's Technology Assessment: Mobile Cargo

3.5.5 OPERATIONAL EMISSIONS SUMMARY

As previously stated, CalEEMod utilizes summer and winter EMFAC2021 emission factors in order to derive vehicle emissions associated with Project operational activities, which vary by season. The estimated operational-source emissions are summarized on Table 3-8. Detailed operation model outputs for the Project are presented in Appendix 3.2. As shown on Table 3-8, the Project's daily regional emissions from on-going operations would not exceed the thresholds of significance for emissions of any criteria pollutant.

TABLE 3-8: SUMMARY OF PEAK OPERATIONAL EMISSIONS

Source	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
Mobile Source	2.27	9.23	31.70	0.13	3.41	0.76
Area Source	8.68	0.10	12.10	0.00	0.02	0.02
On-Site Equipment Source	0.12	0.38	16.44	0.00	0.03	0.03
Project Maximum Daily Emissions	**11.07**	**9.71**	**60.24**	**0.13**	**3.46**	**0.81**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
Winter						
Mobile Source	2.16	9.74	26.00	0.12	3.41	0.76
Area Source	6.70	0.00	0.00	0.00	0.00	0.00
On-Site Equipment Source	0.12	0.38	16.44	0.00	0.03	0.03
Project Maximum Daily Emissions	**8.98**	**10.12**	**42.44**	**0.12**	**3.44**	**0.79**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Source: CalEEMod operational-source emissions are presented in Appendix 3.2.

3.6 LOCALIZED SIGNIFICANCE

BACKGROUND ON LST DEVELOPMENT

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Thresholds (LSTs).

Handling Equipment document, a single piece of equipment could operate up to 2 hours per day (Total Average Annual Activity divided by Total Number Pieces of Equipment). As such, the analysis conservatively assumes that the tractor/loader/backhoe would operate up to 4 hours per day.

The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4[8]. LSTs represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses.

LSTs were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities. To address the issue of localized significance, the SCAQMD adopted LSTs that show whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. The analysis makes use of methodology included in the *LST Methodology* (23).

APPLICABILITY OF LSTS FOR THE PROJECT

For this Project, the appropriate SRA for the LST analysis is the SCAQMD Perris Valley (SRA 24). LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size.

In order to determine the appropriate methodology for determining localized impacts that could occur as a result of Project-related construction, the following process is undertaken:

- Identify the maximum daily on-site emissions that would occur during construction activity:
  - The maximum daily on-site emissions could be based on information provided by the Project Applicant; or
  - The SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds* and CalEEMod User's Guide *Appendix A: Calculation Details for CalEEMod* can be used to determine the maximum site acreage that is actively disturbed based on the construction equipment fleet and equipment hours as estimated in CalEEMod (24) (25).
- If the total acreage disturbed is less than or equal to 5 acres per day, then the SCAQMD's screening look-up tables are utilized to determine if a Project has the potential to result in a significant impact. The look-up tables establish a maximum daily emissions threshold in lbs/day that can be compared to CalEEMod outputs.
- If the total acreage disturbed is greater than 5 acres per day, then LST impacts may still be conservatively evaluated using the LST look-up tables for a 5-acre disturbance area. Use of the 5-acre disturbance area thresholds can be used to show that even if the daily emissions from all construction activity were emitted within a 5-acre area, and therefore concentrated over a smaller area which would result in greater site adjacent concentrations, the impacts would still be less than significant if the applicable 5-acre thresholds are utilized.
- The *LST Methodology* presents mass emission rates for each SRA, project sizes of 1, 2, and 5 acres, and nearest receptor distances of 25, 50, 100, 200, and 500 meters. For project sizes between the

[8] The purpose of SCAQMD's Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as "…equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

values given, or with receptors at distances between the given receptors, the methodology uses linear interpolation to determine the thresholds.

EMISSIONS CONSIDERED

Based on SCAQMD's *LST Methodology*, emissions for concern during construction activities are on-site NO_X, CO, $PM_{2.5}$, and PM_{10}. The *LST Methodology* clearly states that "off-site mobile emissions from the Project should not be included in the emissions compared to LSTs (26)." As such, for purposes of the construction LST analysis, only emissions included in the CalEEMod "on-site" emissions outputs were considered.

MAXIMUM DAILY DISTURBED-ACREAGE

The "acres disturbed" for analytical purposes are based on specific equipment type for each subcategory of construction activity and the estimated maximum area a given piece of equipment can pass over in an 8-hour workday (as shown on Table 3-9). The equipment-specific grading rates are summarized in the SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds* and CalEEMod User's Guide *Appendix C: Emission Calculation Details for CalEEMod* (24) (27). It The disturbed area per day is representative of a piece of equipment making multiple passes over the same land area. In other words, one Rubber Tired Dozer can make multiple passes over the same land area totaling 0.5 acres in a given 8-hour day. Based on Table 3-9, the Project's construction activities could actively disturb approximately 3.5 acres per day during site preparation and 4.0 acres per day during grading activities. For purposes of analysis and in order to use linear regression, this analysis conservatively assumes that 5 acres can be disturbed during grading activities.

TABLE 3-9: MAXIMUM DAILY DISTURBED-ACREAGE

Construction Activity	Equipment Type	Equipment Quantity	Acres graded per 8-hour day	Operating Hours per Day	Acres graded per day
Site Preparation	Crawler Tractors	4	0.5	8	2.0
	Rubber Tired Dozers	3	0.5	8	1.5
Total acres disturbed per day during Site Preparation					3.5
Grading	Crawler Tractors	2	0.5	8	1.0
	Graders	1	0.5	8	0.5
	Rubber Tired Dozers	1	0.5	8	0.5
	Scrapers	2	1	8	2.0
Total acres disturbed per day during Grading					4.0

Source: Maximum daily disturbed acreage based on equipment list presented in Appendix 4.1.

RECEPTORS

As previously stated, LSTs represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable NAAQS and CAAQS at the nearest residence or sensitive receptor. Receptor locations are off-site locations where individuals may be exposed to emissions from Project activities.

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, and individuals with pre-existing respiratory or cardiovascular illness. Structures that house these persons or places where they gather are defined as "sensitive receptors". These structures typically include uses such as residences, hotels, and hospitals where an individual can remain for 24 hours. Consistent with the LST Methodology, the nearest land use where an individual could remain for 24 hours to the Project site has been used to determine construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$, since PM_{10} and $PM_{2.5}$ thresholds are based on a 24-hour averaging time.

LSTs apply, even for non-sensitive land uses, consistent with *LST Methodology* and SCAQMD guidance. Per the *LST Methodology*, commercial and industrial facilities are not included in the definition of sensitive receptor because employees and patrons do not typically remain onsite for a full 24 hours but are typically onsite for 8 hours or less. However, *LST Methodology* explicitly states that "*LSTs based on shorter averaging periods, such as the NO_2 and CO LSTs, could also be applied to receptors such as industrial or commercial facilities since it is reasonable to assume that a worker at these sites could be present for periods of one to eight hours* (26)." Therefore, any adjacent land use where an individual could remain for 1 or 8-hours, that is located at a closer distance to the Project site than the receptor used for PM_{10} and $PM_{2.5}$ analysis, must be considered to determine construction and operational LST air impacts for emissions of NO_2 and CO since these pollutants have an averaging time of 1 and 8-hours.

PROJECT-RELATED RECEPTORS

Receptors in the Project study area are described below and shown on Exhibit 4-A. Localized air quality impacts were evaluated at sensitive receptor land uses nearest the Project site. All distances are measured from the Project site boundary to the outdoor living areas (e.g., backyards) or at the building façade, whichever is closer to the Project site.

R1: Location R1 represents Big League Dreams Perris sports complex located at 2155 Trumble Road, approximately 125 feet north of the Project site.

R2: Location R2 represents an existing residence at 27570 Mapes Road, approximately 162 feet northeast of the Project site. R2 is placed in the private outdoor living areas (backyard) facing the Project site.

R3: Location R3 represents the existing residence at 25100 Sherman Road, approximately 126 feet east of the Project site. Because there are no private outdoor living areas (backyards) facing the Project site, R4 is placed at the building façade.

R4: Location R4 represents the existing residence at 25210 Sherman Road, approximately 284 feet southeast of the Project site. Because there are no private outdoor living areas (backyards) facing the Project site, R4 is placed at the building façade.

R5: Location R5 represents the Southern California Gas Company located at 25200 Trumble Road, approximately 44 feet southwest of the Project site. R5 is placed in the common outdoor area facing the Project site.

R6: Location R6 represents the existing residence at 25146 Sherman Road, approximately 126 feet east of the Project site. Because there are no private outdoor living areas (backyards) facing the Project site, R6 is placed at the building façade.

R7: Location R7 represents Sturgeon Electric, located at 25110 Trumble Road, approximately 139 feet west of the Project site.

The SCAQMD recommends that the nearest sensitive receptor be considered when determining the Project's potential to cause an individual a cumulatively significant impact. The nearest land use where an individual could remain for 24 hours to the Project site has been used to determine localized construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$ (since PM_{10} and $PM_{2.5}$ thresholds are based on a 24-hour averaging time). The nearest receptor used for evaluation of localized impacts of PM_{10} and $PM_{2.5}$ is the existing residence at 25100 Sherman Road, approximately 126 feet (38 meters) east of the Project site, represented by R3. For purposes of analysis, a 38-meter distance will be used for evaluation of localized of PM_{10} and $PM_{2.5}$ impacts.

As previously stated, and consistent with *LST Methodology*, the nearest commercial/industrial use to the Project site is used to determine construction and operational LST air impacts for emissions of NO_X and CO as the averaging periods for these pollutants are shorter (8 hours or less) and it is reasonable to assumed that an individual could be present at these sites for periods of one to 8 hours. The nearest receptor used for evaluation of localized impacts of NO_X and CO is the Southern California Gas Company, represented by R5, approximately 44 feet (13 meters) southwest of the Project site. It should be noted that the *LST Methodology* explicitly states that "*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters* (28)." As such a 25-meter receptor distance will be used for evaluation of localized NO_X and CO.

3.7 CONSTRUCTION-SOURCE EMISSIONS LST ANALYSIS

3.7.1 LOCALIZED THRESHOLDS FOR CONSTRUCTION ACTIVITY

Since the total acreage disturbed is less than five acres per day for site preparation grading activities, the SCAQMD's screening look-up tables are utilized in determining impacts. Consistent with SCAQMD guidance, the thresholds presented in Table 3-10 were calculated by interpolating the threshold values for the Project's disturbed acreage.

TABLE 3-10: MAXIMUM DAILY LOCALIZED CONSTRUCTION EMISSIONS THRESHOLDS

Construction Activity	Construction Localized Thresholds			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation	220 lbs/day	1,230 lbs/day	20 lbs/day	7 lbs/day
Grading	237 lbs/day	1,346 lbs/day	23 lbs/day	8 lbs/day

Source: Localized Thresholds presented in this table are based on the SCAQMD Final LST Methodology, July 2008

EXHIBIT 3-A: RECEPTOR LOCATIONS

3.7.2 CONSTRUCTION-SOURCE LOCALIZED EMISSIONS

IMPACTS WITHOUT MITIGATION

Table 3-11 identifies the localized impacts at the nearest receptor location in the vicinity of the Project. Without mitigation, localized construction emissions would not exceed the applicable SCAQMD LSTs for emissions of any criterial pollutant. Outputs from the model runs for unmitigated construction LSTs are provided in Appendix 3.1.

TABLE 3-11: LOCALIZED CONSTRUCTION-SOURCE EMISSIONS – WITHOUT MITIGATION

Construction Activity	Year	Scenario	Emissions (lbs/day)			
			NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation	2023	Summer	n/a	n/a	n/a	n/a
		Winter	47.00	38.00	8.19	5.02
		Maximum Daily Emissions	**47.00**	**38.00**	**8.19**	**5.02**
		SCAQMD Localized Threshold	220	1,230	20	7
		Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Grading	2023	Summer	n/a	n/a	n/a	n/a
		Winter	40.90	32.70	4.63	2.78
		Maximum Daily Emissions	**40.90**	**32.70**	**4.63**	**2.78**
		SCAQMD Localized Threshold	237	1,346	23	8
		Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

Source: CalEEMod unmitigated localized construction-source emissions are presented in Appendix 3.1.

3.8 OPERATIONAL-SOURCE EMISSIONS LST ANALYSIS

As previously stated, the Project is located on an approximately 13.33-acre parcel. As noted previously, the *LST Methodology* provides look-up tables for sites with an area with daily disturbance of 5 acres or less. For projects that exceed 5 acres, the 5-acre LST look-up tables can be used as a screening tool to determine whether pollutants require additional detailed analysis. This approach is conservative as it assumes that all on-site emissions associated with the Project would occur within a concentrated 5-acre area. This screening method would therefore over-predict potential localized impacts, because by assuming that on-site operational activities are occurring over a smaller area, the resulting concentrations of air pollutants are more highly concentrated once they reach the smaller site boundary than they would be for activities if they were spread out over a larger surface area. On a larger site, the same amount of air pollutants generated would disperse over a larger surface area and would result in a lower concentration once emissions reach the project-site boundary. As such, LSTs for a 5-acre site during operations are used as a screening tool to determine if further detailed analysis is required. The LST analysis generally includes on-site sources (area, energy, mobile, on-site cargo handling equipment, and stationary equipment – are previously discussed in Section 4.5 of this report). However, it should be noted that the CalEEMod outputs do not separate on-site and off-site emissions from mobile sources. As such, in an effort to establish a maximum potential impact scenario for analytic purposes, the emissions shown on Table 3-13 represent all on-site Project-related stationary (area) sources and Project-related mobile sources. It should be noted that the longest on-site distance is roughly 0.5 mile for both trucks and passenger cars. Modeling based on these assumptions demonstrates that even within broad encompassing parameters, Project operational-source emissions would not exceed applicable LSTs.

3.8.1 LOCALIZED THRESHOLDS FOR OPERATIONAL ACTIVITY

Consistent with SCAQMD guidance, the thresholds presented in Table 3-12 were calculated by interpolating the threshold values for the Project's acreage.

TABLE 3-12: MAXIMUM DAILY LOCALIZED OPERATIONAL EMISSIONS THRESHOLDS

Operational Localized Thresholds			
NO_X	CO	PM_{10}	$PM_{2.5}$
270 lbs/day	1,577 lbs/day	7 lbs/day	3 lbs/day

Source: Localized Thresholds presented in this table are based on the SCAQMD Final LST Methodology, July 2008

3.8.2 OPERATIONAL-SOURCE LOCALIZED EMISSIONS

IMPACTS WITHOUT MITIGATION

As shown on Table 3-13 operational emissions would not exceed the LST thresholds for the nearest sensitive receptor. Therefore, the Project would have a less than significant localized impact during operational activity.

TABLE 3-13: LOCALIZED SIGNIFICANCE SUMMARY OF OPERATIONS

Scenario	Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Summer	2.18	33.18	0.14	0.07
Winter	2.17	21.47	0.13	0.05
Maximum Daily Emissions	**2.18**	**33.18**	**0.14**	**0.07**
SCAQMD Localized Threshold	270	1,577	7	3
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

Source: CalEEMod localized operational-source emissions are presented in Appendix 3.3.

3.9 CO "HOT SPOT" ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of Project-specific CO "hot spots" is not needed to reach this conclusion. An adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur.

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment. To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards, as shown on Table 3-14.

TABLE 3-14: CO MODEL RESULTS

Intersection Location	CO Concentrations (ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire Boulevard/Veteran Avenue	4.6	3.5	3.7
Sunset Boulevard/Highland Avenue	4	4.5	3.5
La Cienega Boulevard/Century Boulevard	3.7	3.1	5.2
Long Beach Boulevard/Imperial Highway	3	3.1	8.4

Source: 2003 AQMP, Appendix V: Modeling and Attainment Demonstrations
Notes: Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (*1992 CO Plan*), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 8.4 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 7.7 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared (29). In contrast, an adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

The ambient 1-hr and 8-hr CO concentration within the Project study area is estimated to be 0.9 ppm and 0.7 ppm, respectively (data from Perris Valley monitoring station for 2020). Therefore, even if the traffic volumes for the proposed Project were double or even triple of the traffic volumes generated at the Long Beach Blvd. and Imperial Hwy. intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO "hot spot" at any study area intersections.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (30). Traffic volumes generating the CO concentrations for the "hot spot" analysis is shown on Table 3-15. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vph and AM/PM traffic volumes of 8,062 vph and 7,719 vph respectively (29). The *2003 AQMP* estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm)[9].

TABLE 3-15: TRAFFIC VOLUMES

Intersection Location	Peak Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire Boulevard/Veteran Avenue	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset Boulevard/Highland Avenue	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega Boulevard/Century Boulevard	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach Boulevard/Imperial Highway	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

Source: 2003 AQMP

As summarized on Table 3-16 below, the intersection of Trumble Road and SR-74 would have the highest AM and PM traffic volumes of 2,871 vph and 2,921 vph, respectively. As such, total traffic volumes at the intersections considered are less than the traffic volumes identified in the *2003 AQMP*. As such, the Project considered herein along with background and cumulative development would not produce the volume of traffic required to generate a CO "hot spot" either in the context of the 2003 Los Angeles hot spot study or based on representative BAAQMD CO threshold considerations. Therefore, CO "hot spots" are not an environmental impact of concern for the Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

[9] Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm)

TABLE 3-16: PEAK HOUR TRAFFIC VOLUMES

Intersection Location	Peak Traffic Volumes (vph)				
	Northbound (AM/PM)	Southbound (AM/PM)	Eastbound (AM/PM)	Westbound (AM/PM)	Total (AM/PM)
I-215 Southbound Ramps/Case Road	958/794	633/907	389/426	0/0	1,980/2,127
I-215 Northbound Ramps/SR-74	0/0	368/401	867/1,120	1,595/1,327	2,831/2,847
Trumble Road/SR-74	0/0	794/656	1,056/1,345	1,020/919	2,871/2,921
Sherman Road/SR-74	0/0	125/95	673/1,019	853/765	1,650/1,879

Source: *Mapes & Sherman Commerce Center (DEV2022-003) Traffic Analysis* (Urban Crossroads, Inc., 2022)

3.10 AQMP

The Project site is located within the SCAB, which is characterized by poor air quality. The SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the SCAG, county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the SCAQMD released the *Final 2016 AQMP* (*2016 AQMP*). The *2016 AQMP* continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (31). Similar to the 2012 AQMP, the *2016 AQMP* incorporates scientific and technological information and planning assumptions, including the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (*2016-2040 RTP/SCS*), a planning document that supports the integration of land use and transportation to help the region meet the federal CAA requirements (19). The Project's consistency with the AQMP will be determined using the *2016 AQMP* as discussed below.

The 2022 AQMP is currently being developed by SCAQMD to address the EPA's strengthened ozone standard. Development of the 2022 AQMP is in its early stages and no formal timeline for completion and adoption is currently known.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2, and Section 12.3 of the *1993 CEQA Handbook* (32). These indicators are discussed below:

3.10.1 CONSISTENCY CRITERION NO. 1

The proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations that Consistency Criterion No. 1 refer to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

Construction Impacts – Consistency Criterion 1

Consistency Criterion No. 1 refers to violations of the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if localized or regional significance thresholds were exceeded. As evaluated, the Project's localized and regional construction-source emissions would not exceed applicable regional significance threshold and LST thresholds. As such, a less than significant impact is expected.

Operational Impacts – Consistency Criterion 1

As evaluated, the Project's localized and regional operation-source emissions would not exceed applicable regional significance threshold and LST thresholds. As such, a less than significant impact is expected.

On the basis of the preceding discussion, the Project is determined to be consistent with the first criterion.

3.10.2 CONSISTENCY CRITERION NO. 2

The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The *2016 AQMP* demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in City of Menifee General Plan is considered to be consistent with the AQMP**.**

Construction Impacts – Consistency Criterion 2

Peak day emissions generated by construction activities are independent of land use assignments but are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would occur, with disturbance of the entire site occurring during construction activities. As such, when considering that no emissions thresholds will be exceeded, a less than significant impact would result.

Operational Impacts – Consistency Criterion 2

The General Plan Land Use designation for the Project site is Economic Development Corridor (Northern Gateway). The intent of the Economic Development Corridor(EDC) designation is to identify areas where a mixture of residential, commercial, office, industrial, entertainment, educational, and/or recreational uses, or other uses is planned. Both horizontal and vertical mixed uses are permitted. In general, areas designated as EDC are envisioned to develop primarily as nonresidential uses with residential uses playing a supporting role. In addition to identifying a citywide preferred land use mix for all property designated as EDC, the General Plan will also identify a preferred mix of uses desired for each of the City's five EDC subareas (see above). Each subarea has a unique identity and plays a specific role in the City of Menifee. The General Plan will use these subareas to focus policy direction in the Land Use and Community Design elements. The Project is located within the Northern Gateway subarea. This area is envisioned as an employment center at Menifee's northern gateway that focuses on providing opportunity for business park development and more traditional industrial (less office) uses. As previously discussed, the Project consist of the development277,578 sf of high-cube fulfillment center warehouse use within a single building which is consistent with the proposed uses allowed under the land use designation and therefore, the Project does not propose or require amendment of the site's underlying land use designation.

On the basis of the preceding discussion, the Project is determined to be consistent with the second criterion.

AQMP CONSISTENCY CONCLUSION

The Project would not have the potential to result in or cause NAAQS or CAAQS violations. The Project's proposed uses are consistent with the General Plan land use designation. Additionally, the Project would not exceed the regional or localized construction and operational thresholds, as such, the Project's development intensity is consistent with the development intensities allowed within the General Plan as previously stated. As such, the Project is considered to be consistent with the AQMP.

3.11 POTENTIAL IMPACTS TO SENSITIVE RECEPTORS

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Results of the LST analysis indicate that the Project would not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during Project construction.

Additionally, the Project would not exceed the SCAQMD localized significance thresholds during operational activity. Further Project traffic would not create or result in a CO "hotspot." Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations.

3.11.1 FRIANT RANCH CASE

In December 2018, in the case of *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, the California Supreme Court held that an Environmental Impact Report's (EIR) air quality analysis must meaningfully connect the identified air quality impacts to the human health consequences of those impacts, or meaningfully explain why that analysis cannot be provided.

Most local agencies, including the City of Menifee, lack the data to do their own assessment of potential health impacts from criteria air pollutant emissions, as would be required to establish customized, locally specific thresholds of significance based on potential health impacts from an individual development project. The use of national or "generic" data to fill the gap of missing local data would not yield accurate results because such data does not capture local air patterns, local background conditions, or local population characteristics, all of which play a role in how a population experiences air pollution. Because it is impracticable to accurately isolate the exact cause of a human disease (for example, the role a particular air pollutant plays compared to the role of other allergens and genetics in causing asthma), existing scientific tools cannot accurately estimate health impacts of the Project's air emissions without undue speculation. Instead, readers are directed to the Project's air quality impact analysis above and the Project's Health Risk Assessment, which provides extensive information concerning the quantifiable and non-quantifiable health risks related to the Project's construction and long-term operation.

Notwithstanding, this AQIA does evaluate the proposed Project's localized impact to air quality for emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$ by comparing the proposed project's on-site emissions to the SCAQMD's applicable LST thresholds. The LST analysis above determined that the Project would not result in emissions exceeding SCAQMD's LSTs. Therefore, the proposed Project would not be expected to exceed the most stringent applicable federal or state ambient air quality standards for emissions of CO, NO_X, PM_{10}, and $PM_{2.5.}$

As the Project's emissions would comply with federal, state, and local air quality standards, the proposed Project's emissions are not sufficiently high enough to use a regional modeling program to correlate health effects on a basin-wide level and would not provide a reliable indicator of health effects if modeled.

3.12 ODORS

The potential for the Project to generate objectionable odors has also been considered. Land uses associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills

- Dairies
- Fiberglass molding facilities

The Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with current solid waste regulations. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors and other emissions (such as those leading to odors) associated with construction and operations activities of the proposed Project would be less than significant and no mitigation is required (33).

3.13 CUMULATIVE IMPACTS

As previously shown in Table 2-3, the CAAQS designate the Project site as nonattainment for O_3 PM_{10}, and $PM_{2.5}$ while the NAAQS designates the Project site as nonattainment for O_3 and $PM_{2.5}$.

The SCAQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (34). In this report the SCAQMD clearly states (Page D-3):

> *"…the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for TAC emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.*
>
> *Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."*

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which SCAB is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

CONSTRUCTION IMPACTS

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed Project construction-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, proposed Project construction-source emissions would be considered less than significant on a Project-specific and cumulative basis.

OPERATIONAL IMPACTS

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed Project operation-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, proposed Project operation-source emissions would be considered less than significant on a project-specific and cumulative basis.

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5 CERTIFICATIONS

The contents of this air study report represent an accurate depiction of the environmental impacts associated with the proposed Mapes & Sherman Commerce Center (DEV2022-003). The information contained in this air quality impact assessment report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com

Haseeb Qureshi
Principal
URBAN CROSSROADS, INC.
hqureshi@urbanxroads.com

EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June, 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – CARB • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

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APPENDIX 2.1:

STATE/FEDERAL ATTAINMENT STATUS OF CRITERIA POLLUTANTS

APPENDIX C

MAPS AND TABLES OF AREA DESIGNATIONS FOR STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

APPENDIX C

MAPS AND TABLES OF AREA DESIGNATIONS FOR STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

This attachment fulfills the requirement of Health and Safety Code section 40718 for CARB to publish maps that identify areas where one or more violations of any State ambient air quality standard (State standard) or national ambient air quality standard (national standard) have been measured. The national standards are those promulgated under section 109 of the federal Clean Air Act (42 U.S.C. 7409).

This attachment is divided into three parts. The first part comprises a table showing the levels, averaging times, and measurement methods for each of the State and national standards. This is followed by a section containing maps and tables showing the area designations for each pollutant for which there is a State standard in the California Code of Regulations, title 17, section 70200. The last section contains maps and tables showing the most current area designations for the national standards.

Ambient Air Quality Standards

(Updated 5/4/16)

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 ...

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

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/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 CARB 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 μg/m^3 to 12.0 μg/m^3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 μg/m^3, as was the annual secondary standard of 15 μg/m^3. The existing 24-hour PM10 standards (primary and secondary) of 150 μg/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 CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 μg/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 CARB 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.

Area Designations for the State Ambient Air Quality Standards

The following maps and tables show the area designations for each pollutant with a State standard set forth in the California Code of Regulations, title 17, section 60200. Each area is identified as attainment, nonattainment, nonattainment-transitional, or unclassified for each pollutant, as shown below:

Attainment	A
Nonattainment	N
Nonattainment-Transitional	NA-T
Unclassified	U

In general, CARB designates areas by air basin for pollutants with a regional impact and by county for pollutants with a more local impact. However, when there are areas within an air basin or county with distinctly different air quality deriving from sources and conditions not affecting the entire air basin or county, CARB may designate a smaller area. Generally, when boundaries of the designated area differ from the air basin or county boundaries, the description of the specific area is referenced at the bottom of the summary table.

FIGURE 1


2020
Area Designations for State
Ambient Air Quality Standards
OZONE
N
0
50
100
150
200
Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Trinity
Humboldt
Tehama
Plumas
SACRAMENTO VALLEY
Sutter Buttes
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Lake
Colusa
Sutter
Yuba
Placer
LAKE TAHOE
Yolo
El Dorado
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
Contra Costa
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
San Benito
SAN JOAQUIN VALLEY
Fresno
NORTH CENTRAL COAST
Kings
Tulare
Inyo
Monterey
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
Ventura
Los Angeles
MOJAVE DESERT
Riverside
SOUTH COAST
Orange
SALTON SEA
San Diego
Imperial
SAN DIEGO
Unclassified
Attainment
Nonattainment-Transitional
Nonattainment
Air Basin
County
Last Updated: October 2020
Air Quality Planning and Science Division, CARB

TABLE 1

California Ambient Air Quality Standards
Area Designations for Ozone [1]

	N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN				
Alpine County			X	
Inyo County	X			
Mono County	X			
LAKE COUNTY AIR BASIN				X
LAKE TAHOE AIR BASIN				X
MOJAVE DESERT AIR BASIN	X			
MOUNTAIN COUNTIES AIR BASIN				
Amador County		X		
Calaveras County	X			
El Dorado County (portion)	X			
Mariposa County	X			
Nevada County	X			
Placer County (portion)	X			
Plumas County			X	
Sierra County			X	
Tuolumne County	X			
NORTH CENTRAL COAST AIR BASIN				X
NORTH COAST AIR BASIN				X

	N	NA-T	U	A
NORTHEAST PLATEAU AIR BASIN				X
SACRAMENTO VALLEY AIR BASIN				
Colusa and Glenn Counties				X
Shasta County		X		
Sutter/Yuba Counties				
Sutter Buttes	X			
Remainder of Sutter County	X			
Yuba County	X			
Yolo/Solano Counties		X		
Remainder of Air Basin	X			
SALTON SEA AIR BASIN	X			
SAN DIEGO AIR BASIN	X			
SAN FRANCISCO BAY AREA AIR BASIN	X			
SAN JOAQUIN VALLEY AIR BASIN	X			
SOUTH CENTRAL COAST AIR BASIN				
San Luis Obispo County	X			
Santa Barbara County	X			
Ventura County	X			
SOUTH COAST AIR BASIN	X			

[1] AB 3048 (Olberg) and AB 2525 (Miller) signed into law in 1996, made changes to Health and Safety Code, section 40925.5. One of the changes allows nonattainment districts to become nonattainment-transitional for ozone by operation of law.

FIGURE 2

Last Updated: October 2020
Air Quality Planning and Science Division, CARB

TABLE 2

California Ambient Air Quality Standards
Area Designation for Suspended Particulate Matter (PM_{10})

	N	U	A
GREAT BASIN VALLEYS AIR BASIN	X		
LAKE COUNTY AIR BASIN			X
LAKE TAHOE AIR BASIN	X		
MOJAVE DESERT AIR BASIN	X		
MOUNTAIN COUNTIES AIR BASIN			
Amador County		X	
Calaveras County	X		
El Dorado County (portion)	X		
Mariposa County			
- Yosemite National Park	X		
- Remainder of County		X	
Nevada County	X		
Placer County (portion)	X		
Plumas County	X		
Sierra County	X		
Tuolumne County		X	

	N	U	A
NORTH CENTRAL COAST AIR BASIN	X		
NORTH COAST AIR BASIN			
Del Norte, Sonoma (portion) and Trinity Counties			X
Remainder of Air Basin	X		
NORTHEAST PLATEAU AIR BASIN			
Siskiyou County			X
Remainder of Air Basin		X	
SACRAMENTO VALLEY AIR BASIN			
Shasta County			X
Remainder of Air Basin	X		
SALTON SEA AIR BASIN	X		
SAN DIEGO AIR BASIN	X		
SAN FRANCISCO BAY AREA AIR BASIN	X		
SAN JOAQUIN VALLEY AIR BASIN	X		
SOUTH CENTRAL COAST AIR BASIN	X		
SOUTH COAST AIR BASIN	X		

FIGURE 3

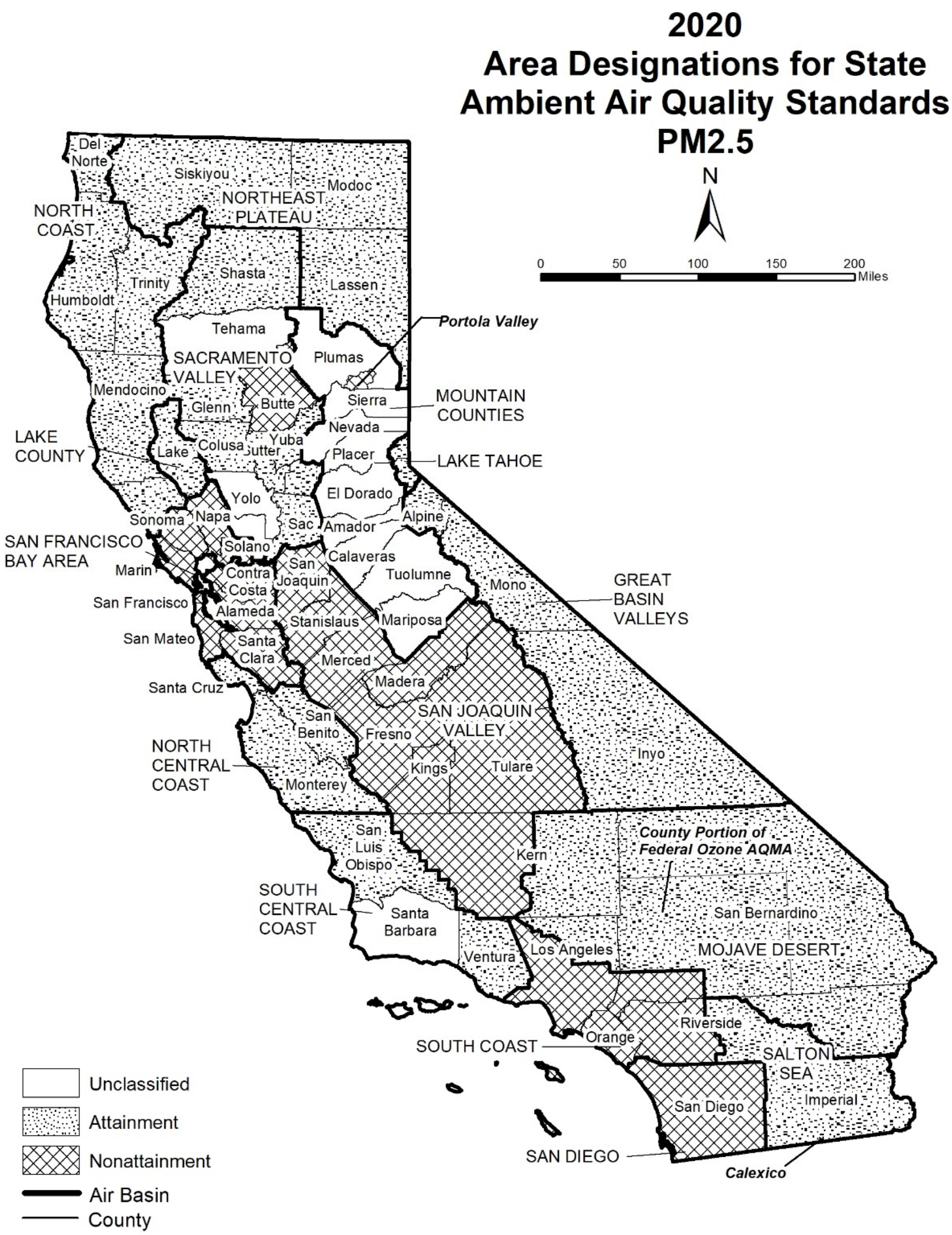

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TABLE 3

California Ambient Air Quality Standards
Area Designations for Fine Particulate Matter ($PM_{2.5}$)

	N	U	A
GREAT BASIN VALLEYS AIR BASIN			X
LAKE COUNTY AIR BASIN			X
LAKE TAHOE AIR BASIN			X
MOJAVE DESERT AIR BASIN			
San Bernardino County			
- County portion of federal Southeast Desert Modified AQMA for Ozone[1]			X
Remainder of Air Basin			X
MOUNTAIN COUNTIES AIR BASIN			
Plumas County			
- Portola Valley[2]	X		
Remainder of Air Basin		X	
NORTH CENTRAL COAST AIR BASIN			X
NORTH COAST AIR BASIN			X
NORTHEAST PLATEAU AIR BASIN			X
SACRAMENTO VALLEY AIR BASIN			
Butte County	X		
Colusa County			X
Glenn County			X
Placer County (portion)			X
Sacramento County			X
Shasta County			X
Sutter and Yuba Counties			X
Remainder of Air Basin		X	

	N	U	A
SALTON SEA AIR BASIN			
Imperial County			
- City of Calexico[3]	X		
Remainder of Air Basin			X
SAN DIEGO AIR BASIN	X		
SAN FRANCISCO BAY AREA AIR BASIN	X		
SAN JOAQUIN VALLEY AIR BASIN	X		
SOUTH CENTRAL COAST AIR BASIN			
San Luis Obispo County			X
Santa Barbara County		X	
Ventura County			X
SOUTH COAST AIR BASIN	X		

[1] California Code of Regulations, title 17, section 60200(b)
[2] California Code of Regulations, title 17, section 60200(c)
[3] California Code of Regulations, title 17, section 60200(a)

FIGURE 4

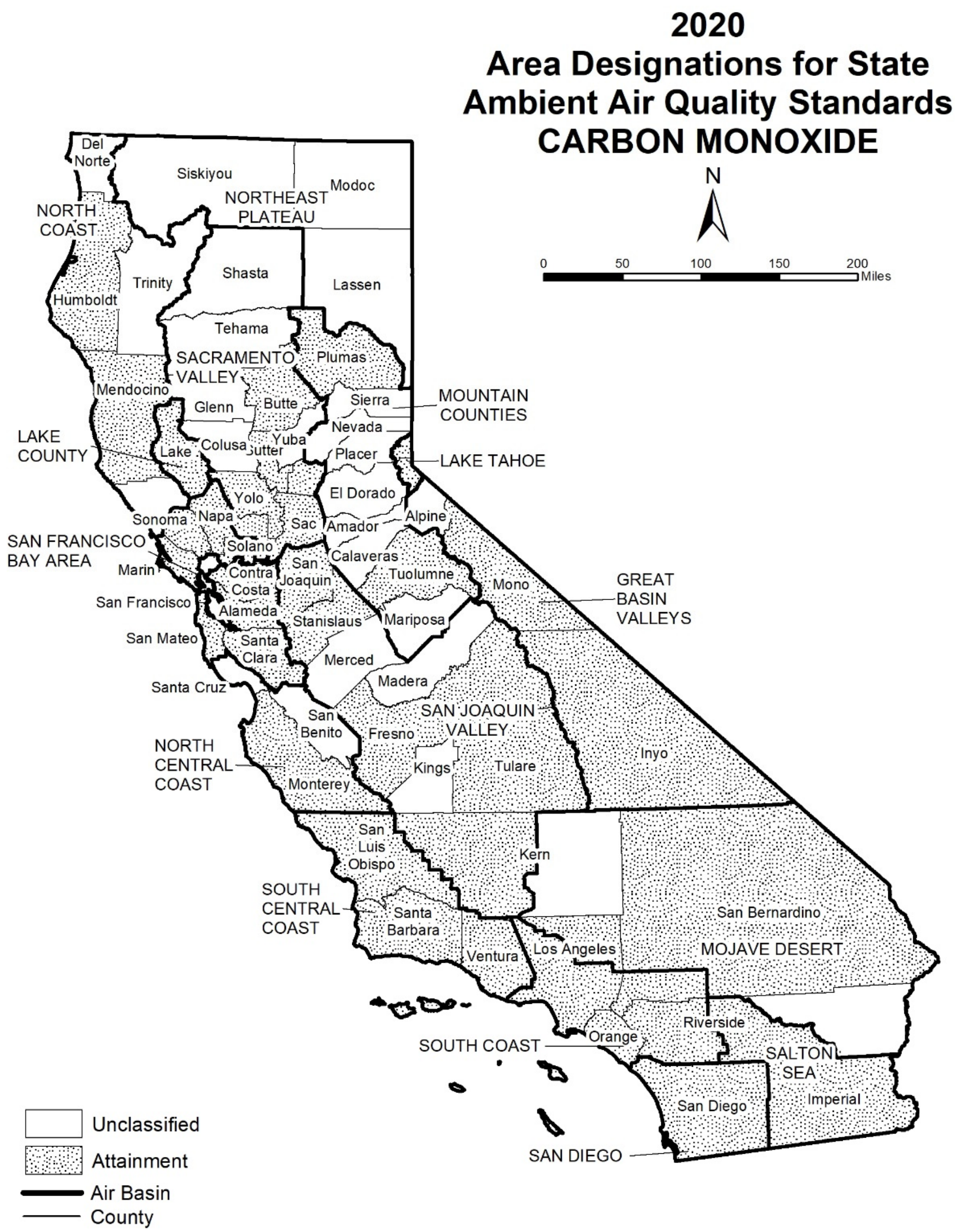

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TABLE 4

California Ambient Air Quality Standards
Area Designation for Carbon Monoxide*

	N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN				
Alpine County			X	
Inyo County				X
Mono County				X
LAKE COUNTY AIR BASIN				X
LAKE TAHOE AIR BASIN				X
MOJAVE DESERT AIR BASIN				
Kern County (portion)			X	
Los Angeles County (portion)				X
Riverside County (portion)			X	
San Bernardino County (portion)				X
MOUNTAIN COUNTIES AIR BASIN				
Amador County			X	
Calaveras County			X	
El Dorado County (portion)			X	
Mariposa County			X	
Nevada County			X	
Placer County (portion)			X	
Plumas County				X
Sierra County			X	
Tuolumne County				X
NORTH CENTRAL COAST AIR BASIN				
Monterey County				X
San Benito County			X	
Santa Cruz County			X	
NORTH COAST AIR BASIN				
Del Norte County			X	
Humboldt County				X
Mendocino County				X
Sonoma County (portion)			X	
Trinity County			X	
NORTHEAST PLATEAU AIR BASIN			X	

	N	NA-T	U	A
SACRAMENTO VALLEY AIR BASIN				
Butte County				X
Colusa County			X	
Glenn County			X	
Placer County (portion)				X
Sacramento County				X
Shasta County			X	
Solano County (portion)				X
Sutter County				X
Tehama County			X	
Yolo County				X
Yuba County			X	
SALTON SEA AIR BASIN				X
SAN DIEGO AIR BASIN				X
SAN FRANCISCO BAY AREA AIR BASIN				X
SAN JOAQUIN VALLEY AIR BASIN				
Fresno County				X
Kern County (portion)				X
Kings County			X	
Madera County			X	
Merced County			X	
San Joaquin County				X
Stanislaus County				X
Tulare County				X
SOUTH CENTRAL COAST AIR BASIN				X
SOUTH COAST AIR BASIN				X

* The area designated for carbon monoxide is a county or portion of a county

FIGURE 5


2020
Area Designations for State
Ambient Air Quality Standards
NITROGEN DIOXIDE
N
0
50
100
150
200
Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Lake
Colusa
Yuba
Sutter
Placer
LAKE TAHOE
El Dorado
Yolo
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Solano
Marin
San Joaquin
Calaveras
Contra Costa
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
San Benito
SAN JOAQUIN VALLEY
Fresno
NORTH CENTRAL COAST
Kings
Tulare
Inyo
Monterey
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
Ventura
Los Angeles
MOJAVE DESERT
CA 60 (Portion)
Riverside
Orange
SOUTH COAST
SALTON SEA
San Diego
Imperial
SAN DIEGO
Calexico
Los Angeles
San Bernardino
CA 60 (Portion)
Riverside
Orange
Attainment
Nonattainment
Air Basin
County
Last Updated: October 2020
Air Quality Planning and Science Division, CARB

TABLE 5

California Ambient Air Quality Standards
Area Designations for Nitrogen Dioxide

	N	U	A
GREAT BASIN VALLEYS AIR BASIN			X
LAKE COUNTY AIR BASIN			X
LAKE TAHOE AIR BASIN			X
MOJAVE DESERT AIR BASIN			X
MOUNTAIN COUNTIES AIR BASIN			X
NORTH CENTRAL COAST AIR BASIN			X
NORTH COAST AIR BASIN			X
NORTHEAST PLATEAU AIR BASIN			X

	N	U	A
SACRAMENTO VALLEY AIR BASIN			X
SALTON SEA AIR BASIN			X
SAN DIEGO AIR BASIN			X
SAN FRANCISCO BAY AREA AIR BASIN			X
SAN JOAQUIN VALLEY AIR BASIN			X
SOUTH CENTRAL COAST AIR BASIN			X
SOUTH COAST AIR BASIN			
CA 60 Near-road Portion of San Bernardino, Riverside, and Los Angeles Counties	X		
Remainder of Air Basin			X

FIGURE 6


2020
Area Designations for State
Ambient Air Quality Standards
SULFUR DIOXIDE
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
LAKE COUNTY
Lake
Colusa
Sutter
Yuba
Nevada
Placer
LAKE TAHOE
Yolo
El Dorado
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Solano
Marin
Contra Costa
San Joaquin
Calaveras
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
San Benito
SAN JOAQUIN VALLEY
Fresno
Inyo
NORTH CENTRAL COAST
Kings
Tulare
Monterey
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
Ventura
Los Angeles
MOJAVE DESERT
Riverside
SOUTH COAST
Orange
SALTON SEA
San Diego
Imperial
SAN DIEGO
Attainment
Air Basin
County
Last Updated: October 2020
Air Quality Planning and Science Division, CARB

TABLE 6

California Ambient Air Quality Standards
Area Designation for Sulfur Dioxide*

	N	A
GREAT BASIN VALLEYS AIR BASIN		X
LAKE COUNTY AIR BASIN		X
LAKE TAHOE AIR BASIN		X
MOJAVE DESERT AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X

	N	A
SACRAMENTO VALLEY AIR BASIN		X
SALTON SEA AIR BASIN		X
SAN DIEGO AIR BASIN		X
SAN FRANCISCO BAY AREA AIR BASIN		X
SAN JOAQUIN VALLEY AIR BASIN		X
SOUTH CENTRAL COAST AIR BASIN		X
SOUTH COAST AIR BASIN		X

* The area designated for sulfur dioxide is a county or portion of a county. Since all areas in the State are in attainment for this standard, air basins are indicated here for simplicity.

FIGURE 7


2020
Area Designations for State
Ambient Air Quality Standards
SULFATES
N
0
50
100
150
200
Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Lake
Colusa
Sutter
Yuba
Placer
LAKE TAHOE
Yolo
El Dorado
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Solano
Marin
Calaveras
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
San Benito
SAN JOAQUIN VALLEY
Fresno
Inyo
NORTH CENTRAL COAST
Kings
Tulare
Monterey
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
Ventura
Los Angeles
MOJAVE DESERT
Riverside
SOUTH COAST
Orange
SALTON SEA
San Diego
Imperial
SAN DIEGO
Attainment
Air Basin
County
Last Updated: October 2020
Air Quality Planning and Science Division, CARB

TABLE 7

California Ambient Air Quality Standards
Area Designation for Sulfates

	N	U	A
GREAT BASIN VALLEYS AIR BASIN			X
LAKE COUNTY AIR BASIN			X
LAKE TAHOE AIR BASIN			X
MOJAVE DESERT AIR BASIN			X
MOUNTAIN COUNTIES AIR BASIN			X
NORTH CENTRAL COAST AIR BASIN			X
NORTH COAST AIR BASIN			X
NORTHEAST PLATEAU AIR BASIN			X

	N	U	A
SACRAMENTO VALLEY AIR BASIN			X
SALTON SEA AIR BASIN			X
SAN DIEGO AIR BASIN			X
SAN FRANCISCO BAY AREA AIR BASIN			X
SAN JOAQUIN VALLEY AIR BASIN			X
SOUTH CENTRAL COAST AIR BASIN			X
SOUTH COAST AIR BASIN			X

FIGURE 8

2020
Area Designations for State Ambient Air Quality Standards
LEAD
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Lake
Colusa
Sutter
Yuba
Placer
LAKE TAHOE
Yolo
El Dorado
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
San Benito
SAN JOAQUIN VALLEY
Fresno
Inyo
NORTH CENTRAL COAST
Kings
Tulare
Monterey
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
Ventura
Los Angeles
MOJAVE DESERT
Riverside
SOUTH COAST
Orange
SALTON SEA
San Diego
Imperial
SAN DIEGO
Attainment
Air Basin
County
Last Updated: October 2020
Air Quality Planning and Science Division, CARB

TABLE 8

California Ambient Air Quality Standards
Area Designations for Lead (particulate)*

	N	U	A
GREAT BASIN VALLEYS AIR BASIN			X
LAKE COUNTY AIR BASIN			X
LAKE TAHOE AIR BASIN			X
MOJAVE DESERT AIR BASIN			X
MOUNTAIN COUNTIES AIR BASIN			X
NORTH CENTRAL COAST AIR BASIN			X
NORTH COAST AIR BASIN			X
NORTHEAST PLATEAU AIR BASIN			X
SACRAMENTO VALLEY AIR BASIN			X

	N	U	A
SALTON SEA AIR BASIN			X
SAN DIEGO AIR BASIN			X
SAN FRANCISCO BAY AREA AIR BASIN			X
SAN JOAQUIN VALLEY AIR BASIN			X
SOUTH CENTRAL COAST AIR BASIN			X
SOUTH COAST AIR BASIN			X

* The area designated for lead is a county or portion of a county. Since all areas in the State are in attainment for this standard, air basins are indicated here for simplicity.

FIGURE 9


2020
Area Designations for State Ambient Air Quality Standards
HYDROGEN SULFIDE
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Humboldt
Trinity
Shasta
Lassen
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Lake
Colusa
Sutter
Yuba
Placer
LAKE TAHOE
Geyser Geothermal
Yolo
El Dorado
City of Sutter Creek
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
San Benito
Fresno
SAN JOAQUIN VALLEY
Inyo
NORTH CENTRAL COAST
Monterey
Kings
Tulare
Searles Valley
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
Ventura
Los Angeles
MOJAVE DESERT
Riverside
SOUTH COAST
Orange
SALTON SEA
San Diego
Imperial
SAN DIEGO
Unclassified
Attainment
Nonattainment
Air Basin
County
Last Updated: October 2020
Air Quality Planning and Science Division, CARB

TABLE 9

California Ambient Air Quality Standards
Area Designation for Hydrogen Sulfide*

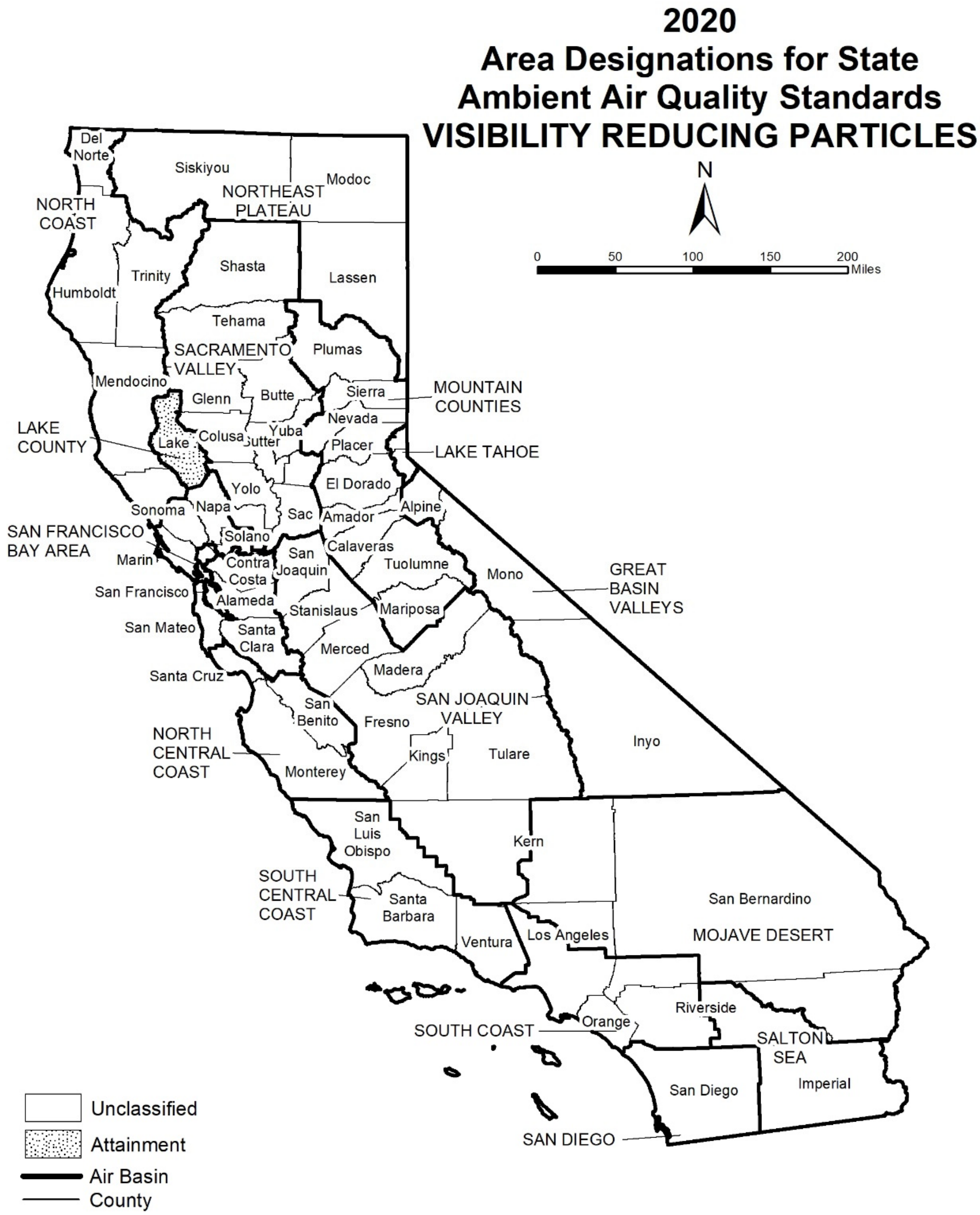
	N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN				
Alpine County			X	
Inyo County				X
Mono County				X
LAKE COUNTY AIR BASIN				X
LAKE TAHOE AIR BASIN			X	
MOJAVE DESERT AIR BASIN				
Kern County (portion)			X	
Los Angeles County (portion)			X	
Riverside County (portion)			X	
San Bernardino County (portion)				
- Searles Valley Planning Area[1]	X			
- Remainder of County			X	
MOUNTAIN COUNTIES AIR BASIN				
Amador County				
- City of Sutter Creek	X			
- Remainder of County			X	
Calaveras County			X	
El Dorado County (portion)			X	
Mariposa County			X	
Nevada County			X	
Placer County (portion)			X	
Plumas County			X	
Sierra County			X	
Tuolumne County			X	

	N	NA-T	U	A
NORTH CENTRAL COAST AIR BASIN			X	
NORTH COAST AIR BASIN				
Del Norte County			X	
Humboldt County				X
Mendocino County			X	
Sonoma County (portion)				
- Geyser Geothermal Area[2]				X
- Remainder of County			X	
Trinity County			X	
NORTHEAST PLATEAU AIR BASIN			X	
SACRAMENTO VALLEY AIR BASIN			X	
SALTON SEA AIR BASIN			X	
SAN DIEGO AIR BASIN			X	
SAN FRANCISCO BAY AREA AIR BASIN			X	
SAN JOAQUIN VALLEY AIR BASIN			X	
SOUTH CENTRAL COAST AIR BASIN				
San Luis Obispo County				X
Santa Barbara County				X
Ventura County			X	
SOUTH COAST AIR BASIN			X	

* The area designated for hydrogen sulfide is a county or portion of a county

[1] 52 Federal Register 29384 (August 7, 1987)
[2] California Code of Regulations, title 17, section 60200(d)

FIGURE 10



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Air Quality Planning and Science Division, CARB

TABLE 10

California Ambient Air Quality Standards
Area Designation for Visibility Reducing Particles

	N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN			X	
LAKE COUNTY AIR BASIN				X
LAKE TAHOE AIR BASIN			X	
MOJAVE DESERT AIR BASIN			X	
MOUNTAIN COUNTIES AIR BASIN			X	
NORTH CENTRAL COAST AIR BASIN			X	
NORTH COAST AIR BASIN			X	
NORTHEAST PLATEAU AIR BASIN			X	
SACRAMENTO VALLEY AIR BASIN			X	
SALTON SEA AIR BASIN			X	
SAN DIEGO AIR BASIN			X	
SAN FRANCISCO BAY AREA AIR BASIN			X	
SAN JOAQUIN VALLEY AIR BASIN			X	
SOUTH CENTRAL COAST AIR BASIN			X	
SOUTH COAST AIR BASIN			X	

Area Designations for the National Ambient Air Quality Standards

The following maps and tables show the area designations for each pollutant with a national ambient air quality standard. Additional information about the federal area designations is available on the U.S. EPA website:

https://www.epa.gov/green-book

Over the last several years, U.S. EPA has been reviewing the levels of the various national standards. The agency has already promulgated new standard levels for some pollutants and is considering revising the levels for others. Information about the status of these reviews is available on the U.S. EPA website:

https://www.epa.gov/criteria-air-pollutants

<u>Designation Categories</u>

Suspended Particulate Matter (PM_{10}). The U.S. EPA uses three categories to designate areas with respect to PM_{10}:

- Attainment (A)
- Nonattainment (N)
- Unclassifiable (U)

Ozone, Fine Suspended Particulate Matter ($PM_{2.5}$), Carbon Monoxide (CO), and Nitrogen Dioxide (NO_2). The U.S. EPA uses two categories to designate areas with respect to these standards:

- Nonattainment (N)
- Unclassifiable/Attainment (U/A)

The national 1-hour ozone standard was revoked effective June 15, 2005, and the area designations map reflects the 2015 national 8-hour ozone standard of 0.070 ppm. Area designations were finalized on August 3, 2018.

On December 14, 2012, the U.S. EPA established a new national annual primary $PM_{2.5}$ standard of 12.0 µg/m^3. Area designations were finalized in December 2014. The current designation map reflects the most recently revised (2012) annual average standard of 12.0 µg/m^3 as well as the 24-hour standard of 35 µg/m^3, revised in 2006.

On January 22, 2010, the U.S. EPA established a new national 1-hour NO_2 standard of 100 parts per billion (ppb) and retained the annual average standard of 53 ppb. Designations for the primary NO_2 standard became effective on February 29, 2012. All areas of California meet this standard.

Sulfur Dioxide (SO_2). The U.S. EPA uses three categories to designate areas with respect to the 24-hour and annual average sulfur dioxide standards. These designation categories are:

- Nonattainment (N),
- Unclassifiable (U), and
- Unclassifiable/Attainment (U/A).

On June 2, 2010, the U.S. EPA established a new primary 1-hour SO_2 standard of 75 parts per billion (ppb). At the same time, U.S. EPA revoked the 24-hour and annual average standards. Area designations for the 1-hour SO_2 standard were finalized on December 21, 2017 and are reflected in the area designations map.

Lead (particulate). The U.S. EPA promulgated a new rolling 3-month average lead standard in October 2008 of 0.15 µg/m^3. Designations were made for this standard in November 2010.

Designation Areas

From time to time, the boundaries of the California air basins have been changed to facilitate the planning process. CARB generally initiates these changes, and they are not always reflected in the U.S. EPA's area designations. For purposes of consistency, the maps in this attachment reflect area designation boundaries and nomenclature as promulgated by the U.S. EPA. In some cases, these may not be the same as those adopted by CARB. For example, the national area designations reflect the former Southeast Desert Air Basin. In accordance with Health and Safety Code section 39606.1, CARB redefined this area in 1996 to be the Mojave Desert Air Basin and Salton Sea Air Basin. The definitions and boundaries for all areas designated for the national standards can be found in Title 40, Code of Federal Regulations (CFR), Chapter I, Subchapter C, Part 81.305. They are available on the web at:

https://ecfr.io/Title-40/se40.20.81_1305

FIGURE 11

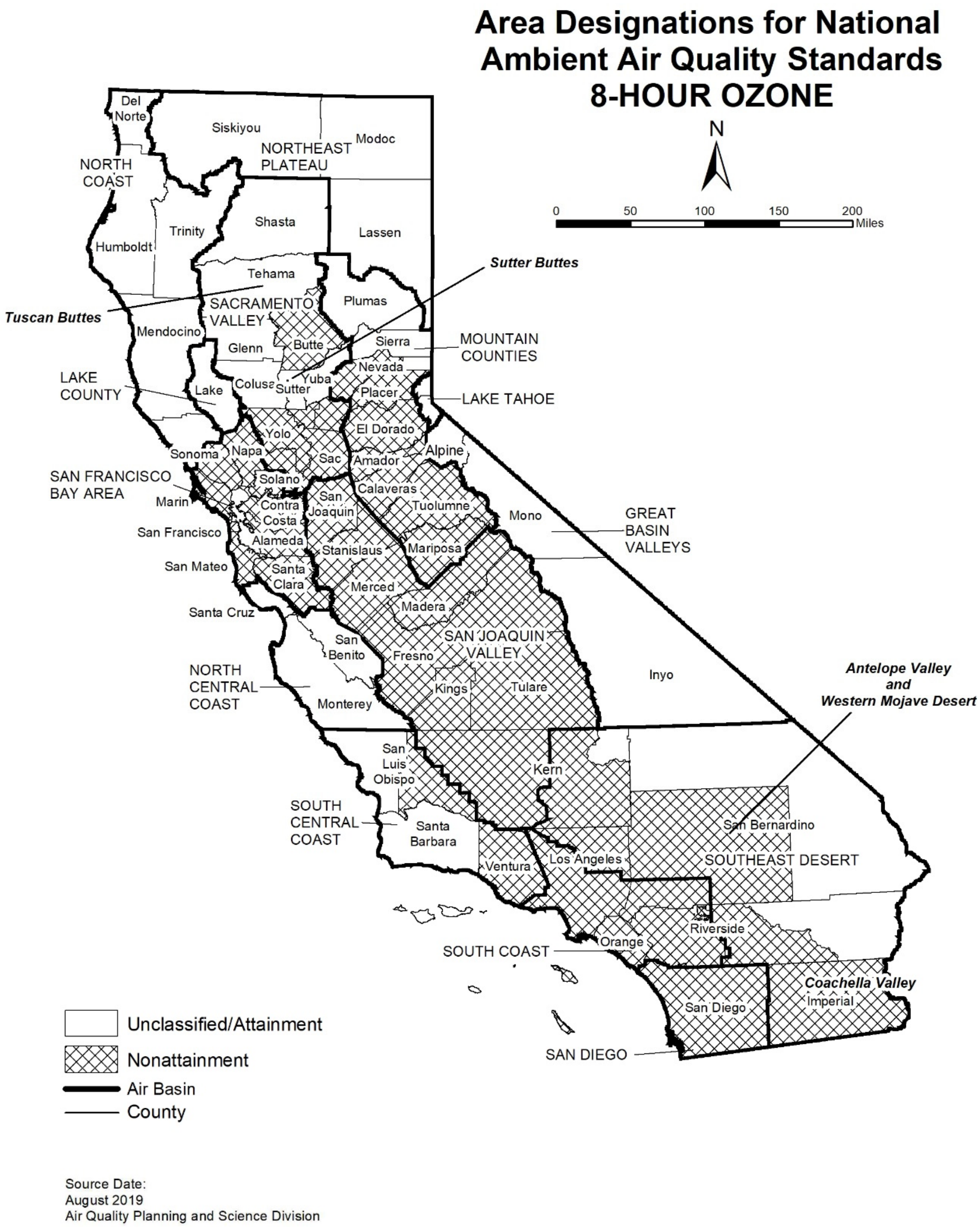

Area Designations for National Ambient Air Quality Standards
8-HOUR OZONE
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
Sutter Buttes
Tuscan Buttes
SACRAMENTO VALLEY
Plumas
Mendocino
Butte
Sierra
MOUNTAIN COUNTIES
Glenn
Nevada
LAKE COUNTY
Colusa
Yuba
Sutter
Lake
Placer
LAKE TAHOE
Yolo
El Dorado
Sonoma
Napa
Sac
Alpine
Amador
SAN FRANCISCO BAY AREA
Solano
San Joaquin
Calaveras
Marin
Contra Costa
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
Inyo
NORTH CENTRAL COAST
Kings
Tulare
Monterey
Antelope Valley and Western Mojave Desert
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
Ventura
Los Angeles
SOUTHEAST DESERT
Riverside
Orange
SOUTH COAST
Coachella Valley
San Diego
Imperial
SAN DIEGO
Unclassified/Attainment
Nonattainment
Air Basin
County
Source Date:
August 2019
Air Quality Planning and Science Division

TABLE 11

National Ambient Air Quality Standards
Area Designations for 8-Hour Ozone*

	N	U/A
GREAT BASIN VALLEYS AIR BASIN		X
LAKE COUNTY AIR BASIN		X
LAKE TAHOE AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		
Amador County	X	
Calaveras County	X	
El Dorado County (portion)[1]	X	
Mariposa County	X	
Nevada County		
- Western Nevada County	X	
- Remainder of County		X
Placer County (portion)[1]	X	
Plumas County		X
Sierra County		X
Tuolumne County	X	
NORTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X
SACRAMENTO VALLEY AIR BASIN		
Butte County	X	
Colusa County		X
Glenn County		X
Sacramento Metro Area[1]	X	
Shasta County		X
Sutter County		
- Sutter Buttes	X	
- Southern portion of Sutter County[1]	X	
- Remainder of Sutter County		X
Tehama County		
- Tuscan Buttes	X	
- Remainder of Tehama County		X

	N	U/A
SACRAMENTO VALLEY AIR BASIN (cont.)		
Yolo County[1]	X	
Yuba County		X
SAN DIEGO COUNTY	X	
SAN FRANCISCO BAY AREA AIR BASIN	X	
SAN JOAQUIN VALLEY AIR BASIN	X	
SOUTH CENTRAL COAST AIR BASIN[2]		
San Luis Obispo County		
- Eastern San Luis Obispo County	X	
- Remainder of County		X
Santa Barbara County		X
Ventura County		
- Area excluding Anacapa and San Nicolas Islands	X	
- Channel Islands[2]		X
SOUTH COAST AIR BASIN[2]	X	
SOUTHEAST DESERT AIR BASIN		
Kern County (portion)	X	
- Indian Wells Valley		X
Imperial County	X	
Los Angeles County (portion)	X	
Riverside County (portion)		
- Coachella Valley	X	
- Non-AQMA portion		X
San Bernardino County		
- Western portion (AQMA)	X	
- Eastern portion (non-AQMA)		X

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.
NOTE: This map and table reflect the 2015 8-hour ozone standard of 0.070 ppm.

---

[1] For this purpose, the Sacramento Metro Area comprises all of Sacramento and Yolo Counties, the Sacramento Valley Air Basin portion of Solano County, the southern portion of Sutter County, and the Sacramento Valley and Mountain Counties Air Basins portions of Placer and El Dorado counties.

[2] South Central Coast Air Basin Channel Islands:
Santa Barbara County includes Santa Cruz, San Miguel, Santa Rosa, and Santa Barbara Islands.
Ventura County includes Anacapa and San Nicolas Islands.
South Coast Air Basin:
Los Angeles County includes San Clemente and Santa Catalina Islands.

FIGURE 12

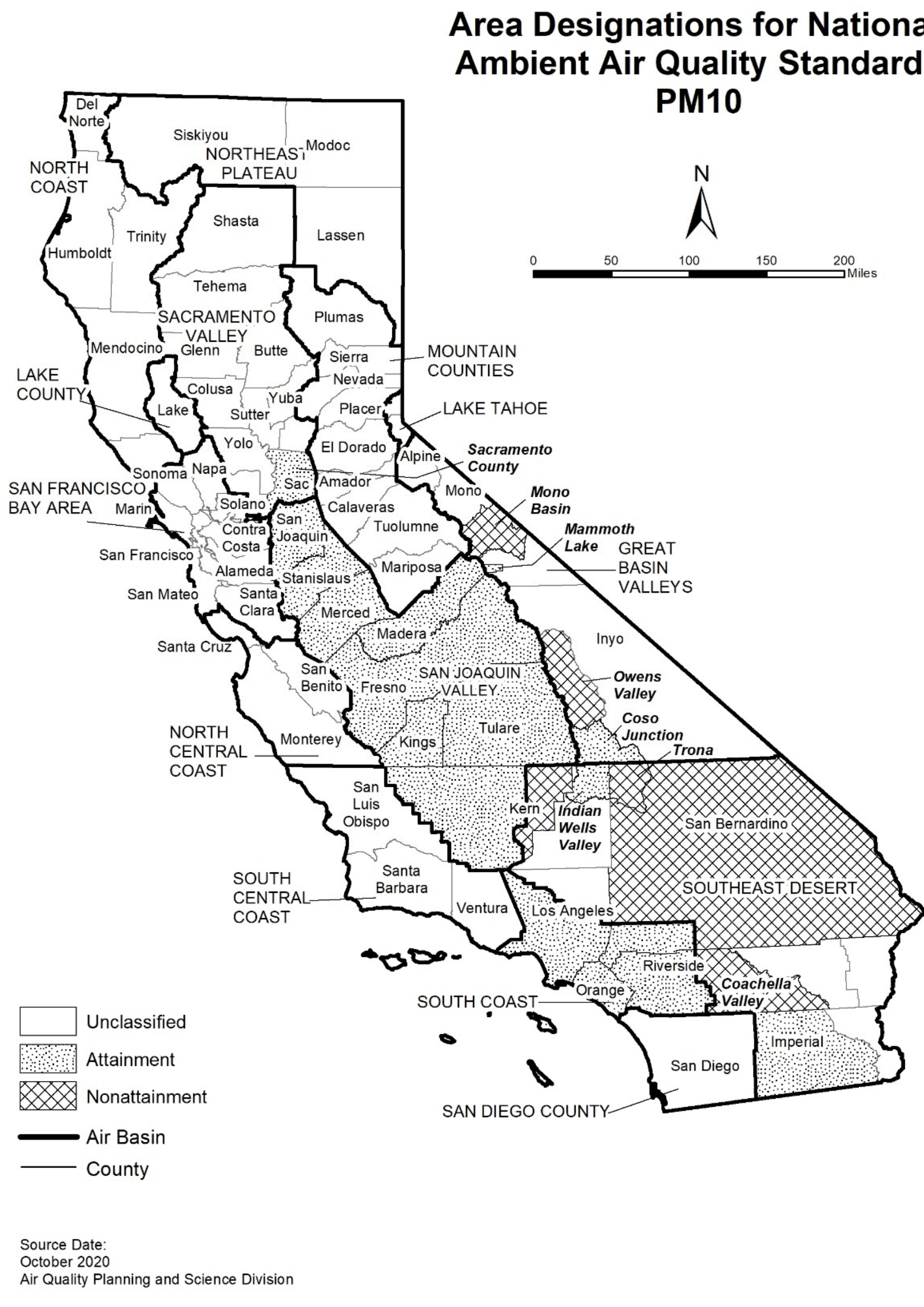

Area Designations for National Ambient Air Quality Standards PM10
N
0
50
100
150
200
Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Trinity
Humboldt
Tehema
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Colusa
Yuba
Lake
Sutter
Placer
LAKE TAHOE
Yolo
El Dorado
Alpine
Sacramento County
Sonoma
Napa
Sac
Amador
SAN FRANCISCO BAY AREA
Marin
Solano
Calaveras
Mono
Mono Basin
San Joaquin
Contra Costa
Tuolumne
Mammoth Lake
San Francisco
GREAT BASIN VALLEYS
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Inyo
Santa Cruz
San Benito
Fresno
SAN JOAQUIN VALLEY
Owens Valley
Tulare
Coso Junction
NORTH CENTRAL COAST
Monterey
Kings
Trona
San Luis Obispo
Kern
Indian Wells Valley
San Bernardino
SOUTH CENTRAL COAST
Santa Barbara
Ventura
SOUTHEAST DESERT
Los Angeles
Riverside
Coachella Valley
SOUTH COAST
Orange
Imperial
San Diego
SAN DIEGO COUNTY
Unclassified
Attainment
Nonattainment
Air Basin
County
Source Date:
October 2020
Air Quality Planning and Science Division

TABLE 12

National Ambient Air Quality Standards
Area Designations for Suspended Particulate Matter (PM_{10})*

	N	U	A
GREAT BASIN VALLEYS AIR BASIN			
Alpine County		X	
Inyo County			
- Owens Valley Planning Area	X		
- Coso Junction			X
- Remainder of County		X	
Mono County			
- Mammoth Lake Planning Area			X
- Mono Lake Basin	X		
- Remainder of County		X	
LAKE COUNTY AIR BASIN		X	
LAKE TAHOE AIR BASIN		X	
MOUNTAIN COUNTIES AIR BASIN			
Placer County (portion)[1]		X	
Remainder of Air Basin		X	
NORTH CENTRAL COAST AIR BASIN		X	
NORTH COAST AIR BASIN		X	
NORTHEAST PLATEAU AIR BASIN		X	
SACRAMENTO VALLEY AIR BASIN			
Butte County		X	
Colusa County		X	
Glenn County		X	
Placer County (portion)[1]		X	
Sacramento County[2]			X
Shasta County		X	
Solano County (portion)		X	
Sutter County		X	
Tehama County		X	
Yolo County		X	
Yuba County		X	

	N	U	A
SAN DIEGO COUNTY		X	
SAN FRANCISCO BAY AREA AIR BASIN		X	
SAN JOAQUIN VALLEY AIR BASIN			X
SOUTH CENTRAL COAST AIR BASIN		X	
SOUTH COAST AIR BASIN			X
SOUTHEAST DESERT AIR BASIN			
Eastern Kern County			
- Indian Wells Valley			X
- Portion within San Joaquin Valley Planning Area	X		
- Remainder of County		X	
Imperial County			
- Imperial Valley Planning Area[3]			X
- Remainder of County		X	
Los Angeles County (portion)		X	
Riverside County (portion)			
- Coachella Valley[4]	X		
- Non-AQMA portion		X	
San Bernardino County			
- Trona	X		
- Remainder of County	X		

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

1 U.S. EPA designation puts the Sacramento Valley Air Basin portion of Placer County in the Mountain Counties Air Basin.
2 Air quality in Sacramento County meets the national PM_{10} standards. The request for redesignation to attainment was approved by U.S. EPA in September 2013.
3 The request for redesignation to attainment for the Imperial Valley Planning Area was approved by U.S. EPA and in September 2020, effective October 2020.
4 Air quality in Coachella Valley meets the national PM_{10} standards. A request for redesignation to attainment has been submitted to U.S. EPA.

FIGURE 13

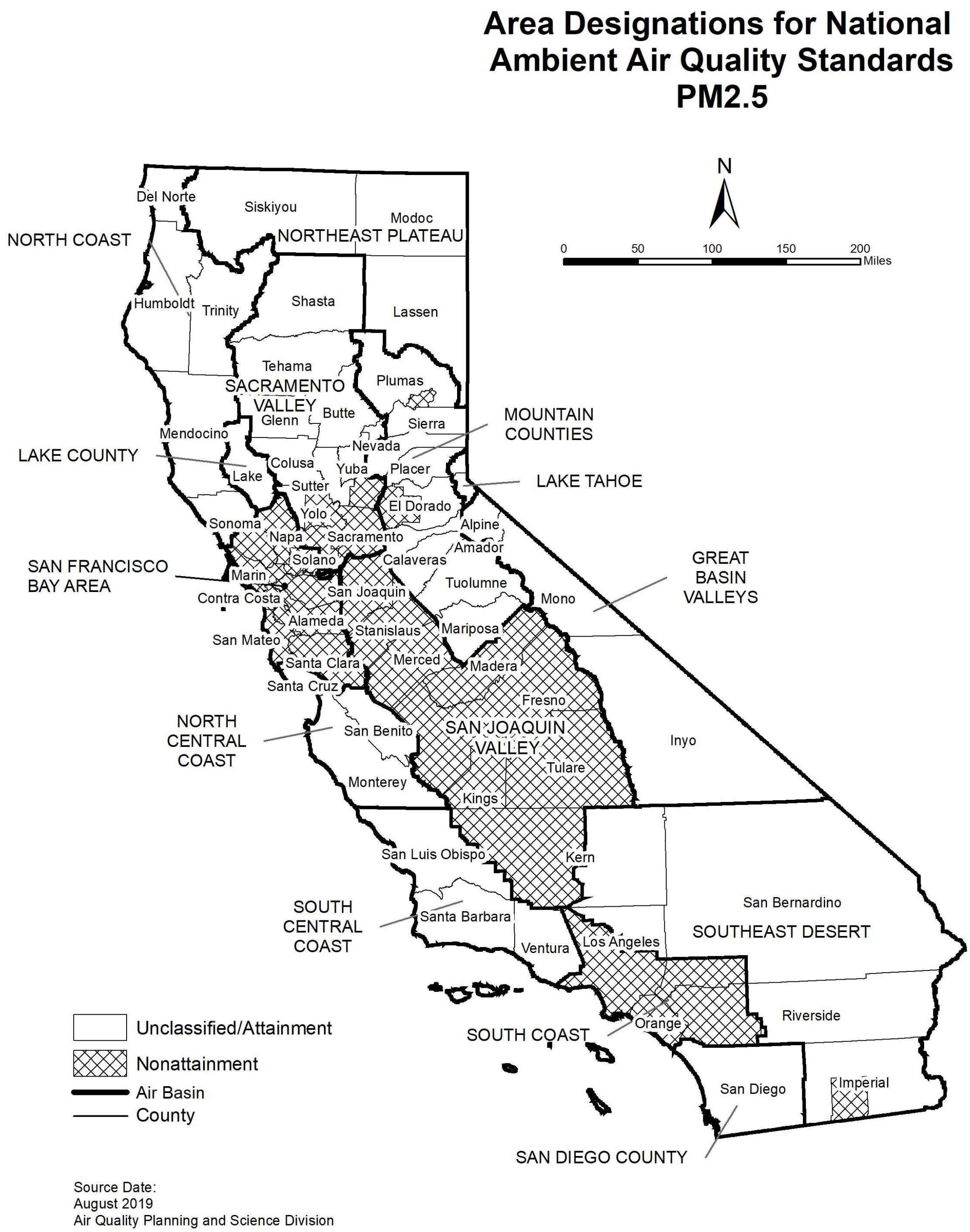

Area Designations for National Ambient Air Quality Standards PM2.5
N
0
50
100
150
200
Miles
Del Norte
Siskiyou
Modoc
NORTH COAST
NORTHEAST PLATEAU
Humboldt
Trinity
Shasta
Lassen
Tehama
SACRAMENTO VALLEY
Plumas
Glenn
Butte
MOUNTAIN COUNTIES
Sierra
Mendocino
Nevada
LAKE COUNTY
Colusa
Yuba
Placer
Lake
Sutter
LAKE TAHOE
Yolo
El Dorado
Sonoma
Alpine
Napa
Sacramento
Amador
Solano
Calaveras
GREAT BASIN VALLEYS
SAN FRANCISCO BAY AREA
Marin
Tuolumne
Contra Costa
San Joaquin
Mono
Alameda
Stanislaus
Mariposa
San Mateo
Merced
Santa Clara
Madera
Santa Cruz
Fresno
NORTH CENTRAL COAST
San Benito
SAN JOAQUIN VALLEY
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
San Bernardino
SOUTH CENTRAL COAST
Santa Barbara
SOUTHEAST DESERT
Los Angeles
Ventura
Riverside
SOUTH COAST
Orange
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Nonattainment
Air Basin
County
Source Date:
August 2019
Air Quality Planning and Science Division

TABLE 13

National Ambient Air Quality Standards
Area Designations for Fine Particulate Matter ($PM_{2.5}$)

	N	U/A
GREAT BASIN VALLEYS AIR BASIN		X
LAKE COUNTY AIR BASIN		X
LAKE TAHOE AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		
Plumas County		
- Portola Valley Portion of Plumas	X	
- Remainder of Plumas County		X
Remainder of Air Basin		X
NORTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X
SACRAMENTO VALLEY AIR BASIN		
Sacramento Metro Area[1]	X	
Sutter County		X
Yuba County (portion)		X
Remainder of Air Basin		X

	N	U/A
SAN DIEGO COUNTY		X
SAN FRANCISCO BAY AREA AIR BASIN[2]	X	
SAN JOAQUIN VALLEY AIR BASIN	X	
SOUTH CENTRAL COAST AIR BASIN		X
SOUTH COAST AIR BASIN[3]	X	
SOUTHEAST DESERT AIR BASIN		
Imperial County (portion)[4]	X	
Remainder of Air Basin		X

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305. This map reflects the 2006 24-hour $PM_{2.5}$ standard as well as the 1997 and 2012 $PM_{2.5}$ annual standards.

[1] For this purpose, Sacramento Metro Area comprises all of Sacramento and portions of El Dorado, Placer, Solano, and Yolo Counties. Air quality in this area meets the national $PM_{2.5}$ standards. A Determination of Attainment for the 2006 24-hour $PM_{2.5}$ standard was made by U.S. EPA in June 2017.

[2] Air quality in this area meets the national $PM_{2.5}$ standards. A Determination of Attainment for the 2006 24-hour $PM_{2.5}$ standard was made by U.S. EPA in June 2017.

[3] Those lands of the Santa Rosa Band of Cahulla Mission Indians in Riverside County are designated Unclassifiable/Attainment.

[4] That portion of Imperial County encompassing the urban and surrounding areas of Brawley, Calexico, El Centro, Heber, Holtville, Imperial, Seeley, and Westmorland. Air quality in this area meets the national $PM_{2.5}$ standards. A Determination of Attainment for the 2006 24-hour $PM_{2.5}$ standard was made by U.S. EPA in June 2017.

FIGURE 14

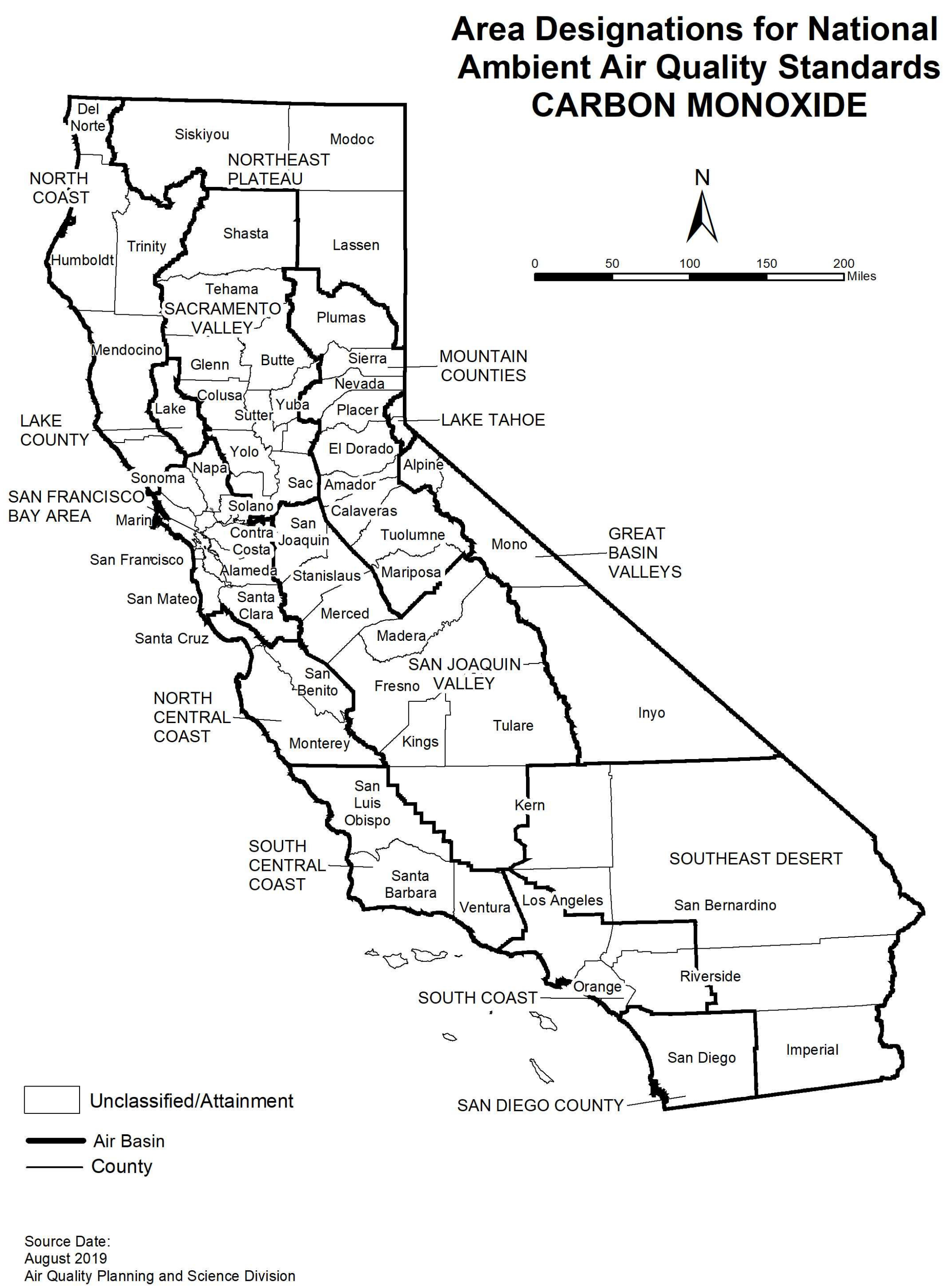

Area Designations for National
Ambient Air Quality Standards
CARBON MONOXIDE
N
0
50
100
150
200
Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Trinity
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
Colusa
Yuba
Lake
Sutter
Placer
LAKE TAHOE
LAKE COUNTY
Yolo
El Dorado
Napa
Alpine
Sonoma
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Marin
Calaveras
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
SOUTHEAST DESERT
Santa Barbara
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Air Basin
County
Source Date:
August 2019
Air Quality Planning and Science Division

TABLE 14

National Ambient Air Quality Standards
Area Designations for Carbon Monoxide*

	N	U/A
GREAT BASIN VALLEYS AIR BASIN		X
LAKE COUNTY AIR BASIN		X
LAKE TAHOE AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X

	N	U/A
SACRAMENTO VALLEY AIR BASIN		X
SAN DIEGO COUNTY		X
SAN FRANCISCO BAY AREA AIR BASIN		X
SAN JOAQUIN VALLEY AIR BASIN		X
SOUTH CENTRAL COAST AIR BASIN		X
SOUTH COAST AIR BASIN		X
SOUTHEAST DESERT AIR BASIN		X

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

FIGURE 15

Area Designations for National Ambient Air Quality Standards NITROGEN DIOXIDE

Source Date:
August 2019
Air Quality Planning and Science Division

TABLE 15

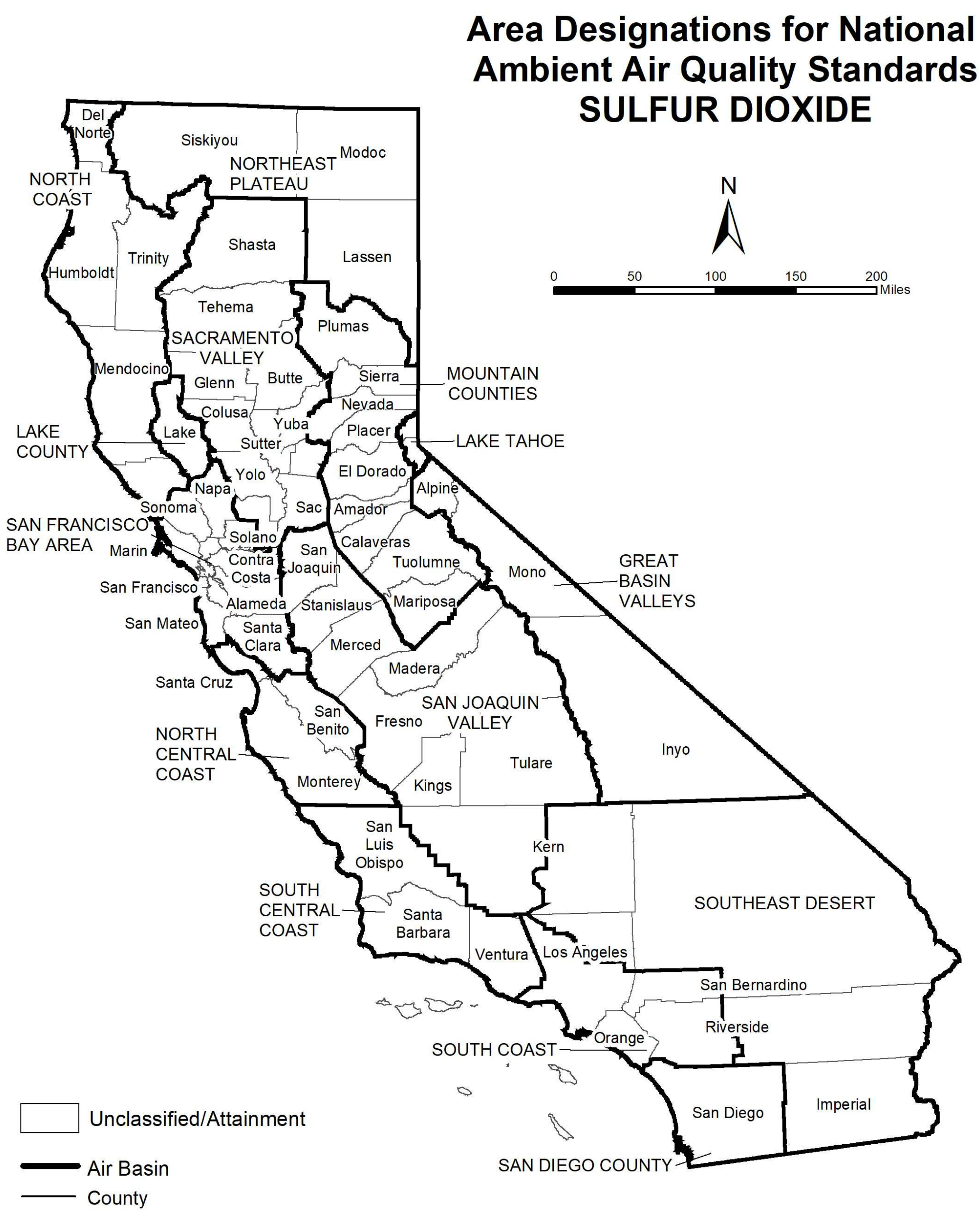
National Ambient Air Quality Standards
Area Designations for Nitrogen Dioxide*

	N	U/A
GREAT BASIN VALLEYS AIR BASIN		X
LAKE COUNTY AIR BASIN		X
LAKE TAHOE AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X

	N	U/A
SACRAMENTO VALLEY AIR BASIN		X
SAN DIEGO COUNTY		X
SAN FRANCISCO BAY AREA AIR BASIN		X
SAN JOAQUIN VALLEY AIR BASIN		X
SOUTH CENTRAL COAST AIR BASIN		X
SOUTH COAST AIR BASIN		X
SOUTHEAST DESERT AIR BASIN		X

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

FIGURE 16



Source Date:
August 2019
Air Quality Planning and Science Division

TABLE 16

National Ambient Air Quality Standards
Area Designations for Sulfur Dioxide*

	N	U/A
GREAT BASIN VALLEYS AIR BASIN		X
LAKE COUNTY AIR BASIN		X
LAKE TAHOE AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X
SACRAMENTO VALLEY AIR BASIN		X
SAN DIEGO COUNTY		X
SAN FRANCISCO BAY AREA AIR BASIN		X
SAN JOAQUIN VALLEY AIR BASIN		
Fresno County		X
Kern County (portion)		X
Kings County		X
Madera County		X
Merced County		X
San Joaquin County		X
Stanislaus County		X
Tulare County		X

	N	U/A
SOUTH CENTRAL COAST AIR BASIN		
San Luis Obispo County		X
Santa Barbara County		X
Ventura County		X
Channel Islands[1]		X
SOUTH COAST AIR BASIN		X
SOUTHEAST DESERT AIR BASIN		
Imperial County		X
Remainder of Air Basin		X

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.
NOTE: This map and table reflect the 2010 1-hour SO_2 standard of 75 ppb.

[1] South Central Coast Air Basin Channel Islands:
Santa Barbara County includes Santa Cruz, San Miguel, Santa Rosa, and Santa Barbara Islands.
Ventura County includes Anacapa and San Nicolas Islands.
Note that the San Clemente and Santa Catalina Islands are considered part of Los Angeles County, and therefore, are included as part of the South Coast Air Basin.

FIGURE 17

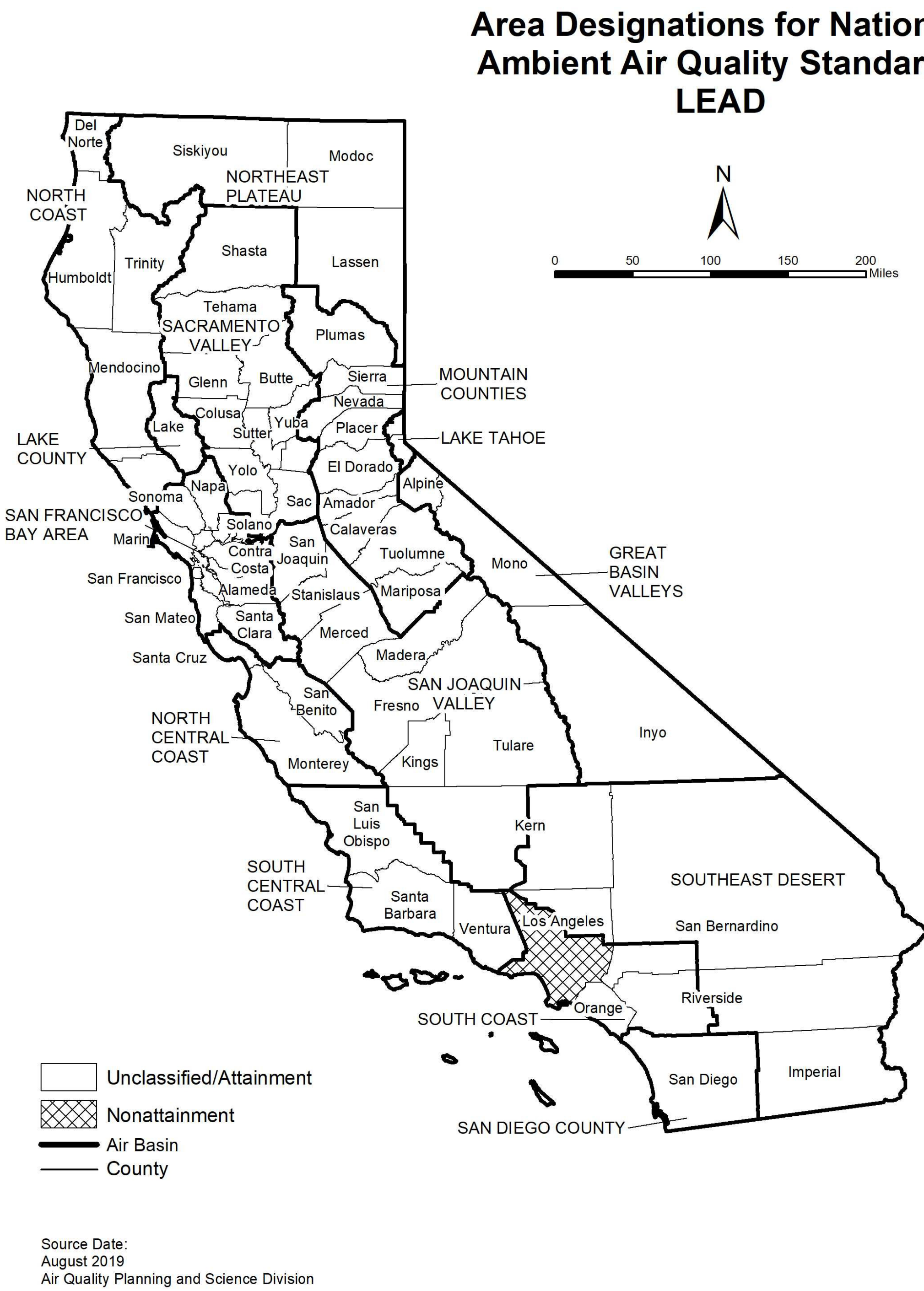

Area Designations for National Ambient Air Quality Standards
LEAD
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Trinity
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
Colusa
Yuba
Sutter
Placer
Lake
LAKE TAHOE
LAKE COUNTY
Yolo
El Dorado
Napa
Alpine
Sonoma
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
San Joaquin
Contra Costa
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Kings
Monterey
San Luis Obispo
Kern
SOUTH CENTRAL COAST
SOUTHEAST DESERT
Santa Barbara
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Nonattainment
Air Basin
County
Source Date:
August 2019
Air Quality Planning and Science Division

TABLE 17

National Ambient Air Quality Standards
Area Designations for Lead (particulate)

	N	U/A
GREAT BASIN VALLEYS AIR BASIN		X
LAKE COUNTY AIR BASIN		X
LAKE TAHOE AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X
SACRAMENTO VALLEY AIR BASIN		X

	N	U/A
SAN DIEGO COUNTY		X
SAN FRANCISCO BAY AREA AIR BASIN		X
SAN JOAQUIN VALLEY AIR BASIN		X
SOUTH CENTRAL COAST AIR BASIN		X
SOUTH COAST AIR BASIN		
Los Angeles County (portion)[1]	X	
Remainder of Air Basin		X
SOUTHEAST DESERT AIR BASIN		X

[1] Portion of County in Air Basin, not including Channel Islands

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APPENDIX 3.1:

CALEEMOD PROJECT CONSTRUCTION EMISSIONS MODEL OUTPUTS

Mapes & Sherman (Construction) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Mapes & Sherman (Construction)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	0.20
Location	33.75710422655197, -117.18112679049779
County	Riverside-South Coast
City	Menifee
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5512
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Unrefrigerated Warehouse-No Rail	278	1000sqft	7.98	277,578	69,981	0.00	—	—
Parking Lot	377	Space	2.02	0.00	0.00	0.00	—	—

Other Asphalt Surfaces	145	1000sqft	3.34	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.46	39.2	28.2	40.9	0.05	1.48	2.34	3.82	1.36	0.56	1.92	—	7,875	7,875	0.30	0.29	12.1	7,979
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.94	4.99	47.2	39.3	0.08	2.53	5.92	8.46	2.33	2.75	5.08	—	10,189	10,189	0.34	0.57	0.27	10,368
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.37	5.00	8.73	11.3	0.02	0.47	0.83	1.30	0.43	0.21	0.63	—	2,503	2,503	0.10	0.11	1.91	2,540
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.25	0.91	1.59	2.06	< 0.005	0.09	0.15	0.24	0.08	0.04	0.12	—	414	414	0.02	0.02	0.32	421

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.46	39.2	28.2	40.9	0.05	1.48	2.34	3.82	1.36	0.56	1.92	—	7,875	7,875	0.30	0.29	12.1	7,979
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	5.94	4.99	47.2	39.3	0.08	2.53	5.92	8.46	2.33	2.75	5.08	—	10,189	10,189	0.34	0.57	0.27	10,368
2024	2.98	2.53	19.1	23.8	0.04	1.04	1.85	2.89	0.96	0.45	1.41	—	5,503	5,503	0.21	0.25	0.26	5,584
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.80	0.67	6.35	5.62	0.01	0.31	0.59	0.91	0.29	0.21	0.50	—	1,369	1,369	0.05	0.07	0.61	1,390
2024	1.37	5.00	8.73	11.3	0.02	0.47	0.83	1.30	0.43	0.20	0.63	—	2,503	2,503	0.10	0.11	1.91	2,540
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.15	0.12	1.16	1.03	< 0.005	0.06	0.11	0.17	0.05	0.04	0.09	—	227	227	0.01	0.01	0.10	230
2024	0.25	0.91	1.59	2.06	< 0.005	0.09	0.15	0.24	0.08	0.04	0.12	—	414	414	0.02	0.02	0.32	421

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.83	4.90	47.0	38.0	0.05	2.53	—	2.53	2.33	—	2.33	—	5,530	5,530	0.22	0.04	—	5,549

Dust From Material Movement	—	—	—	—	—	—	5.66	5.66	—	2.69	2.69	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.29	1.04	< 0.005	0.07	—	0.07	0.06	—	0.06	—	152	152	0.01	< 0.005	—	152
Dust From Material Movement	—	—	—	—	—	—	0.16	0.16	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.24	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.1	25.1	< 0.005	< 0.005	—	25.2
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.11	1.24	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	243	243	0.01	0.01	0.03	246
Vendor	< 0.005	< 0.005	0.12	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	94.3	94.3	< 0.005	0.01	0.01	98.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	6.74	6.74	< 0.005	< 0.005	0.01	6.84
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.58	2.58	< 0.005	< 0.005	< 0.005	2.70
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.12	1.12	< 0.005	< 0.005	< 0.005	1.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.43	0.43	< 0.005	< 0.005	< 0.005	0.45
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.00	4.20	40.9	32.7	0.06	1.96	—	1.96	1.80	—	1.80	—	6,715	6,715	0.27	0.05	—	6,738
Dust From Material Movement	—	—	—	—	—	—	2.67	2.67	—	0.98	0.98	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	3.36	2.69	0.01	0.16	—	0.16	0.15	—	0.15	—	552	552	0.02	< 0.005	—	554

Dust From Material Movement	—	—	—	—	—	—	0.22	0.22	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.61	0.49	< 0.005	0.03	—	0.03	0.03	—	0.03	—	91.4	91.4	< 0.005	< 0.005	—	91.7
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.12	1.37	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	270	270	0.01	0.01	0.03	273
Vendor	0.01	0.01	0.27	0.08	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	220	220	< 0.005	0.03	0.02	230
Hauling	0.12	0.04	3.58	0.83	0.02	0.06	0.20	0.26	0.06	0.07	0.13	—	2,984	2,984	0.05	0.47	0.16	3,127
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	22.5	22.5	< 0.005	< 0.005	0.04	22.8
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.1	18.1	< 0.005	< 0.005	0.02	18.9
Hauling	0.01	< 0.005	0.30	0.07	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	245	245	< 0.005	0.04	0.22	257
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	3.72	3.72	< 0.005	< 0.005	0.01	3.77
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.99	2.99	< 0.005	< 0.005	< 0.005	3.13

Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	40.6	40.6	< 0.005	0.01	0.04	42.6

3.5. Building Construction (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.47	2.07	18.3	16.2	0.03	1.14	—	1.14	1.05	—	1.05	—	2,806	2,806	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.14	1.22	1.08	< 0.005	0.08	—	0.08	0.07	—	0.07	—	187	187	0.01	< 0.005	—	187
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.9	30.9	< 0.005	< 0.005	—	31.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.65	0.59	0.72	8.04	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,579	1,579	0.08	0.06	0.19	1,599
Vendor	0.06	0.03	1.42	0.43	0.01	0.02	0.07	0.08	0.02	0.02	0.04	—	1,163	1,163	0.02	0.17	0.08	1,215
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.05	0.56	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	106	106	0.01	< 0.005	0.21	108
Vendor	< 0.005	< 0.005	0.10	0.03	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	77.3	77.3	< 0.005	0.01	0.09	80.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	17.6	17.6	< 0.005	< 0.005	0.03	17.9
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.31	1.93	17.1	16.0	0.03	1.03	—	1.03	0.94	—	0.94	—	2,805	2,805	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.31	1.93	17.1	16.0	0.03	1.03	—	1.03	0.94	—	0.94	—	2,805	2,805	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.98	0.82	7.29	6.83	0.01	0.44	—	0.44	0.40	—	0.40	—	1,197	1,197	0.05	0.01	—	1,201
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.33	1.25	< 0.005	0.08	—	0.08	0.07	—	0.07	—	198	198	0.01	< 0.005	—	199
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.66	0.60	0.56	9.77	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,684	1,684	0.07	0.06	6.68	1,710
Vendor	0.05	0.03	1.30	0.40	0.01	0.02	0.07	0.08	0.02	0.02	0.04	—	1,149	1,149	0.02	0.17	3.24	1,204
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.62	0.56	0.67	7.38	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,548	1,548	0.07	0.06	0.17	1,567
Vendor	0.05	0.03	1.36	0.41	0.01	0.02	0.07	0.08	0.02	0.02	0.04	—	1,150	1,150	0.02	0.17	0.08	1,202
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.24	0.28	3.32	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	669	669	0.03	0.02	1.23	678
Vendor	0.02	0.01	0.58	0.18	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	490	490	0.01	0.07	0.59	513

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.61	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	111	111	0.01	< 0.005	0.20	112
Vendor	< 0.005	< 0.005	0.11	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	81.2	81.2	< 0.005	0.01	0.10	84.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.43	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8

Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	1.25	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	216	216	0.01	0.01	0.86	219
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	11.0	11.0	< 0.005	< 0.005	0.02	11.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.82	1.82	< 0.005	< 0.005	< 0.005	1.85
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2024) - Unmitigated

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

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

Off-Road Equipment	0.22	0.18	1.21	1.53	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	34.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.5	19.5	< 0.005	< 0.005	—	19.6
Architectural Coatings	—	3.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.23	3.23	< 0.005	< 0.005	—	3.24
Architectural Coatings	—	0.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.92	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	331	331	0.01	0.01	1.31	336
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.17	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	33.8	33.8	< 0.005	< 0.005	0.06	34.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	5.59	5.59	< 0.005	< 0.005	0.01	5.67
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description

Site Preparation	Site Preparation	10/3/2023	10/16/2023	5.00	10.0	—
Grading	Grading	10/17/2023	11/27/2023	5.00	30.0	—
Building Construction	Building Construction	11/28/2023	8/5/2024	5.00	180	—
Paving	Paving	7/9/2024	8/5/2024	5.00	20.0	—
Architectural Coating	Architectural Coating	6/11/2024	8/5/2024	5.00	40.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Average	4.00	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Building Construction	Crawler Tractors	Diesel	Average	3.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	18.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	3.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	7.00	10.2	HHDT,MHDT
Grading	Hauling	42.0	20.0	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	117	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	37.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	0.00	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	0.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	23.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT

Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	427,392	142,464	14,700

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	35.0	0.00	—
Grading	10,100	0.00	120	0.00	—
Paving	0.00	0.00	0.00	0.00	5.36

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt

Unrefrigerated Warehouse-No Rail	0.00	0%
Parking Lot	2.02	100%
Other Asphalt Surfaces	3.34	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.1	annual days of extreme heat
Extreme Precipitation	2.60	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	15.2	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A

Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract

Exposure Indicators	—
AQ-Ozone	95.3
AQ-PM	50.7
AQ-DPM	43.2
Drinking Water	10.2
Lead Risk Housing	35.1
Pesticides	57.8
Toxic Releases	25.3
Traffic	81.8
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	35.6
Impaired Water Bodies	0.00
Solid Waste	35.7
Sensitive Population	—
Asthma	39.1
Cardio-vascular	72.9
Low Birth Weights	37.9
Socioeconomic Factor Indicators	—
Education	86.4
Housing	73.4
Linguistic	44.4
Poverty	87.8
Unemployment	67.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	21.59630438
Employed	8.956756063
Education	—
Bachelor's or higher	3.836776594
High school enrollment	6.685486975
Preschool enrollment	31.33581419
Transportation	—
Auto Access	49.51879892
Active commuting	15.06480175
Social	—
2-parent households	62.08135506
Voting	24.39368664
Neighborhood	—
Alcohol availability	66.20043629
Park access	2.194276915
Retail density	9.316052868
Supermarket access	32.97831387
Tree canopy	0.667265495
Housing	—
Homeownership	65.03272167
Housing habitability	43.02579238
Low-inc homeowner severe housing cost burden	15.44976261
Low-inc renter severe housing cost burden	71.34607982
Uncrowded housing	14.42320031
Health Outcomes	—

Insured adults	9.547029385
Arthritis	32.0
Asthma ER Admissions	60.6
High Blood Pressure	38.5
Cancer (excluding skin)	55.0
Asthma	27.9
Coronary Heart Disease	28.5
Chronic Obstructive Pulmonary Disease	23.6
Diagnosed Diabetes	33.2
Life Expectancy at Birth	16.6
Cognitively Disabled	44.8
Physically Disabled	87.9
Heart Attack ER Admissions	34.3
Mental Health Not Good	26.2
Chronic Kidney Disease	27.1
Obesity	17.5
Pedestrian Injuries	90.3
Physical Health Not Good	26.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	35.4
Current Smoker	23.0
No Leisure Time for Physical Activity	24.4
Climate Change Exposures	—
Wildfire Risk	7.3
SLR Inundation Area	0.0
Children	81.0

Elderly	85.6
English Speaking	69.8
Foreign-born	42.8
Outdoor Workers	5.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	92.8
Traffic Density	52.0
Traffic Access	23.0
Other Indices	—
Hardship	80.6
Other Decision Support	—
2016 Voting	37.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	58.0
Healthy Places Index Score for Project Location (b)	11.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health and Equity Evaluation Scorecard not completed.

8. User Changes to Default Data

Screen	Justification
Land Use	Total Project area is +/- 13.3 acres
Construction: Construction Phases	Construction anticipated to begin October 2023 and end August 2024
Construction: Off-Road Equipment	Equipment adjusted based on the changes made to the Construction Schedule
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Site Preparation, Grading, and Building Construction
Construction: Architectural Coatings	Rule 1113

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APPENDIX 3.2:

CALEEMOD PROJECT REGIONAL OPERATIONAL EMISSIONS MODEL OUTPUTS

Mapes & Sherman (Operations) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Mapes & Sherman (Operations)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	0.20
Location	33.75710422655197, -117.18112679049779
County	Riverside-South Coast
City	Menifee
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5512
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Unrefrigerated Warehouse-No Rail	278	1000sqft	7.98	277,578	69,981	0.00	—	—
User Defined Industrial	278	User Defined Unit	0.00	0.00	0.00	0.00	—	—

Parking Lot	377	Space	2.02	0.00	0.00	0.00	—	—
Other Asphalt Surfaces	145	1000sqft	3.34	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	10.9	9.33	43.8	0.13	0.16	3.26	3.43	0.16	0.62	0.78	264	15,058	15,321	27.2	1.54	326	16,785
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.54	8.86	9.74	26.0	0.12	0.15	3.26	3.41	0.14	0.62	0.76	264	14,518	14,782	27.2	1.55	284	16,205
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.32	9.63	7.28	28.0	0.09	0.12	2.39	2.50	0.12	0.45	0.57	264	11,162	11,426	27.1	1.22	297	12,763
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.61	1.76	1.33	5.11	0.02	0.02	0.44	0.46	0.02	0.08	0.10	43.6	1,848	1,892	4.48	0.20	49.1	2,113

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.64	2.27	9.23	31.7	0.13	0.15	3.26	3.41	0.14	0.62	0.76	—	13,291	13,291	0.33	1.21	43.1	13,705
Area	2.15	8.68	0.10	12.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	49.6	49.6	< 0.005	< 0.005	—	51.1
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,294	1,294	0.12	0.01	—	1,301
Water	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Waste	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	4.79	10.9	9.33	43.8	0.13	0.16	3.26	3.43	0.16	0.62	0.78	264	15,058	15,321	27.2	1.54	326	16,785
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.54	2.16	9.74	26.0	0.12	0.15	3.26	3.41	0.14	0.62	0.76	—	12,801	12,801	0.34	1.23	1.12	13,176
Area	—	6.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,294	1,294	0.12	0.01	—	1,301
Water	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Waste	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	2.54	8.86	9.74	26.0	0.12	0.15	3.26	3.41	0.14	0.62	0.76	264	14,518	14,782	27.2	1.55	284	16,205
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.85	1.57	7.21	19.7	0.09	0.11	2.39	2.49	0.10	0.45	0.55	—	9,411	9,411	0.25	0.90	13.6	9,699
Area	1.47	8.06	0.07	8.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.0	34.0	< 0.005	< 0.005	—	35.0
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,294	1,294	0.12	0.01	—	1,301
Water	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Waste	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283

Total	3.32	9.63	7.28	28.0	0.09	0.12	2.39	2.50	0.12	0.45	0.57	264	11,162	11,426	27.1	1.22	297	12,763
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.34	0.29	1.32	3.60	0.02	0.02	0.44	0.45	0.02	0.08	0.10	—	1,558	1,558	0.04	0.15	2.25	1,606
Area	0.27	1.47	0.01	1.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.63	5.63	< 0.005	< 0.005	—	5.79
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	214	214	0.02	< 0.005	—	215
Water	—	—	—	—	—	—	—	—	—	—	—	20.4	70.0	90.4	2.09	0.05	—	158
Waste	—	—	—	—	—	—	—	—	—	—	—	23.3	0.00	23.3	2.33	0.00	—	81.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.8	46.8
Total	0.61	1.76	1.33	5.11	0.02	0.02	0.44	0.46	0.02	0.08	0.10	43.6	1,848	1,892	4.48	0.20	49.1	2,113

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	2.33	2.10	1.47	29.6	0.06	0.03	0.29	0.32	0.03	0.09	0.11	—	6,337	6,337	0.20	0.15	25.2	6,411
User Defined Industrial	0.31	0.16	7.76	2.13	0.06	0.12	0.49	0.61	0.11	0.16	0.27	—	6,954	6,954	0.13	1.07	17.9	7,294
Parking Lot	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	0.00

Other Asphalt Surfaces	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	0.00
Total	2.64	2.27	9.23	31.7	0.13	0.15	0.78	0.92	0.14	0.24	0.38	—	13,291	13,291	0.33	1.21	43.1	13,705
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	2.23	2.00	1.63	23.8	0.06	0.03	0.29	0.32	0.03	0.09	0.11	—	5,844	5,844	0.21	0.16	0.65	5,897
User Defined Industrial	0.30	0.16	8.10	2.15	0.06	0.12	0.49	0.61	0.11	0.16	0.27	—	6,957	6,957	0.13	1.07	0.46	7,279
Parking Lot	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	0.00
Other Asphalt Surfaces	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	0.00
Total	2.54	2.16	9.74	26.0	0.12	0.15	0.78	0.92	0.14	0.24	0.38	—	12,801	12,801	0.34	1.23	1.12	13,176
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.30	0.27	0.22	3.32	0.01	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	716	716	0.03	0.02	1.32	724
User Defined Industrial	0.04	0.02	1.09	0.28	0.01	0.02	0.07	0.08	0.02	0.02	0.04	—	842	842	0.02	0.13	0.94	882
Parking Lot	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	0.00
Other Asphalt Surfaces	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	0.00
Total	0.34	0.29	1.32	3.60	0.02	0.02	0.10	0.12	0.02	0.03	0.05	—	1,558	1,558	0.04	0.15	2.25	1,606

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,220	1,220	0.12	0.01	—	1,227
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	73.6	73.6	0.01	< 0.005	—	74.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,294	1,294	0.12	0.01	—	1,301
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,220	1,220	0.12	0.01	—	1,227
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	73.6	73.6	0.01	< 0.005	—	74.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,294	1,294	0.12	0.01	—	1,301
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	202	202	0.02	< 0.005	—	203
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.2	12.2	< 0.005	< 0.005	—	12.3
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	214	214	0.02	< 0.005	—	215

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	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

User Defined Industrial	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
Parking Lot	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
Other Asphalt Surfaces	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	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
User Defined Industrial	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
Parking Lot	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
Other Asphalt Surfaces	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	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
User Defined Industrial	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

Parking Lot	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
Other Asphalt Surfaces	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	5.96	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.15	1.98	0.10	12.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	49.6	49.6	< 0.005	< 0.005	—	51.1
Total	2.15	8.68	0.10	12.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	49.6	49.6	< 0.005	< 0.005	—	51.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	5.96	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	6.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.27	0.25	0.01	1.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.63	5.63	< 0.005	< 0.005	—	5.79
Total	0.27	1.47	0.01	1.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.63	5.63	< 0.005	< 0.005	—	5.79

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	20.4	70.0	90.4	2.09	0.05	—	158
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	20.4	70.0	90.4	2.09	0.05	—	158

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	23.3	0.00	23.3	2.33	0.00	—	81.5
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	23.3	0.00	23.3	2.33	0.00	—	81.5

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.8	46.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.8	46.8

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	486	41.1	16.5	129,712	8,497	719	288	2,267,884
User Defined Industrial	106	8.97	3.58	28,292	2,219	188	75.0	592,254
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	426,865	142,288	13,998

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	1,277,512	349	0.0330	0.0040	0.00
User Defined Industrial	0.00	349	0.0330	0.0040	0.00
Parking Lot	77,080	349	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	349	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	64,189,912	1,109,599
User Defined Industrial	0.00	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	261	0.00
User Defined Industrial	0.00	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Unrefrigerated Warehouse-No Rail	Cold storage	User Defined	150	7.50	7.50	7.50	25.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.1	annual days of extreme heat
Extreme Precipitation	2.60	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	15.2	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	95.3
AQ-PM	50.7
AQ-DPM	43.2
Drinking Water	10.2
Lead Risk Housing	35.1
Pesticides	57.8
Toxic Releases	25.3
Traffic	81.8
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	35.6

Impaired Water Bodies	0.00
Solid Waste	35.7
Sensitive Population	—
Asthma	39.1
Cardio-vascular	72.9
Low Birth Weights	37.9
Socioeconomic Factor Indicators	—
Education	86.4
Housing	73.4
Linguistic	44.4
Poverty	87.8
Unemployment	67.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	21.59630438
Employed	8.956756063
Education	—
Bachelor's or higher	3.836776594
High school enrollment	6.685486975
Preschool enrollment	31.33581419
Transportation	—
Auto Access	49.51879892
Active commuting	15.06480175
Social	—

2-parent households	62.08135506
Voting	24.39368664
Neighborhood	—
Alcohol availability	66.20043629
Park access	2.194276915
Retail density	9.316052868
Supermarket access	32.97831387
Tree canopy	0.667265495
Housing	—
Homeownership	65.03272167
Housing habitability	43.02579238
Low-inc homeowner severe housing cost burden	15.44976261
Low-inc renter severe housing cost burden	71.34607982
Uncrowded housing	14.42320031
Health Outcomes	—
Insured adults	9.547029385
Arthritis	32.0
Asthma ER Admissions	60.6
High Blood Pressure	38.5
Cancer (excluding skin)	55.0
Asthma	27.9
Coronary Heart Disease	28.5
Chronic Obstructive Pulmonary Disease	23.6
Diagnosed Diabetes	33.2
Life Expectancy at Birth	16.6
Cognitively Disabled	44.8
Physically Disabled	87.9

Heart Attack ER Admissions	34.3
Mental Health Not Good	26.2
Chronic Kidney Disease	27.1
Obesity	17.5
Pedestrian Injuries	90.3
Physical Health Not Good	26.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	35.4
Current Smoker	23.0
No Leisure Time for Physical Activity	24.4
Climate Change Exposures	—
Wildfire Risk	7.3
SLR Inundation Area	0.0
Children	81.0
Elderly	85.6
English Speaking	69.8
Foreign-born	42.8
Outdoor Workers	5.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	92.8
Traffic Density	52.0
Traffic Access	23.0
Other Indices	—
Hardship	80.6
Other Decision Support	—
2016 Voting	37.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	58.0
Healthy Places Index Score for Project Location (b)	11.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health and Equity Evaluation Scorecard not completed.

8. User Changes to Default Data

Screen	Justification
Land Use	Total Project area is +/- 13.3 acres
Construction: Construction Phases	Construction anticipated to begin October 2023 and end August 2024
Construction: Off-Road Equipment	Equipment adjusted based on the changes made to the Construction Schedule
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Site Preparation, Grading, and Building Construction
Construction: Architectural Coatings	Rule 1113
Operations: Vehicle Data	Trip characteristics based on information provided in the Traffic analysis
Operations: Fleet Mix	Passenger Car Mix estimated based on the CalEEMod default fleet mix and the ratio of the vehicle classes (LDA, LDT1, LDT2, MDV, & MCY). Truck Mix based on information in the Traffic analysis
Operations: Energy Use	The Project will not use natural gas

Operations: Refrigerants	Per 17 CCR 95371, new refrigeration equipment containing >50 lbs of refrigerant in new facilities is prohibited from utilizing refrigerants with a GWP of 150 or greater as of 1 Jan 2022

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APPENDIX 3.3:

CALEEMOD PROJECT LOCALIZED OPERATIONAL EMISSIONS MODEL OUTPUTS

Mapes & Sherman (Localized Operations) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Mapes & Sherman (Localized Operations)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	0.20
Location	33.75710422655197, -117.18112679049779
County	Riverside-South Coast
City	Menifee
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5512
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Unrefrigerated Warehouse-No Rail	278	1000sqft	7.98	277,578	69,981	0.00	—	—
User Defined Industrial	278	User Defined Unit	0.00	0.00	0.00	0.00	—	—

Parking Lot	377	Space	2.02	0.00	0.00	0.00	—	—
Other Asphalt Surfaces	145	1000sqft	3.34	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.72	10.2	1.80	16.7	0.01	0.02	0.09	0.11	0.03	0.02	0.04	264	2,328	2,592	26.9	0.41	284	3,672
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.48	8.10	1.79	5.03	0.01	0.01	0.09	0.10	0.01	0.02	0.02	264	2,268	2,532	27.0	0.41	283	3,610
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.54	9.07	1.36	12.0	< 0.005	0.02	0.06	0.08	0.02	0.01	0.03	264	2,154	2,418	26.9	0.39	283	3,490
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.46	1.65	0.25	2.18	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	43.6	357	400	4.46	0.06	46.9	578

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.57	1.49	1.70	4.64	0.01	0.01	0.09	0.09	0.01	0.02	0.02	—	562	562	0.11	0.09	1.15	591
Area	2.15	8.68	0.10	12.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	49.6	49.6	< 0.005	< 0.005	—	51.1
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,294	1,294	0.12	0.01	—	1,301
Water	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Waste	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	3.72	10.2	1.80	16.7	0.01	0.02	0.09	0.11	0.03	0.02	0.04	264	2,328	2,592	26.9	0.41	284	3,672
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.48	1.40	1.79	5.03	0.01	0.01	0.09	0.10	0.01	0.02	0.02	—	552	552	0.12	0.09	0.03	581
Area	—	6.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,294	1,294	0.12	0.01	—	1,301
Water	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Waste	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	1.48	8.10	1.79	5.03	0.01	0.01	0.09	0.10	0.01	0.02	0.02	264	2,268	2,532	27.0	0.41	283	3,610
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.07	1.01	1.29	3.71	< 0.005	< 0.005	0.06	0.07	< 0.005	0.01	0.02	—	404	404	0.09	0.06	0.36	425
Area	1.47	8.06	0.07	8.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.0	34.0	< 0.005	< 0.005	—	35.0
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,294	1,294	0.12	0.01	—	1,301
Water	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Waste	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283

Total	2.54	9.07	1.36	12.0	< 0.005	0.02	0.06	0.08	0.02	0.01	0.03	264	2,154	2,418	26.9	0.39	283	3,490
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.20	0.18	0.23	0.68	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	66.8	66.8	0.01	0.01	0.06	70.4
Area	0.27	1.47	0.01	1.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.63	5.63	< 0.005	< 0.005	—	5.79
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	214	214	0.02	< 0.005	—	215
Water	—	—	—	—	—	—	—	—	—	—	—	20.4	70.0	90.4	2.09	0.05	—	158
Waste	—	—	—	—	—	—	—	—	—	—	—	23.3	0.00	23.3	2.33	0.00	—	81.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.8	46.8
Total	0.46	1.65	0.25	2.18	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	43.6	357	400	4.46	0.06	46.9	578

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	1.46	1.42	0.32	3.72	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	261	261	0.08	0.04	0.72	275
User Defined Industrial	0.11	0.07	1.38	0.91	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	301	301	0.04	0.05	0.43	316
Parking Lot	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	0.00

Other Asphalt Surfaces	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	0.00
Total	1.57	1.49	1.70	4.64	0.01	0.01	0.02	0.03	0.01	0.01	0.01	—	562	562	0.11	0.09	1.15	591
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	1.38	1.34	0.34	4.08	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	248	248	0.09	0.04	0.02	262
User Defined Industrial	0.10	0.06	1.45	0.95	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	304	304	0.04	0.05	0.01	319
Parking Lot	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	0.00
Other Asphalt Surfaces	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	0.00
Total	1.48	1.40	1.79	5.03	0.01	0.01	0.02	0.03	0.01	0.01	0.01	—	552	552	0.12	0.09	0.03	581
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.18	0.18	0.05	0.55	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	30.3	30.3	0.01	< 0.005	0.04	32.0
User Defined Industrial	0.01	0.01	0.19	0.12	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	36.6	36.6	< 0.005	0.01	0.02	38.4
Parking Lot	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	0.00
Other Asphalt Surfaces	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	0.00
Total	0.20	0.18	0.23	0.68	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	66.8	66.8	0.01	0.01	0.06	70.4

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,220	1,220	0.12	0.01	—	1,227
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	73.6	73.6	0.01	< 0.005	—	74.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,294	1,294	0.12	0.01	—	1,301
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,220	1,220	0.12	0.01	—	1,227
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	73.6	73.6	0.01	< 0.005	—	74.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,294	1,294	0.12	0.01	—	1,301
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	202	202	0.02	< 0.005	—	203
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.2	12.2	< 0.005	< 0.005	—	12.3
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	214	214	0.02	< 0.005	—	215

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	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

User Defined Industrial	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
Parking Lot	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
Other Asphalt Surfaces	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	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
User Defined Industrial	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
Parking Lot	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
Other Asphalt Surfaces	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	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
User Defined Industrial	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

Parking Lot	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
Other Asphalt Surfaces	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	5.96	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.15	1.98	0.10	12.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	49.6	49.6	< 0.005	< 0.005	—	51.1
Total	2.15	8.68	0.10	12.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	49.6	49.6	< 0.005	< 0.005	—	51.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	5.96	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	6.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.27	0.25	0.01	1.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.63	5.63	< 0.005	< 0.005	—	5.79
Total	0.27	1.47	0.01	1.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.63	5.63	< 0.005	< 0.005	—	5.79

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	20.4	70.0	90.4	2.09	0.05	—	158
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	20.4	70.0	90.4	2.09	0.05	—	158

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	23.3	0.00	23.3	2.33	0.00	—	81.5
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	23.3	0.00	23.3	2.33	0.00	—	81.5

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.8	46.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.8	46.8

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	486	41.1	16.5	129,712	243	20.6	8.23	64,856
User Defined Industrial	106	8.97	3.58	28,292	53.0	4.48	1.79	14,146
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	426,865	142,288	13,998

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	1,277,512	349	0.0330	0.0040	0.00
User Defined Industrial	0.00	349	0.0330	0.0040	0.00
Parking Lot	77,080	349	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	349	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	64,189,912	1,109,599
User Defined Industrial	0.00	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	261	0.00
User Defined Industrial	0.00	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Unrefrigerated Warehouse-No Rail	Cold storage	User Defined	150	7.50	7.50	7.50	25.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.1	annual days of extreme heat
Extreme Precipitation	2.60	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	15.2	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	95.3
AQ-PM	50.7
AQ-DPM	43.2
Drinking Water	10.2
Lead Risk Housing	35.1
Pesticides	57.8
Toxic Releases	25.3
Traffic	81.8
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	35.6

Impaired Water Bodies	0.00
Solid Waste	35.7
Sensitive Population	—
Asthma	39.1
Cardio-vascular	72.9
Low Birth Weights	37.9
Socioeconomic Factor Indicators	—
Education	86.4
Housing	73.4
Linguistic	44.4
Poverty	87.8
Unemployment	67.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	21.59630438
Employed	8.956756063
Education	—
Bachelor's or higher	3.836776594
High school enrollment	6.685486975
Preschool enrollment	31.33581419
Transportation	—
Auto Access	49.51879892
Active commuting	15.06480175
Social	—

2-parent households	62.08135506
Voting	24.39368664
Neighborhood	—
Alcohol availability	66.20043629
Park access	2.194276915
Retail density	9.316052868
Supermarket access	32.97831387
Tree canopy	0.667265495
Housing	—
Homeownership	65.03272167
Housing habitability	43.02579238
Low-inc homeowner severe housing cost burden	15.44976261
Low-inc renter severe housing cost burden	71.34607982
Uncrowded housing	14.42320031
Health Outcomes	—
Insured adults	9.547029385
Arthritis	32.0
Asthma ER Admissions	60.6
High Blood Pressure	38.5
Cancer (excluding skin)	55.0
Asthma	27.9
Coronary Heart Disease	28.5
Chronic Obstructive Pulmonary Disease	23.6
Diagnosed Diabetes	33.2
Life Expectancy at Birth	16.6
Cognitively Disabled	44.8
Physically Disabled	87.9

Heart Attack ER Admissions	34.3
Mental Health Not Good	26.2
Chronic Kidney Disease	27.1
Obesity	17.5
Pedestrian Injuries	90.3
Physical Health Not Good	26.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	35.4
Current Smoker	23.0
No Leisure Time for Physical Activity	24.4
Climate Change Exposures	—
Wildfire Risk	7.3
SLR Inundation Area	0.0
Children	81.0
Elderly	85.6
English Speaking	69.8
Foreign-born	42.8
Outdoor Workers	5.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	92.8
Traffic Density	52.0
Traffic Access	23.0
Other Indices	—
Hardship	80.6
Other Decision Support	—
2016 Voting	37.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	58.0
Healthy Places Index Score for Project Location (b)	11.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health and Equity Evaluation Scorecard not completed.

8. User Changes to Default Data

Screen	Justification
Land Use	Total Project area is +/- 13.3 acres
Construction: Construction Phases	Construction anticipated to begin October 2023 and end August 2024
Construction: Off-Road Equipment	Equipment adjusted based on the changes made to the Construction Schedule
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Site Preparation, Grading, and Building Construction
Construction: Architectural Coatings	Rule 1113
Operations: Vehicle Data	Trip characteristics based on information provided in the Traffic analysis
Operations: Fleet Mix	Passenger Car Mix estimated based on the CalEEMod default fleet mix and the ratio of the vehicle classes (LDA, LDT1, LDT2, MDV, & MCY). Truck Mix based on information in the Traffic analysis
Operations: Energy Use	The Project will not use natural gas

Operations: Refrigerants	Per 17 CCR 95371, new refrigeration equipment containing >50 lbs of refrigerant in new facilities is prohibited from utilizing refrigerants with a GWP of 150 or greater as of 1 Jan 2022

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A.2 - Greenhouse Gas Analysis

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Mapes & Sherman Commerce Center (DEV2022-003)

GREENHOUSE GAS ANALYSIS

CITY OF MENIFEE

PREPARED BY:

Haseeb Qureshi
hqureshi@urbanxroads.com

Alyssa Barnett
abarnett@urbanxroads.com

DECEMBER 13, 2022

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APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

%	Percent
°C	Degrees Celsius
°F	Degrees Fahrenheit
(1)	Reference
2017 Scoping Plan	*Final 2017 Scoping Plan Update*
AB	Assembly Bill
AB 32	Global Warming Solutions Act of 2006
AB 1493	Pavley Fuel Efficiency Standards
AB 1881	California Water Conservation Landscaping Act of 2006
Annex I	Industrialized Nations
APA	Administrative Procedure Act
AQIA	*Mapes & Sherman Commerce Center (DEV2022-003) Air Quality Impact Analysis*
BAU	Business as Usual
C_2F_6	Hexafluoroethane
C_2H_6	Ethane
$C_2H_2F_4$	Tetrafluroethane
$C_2H_4F_2$	Ethylidene Fluoride
CAA	Federal Clean Air Act
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGAPS	California LBNL GHG Analysis of Policies Spreadsheet
CALGreen	California Green Building Standards Code
CalSTA	California State Transportation Agency
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resource Board
CBSC	California Building Standards Commission
CEC	California Energy Commission
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CEQA Guidelines	*2019 CEQA Statute and Guidelines*
CDFA	California Department of Food and Agriculture
CF_4	Tetrafluoromethane
CFC	Chlorofluorocarbons

CFC-113	Trichlorotrifluoroethane
CH_4	Methane
City	City of Menifee
CNRA	California Natural Resources Agency
CNRA 2009	*2009 California Climate Adaptation Strategy*
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
Convention	United Nation's Framework Convention on Climate Change
COP	Conference of the Parties
CPUC	California Public Utilities Commission
CTC	California Transportation Commission
DOF	Department of Finance
DWR	Department of Water Resources
EMFAC	Emission Factor Model
EPA	Environmental Protection Agency
EV	Electric Vehicle
FED	Functional Equivalent Document
GCC	Global Climate Change
Gg	Gigagram
GHGA	Greenhouse Gas Analysis
GO-Biz	Governor's Office of Business and Economic Development
gpd	Gallons Per Day
gpm	Gallons Per Minute
GWP	Global Warming Potential
H_2O	Water
HFC	Hydrofluorocarbons
HDT	Heavy-Duty Trucks
HFC-23	Fluoroform
HFC-134a	1,1,1,2-tetrafluoroethane
HFC-152a	1,1-difluoroethane
HHDT	Heavy-Heavy-Duty Trucks
hp	Horsepower
I-15	Interstate 15
IBANK	California Infrastructure and Economic Development Bank
IPCC	Intergovernmental Panel on Climate Change
IRP	Integrated Resource Planning
ISO	Independent System Operator
ITE	Institute of Transportation Engineers

kWh	Kilowatt Hours
lbs	Pounds
LBNL	Lawrence Berkeley National Laboratory
LCA	Life-Cycle Analysis
LCD	Liquid Crystal Display
LCFS	Low Carbon Fuel Standard or Executive Order S-01-07
LDA	Light-Duty Auto
LDT1/LDT2	Light-Duty Trucks
LEV III	Low-Emission Vehicle
LHDT1/LHDT2	Light-Heavy-Duty Trucks
LULUCF	Land-Use, Land-Use Change and Forestry
MCA	Municipal Code Amendment
MCY	Motorcycles
MD	Medium Duty
MDT	Medium-Duty Trucks
MDV	Medium-Duty Vehicles
MHDT	Medium-Heavy-Duty Tucks
MMR	Mandatory Reporting Rule
$MMTCO_2e$	Million Metric Ton of Carbon Dioxide Equivalent
mpg	Miles Per Gallon
MPOs	Metropolitan Planning Organizations
$MMTCO_2e$/yr	Million Metric Ton of Carbon Dioxide Equivalent Per Year
MT/yr	Metric Tons Per Year
$MTCO_2e$	Metric Ton of Carbon Dioxide Equivalent
$MTCO_2e$/yr	Metric Ton of Carbon Dioxide Equivalent Per Year
MW	Megawatts
MWh	Megawatts Per Hour
MWELO	California Department of Water Resources' Model Water Efficient
N_2O	Nitrous Oxide
NDC	Nationally Determined Contributions
NF_3	Nitrogen Trifluoride
NHTSA	National Highway Traffic Safety Administration
NIOSH	National Institute for Occupational Safety and Health
NO_X	Nitrogen Oxides
Non-Annex I	Developing Nations
OAL	Office of Administrative Law
OPR	Office of Planning and Research

PFC	Perfluorocarbons
ppb	Parts Per Billion
ppm	Parts Per Million
ppt	Parts Per Trillion
Project	Mapes & Sherman Commerce Center (DEV2022-003)
RTP	Regional Transportation Plan
SAFE	Safer Affordable Fuel-Efficient Vehicles Rule
SB	Senate Bill
SB 32	California Global Warming Solutions Act of 2006
SB 375	Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies
SB 1078	Renewable Portfolio Standards
SB 1368	Statewide Retail Provider Emissions Performance Standards
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
Scoping Plan	California Air Resources Board Climate Change Scoping Plan
SCS	Sustainable Communities Strategy
sf	Square Feet
SF_6	Sulfur Hexaflouride
SGC	Strategic Growth Council
SHGC	Solar Heat Gain Coefficient
SLPS	Short-Lived Climate Pollutant Strategy
SP	Service Population
SR-74	State Route 74
SWCRB	State Water Resources Control Board
TDM	Transportation Demand Measures
Title 20	Appliance Energy Efficiency Standards
Title 24	California Building Code
U.N.	United Nations
U.S.	United States
UNFCCC	United Nations' Framework Convention on Climate Change
URBEMIS	Urban Emissions
UTR	Utility Tractors
VFP	Vehicle Fueling Positions
VMT	Vehicle Miles Traveled

WCI	Western Climate Initiative
WRI	World Resources Institute
ZE/NZE	Zero and Near-Zero Emissions
ZEV	Zero-Emissions Vehicles

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Mapes & Sherman Commerce Center (DEV2022-003) Greenhouse Gas Analysis* (GHGA) is summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the *CEQA Guidelines* (*CEQA Guidelines*) (1). Table ES-1 shows the findings of GHG impacts under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
GHG Impact #1: Would the Project generate GHG emissions either directly or indirectly, that may have a significant impact on the environment?	3.7	*Less Than Significant*	*n/a*
GHG Impact #2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?	3.7	*Less Than Significant*	*n/a*

ES.2 PROJECT REQUIREMENTS

The Project would be required to comply with regulations imposed by the State of California and the South Coast Air Quality Management District (SCAQMD) aimed at the reduction of air pollutant emissions. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of GHG emissions include:

- Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) (2).
- Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies (Senate Bill [SB] 375) (3).
- Pavley Fuel Efficiency Standards (AB 1493). Establishes fuel efficiency ratings for new vehicles (4).
- California Building Code (Title 24 California Code of Regulations [CCR]). Establishes energy efficiency requirements for new construction (5).
- Appliance Energy Efficiency Standards (Title 20 CCR). Establishes energy efficiency requirements for appliances (6).
- Low Carbon Fuel Standard (LCFS). Requires carbon content of fuel sold in California to be 10 percent (%) less by 2020 (7).
- California Water Conservation in Landscaping Act of 2006 (AB 1881). Requires local agencies to adopt the Department of Water Resources updated Water Efficient Landscape Ordinance or

equivalent to ensure efficient landscapes in new development and reduced water waste in existing landscapes (8).

- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions (9).
- Renewable Portfolio Standards (SB 1078 – also referred to as RPS). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20% by 2010 and 33% by 2020 (10).
- California Global Warming Solutions Act of 2006 (SB 32). Requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15 (11).
- SCAQMD Rule 2305. The SCAQMD adopted Rule 2305, the Warehouse Indirect Source Rule, on May 7, 2021. Owners and operators associated with warehouses 100,000 square feet (sf) or larger are required to directly reduce nitrogen oxides (NO_X) and particulate matter emissions, or to otherwise facilitate emission and exposure reductions of these pollutants in nearby communities.

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1 INTRODUCTION

This report presents the results of the GHGA prepared by Urban Crossroads, Inc., for the proposed Mapes & Sherman Commerce Center (DEV2022-003) (Project). The purpose of this GHGA is to evaluate Project-related construction and operational emissions and determine the level of GHG impacts as a result of constructing and operating the Project.

1.1 SITE LOCATION

The proposed Project is located in the City of Menifee at the southwest corner of Sherman Road and Mapes Road, as shown on Exhibit 1-A. The City is surrounded by the City of Moreno Valley to the north, unincorporated Riverside County to the east, the City of Murrieta and unincorporated Riverside County to the south, and the Cities of Perris and Lake Elsinore to the west. Regional access to the site is provided via Interstate 215 (I-215) and State Route 74 (SR-74). Local access to the site is provided via Mapes Road and Sherman Avenue.

1.2 PROJECT DESCRIPTION

The Project is proposed to consist of the development of 277,578 sf of high-cube fulfillment center warehouse use within a single building. It is anticipated that the Project would operate seven days a week 24 hours a day and be developed in a single phase with an anticipated Opening Year of 2024. The site plan for the proposed Project is shown on Exhibit 1-B.

EXHIBIT 1-A: LOCATION MAP

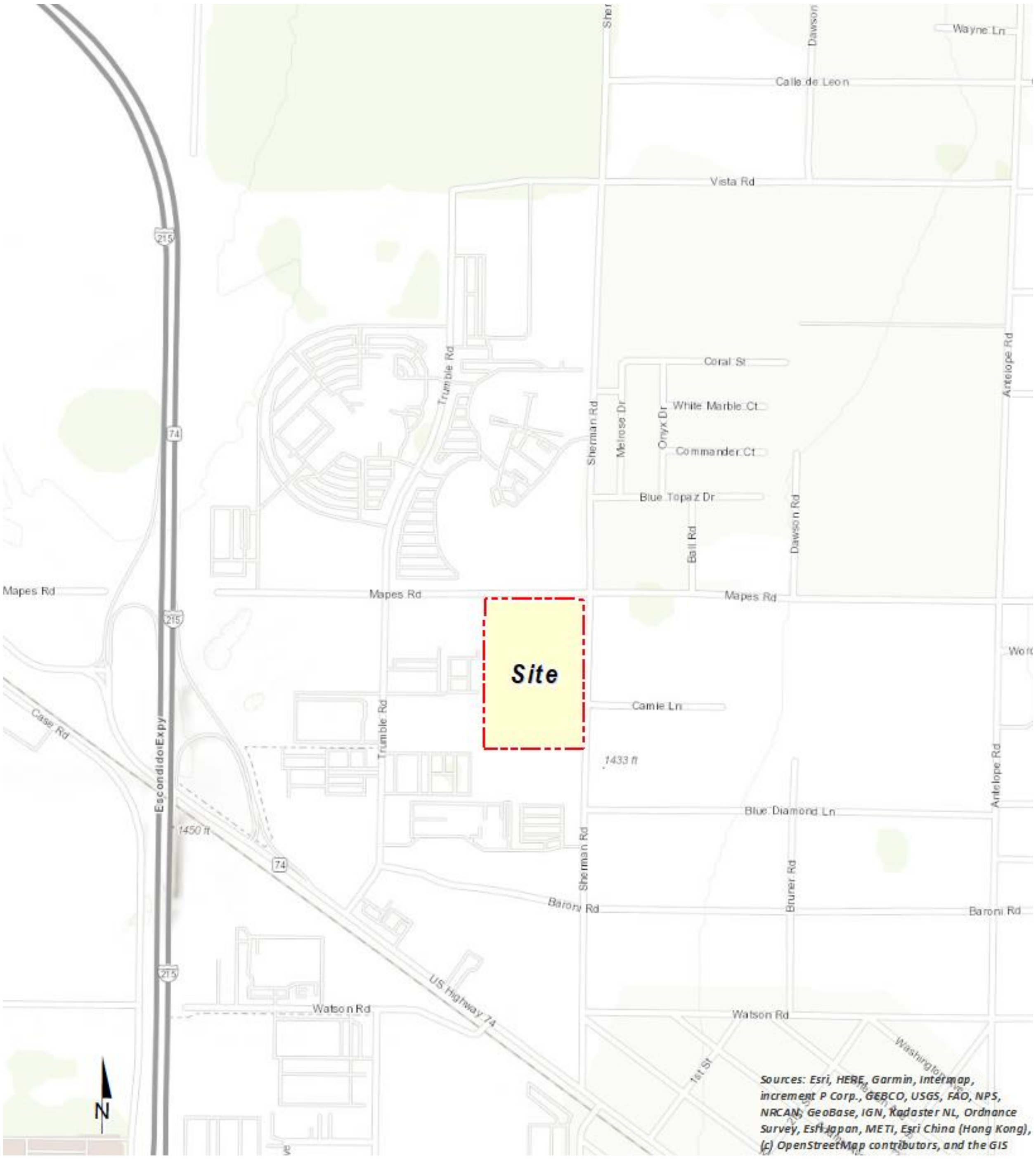
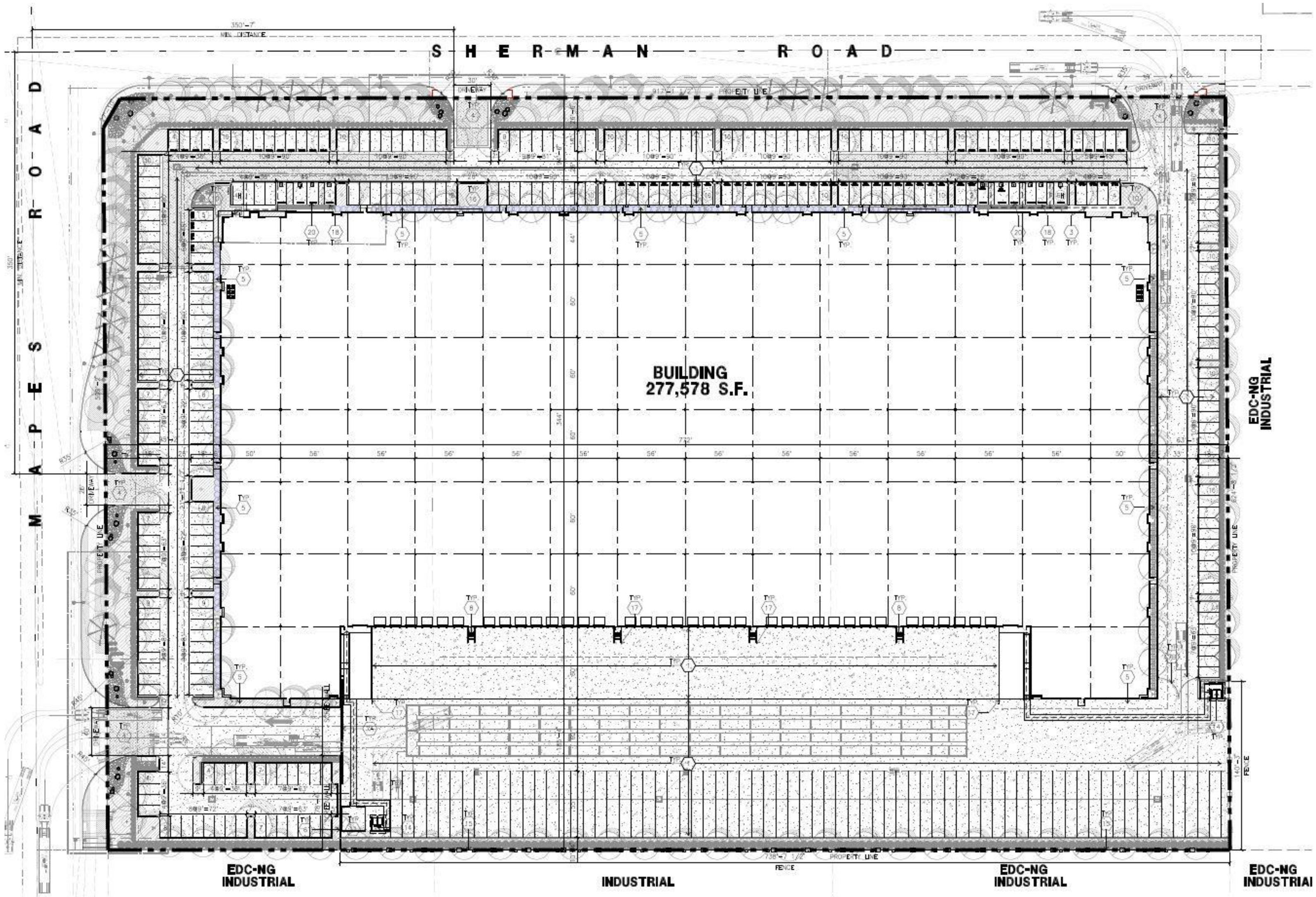


EXHIBIT 1-B: SITE PLAN



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2 CLIMATE CHANGE SETTING

2.1 INTRODUCTION TO GLOBAL CLIMATE CHANGE (GCC)

GCC is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the Project evaluated in this GHGA cannot generate enough GHG emissions to affect a discernible change in global climate. However, the Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, Section 4.0 will evaluate the potential for the Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

2.2 GLOBAL CLIMATE CHANGE DEFINED

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation, and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2, N_2O, CH_4, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radioactive heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. Without the natural GHG effect, the earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

2.3 GHGS

2.3.1 GHGS AND HEALTH EFFECTS

GHGs trap heat in the atmosphere, creating a GHG effect that results in global warming and climate change. Many gases demonstrate these properties and as discussed in Table 2-1. For the purposes of this analysis, emissions of CO_2, CH_4, and N_2O were evaluated (see Table 4-1 later in this report) because these gases are the primary contributors to GCC from development projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

TABLE 2-1: GHGS

GHGs	Description	Sources	Health Effects
Water	Water is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. Climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop would continue is unknown as there are also dynamics that hold the positive	The main source of water vapor is evaporation from the oceans (approximately 85%). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.	There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.

GHGs	Description	Sources	Health Effects
	feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it would eventually condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the earth's surface and heat it up) (12).		
CO_2	CO_2 is an odorless and colorless GHG. Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO_2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30%. Left unchecked, the concentration of CO_2 in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources (13).	CO_2 is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. CO_2 is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks (14).	Outdoor levels of CO_2 are not high enough to result in negative health effects. According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of CO_2 can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of CO_2 in the earth's atmosphere are estimated to be approximately 370 ppm, the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15-minute period (15).

GHGs	Description	Sources	Health Effects
CH_4	CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than CO_2 and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs.	CH_4 in the atmosphere is generated by many different sources, such as fossil fuel production, transport, and use, from the decay of organic matter in wetlands, and as a byproduct of digestion by ruminant animals such as cows. Determining which specific sources are responsible for variations in annual increases of CH_4 is complex, but scientists estimate that fossil fuel production and use contributes roughly 30% of the total CH_4 emissions. These industrial sources of CH_4 are relatively simple to pinpoint and control using current technology (16).	CH_4 is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Exposure to elevated levels of CH_4 can cause asphyxiation, loss of consciousness, headache and dizziness, nausea and vomiting, weakness, loss of coordination, and an increased breathing rate.
N_2O	N_2O, also known as laughing gas, is a colorless GHG. Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb).	N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions)	N_2O can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage) (17).

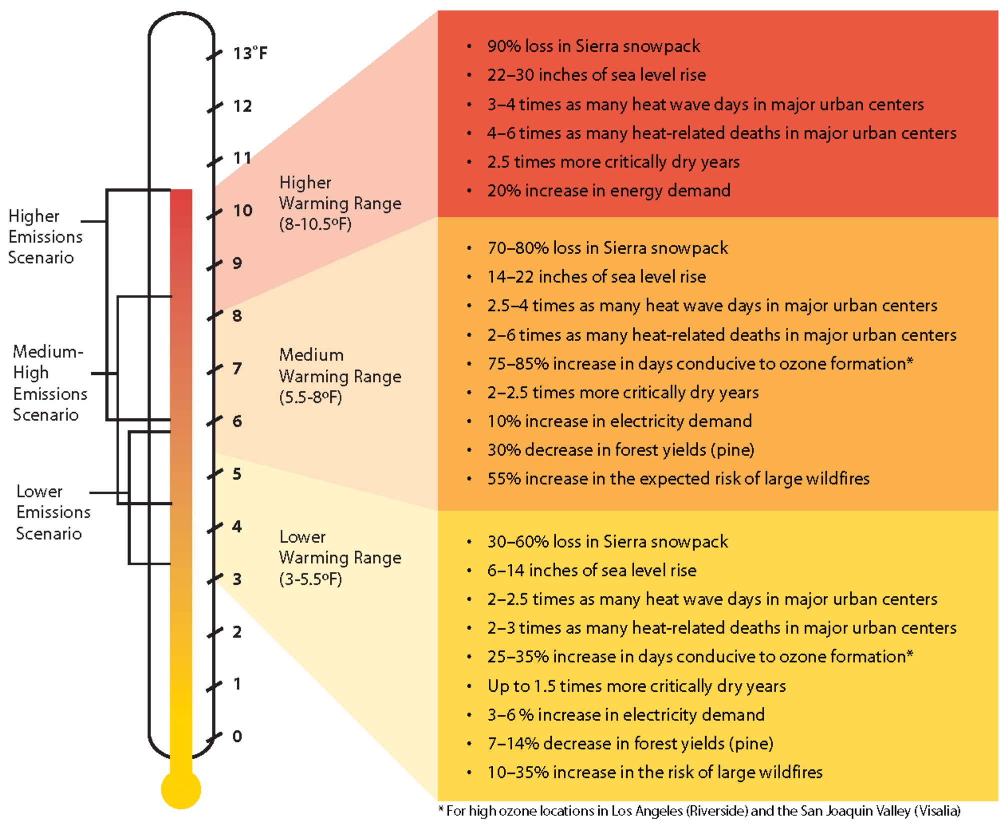
GHGs	Description	Sources	Health Effects
		also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. N_2O can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction (17).	
Chlorofluorocarbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface).	CFCs have no natural source. They are found in aerosol sprays, blowing agents for foams, and packing materials, as solvents, and as refrigerants. (18).	In confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.
HFCs	HFCs are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential (GWP). The HFCs with the largest measured atmospheric abundances are (in order), Fluoroform (HFC-23), 1,1,1,2-tetrafluoroethane (HFC-134a), and 1,1-difluoroethane (HFC-152a). Prior to 1990, the only significant emissions were of HFC-23. HCF-134a emissions are increasing due to its use as a refrigerant.	HFCs are manmade for applications such as automobile air conditioners and refrigerants.	No health effects are known to result from exposure to HFCs.

GHGs	Description	Sources	Health Effects
PFCs	PFCs have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above earth's surface, are able to destroy the compounds. Because of this, PFCs have exceptionally long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). The EPA estimates that concentrations of CF_4 in the atmosphere are over 70 parts per trillion (ppt).	The two main sources of PFCs are primary aluminum production and semiconductor manufacture.	No health effects are known to result from exposure to PFCs.
SF_6	SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900) (19). The EPA indicates that concentrations in the 1990s were about 4 ppt.	SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.	In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

GHGs	Description	Sources	Health Effects
Nitrogen Trifluoride (NF_3)	NF_3 is a colorless gas with a distinctly moldy odor. The World Resources Institute (WRI) indicates that NF_3 has a 100-year GWP of 17,200 (20).	NF_3 is used in industrial processes and is produced in the manufacturing of semiconductors, Liquid Crystal Display (LCD) panels, types of solar panels, and chemical lasers.	Long-term or repeated exposure may affect the liver and kidneys and may cause fluorosis (21).

The potential health effects related directly to the emissions of CO_2, CH_4, and N_2O as they relate to development projects such as the Project are still being debated in the scientific community. Their cumulative effects to GCC have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport those higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change would likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas (22). Exhibit 2-A presents the potential impacts of global warming (23).

EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT, 2070-2099 (AS COMPARED WITH 1961-1990)



Source: Barbara H. Allen-Diaz. "Climate change affects us all." *University of California, Agriculture and Natural Resources*, 2009.

2.4 GLOBAL WARMING POTENTIAL

GHGs have varying GWP values. GWP of a GHG indicates the amount of warming a gas cause over a given period of time and represents the potential of a gas to trap heat in the atmosphere. CO_2 is utilized as the reference gas for GWP, and thus has a GWP of 1. CO_2 equivalent (CO_2e) is a term used for describing the difference GHGs in a common unit. CO_2e signifies the amount of CO_2 which would have the equivalent GWP.

The atmospheric lifetime and GWP of selected GHGs are summarized at Table 2-2. As shown in the table below, GWP for the 2nd Assessment Report, the Intergovernmental Panel on Climate Change (IPCC)'s scientific and socio-economic assessment on climate change, range from 1 for CO_2 to 23,900 for SF_6 and GWP for the IPCC's 5th Assessment Report range from 1 for CO_2 to 23,500 for SF_6 (24).

TABLE 2-2: GWP AND ATMOSPHERIC LIFETIME OF SELECT GHGS

Gas	Atmospheric Lifetime (years)	GWP (100-year time horizon)	
		2nd Assessment Report	5th Assessment Report
CO_2	See*	1	1
CH_4	12 .4	21	28
N_2O	121	310	265
HFC-23	222	11,700	12,400
HFC-134a	13.4	1,300	1,300
HFC-152a	1.5	140	138
SF_6	3,200	23,900	23,500

*As per Appendix 8.A. of IPCC's 5th Assessment Report, no single lifetime can be given.
Source: Table 2.14 of the IPCC Fourth Assessment Report, 2007

2.5 GHG EMISSIONS INVENTORIES

2.5.1 GLOBAL

Worldwide anthropogenic GHG emissions are tracked by the IPCC for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2018. Based on the latest available data, the sum of these emissions totaled approximately 28,768,440 gigagram (Gg) CO_2e[1] (25) (26) as summarized on Table 2-3.

[1] The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2018 data, the United Nations' Framework Convention on Climate Change (UNFCCC) data for the most recent year were used U.N. Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF," The most recent GHG emissions for China and India are from 2014 and 2010, respectively.

2.5.2 UNITED STATES

As noted in Table 2-3, the United States, as a single country, was the number two producer of GHG emissions in 2018.

TABLE 2-3: TOP GHG PRODUCING COUNTRIES AND THE EUROPEAN UNION [2]

Emitting Countries	GHG Emissions (Gg CO_2e)
China	12,300,200
United States	6,676,650
European Union (28-member countries)	4,232,274
Russian Federation	2,220,123
India	2,100,850
Japan	1,238,343
Total	**28,768,440**

2.5.3 STATE OF CALIFORNIA

California has significantly slowed the rate of growth of GHG emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls but is still a substantial contributor to the United States (U.S.) emissions inventory total (27). The California Air Resource Board (CARB) compiles GHG inventories for the State of California. Based upon the 2021 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2019 GHG emissions period, California emitted an average 418.2 million metric tons of CO_2e per year ($MMTCO_2e/yr$) or 418,200 Gg CO_2e (6.26% of the total United States GHG emissions) (28).

2.6 EFFECTS OF CLIMATE CHANGE IN CALIFORNIA

2.6.1 PUBLIC HEALTH

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35% under the lower warming range to 75 to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. Based on *Our Changing Climate Assessing the Risks to California by the California Climate Change Center*, large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced (29).

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a

[2] Used http://unfccc.int data for Annex I countries. Consulted the CAIT Climate Data Explorer in https://www.climatewatchdata.org site to reference Non-Annex I countries of China and India.

significant increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

2.6.2 WATER RESOURCES

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90%. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

2.6.3 AGRICULTURE

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25% of the water supply needed. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts.

In addition, continued GCC could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued GCC could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

2.6.4 FORESTS AND LANDSCAPES

GCC has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks would not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90% due to decreased precipitation.

Moreover, continued GCC has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80% by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of GCC.

2.6.5 RISING SEA LEVELS

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

2.7 REGULATORY SETTING

2.7.1 INTERNATIONAL

Climate change is a global issue involving GHG emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce GHGs.

IPCC

In 1988, the United Nations (U.N.) and the World Meteorological Organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

UNITED NATION'S FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

On March 21, 1994, the U.S. joined a number of countries around the world in signing the Convention. Under the UNFCCC, governments gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

INTERNATIONAL CLIMATE CHANGE TREATIES

The Kyoto Protocol is an international agreement linked to the UNFCCC. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at an average of 5% against 1990 levels over the five-year period 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the UN Climate Change Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2 degrees Celsius (°C) above pre-industrial levels, subject to a review in 2015. The Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings gradually gained consensus among participants on individual climate change issues.

On September 23, 2014, more than 100 Heads of State and Government and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the U.N. At the Summit, heads of government, business and civil society announced actions in areas that would have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Parties to the UNFCCC reached a landmark agreement on December 12, 2015, in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating a four-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties (COP) 21. Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2°C, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make "nationally determined contributions" (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and "progress made in implementing and achieving" their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they would "represent a progression" beyond previous ones;
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing $100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address "loss and damage" resulting from climate change, which explicitly would not "involve or provide a basis for any liability or compensation;"
- Require parties engaging in international emissions trading to avoid "double counting;" and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country's NDC (C2ES 2015a) (30).

Following President Biden's day one executive order, the United States officially rejoined the landmark Paris Agreement on February 19, 2021, positioning the country to once again be part of the global climate solution. Meanwhile, city, state, business, and civic leaders across the country and around the world have been ramping up efforts to drive the clean energy advances needed to meet the goals of the agreement and put the brakes on dangerous climate change.

2.7.2 NATIONAL

Prior to the last decade, there have been no concrete federal regulations of GHGs or major planning for climate change adaptation. The following are actions regarding the federal government, GHGs, and fuel efficiency.

GHG ENDANGERMENT

In *Massachusetts v. Environmental Protection Agency* 549 U.S. 497 (2007), decided on April 2, 2007, the United States Supreme Court (Supreme Court) found that four GHGs, including CO_2, are air pollutants subject to regulation under Section 202(a)(1) of the Clean Air Act (CAA). The Supreme Court held that the EPA Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the CAA:

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

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section "Clean Vehicles" below. After a lengthy legal challenge, the Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator's findings (31).

CLEAN VEHICLES

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the U.S. On April 1, 2010, the EPA, and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the U.S.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty (MD) passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to 35.5 miles per gallon (mpg) if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. Together, these standards would cut CO_2 emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the NHTSA issued final rules on a second-phase joint rulemaking establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012. The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and MD passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 mpg if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks (HDT) and buses on September 15, 2011, effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20% reduction in CO_2 emissions and fuel consumption by the 2018 model year. For HDT and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10% reduction for gasoline vehicles and a 15% reduction for diesel vehicles by the 2018 model year (12 and 17% respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10% reduction in fuel consumption and CO_2 emissions from the 2014 to 2018 model years.

On April 2, 2018, the EPA signed the Mid-term Evaluation Final Determination, which declared that the MY 2022-2025 GHG standards are not appropriate and should be revised (32). This Final Determination serves to initiate a notice to further consider appropriate standards for MY 2022-2025 light-duty vehicles. On August 2, 2018, the NHTSA in conjunction with the EPA, released a notice of proposed rulemaking, the *Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks* (SAFE Vehicles Rule). The SAFE Vehicles Rule was proposed to amend existing Corporate Average Fuel Economy (CAFE) and tailpipe CO_2 standards for passenger cars and light trucks and to establish new standards covering model years 2021 through 2026. As of March 31, 2020, the NHTSA and EPA finalized the SAFE Vehicle Rule which increased stringency of CAFE and CO_2 emissions standards by 1.5% each year through model year 2026 (33). On December 21, 2021, after reviewing all the public comments submitted on NHTSA's April 2021 Notice of Proposed Rulemaking, NHTSA finalizes the CAFE Preemption rulemaking to withdraw its portions of the so-called SAFE I Rule. The final rule concludes that the SAFE I Rule overstepped the agency's legal authority and established overly broad prohibitions that did not account for a variety of important state and local interests. The final rule ensures that the SAFE I Rule will no longer form an improper barrier to states exploring creative solutions to address their local communities' environmental and public health challenges (34).

On March 31, 2022, NHTSA finalized CAFE standards for MY 2024-2026. The standards for passenger cars and light trucks for MYs 2024-2025 were increased at a rate of 8% per year and then increased at a rate of 10% per year for MY 2026 vehicles. NHTSA currently projects that the revised standards would require an industry fleet-wide average of roughly 49 mpg in MY 2026 and would reduce average fuel outlays over the lifetimes of affected vehicles that provide consumers hundreds of dollars in net savings. These standards are directly responsive to the agency's statutory mandate to improve energy conservation and reduce the nation's energy dependence on foreign sources (35).

MANDATORY REPORTING OF GHGS

The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of GHGs Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the U.S. and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons per year (MT/yr) or more of GHG emissions are required to submit annual reports to the EPA.

NEW SOURCE REVIEW

The EPA issued a final rule on May 13, 2010, that establishes thresholds for GHGs that define when permits under the New Source Review Prevention of Significant Deterioration and Title V

Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these CAA permitting programs to limit which facilities would be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the Federal Code of Regulations, the EPA states:

> *"This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the CAA, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to GHG sources, starting with the largest GHG emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for GHG emissions until at least April 30, 2016."*

The EPA estimates that facilities responsible for nearly 70% of the national GHG emissions from stationary sources would be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

STANDARDS OF PERFORMANCE FOR GHG EMISSIONS FOR NEW STATIONARY SOURCES: ELECTRIC UTILITY GENERATING UNITS

As required by a settlement agreement, the EPA proposed new performance standards for emissions of CO_2 for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts (MW) would be required to meet an output-based standard of 1,000 pounds (lbs) of CO_2 per MW-hour (MWh), based on the performance of widely used natural gas combined cycle technology. It should be noted that on February 9, 2016, the Supreme Court issued a stay of this regulation pending litigation. Additionally, the current EPA Administrator has also signed a measure to repeal the Clean Power Plan, including the CO_2 standards. The Clean Power Plan was officially repealed on June 19, 2019, when the EPA issued the final Affordable Clean Energy rule (ACE). Under ACE, new state-specific emission guidelines were established that provided existing coal-fired electric utility generating units with achievable standards.

On January 19, 2021, the D.C. Circuit Court of Appeals ruled that the EPA's ACE Rule for GHG emissions from power plants rested on an erroneous interpretation of the CAA that barred EPA from considering measures beyond those that apply at and to an individual source. The court therefore vacated and remanded the ACE Rule and adopted a replacement rule which regulates CO_2 emissions from existing power plants, potentially again considering generation shifting and other measures to more aggressively target power sector emissions.

CAP-AND-TRADE

Cap-and-trade refers to a policy tool where emissions are limited to a certain amount and can be traded or provides flexibility on how the emitter can comply. Successful examples in the U.S. include the Acid Rain Program and the N_2O Budget Trading Program and Clean Air Interstate Rule in the northeast. There is no federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap-and-trade.

The Regional GHG Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps CO_2 emissions from power plants, auctions CO_2 emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008 and in 2020 has retained all participating states.

The Western Climate Initiative (WCI) partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15% below 2005 levels by 2020. The partners were originally California, British Columbia, Manitoba, Ontario, and Quebec. However, Manitoba and Ontario are not currently participating. California linked with Quebec's cap-and-trade system January 1, 2014, and joint offset auctions took place in 2015. While the WCI has yet to publish whether it has successfully reached the 2020 emissions goal initiative set in 2007, SB 32 requires that California, a major partner in the WCI, adopt the goal of reducing statewide GHG emissions to 40% below the 1990 level by 2030.

SMARTWAY PROGRAM

The SmartWay Program is a public-private initiative between the EPA, large and small trucking companies, rail carriers, logistics companies, commercial manufacturers, retailers, and other federal and state agencies. Its purpose is to improve fuel efficiency and the environmental performance (reduction of both GHG emissions and air pollution) of the goods movement supply chains. SmartWay is comprised of four components (36):

1. SmartWay Transport Partnership: A partnership in which freight carriers and shippers commit to benchmark operations, track fuel consumption, and improve performance annually.
2. SmartWay Technology Program: A testing, verification, and designation program to help freight companies identify equipment, technologies, and strategies that save fuel and lower emissions.
3. SmartWay Vehicles: A program that ranks light-duty cars and small trucks and identifies superior environmental performers with the SmartWay logo.
4. SmartWay International Interests: Guidance and resources for countries seeking to develop freight sustainability programs modeled after SmartWay.

SmartWay effectively refers to requirements geared towards reducing fuel consumption. Most large trucking fleets driving newer vehicles are compliant with SmartWay design requirements. Moreover, over time, all HDTs would have to comply with the CARB GHG Regulation that is designed with the SmartWay Program in mind, to reduce GHG emissions by making them more fuel-efficient. For instance, in 2015, 53 foot or longer dry vans or refrigerated trailers equipped with a combination of SmartWay-verified low-rolling resistance tires and SmartWay-verified aerodynamic devices would obtain a total of 10% or more fuel savings over traditional trailers.

Through the SmartWay Technology Program, the EPA has evaluated the fuel saving benefits of various devices through grants, cooperative agreements, emissions, and fuel economy testing, demonstration projects and technical literature review. As a result, the EPA has determined the following types of technologies provide fuel saving and/or emission reducing benefits when used properly in their designed applications, and has verified certain products:

- Idle reduction technologies – less idling of the engine when it is not needed would reduce fuel consumption.
- Aerodynamic technologies minimize drag and improve airflow over the entire tractor-trailer vehicle. Aerodynamic technologies include gap fairings that reduce turbulence between the tractor and trailer, side skirts that minimize wind under the trailer, and rear fairings that reduce turbulence and pressure drop at the rear of the trailer.
- Low rolling resistance tires can roll longer without slowing down, thereby reducing the amount of fuel used. Rolling resistance (or rolling friction or rolling drag) is the force resisting the motion when a tire rolls on a surface. The wheel would eventually slow down because of this resistance.
- Retrofit technologies include things such as diesel particulate filters, emissions upgrades (to a higher tier), etc., which would reduce emissions.
- Federal excise tax exemptions.

EXECUTIVE ORDER 13990

On January 20, 2021, Federal agencies were directed to immediately review, and take action to address, Federal regulations promulgated and other actions taken during the last 4 years that conflict with national objectives to improve public health and the environment; ensure access to clean air and water; limit exposure to dangerous chemicals and pesticides; hold polluters accountable, including those who disproportionately harm communities of color and low-income communities; reduce GHG emissions; bolster resilience to the impacts of climate change; restore and expand our national treasures and monuments; and prioritize both environmental justice and employment.

2.7.3 CALIFORNIA

2.7.3.1 LEGISLATIVE ACTIONS TO REDUCE GHGS

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the landmark AB 32 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

AB 1881

The Water Conservation in Landscaping Act of 2006 requires local agencies to adopt the updated DWR model ordinance or equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

SB 1368

California SB 1368 adds Sections 8340 and 8341 to the Public Utilities Code (effective January 1, 2007) with the intent "to prevent long-term investments in power plants with GHG emissions in excess of those produced by a combined-cycle natural gas power plant" with the aim of "reducing emissions of GHGs from the state's electricity consumption, not just the state's electricity production." SB 1368 provides a mechanism for reducing the GHG emissions of electricity providers, both in-state and out-of-state, thereby assisting CARB in meeting its mandate under AB 32, the Global Warming Solutions Act of 2006.

AB 32

The California State Legislature enacted AB 32, which required that GHGs emitted in California be reduced to 1990 levels by the year 2020 (this goal has been met[3]). GHGs as defined under AB 32 include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Since AB 32 was enacted, a seventh chemical, NF_3, has also been added to the list of GHGs. CARB is the state agency charged with monitoring and regulating sources of GHGs. Pursuant to AB 32, CARB adopted regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 states the following:

> *"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."*

SB 375

On September 30, 2008, Governor Schwarzenegger signed SB 375. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40% of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California would not be able to achieve the goals of AB 32." SB 375 does the following: it (1) requires metropolitan planning organizations (MPOs) to include sustainable community strategies in their

[3] Based upon the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2017 GHG emissions period, California emitted an average 424.1 $MMTCO_2e$ (29). This is less than the 2020 emissions target of 431 $MMTCO_2e$.

regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

SB 375 requires MPOs to prepare a Sustainable Communities Strategy (SCS) within the Regional Transportation Plan (RTP) that guides growth while taking into account the transportation, housing, environmental, and economic needs of the region. SB 375 uses CEQA streamlining as an incentive to encourage residential projects, which help achieve AB 32 goals to reduce GHG emissions. Although SB 375 does not prevent CARB from adopting additional regulations, such actions are not anticipated in the foreseeable future.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA findings for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts, or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network, if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that CARB accepts as achieving the GHG emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the MMs required by an applicable prior environmental document.

AB 1493 - Pavley Fuel Efficiency Standards

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program (LEV III) or the Advanced Clean Cars (ACC) program. The ACC program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for MY 2017 through 2025. The regulation will reduce GHGs from new cars by 34% from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid EV and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California. On March 9, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards for cars and light trucks, which other states can also adopt and enforce. With this authority restored, EPA will continue partnering with states to advance the next generation of clean vehicle technologies.

CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015 (SB 350)

In October 2015, the legislature approved, and Governor Jerry Brown signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for EV charging stations. Provisions for a 50% reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target would be achieved through the California Public Utilities Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which would facilitate the growth of renewable energy markets in the western United States.

SB 32

On September 8, 2016, Governor Brown signed SB 32 and its companion bill, AB 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature (11).

CARB SCOPING PLAN UPDATE

In November 2017, CARB released the *Final 2017 Scoping Plan Update* (*2017 Scoping Plan*), which identifies the State's post-2020 reduction strategy. The *2017 Scoping Plan* reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation, the LCFS, and much cleaner cars, trucks, and freight movement, utilizing cleaner, renewable energy, and strategies to reduce CH_4 emissions from agricultural and other wastes.

The *2017 Scoping Plan* establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40% decrease in 1990 levels by 2030 (37).

California's climate strategy would require contributions from all sectors of the economy, including the land base, and would include enhanced focus on zero and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (CH_4, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries would further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the *2017 Scoping Plan* framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero-emission vehicles (ZEV) buses and trucks.

- LCFS, with an increased stringency (18% by 2030).
- Implementing SB 350, which expands the RPS to 50% RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing CH_4 and HCF emissions by 40% and anthropogenic black carbon emissions by 50% by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20% reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Note, however, that the *2017 Scoping Plan* acknowledges that:

> *"[a]chieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA."*

In addition to the statewide strategies listed above, the *2017 Scoping Plan* also identifies local governments as essential partners in achieving the State's long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 metric tons of CO_2e ($MTCO_2e$) or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidence-based bright-line numeric thresholds—consistent with the *2017 Scoping Plan* and the State's long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and MMs that avoid or minimize project emissions to the degree feasible; or a performance-based metric using a CAP or other plan to reduce GHG emissions is appropriate.

According to research conducted by the Lawrence Berkeley National Laboratory (LBNL) and supported by CARB, California, under its existing and proposed GHG reduction policies, could achieve the 2030 goals under SB 32. The research utilized a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and future GHG-reducing policies. The CALGAPS model showed that by 2030, emissions could range from 211 to 428 $MTCO_2e$ per year ($MTCO_2e$/yr), indicating that "even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40% below the 1990 level [of SB 32]." CALGAPS analyzed emissions through 2050 even though it did not generally account for policies that might be put in place after 2030. Although the research indicated that the emissions would not meet the State's 80% reduction goal by 2050, various combinations of policies could allow California's cumulative emissions to remain very low through 2050 (38) (39).

CAP-AND-TRADE PROGRAM

The *2017 Scoping Plan* identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to CARB, a cap-and-trade program would help put California on the path to meet its goal of achieving a 40% reduction in GHG emissions from 1990 levels by 2030. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap would be able to trade permits to emit GHGs within the overall limit.

CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. The Cap-and-Trade Program is designed to reduce GHG emissions from regulated entities by more than 16% between 2013 and 2020, and by an additional 40% by 2030. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and would decline over time, achieving GHG emission reductions throughout the program's duration.

Covered entities that emit more than 25,000 $MTCO_2e$/yr must comply with the Cap-and-Trade Program. Triggering of the 25,000 $MTCO_2e$/yr "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule or "MRR").

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender "compliance instruments" for each $MTCO_2e$ of GHG they emit. There also are requirements to surrender compliance instruments covering 30% of the prior year's compliance obligation by November of each year (40).

The Cap-and-Trade Program provides a firm cap, which provides the highest certainty of achieving the 2030 target. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by CARB in the *First Update to the Climate Change Scoping Plan*:

> *"The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions*

> *is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative."* (41)

The Cap-and-Trade Program covers approximately 80% of California's GHG emissions (37). The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported.

2.7.3.2 EXECUTIVE ORDERS RELATED TO GHG EMISSIONS

California's Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, they set the tone for the state and guide the actions of state agencies.

EXECUTIVE ORDER S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80% below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that would stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

EXECUTIVE ORDER S-01-07 (LCFS)

Governor Schwarzenegger signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020. CARB adopted the LCFS on April 23, 2009.

After a series of legal changes, in order to address the Court ruling, CARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon intensity fuels, offer additional flexibility to regulated parties, update critical technical information, simplify, and streamline program operations, and enhance enforcement. On November 16, 2015, the Office of Administrative Law (OAL) approved the Final Rulemaking Package. The new LCFS regulation became effective on January 1, 2016.

In 2018, CARB approved amendments to the regulation, which included strengthening the carbon intensity benchmarks through 2030 in compliance with the SB 32 GHG emissions reduction target for 2030. The amendments included crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector (42).

EXECUTIVE ORDER S-13-08

Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the Order, the *2009 California Climate Adaptation Strategy* (*CNRA 2009*) was adopted, which is the "…first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying, and exploring strategies to adapt to climate change, and specifying a direction for future research.

EXECUTIVE ORDER B-30-15

On April 29, 2015, Governor Brown issued an executive order to establish a California GHG reduction target of 40% below 1990 levels by 2030. The Governor's executive order aligned California's GHG reduction targets with those of leading international governments ahead of the U.N. Climate Change Conference in Paris late 2015. The Order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40% below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80% below 1990 levels by 2050 and directs CARB to update the *2017 Scoping Plan* to express the 2030 target in terms of $MMTCO_2e$. The Order also requires the state's climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Order is not legally enforceable as to local governments and the private sector. Legislation that would update AB 32 to make post 2020 targets and requirements a mandate is in process in the State Legislature.

EXECUTIVE ORDER B-55-18 AND SB 100

SB 100 and Executive Order B-55-18 were signed by Governor Brown on September 10, 2018. Under the existing RPS, 25% of retail sales of electricity are required to be from renewable sources by December 31, 2016, 33% by December 31, 2020, 40% by December 31, 2024, 45% by December 31, 2027, and 50% by December 31, 2030. SB 100 raises California's RPS requirement to 50% renewable resources target by December 31, 2026, and to achieve a 60% target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours (kWh) of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural

Resources Agency (CNRA), California EPA (CalEPA), the California Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

2.7.3.3 CALIFORNIA REGULATIONS AND BUILDING CODES

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

TITLE 20 CCR SECTIONS 1601 ET SEQ. – APPLIANCE EFFICIENCY REGULATIONS

The Appliance Efficiency Regulations regulate the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. 23 categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles (RV) or other mobile equipment (CEC 2012).

TITLE 24 CCR PART 6 – CALIFORNIA ENERGY CODE

The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods.

TITLE 24 CCR PART 11 – CALIFORNIA GREEN BUILDING STANDARDS CODE

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on August 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that will be effective on January 1, 2023. The CEC anticipates that the 2022 energy code will provide $1.5 billion in consumer benefits and reduce GHG emissions by 10 million metric tons (43). The Project would be required to comply with the applicable standards in place at the time plan check submittals are made. These require, among other items (44):

NONRESIDENTIAL MANDATORY MEASURES

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- EV charging stations. New construction shall facilitate the future installation of EV supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106. 5.3.3 (5.106.5.3). Additionally, Table 5.106.5.4.1 specifies requirements for the installation of raceway conduit and panel power requirements for medium- and heavy-duty electric vehicle supply equipment for warehouses, grocery stores, and retail stores.
- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Table 5.106.8 (5.106.8).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1. 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reuse or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
  - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
  - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor- mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).

  - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
  - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).
- Outdoor potable water uses in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day (GPD) (5.303.1.1 and 5.303.1.2).
- Outdoor water uses in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

CARB REFRIGERANT MANAGEMENT PROGRAM

CARB adopted a regulation in 2009 to reduce refrigerant GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal. The regulation is set forth in sections 95380 to 95398 of Title 17, CCR. The rules implementing the regulation establish a limit on statewide GHG emissions from stationary facilities with refrigeration systems with more than 50 pounds of a high GWP refrigerant. The refrigerant management program is designed to (1) reduce emissions of high-GWP GHG refrigerants from leaky stationary, non-residential refrigeration equipment; (2) reduce emissions from the installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and (3) verify GHG emission reductions.

TRACTOR-TRAILER GHG REGULATION

The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the HD tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. Sleeper cab tractors MY 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

PHASE I AND 2 HEAVY-DUTY VEHICLE GHG STANDARDS

In September 2011, CARB has adopted a regulation for GHG emissions from HDTs and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the EPA rule for new trucks and engines nationally. Existing HD vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer GHG Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation. The EPA rule has compliance requirements for new compression and spark ignition engines, as well as trucks from Class 2b through Class 8. Compliance requirements began with MY 2014 with stringency levels increasing through MY 2018. The rule organizes truck compliance into three groupings, which include a) HD pickups and vans; b) vocational vehicles; and c) combination tractors. The EPA rule does not regulate trailers.

CARB staff has worked jointly with the EPA and the NHTSA on the next phase of federal GHG emission standards for medium-duty trucks (MDT) and HDT vehicles, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later MY HDT vehicles, including trailers. The EPA and NHTSA have proposed to roll back GHG and fuel economy standards for cars and light-duty trucks, which suggests a similar rollback of Phase 2 standards for MDT and HDT vehicles may be pursued.

SB 97 AND THE CEQA GUIDELINES UPDATE

Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research (OPR) shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the OPR pursuant to subdivision (a)."

In 2012, Public Resources Code Section 21083.05 was amended to state:

> *"The Office of Planning and Research and the Natural Resources Agency shall periodically update the guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption, to incorporate new information or criteria established by the State Air Resources Board pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code."*

On December 28, 2018, the Natural Resources Agency announced the OAL approved the amendments to the *CEQA Guidelines* for implementing CEQA. The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing *CEQA Guidelines* to reference climate change.

Section 15064.4 was added the *CEQA Guidelines* and states that in determining the significance of a project's GHG emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively insignificant compared to statewide, national, or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. Additionally, a lead agency may use a model or methodology to estimate GHG emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use (45).

2.7.4 REGIONAL

The project is within the SCAB, which is under the jurisdiction of the SCAQMD.

SCAQMD

SCAQMD is the agency responsible for air quality planning and regulation in the SCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SCAB. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold, which could be applied by lead agencies. The working group has not provided additional guidance since release of the interim guidance in 2008. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.

- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
  - Residential and commercial land use: 3,000 $MTCO_2e$/yr
  - Industrial land use: 10,000 $MTCO_2e$/yr
  - Based on land use type: residential: 3,500 $MTCO_2e$/yr; commercial: 1,400 $MTCO_2e$/yr; or mixed use: 3,000 $MTCO_2e$/yr
- Tier 4 has the following options:
  - Option 1: Reduce Business-as-Usual (BAU) emissions by a certain percentage; this percentage is currently undefined.
  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
  - Option 3: 2020 target for service populations (SP), which includes residents and employees: 4.8 $MTCO_2e$ per SP per year for projects and 6.6 $MTCO_2e$ per SP per year for plans;
  - Option 3, 2035 target: 3.0 $MTCO_2e$ per SP per year for projects and 4.1 $MTCO_2e$ per SP per year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's interim thresholds used the Executive Order S-3-05-year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO_2 concentrations at 450 ppm, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the project would include stationary sources of emissions subject to SCAQMD permits. Notwithstanding, if the Project requires a stationary permit, it would be subject to the applicable SCAQMD regulations.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD would fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

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3 PROJECT GHG IMPACT

3.1 INTRODUCTION

The Project has been evaluated to determine if it would result in a significant GHG impact. The significance of these potential impacts is described in the following sections.

3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related GHG impacts are taken from the Initial Study Checklist in Appendix G of the State *CEQA Guidelines* (14 CCR of Regulations §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to GHG if it would (46):

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

3.2.1 DISCUSSION ON ESTABLISHMENT OF SIGNIFICANCE THRESHOLDS

The SCAQMD's adopted numerical threshold of 10,000 $MTCO_2e$/yr for industrial stationary source emissions is typically selected as the significance criterion. However, the City has determined that the SCAQMD's draft threshold of 3,000 $MTCO_2e$/yr is more conservative and appropriate for industrial and warehouse land use development projects. The 3,000 $MTCO_2e$/yr threshold is based on the SCAQMD staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD Interim Thresholds. The SCAQMD Interim Threshold identifies a screening threshold to determine whether additional analysis is required.

3.3 MODELS EMPLOYED TO ANALYZE GHGS

3.3.1 CALIFORNIA EMISSIONS ESTIMATOR MODEL (CALEEMOD)

In May 2022, the California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including SCAQMD, released the latest version of CalEEMod Version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutants and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (47). Accordingly, the latest version of CalEEMod has been used for this Project to determine GHG emissions. Output from the model runs for construction and operational activity are provided in Appendices 3.1 through 3.2. CalEEMod includes GHG emissions from the following source categories: construction, area, energy, mobile, waste, water.

3.4 LIFE-CYCLE ANALYSIS NOT REQUIRED

A full life-cycle analysis (LCA) for construction and operational activity is not included in this analysis due to the lack of consensus guidance on LCA methodology at this time (48). Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the Project development, infrastructure, and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. At this time, a LCA would be extremely speculative and thus has not been prepared.

Additionally, the SCAQMD recommends analyzing direct and indirect project GHG emissions generated within California and not life-cycle emissions because the life-cycle effects from a project could occur outside of California, might not be very well understood, or documented, and would be challenging to mitigate (49). Additionally, the science to calculate life cycle emissions is not yet established or well defined; therefore, SCAQMD has not recommended, and is not requiring, life-cycle emissions analysis.

3.5 CONSTRUCTION EMISSIONS

Project construction actvities would generate CO_2 and CH_4 emissions The *Mapes & Sherman Commerce Center (DEV2022-003) Air Quality Impact Analysis* (AQIA) report contains detailed information regarding Project construction activities (50). As discussed in the AQIA, Construction related emissions are expected from the following construction activities:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

3.5.1 CONSTRUCTION DURATION

For purposes of analysis, construction of Project is expected to commence in July 2023 and would last through September 2024. The construction schedule utilized in the analysis, shown in Table 3-1, represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent[4]. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (51).

[4] As shown in the CalEEMod User's Guide Version 2022.1, Section 4.3 "Off-Road Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

TABLE 3-1: CONSTRUCTION DURATION

Construction Activity	Start Date	End Date	Working Days
Site Preparation	10/03/2023	10/16/2023	10
Grading	10/17/2023	11/27/2023	30
Building Construction	11/28/2023	08/05/2024	180
Paving	07/09/2024	08/05/2024	20
Architectural Coating	06/11/2024	08/05/2024	40

3.5.2 CONSTRUCTION EQUIPMENT

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 3-2 will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code.

TABLE 3-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Activity	Equipment	Amount	Hours Per Day
Site Preparation	Rubber Tired Dozers	3	8
	Crawler Tractors	4	8
Grading	Graders	1	8
	Excavators	2	8
	Scrapers	2	8
	Rubber Tired Dozers	1	8
	Crawler Tractors	2	8
Building Construction	Forklifts	3	8
	Generator Sets	1	8
	Cranes	1	8
	Welders	1	8
	Crawler Tractors	3	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

3.5.3 CONSTRUCTION EMISSIONS SUMMARY

For construction phase Project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 30-year Project life then adding that number to the annual operational phase GHG emissions (52). As such, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions. The amortized construction emissions are presented in Table 3-3.

TABLE 3-3: AMORTIZED ANNUAL CONSTRUCTION EMISSIONS

Year	Emissions (MT/yr)				
	CO_2	CH_4	N_2O	Refrigerants	Total CO_2e[5]
2023	227.00	0.01	0.01	0.10	230.00
2024	414.00	0.02	0.02	0.32	421.00
Total GHG Emissions	641.00	0.03	0.03	0.42	651.00
Amortized Construction Emissions	**21.37**	**1.00E-03**	**1.00E-03**	**0.01**	**21.70**

Source: CalEEMod annual construction-source emissions are presented in Appendix 3.1.
[A] CalEEMod reports the most common GHGs emitted which include CO_2, CH_4, and N_2O. These GHGs are then converted into the CO_2e by multiplying the individual GHG by the GWP.

3.6 OPERATIONAL EMISSIONS

Operational activities associated with the Project would result in emissions of CO_2, CH_4, and N_2O from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- On-Site Cargo Handling Equipment Emissions
- Water Supply, Treatment, and Distribution
- Solid Waste

3.6.1 AREA SOURCE EMISSIONS

LANDSCAPE MAINTENANCE EQUIPMENT

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. It should be noted that as October 9, 2021, Governor Gavin Newsom signed AB 1346. The bill aims to ban the sale of new gasoline-powered equipment under 25 gross horsepower (known as small off-road engines [SOREs]) by 2024. For purposes of analysis, the emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

[5] CalEEMod reports the most common GHGs emitted which include CO_2, CH_4, and N_2O. These GHGs are then converted into the CO_2e by multiplying the individual GHG by the GWP.

3.6.2 ENERGY SOURCE EMISSIONS

COMBUSTION EMISSIONS ASSOCIATED WITH NATURAL GAS AND ELECTRICITY

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building; the building energy use emissions do not include street lighting[6]. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. Based on information provided by the Project applicant, the site is also not expected to utilize natural gas for the building envelope, and therefore would not generate any emissions from direct energy consumption. Electricity usage associated with the Project were calculated by CalEEMod using default parameters.

3.6.3 MOBILE SOURCE EMISSIONS

The Project related GHG emissions derive primarily from vehicle trips generated by the Project, including employee trips to and from the site and truck trips associated with the proposed uses. Trip characteristics available from the *Mapes & Sherman Commerce Center (DEV2022-003)Traffic Analysis* were utilized in this analysis (53).

APPROACH FOR ANALYSIS OF THE PROJECT

In order to determine emissions from passenger car vehicles, CalEEMod defaults for trip length and trip purpose were utilized. Default vehicle trip lengths for primary trips will be populated using data from the local metropolitan planning organizations/Regional Transportation Planning Agencies (MPO/RTPA). Trip type percentages and trip lengths provided by MPO/RTPAs truncate data at their demonstrative borders. This analysis assumes that passenger cars include Light-Duty-Auto vehicles (LDA), Light-Duty-Trucks (LDT1[7] & LDT2[8]), Medium-Duty-Vehicles (MDV), and Motorcycles (MCY) vehicle types. In order to account for emissions generated by passenger cars, the fleet mix in Table 3-4 was utilized.

TABLE 3-4: PASSENGER CAR FLEET MIX

Land Use	% Vehicle Type				
	LDA	LDT1	LDT2	MDV	MCY
High-Cube Fulfillment	55.76%	4.52%	22.17%	15.30%	2.25%

Note: The Project-specific passenger car fleet mix used in this analysis is based on a proportional split utilizing the default CalEEMod percentages assigned to LDA, LDT1, LDT2, and MDV vehicle types.

[6] The CalEEMod emissions inventory model does not include indirect emission related to street lighting. Indirect emissions related to street lighting are expected to be negligible and cannot be accurately quantified at this time as there is insufficient information as to the number and type of street lighting that would occur.

[7] Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs.

[8] Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

To determine emissions from trucks for the proposed industrial uses, the analysis incorporated the SCAQMD recommended truck trip length of 15.3 miles for 2-axle (LHDT1, LHDT2), 14.2 miles for 3-axle (MHDT) trucks, and 40 miles for 4+-axle (HHDT) trucks and weighting the average trip lengths using traffic trip percentages. The trip length function for the industrial uses have been revised to 34.44 miles for the high-cube fulfillment center use, respectively, an assumption of 100% primary trips for the proposed industrial land uses. Trucks are broken down by truck type. The truck fleet mix is estimated by rationing the trip rates for each truck type based on information provided by the SCAQMD recommended truck mix, by axle type. Heavy trucks are broken down by truck type (or axle type) and are categorized as either Light-Heavy-Duty Trucks (LHDT1[9] & LHDT2 [10])/2-axle, Medium-Heavy-Duty Trucks (MHDT)/3-axle, and Heavy-Heavy-Duty Trucks (HHDT)/4+-axle. To account for emissions generated by trucks, the fleet mix in Table 3-5 was utilized.

TABLE 3-5: TRUCK FLEET MIX

Land Use	% Vehicle Type			
	LHDT1	LHDT2	MHDT	HHDT
High-Cube Fulfillment	8.75%	2.47%	11.21%	77.57%

Note: Project-specific truck fleet mix is based on the number of trips generated by each truck type (LHDT1, LHDT2, MHDT, and HHDT) relative to the total number of truck trips.

3.6.4 ON-SITE CARGO HANDLING EQUIPMENT EMISSIONS

It is common for industrial buildings to require the operation of exterior cargo handling equipment in the building's truck court areas. For this particular Project, on-site modeled operational equipment includes up to three (3) 175 horsepower (hp), natural gas-powered cargo handling equipment – port tractor operating at 4 hours a day[11] for 365 days of the year.

3.6.5 WATER SUPPLY, TREATMENT AND DISTRIBUTION

Indirect GHG emissions result from the production of electricity used to convey, treat, and distribute water and wastewater. The amount of electricity required to convey, treat, and distribute water depends on the volume of water as well as the sources of the water. Unless otherwise noted, CalEEMod default parameters were used.

3.6.6 SOLID WASTE

Industrial land uses would result in the generation and disposal of solid waste. A percentage of this waste would be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted would be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic

[9] Vehicles under the LHDT1 category have a GVWR of 8,501 to 10,000 lbs.

[10] Vehicles under the LHDT2 category have a GVWR of 10,001 to 14,000 lbs.

[11] Based on Table II-3, Port and Rail Cargo Handling Equipment Demographics by Type, from CARB's Technology Assessment: Mobile Cargo Handling Equipment document, a single piece of equipment could operate up to 2 hours per day (Total Average Annual Activity divided by Total Number Pieces of Equipment). As such, the analysis conservatively assumes that the tractor/loader/backhoe would operate up to 4 hours per day.

breakdown of material. GHG emissions associated with the disposal of solid waste associated with the proposed Project were calculated by CalEEMod using default parameters.

3.6.7 EMISSIONS SUMMARY

The estimated Project-related GHG emissions are summarized on Table 3-6. Detailed operation model outputs for the Project are presented in Appendix 3.2. As shown in Table 3-6, construction and operation of the Project would generate a 2,420.94 $MTCO_2e$/yr.

TABLE 3-6: PROJECT GHG EMISSIONS

Emission Source	Emissions (MT/yr)				
	CO_2	CH_4	N_2O	Refrigerants	Total CO_2e
Annual construction-related emissions amortized over 30 years	21.37	1.00E-03	1.00E-03	0.01	21.70
Mobile Source	1,558.00	0.04	0.15	2.25	1,606.00
Area Source	5.63	0.00	0.00	0.00	5.79
Energy Source	214.00	0.02	0.00	0.00	215.00
Water Usage	90.40	2.09	0.05	0.00	158.00
Waste	23.30	2.33	0.00	0.00	81.50
Refrigerants	0.00	0.00	0.00	46.80	46.80
On-Site Equipment					286.15
Total CO_2e (All Sources)	**2,420.94**				

Source: CalEEMod output, See Appendix 3.2 for detailed model outputs.

3.7 GHG EMISSIONS FINDINGS AND RECOMMENDATIONS

3.7.1 GHG IMPACT 1

Potential to generate direct or indirect GHG emissions that would result in a significant impact on the environment.

A numerical threshold for determining the significance of GHG emissions in the SCAB has not been established by the SCAQMD for Projects where it is not the lead agency. As an interim threshold based on guidance provided in the CAPCOA *CEQA and Climate Change* handbook, the City has opted to use a non-zero threshold approach based on Approach 2 of the handbook. Threshold 2.5 (Unit-Based Thresholds Based on Market Capture) establishes a numerical threshold based on capture of approximately 90% of emissions from future development. The latest threshold developed by SCAQMD using this method is 3,000 $MTCO_2e$/yr for all projects (54).

The Project would result in approximately 814.94 $MTCO_2e$/yr from construction, area, energy, waste, and water usage. In addition, the Project has the potential to result in an additional 1,606.00 $MTCO_2e$/yr from mobile sources if the assumption is made that all of the vehicle trips to and from the Project are "new" trips resulting from the development of the Project. As such, the Project has the potential to generate a total of approximately 2,420.94 $MTCO_2e$/yr. As such, the Project would not exceed the SCAQMD's numeric threshold of 3,000 $MTCO_2e$/yr if it were applied. Thus, the Project would not have the potential to result in a cumulatively considerable impact with respect to GHG emissions.

The Project would not have the potential to generate direct or indirect GHG emissions that would result in a significant impact on the environment.

3.7.2 GHG IMPACT 2

Potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

As previously stated, pursuant to 15604.4 of the *CEQA Guidelines*, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions (51). Project consistency with SB 32 (2017 Scoping Plan) is evaluated in the following discussion. Here, in order to provide a full disclosure of the Project's GHG impacts, both quantitative and qualitative analyses are employed.

SB 32/2017 SCOPING PLAN CONSISTENCY

The *2017 Scoping Plan* Update reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Table 3-7 summarizes the project's consistency with the *2017 Scoping Plan*. As summarized, the project will not conflict with any of the provisions of the *Scoping Plan* and in fact supports seven of the action categories.

TABLE 3-7: 2017 SCOPING PLAN CONSISTENCY SUMMARY[12]

Action	Responsible Parties	Consistency
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50% of retail sales by 2030 and ensure grid reliability.	CPUC, CEC, CARB	Consistent. The Project would use energy from Southern California Edison (SCE). SCE has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources. The Project would not interfere with or obstruct SCE energy source diversification efforts.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		Consistent. The Project would be constructed in compliance with applicable California Building Code requirements. Specifically, new buildings must achieve compliance with the current Building and Energy Efficiency Standards and the

[12] Source California Air Resources Board, California's 2017 Climate Change Scoping Plan, November 2017 and CARB, Climate Change Scoping Plan, December 2008.

Action	Responsible Parties	Consistency
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly- owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		current California Green Building Standards requirements, or the applicable standards in place at the time building permit document submittals are made. The proposed Project includes energy efficient field lighting and fixtures that meet the current Title 24 Standards throughout the Project Site and would be a modern development with energy efficient boilers, heaters, and air conditioning systems.
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plug-in hybrid light-duty EVs by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, OPR, Local Agencies	Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero emission and plug-in hybrid light-duty EV 2025 targets. As this is a CARB enforced standard, vehicles that access the Project are required to comply with the standards and will therefore comply with the strategy.
At least 4.2 million zero emission and plug-in hybrid light-duty EVs by 2030.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero emission and plug-in hybrid light-duty EV 2030 targets. As this is a CARB enforced standard, vehicles that access the Project are required to comply with the standards and will therefore comply with the strategy.
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations. As this is a CARB enforced standard, vehicles that access the Project are required to comply with the standards and will therefore comply with the strategy.
Medium- and Heavy-Duty GHG Phase 2.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to

Action	Responsible Parties	Consistency
		implement Medium- and Heavy-Duty GHG Phase 2. As this is a CARB enforced standard, vehicles that access the Project are required to comply with the standards and will therefore comply with the strategy.
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20% of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100% of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO_X standard.		Consistent. The Project would not obstruct or interfere with agency efforts to transition to a suite of to-be-determined innovative clean transit options.
Last Mile Delivery: New regulation that would result in the use of low NO_X or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5% of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10% in 2025 and remaining flat through 2030.		Consistent. The Project would not obstruct or interfere with agency efforts to use low NO_X or cleaner engines or the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California.
Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."		Consistent. This Project would not obstruct or interfere with implementation of SB 375 and would therefore not conflict with this measure.
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).	CARB	Consistent. The Project would not obstruct or interfere with agency efforts to increase stringency of SB 375 Sustainable Communities Strategy.

Action	Responsible Parties	Consistency
Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g., via guideline documents, funding programs, project selection, etc.).	CalSTA, SGC, OPR, CARB, Governor's Office of Business and Economic Development (GO-Biz), California Infrastructure and Economic Development Bank (IBank), Department of Finance (DOF), California Transportation Commission (CTC), Caltrans	Consistent. The Project would not obstruct or interfere with agency efforts to harmonize transportation facility project performance with emissions reductions, increase competitiveness of transit and active transportation modes, implantation of sidewalks/Class I shared use trails, and bus stops.
By 2019, develop pricing policies to support low-GHG transportation (e.g., low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, CTC, OPR, SGC, CARB	Consistent. The Project would not obstruct or interfere with agency efforts to develop pricing policies to support low-GHG transportation.
Implement California Sustainable Freight Action Plan		
Improve freight system efficiency.	CalSTA, CalEPA, CNRA, CARB, Caltrans, CEC, GO-Biz	Consistent. This measure would apply to all trucks accessing the Project site, this may include existing trucks or new trucks that are part of the statewide goods movement sector. The Project would not obstruct or interfere with agency efforts to Improve freight system efficiency.
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.		Consistent. The Project would not obstruct or interfere with agency efforts to deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.	CARB	Consistent. When adopted, this measure would apply to all fuel purchased and used by the Project in the state. The

Action	Responsible Parties	Consistency
		Project would not obstruct or interfere with agency efforts to adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.
Implement the Short-Lived Climate Pollutant Strategy (SLPS) by 2030		
40% reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, CDFA, California State Water Resource Control Board (SWRCB), Local Air Districts	Consistent. The Project would not obstruct or interfere with agency efforts to reach a 40% reduction in methane and hydrofluorocarbon emissions below 2013 levels or 50% reduction in black carbon emissions below 2013 levels.
50% reduction in black carbon emissions below 2013 levels.		
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts	Consistent. The Project would not obstruct or interfere with agency efforts to develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	Consistent. Cap-and-Trade Program provisions do not apply to this Project. The Project would not obstruct or interfere agency efforts to implement the post-2020 Cap-and-Trade Program.
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink		
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA, CARB	Consistent. The Project would not obstruct or interfere with agency efforts to protect land from conversion through conservation easements and other incentives. It should also be noted that the Project site is not an identified property that needs to be conserved.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity.		Consistent. The Project site is vacant disturbed property and does not comprise an area that would effectively provide for carbon sequestration. The Project would not obstruct or interfere agency efforts to increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity.

Action	Responsible Parties	Consistency
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments.		Consistent. To the extent appropriate for the proposed buildings, wood products would be used in construction, including for the roof structure. Additionally, the proposed project includes landscaping, including.
Establish scenario projections to serve as the foundation for the Implementation Plan.		Consistent. The Project would not obstruct or interfere with agency efforts to establish scenario projections to serve as the foundation for the Implementation Plan.
Implement Forest Carbon Plan	CNRA, California Department of Forestry and Fire Protection (CAL FIRE), CalEPA and Departments Within	Consistent. The Project would not obstruct or interfere with agency efforts to implement Forest Carbon Plan.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	Consistent. The Project would not obstruct or interfere with agency efforts to fund and finance mechanisms to support GHG reductions across all sectors.

As shown above, the Project would not conflict with any of the *2017 Scoping Plan* elements as any regulations adopted would apply directly or indirectly to the Project. Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40% below 1990 levels by 2030 (38).

The Project would not have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

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5 CERTIFICATIONS

The contents of this GHG study report represent an accurate depiction of the GHG impacts associated with the proposed Mapes & Sherman Commerce Center (DEV2022-003) Project. The information contained in this GHG report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com.

Haseeb Qureshi
Principal
URBAN CROSSROADS, INC.
hqureshi@urbanxroads.com

EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June, 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June 2011
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APPENDIX 3.1:

CALEEMOD PROJECT CONSTRUCTION EMISSIONS MODEL OUTPUTS

Mapes & Sherman (Construction) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Mapes & Sherman (Construction)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	0.20
Location	33.75710422655197, -117.18112679049779
County	Riverside-South Coast
City	Menifee
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5512
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Unrefrigerated Warehouse-No Rail	278	1000sqft	7.98	277,578	69,981	0.00	—	—
Parking Lot	377	Space	2.02	0.00	0.00	0.00	—	—

Other Asphalt Surfaces	145	1000sqft	3.34	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.46	39.2	28.2	40.9	0.05	1.48	2.34	3.82	1.36	0.56	1.92	—	7,875	7,875	0.30	0.29	12.1	7,979
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.94	4.99	47.2	39.3	0.08	2.53	5.92	8.46	2.33	2.75	5.08	—	10,189	10,189	0.34	0.57	0.27	10,368
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.37	5.00	8.73	11.3	0.02	0.47	0.83	1.30	0.43	0.21	0.63	—	2,503	2,503	0.10	0.11	1.91	2,540
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.25	0.91	1.59	2.06	< 0.005	0.09	0.15	0.24	0.08	0.04	0.12	—	414	414	0.02	0.02	0.32	421

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.46	39.2	28.2	40.9	0.05	1.48	2.34	3.82	1.36	0.56	1.92	—	7,875	7,875	0.30	0.29	12.1	7,979
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	5.94	4.99	47.2	39.3	0.08	2.53	5.92	8.46	2.33	2.75	5.08	—	10,189	10,189	0.34	0.57	0.27	10,368
2024	2.98	2.53	19.1	23.8	0.04	1.04	1.85	2.89	0.96	0.45	1.41	—	5,503	5,503	0.21	0.25	0.26	5,584
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.80	0.67	6.35	5.62	0.01	0.31	0.59	0.91	0.29	0.21	0.50	—	1,369	1,369	0.05	0.07	0.61	1,390
2024	1.37	5.00	8.73	11.3	0.02	0.47	0.83	1.30	0.43	0.20	0.63	—	2,503	2,503	0.10	0.11	1.91	2,540
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.15	0.12	1.16	1.03	< 0.005	0.06	0.11	0.17	0.05	0.04	0.09	—	227	227	0.01	0.01	0.10	230
2024	0.25	0.91	1.59	2.06	< 0.005	0.09	0.15	0.24	0.08	0.04	0.12	—	414	414	0.02	0.02	0.32	421

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.83	4.90	47.0	38.0	0.05	2.53	—	2.53	2.33	—	2.33	—	5,530	5,530	0.22	0.04	—	5,549

Dust From Material Movement	—	—	—	—	—	—	5.66	5.66	—	2.69	2.69	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.29	1.04	< 0.005	0.07	—	0.07	0.06	—	0.06	—	152	152	0.01	< 0.005	—	152
Dust From Material Movement	—	—	—	—	—	—	0.16	0.16	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.24	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.1	25.1	< 0.005	< 0.005	—	25.2
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.11	1.24	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	243	243	0.01	0.01	0.03	246
Vendor	< 0.005	< 0.005	0.12	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	94.3	94.3	< 0.005	0.01	0.01	98.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	6.74	6.74	< 0.005	< 0.005	0.01	6.84
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.58	2.58	< 0.005	< 0.005	< 0.005	2.70
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.12	1.12	< 0.005	< 0.005	< 0.005	1.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.43	0.43	< 0.005	< 0.005	< 0.005	0.45
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.00	4.20	40.9	32.7	0.06	1.96	—	1.96	1.80	—	1.80	—	6,715	6,715	0.27	0.05	—	6,738
Dust From Material Movement	—	—	—	—	—	—	2.67	2.67	—	0.98	0.98	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	3.36	2.69	0.01	0.16	—	0.16	0.15	—	0.15	—	552	552	0.02	< 0.005	—	554

Dust From Material Movement	—	—	—	—	—	—	0.22	0.22	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.61	0.49	< 0.005	0.03	—	0.03	0.03	—	0.03	—	91.4	91.4	< 0.005	< 0.005	—	91.7
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.12	1.37	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	270	270	0.01	0.01	0.03	273
Vendor	0.01	0.01	0.27	0.08	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	220	220	< 0.005	0.03	0.02	230
Hauling	0.12	0.04	3.58	0.83	0.02	0.06	0.20	0.26	0.06	0.07	0.13	—	2,984	2,984	0.05	0.47	0.16	3,127
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	22.5	22.5	< 0.005	< 0.005	0.04	22.8
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.1	18.1	< 0.005	< 0.005	0.02	18.9
Hauling	0.01	< 0.005	0.30	0.07	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	245	245	< 0.005	0.04	0.22	257
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	3.72	3.72	< 0.005	< 0.005	0.01	3.77
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.99	2.99	< 0.005	< 0.005	< 0.005	3.13

Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	40.6	40.6	< 0.005	0.01	0.04	42.6

3.5. Building Construction (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.47	2.07	18.3	16.2	0.03	1.14	—	1.14	1.05	—	1.05	—	2,806	2,806	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.14	1.22	1.08	< 0.005	0.08	—	0.08	0.07	—	0.07	—	187	187	0.01	< 0.005	—	187
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.9	30.9	< 0.005	< 0.005	—	31.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.65	0.59	0.72	8.04	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,579	1,579	0.08	0.06	0.19	1,599
Vendor	0.06	0.03	1.42	0.43	0.01	0.02	0.07	0.08	0.02	0.02	0.04	—	1,163	1,163	0.02	0.17	0.08	1,215
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.05	0.56	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	106	106	0.01	< 0.005	0.21	108
Vendor	< 0.005	< 0.005	0.10	0.03	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	77.3	77.3	< 0.005	0.01	0.09	80.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	17.6	17.6	< 0.005	< 0.005	0.03	17.9
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.31	1.93	17.1	16.0	0.03	1.03	—	1.03	0.94	—	0.94	—	2,805	2,805	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.31	1.93	17.1	16.0	0.03	1.03	—	1.03	0.94	—	0.94	—	2,805	2,805	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.98	0.82	7.29	6.83	0.01	0.44	—	0.44	0.40	—	0.40	—	1,197	1,197	0.05	0.01	—	1,201
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.33	1.25	< 0.005	0.08	—	0.08	0.07	—	0.07	—	198	198	0.01	< 0.005	—	199
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.66	0.60	0.56	9.77	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,684	1,684	0.07	0.06	6.68	1,710
Vendor	0.05	0.03	1.30	0.40	0.01	0.02	0.07	0.08	0.02	0.02	0.04	—	1,149	1,149	0.02	0.17	3.24	1,204
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.62	0.56	0.67	7.38	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,548	1,548	0.07	0.06	0.17	1,567
Vendor	0.05	0.03	1.36	0.41	0.01	0.02	0.07	0.08	0.02	0.02	0.04	—	1,150	1,150	0.02	0.17	0.08	1,202
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.24	0.28	3.32	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	669	669	0.03	0.02	1.23	678
Vendor	0.02	0.01	0.58	0.18	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	490	490	0.01	0.07	0.59	513

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.61	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	111	111	0.01	< 0.005	0.20	112
Vendor	< 0.005	< 0.005	0.11	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	81.2	81.2	< 0.005	0.01	0.10	84.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.43	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8

Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	1.25	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	216	216	0.01	0.01	0.86	219
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	11.0	11.0	< 0.005	< 0.005	0.02	11.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.82	1.82	< 0.005	< 0.005	< 0.005	1.85
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2024) - Unmitigated

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

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

Off-Road Equipment	0.22	0.18	1.21	1.53	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	34.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.5	19.5	< 0.005	< 0.005	—	19.6
Architectural Coatings	—	3.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.23	3.23	< 0.005	< 0.005	—	3.24
Architectural Coatings	—	0.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.92	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	331	331	0.01	0.01	1.31	336
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.17	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	33.8	33.8	< 0.005	< 0.005	0.06	34.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	5.59	5.59	< 0.005	< 0.005	0.01	5.67
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description

Site Preparation	Site Preparation	10/3/2023	10/16/2023	5.00	10.0	—
Grading	Grading	10/17/2023	11/27/2023	5.00	30.0	—
Building Construction	Building Construction	11/28/2023	8/5/2024	5.00	180	—
Paving	Paving	7/9/2024	8/5/2024	5.00	20.0	—
Architectural Coating	Architectural Coating	6/11/2024	8/5/2024	5.00	40.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Average	4.00	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Building Construction	Crawler Tractors	Diesel	Average	3.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	18.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	3.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	7.00	10.2	HHDT,MHDT
Grading	Hauling	42.0	20.0	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	117	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	37.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	0.00	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	0.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	23.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT

Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	427,392	142,464	14,700

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	35.0	0.00	—
Grading	10,100	0.00	120	0.00	—
Paving	0.00	0.00	0.00	0.00	5.36

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt

Unrefrigerated Warehouse-No Rail	0.00	0%
Parking Lot	2.02	100%
Other Asphalt Surfaces	3.34	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.1	annual days of extreme heat
Extreme Precipitation	2.60	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	15.2	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A

Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract

Exposure Indicators	—
AQ-Ozone	95.3
AQ-PM	50.7
AQ-DPM	43.2
Drinking Water	10.2
Lead Risk Housing	35.1
Pesticides	57.8
Toxic Releases	25.3
Traffic	81.8
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	35.6
Impaired Water Bodies	0.00
Solid Waste	35.7
Sensitive Population	—
Asthma	39.1
Cardio-vascular	72.9
Low Birth Weights	37.9
Socioeconomic Factor Indicators	—
Education	86.4
Housing	73.4
Linguistic	44.4
Poverty	87.8
Unemployment	67.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	21.59630438
Employed	8.956756063
Education	—
Bachelor's or higher	3.836776594
High school enrollment	6.685486975
Preschool enrollment	31.33581419
Transportation	—
Auto Access	49.51879892
Active commuting	15.06480175
Social	—
2-parent households	62.08135506
Voting	24.39368664
Neighborhood	—
Alcohol availability	66.20043629
Park access	2.194276915
Retail density	9.316052868
Supermarket access	32.97831387
Tree canopy	0.667265495
Housing	—
Homeownership	65.03272167
Housing habitability	43.02579238
Low-inc homeowner severe housing cost burden	15.44976261
Low-inc renter severe housing cost burden	71.34607982
Uncrowded housing	14.42320031
Health Outcomes	—

Insured adults	9.547029385
Arthritis	32.0
Asthma ER Admissions	60.6
High Blood Pressure	38.5
Cancer (excluding skin)	55.0
Asthma	27.9
Coronary Heart Disease	28.5
Chronic Obstructive Pulmonary Disease	23.6
Diagnosed Diabetes	33.2
Life Expectancy at Birth	16.6
Cognitively Disabled	44.8
Physically Disabled	87.9
Heart Attack ER Admissions	34.3
Mental Health Not Good	26.2
Chronic Kidney Disease	27.1
Obesity	17.5
Pedestrian Injuries	90.3
Physical Health Not Good	26.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	35.4
Current Smoker	23.0
No Leisure Time for Physical Activity	24.4
Climate Change Exposures	—
Wildfire Risk	7.3
SLR Inundation Area	0.0
Children	81.0

Elderly	85.6
English Speaking	69.8
Foreign-born	42.8
Outdoor Workers	5.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	92.8
Traffic Density	52.0
Traffic Access	23.0
Other Indices	—
Hardship	80.6
Other Decision Support	—
2016 Voting	37.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	58.0
Healthy Places Index Score for Project Location (b)	11.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health and Equity Evaluation Scorecard not completed.

8. User Changes to Default Data

Screen	Justification
Land Use	Total Project area is +/- 13.3 acres
Construction: Construction Phases	Construction anticipated to begin October 2023 and end August 2024
Construction: Off-Road Equipment	Equipment adjusted based on the changes made to the Construction Schedule
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Site Preparation, Grading, and Building Construction
Construction: Architectural Coatings	Rule 1113

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APPENDIX 3.2:

CALEEMOD PROJECT OPERATIONAL EMISSIONS MODEL OUTPUTS

Mapes & Sherman (Operations) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Mapes & Sherman (Operations)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	0.20
Location	33.75710422655197, -117.18112679049779
County	Riverside-South Coast
City	Menifee
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5512
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Unrefrigerated Warehouse-No Rail	278	1000sqft	7.98	277,578	69,981	0.00	—	—
User Defined Industrial	278	User Defined Unit	0.00	0.00	0.00	0.00	—	—

Parking Lot	377	Space	2.02	0.00	0.00	0.00	—	—
Other Asphalt Surfaces	145	1000sqft	3.34	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	10.9	9.33	43.8	0.13	0.16	3.26	3.43	0.16	0.62	0.78	264	15,058	15,321	27.2	1.54	326	16,785
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.54	8.86	9.74	26.0	0.12	0.15	3.26	3.41	0.14	0.62	0.76	264	14,518	14,782	27.2	1.55	284	16,205
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.32	9.63	7.28	28.0	0.09	0.12	2.39	2.50	0.12	0.45	0.57	264	11,162	11,426	27.1	1.22	297	12,763
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.61	1.76	1.33	5.11	0.02	0.02	0.44	0.46	0.02	0.08	0.10	43.6	1,848	1,892	4.48	0.20	49.1	2,113

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.64	2.27	9.23	31.7	0.13	0.15	3.26	3.41	0.14	0.62	0.76	—	13,291	13,291	0.33	1.21	43.1	13,705
Area	2.15	8.68	0.10	12.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	49.6	49.6	< 0.005	< 0.005	—	51.1
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,294	1,294	0.12	0.01	—	1,301
Water	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Waste	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	4.79	10.9	9.33	43.8	0.13	0.16	3.26	3.43	0.16	0.62	0.78	264	15,058	15,321	27.2	1.54	326	16,785
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.54	2.16	9.74	26.0	0.12	0.15	3.26	3.41	0.14	0.62	0.76	—	12,801	12,801	0.34	1.23	1.12	13,176
Area	—	6.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,294	1,294	0.12	0.01	—	1,301
Water	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Waste	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	2.54	8.86	9.74	26.0	0.12	0.15	3.26	3.41	0.14	0.62	0.76	264	14,518	14,782	27.2	1.55	284	16,205
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.85	1.57	7.21	19.7	0.09	0.11	2.39	2.49	0.10	0.45	0.55	—	9,411	9,411	0.25	0.90	13.6	9,699
Area	1.47	8.06	0.07	8.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.0	34.0	< 0.005	< 0.005	—	35.0
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,294	1,294	0.12	0.01	—	1,301
Water	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Waste	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283

Total	3.32	9.63	7.28	28.0	0.09	0.12	2.39	2.50	0.12	0.45	0.57	264	11,162	11,426	27.1	1.22	297	12,763
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.34	0.29	1.32	3.60	0.02	0.02	0.44	0.45	0.02	0.08	0.10	—	1,558	1,558	0.04	0.15	2.25	1,606
Area	0.27	1.47	0.01	1.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.63	5.63	< 0.005	< 0.005	—	5.79
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	214	214	0.02	< 0.005	—	215
Water	—	—	—	—	—	—	—	—	—	—	—	20.4	70.0	90.4	2.09	0.05	—	158
Waste	—	—	—	—	—	—	—	—	—	—	—	23.3	0.00	23.3	2.33	0.00	—	81.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.8	46.8
Total	0.61	1.76	1.33	5.11	0.02	0.02	0.44	0.46	0.02	0.08	0.10	43.6	1,848	1,892	4.48	0.20	49.1	2,113

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	2.33	2.10	1.47	29.6	0.06	0.03	0.29	0.32	0.03	0.09	0.11	—	6,337	6,337	0.20	0.15	25.2	6,411
User Defined Industrial	0.31	0.16	7.76	2.13	0.06	0.12	0.49	0.61	0.11	0.16	0.27	—	6,954	6,954	0.13	1.07	17.9	7,294
Parking Lot	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	0.00

Other Asphalt Surfaces	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	0.00
Total	2.64	2.27	9.23	31.7	0.13	0.15	0.78	0.92	0.14	0.24	0.38	—	13,291	13,291	0.33	1.21	43.1	13,705
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	2.23	2.00	1.63	23.8	0.06	0.03	0.29	0.32	0.03	0.09	0.11	—	5,844	5,844	0.21	0.16	0.65	5,897
User Defined Industrial	0.30	0.16	8.10	2.15	0.06	0.12	0.49	0.61	0.11	0.16	0.27	—	6,957	6,957	0.13	1.07	0.46	7,279
Parking Lot	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	0.00
Other Asphalt Surfaces	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	0.00
Total	2.54	2.16	9.74	26.0	0.12	0.15	0.78	0.92	0.14	0.24	0.38	—	12,801	12,801	0.34	1.23	1.12	13,176
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.30	0.27	0.22	3.32	0.01	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	716	716	0.03	0.02	1.32	724
User Defined Industrial	0.04	0.02	1.09	0.28	0.01	0.02	0.07	0.08	0.02	0.02	0.04	—	842	842	0.02	0.13	0.94	882
Parking Lot	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	0.00
Other Asphalt Surfaces	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	0.00
Total	0.34	0.29	1.32	3.60	0.02	0.02	0.10	0.12	0.02	0.03	0.05	—	1,558	1,558	0.04	0.15	2.25	1,606

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,220	1,220	0.12	0.01	—	1,227
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	73.6	73.6	0.01	< 0.005	—	74.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,294	1,294	0.12	0.01	—	1,301
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,220	1,220	0.12	0.01	—	1,227
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	73.6	73.6	0.01	< 0.005	—	74.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,294	1,294	0.12	0.01	—	1,301
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	202	202	0.02	< 0.005	—	203
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.2	12.2	< 0.005	< 0.005	—	12.3
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	214	214	0.02	< 0.005	—	215

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	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

User Defined Industrial	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
Parking Lot	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
Other Asphalt Surfaces	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	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
User Defined Industrial	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
Parking Lot	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
Other Asphalt Surfaces	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	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
User Defined Industrial	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

Parking Lot	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
Other Asphalt Surfaces	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	5.96	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.15	1.98	0.10	12.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	49.6	49.6	< 0.005	< 0.005	—	51.1
Total	2.15	8.68	0.10	12.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	49.6	49.6	< 0.005	< 0.005	—	51.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	5.96	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	6.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.27	0.25	0.01	1.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.63	5.63	< 0.005	< 0.005	—	5.79
Total	0.27	1.47	0.01	1.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.63	5.63	< 0.005	< 0.005	—	5.79

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	20.4	70.0	90.4	2.09	0.05	—	158
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	20.4	70.0	90.4	2.09	0.05	—	158

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	23.3	0.00	23.3	2.33	0.00	—	81.5
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	23.3	0.00	23.3	2.33	0.00	—	81.5

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.8	46.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.8	46.8

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	486	41.1	16.5	129,712	8,497	719	288	2,267,884
User Defined Industrial	106	8.97	3.58	28,292	2,219	188	75.0	592,254
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	426,865	142,288	13,998

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	1,277,512	349	0.0330	0.0040	0.00
User Defined Industrial	0.00	349	0.0330	0.0040	0.00
Parking Lot	77,080	349	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	349	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	64,189,912	1,109,599
User Defined Industrial	0.00	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	261	0.00
User Defined Industrial	0.00	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Unrefrigerated Warehouse-No Rail	Cold storage	User Defined	150	7.50	7.50	7.50	25.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.1	annual days of extreme heat
Extreme Precipitation	2.60	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	15.2	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	95.3
AQ-PM	50.7
AQ-DPM	43.2
Drinking Water	10.2
Lead Risk Housing	35.1
Pesticides	57.8
Toxic Releases	25.3
Traffic	81.8
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	35.6

Impaired Water Bodies	0.00
Solid Waste	35.7
Sensitive Population	—
Asthma	39.1
Cardio-vascular	72.9
Low Birth Weights	37.9
Socioeconomic Factor Indicators	—
Education	86.4
Housing	73.4
Linguistic	44.4
Poverty	87.8
Unemployment	67.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	21.59630438
Employed	8.956756063
Education	—
Bachelor's or higher	3.836776594
High school enrollment	6.685486975
Preschool enrollment	31.33581419
Transportation	—
Auto Access	49.51879892
Active commuting	15.06480175
Social	—

2-parent households	62.08135506
Voting	24.39368664
Neighborhood	—
Alcohol availability	66.20043629
Park access	2.194276915
Retail density	9.316052868
Supermarket access	32.97831387
Tree canopy	0.667265495
Housing	—
Homeownership	65.03272167
Housing habitability	43.02579238
Low-inc homeowner severe housing cost burden	15.44976261
Low-inc renter severe housing cost burden	71.34607982
Uncrowded housing	14.42320031
Health Outcomes	—
Insured adults	9.547029385
Arthritis	32.0
Asthma ER Admissions	60.6
High Blood Pressure	38.5
Cancer (excluding skin)	55.0
Asthma	27.9
Coronary Heart Disease	28.5
Chronic Obstructive Pulmonary Disease	23.6
Diagnosed Diabetes	33.2
Life Expectancy at Birth	16.6
Cognitively Disabled	44.8
Physically Disabled	87.9

Heart Attack ER Admissions	34.3
Mental Health Not Good	26.2
Chronic Kidney Disease	27.1
Obesity	17.5
Pedestrian Injuries	90.3
Physical Health Not Good	26.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	35.4
Current Smoker	23.0
No Leisure Time for Physical Activity	24.4
Climate Change Exposures	—
Wildfire Risk	7.3
SLR Inundation Area	0.0
Children	81.0
Elderly	85.6
English Speaking	69.8
Foreign-born	42.8
Outdoor Workers	5.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	92.8
Traffic Density	52.0
Traffic Access	23.0
Other Indices	—
Hardship	80.6
Other Decision Support	—
2016 Voting	37.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	58.0
Healthy Places Index Score for Project Location (b)	11.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health and Equity Evaluation Scorecard not completed.

8. User Changes to Default Data

Screen	Justification
Land Use	Total Project area is +/- 13.3 acres
Construction: Construction Phases	Construction anticipated to begin October 2023 and end August 2024
Construction: Off-Road Equipment	Equipment adjusted based on the changes made to the Construction Schedule
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Site Preparation, Grading, and Building Construction
Construction: Architectural Coatings	Rule 1113
Operations: Vehicle Data	Trip characteristics based on information provided in the Traffic analysis
Operations: Fleet Mix	Passenger Car Mix estimated based on the CalEEMod default fleet mix and the ratio of the vehicle classes (LDA, LDT1, LDT2, MDV, & MCY). Truck Mix based on information in the Traffic analysis
Operations: Energy Use	The Project will not use natural gas

Operations: Refrigerants	Per 17 CCR 95371, new refrigeration equipment containing >50 lbs of refrigerant in new facilities is prohibited from utilizing refrigerants with a GWP of 150 or greater as of 1 Jan 2022

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A.3 - Mobile Source Health Risk Assessment

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Mapes & Sherman Commerce Center (DEV2022-003)

MOBILE SOURCE HEALTH RISK ASSESSMENT

CITY OF PERRIS

PREPARED BY:

Haseeb Qureshi
hqureshi@urbanxroads.com

Michael Tirohn
mtirohn@urbanxroads.com

DECEMBER 13, 2022

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LIST OF ABBREVIATED TERMS

(1)	Reference
µg	Microgram
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
APS	Auxiliary Power System
AQMD	Air Quality Management District
ARB	Air Resources Board
CEQA	California Environmental Quality Act
CPF	Cancer Potency Factor
DPM	Diesel Particulate Matter
EMFAC	Emission Factor Model
EPA	Environmental Protection Agency
HHD	Heavy Heavy-Duty
HI	Hazard Index
HRA	Health Risk Assessment
LHD	Light Heavy-Duty
MATES	Multiple Air Toxics Exposure Study
MEIR	Maximally Exposed Individual Receptor
MEIW	Maximally Exposed Individual Worker
MHD	Medium Heavy-Duty
NAD	North American Datum
OEHHA	Office of Environmental Health Hazard Assessment
PM_{10}	Particulate Matter 10 microns in diameter or less
Project	Mapes & Sherman Commerce Center (DEV2022-003)
REL	Reference Exposure Level
RM	Recommended Measures
SCAQMD	South Coast Air Quality Management District
SRA	Source Receptor Area
TAC	Toxic Air Contaminant
TA	Traffic Analysis
TRU	Transport Refrigeration Unit
URF	Unit Risk Factor
UTM	Universal Transverse Mercator
VMT	Vehicle Miles Traveled

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EXECUTIVE SUMMARY

This report evaluates the potential mobile-source emissions health risk impacts associated with the development of the proposed Project. More specifically, potential health risk impacts that could result from exposure to Toxic Air Contaminants (TACs), in this case, diesel particulate matter (DPM) generated by heavy-duty diesel trucks accessing the site. This section summarizes the significance criteria and Project health risks.

The results of the health risk assessment from Project-generated DPM emissions are provided in Table ES-1, ES-2, and ES-3, presented subsequently.

CONSTRUCTION IMPACTS

The land use with the greatest potential exposure to Project construction-source DPM emissions is Location R6 which is located approximately 126 feet east the Project site at an existing residence located at 25146 Sherman Road. Because there are no private outdoor living areas facing the Project site, R6 is placed at the building façade nearest the Project site. At the maximally exposed individual receptor (MEIR), the maximum incremental cancer risk attributable to Project construction-source DPM emissions is estimated at 4.75 in one million, which is less than the SCAQMD's significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction activity. All other receptors during construction activity would experience less risk than what is identified for this location. The nearest modeled receptors are illustrated on Exhibit 2-D.

OPERATIONAL IMPACTS

Residential Exposure Scenario:

The residential land use with the greatest potential exposure to Project operational-source DPM emissions is Location R6 which is located approximately 126 feet east of the Project site at an existing residence located at 25146 Sherman Road. Because there are no private outdoor living areas facing the Project site, R6 is placed at the building façade nearest the Project site. At the MEIR, the maximum incremental cancer risk attributable to Project operational-source DPM emissions is estimated at 0.31 in one million, which is less than the SCAQMD's significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled residential receptors are exposed to lesser concentrations and are located at a greater distance from the Project site than the MEIR analyzed herein, and TACs generally dissipates with distance from the source, all other residential receptors in the vicinity of the Project site would be exposed to less emissions and therefore less risk than the MEIR identified herein. As such, the Project will not cause a significant human health or cancer risk to nearby residences. The nearest modeled receptors are illustrated on Exhibit 2-D.

Worker Exposure Scenario[1]*:*

The worker receptor land use with the greatest potential exposure to Project operational-source DPM emissions is Location R7, which represents the potential worker receptor approximately 139 feet west of the Project site. At the maximally exposed individual worker (MEIW), the maximum incremental cancer risk impact is 0.08 in one million which is less than the SCAQMD's threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled worker receptors are located at a greater distance than the MEIW analyzed herein, and DPM dissipates with distance from the source, all other worker receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIW identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent workers. The nearest modeled receptors are illustrated on Exhibit 2-D.

School Child Exposure Scenario:

Proximity to sources of toxics is critical to determining the impact. In traffic-related studies, the additional non-cancer health risk attributable to proximity was seen within 1,000 feet and was strongest within 300 feet. California freeway studies show about a 70-percent drop-off in particulate pollution levels at 500 feet. Based on California Air Resources Board (CARB) and SCAQMD emissions and modeling analyses, an 80-percent drop-off in pollutant concentrations is expected at approximately 1,000 feet from a distribution center (1).

The 1,000-foot evaluation distance is supported by research-based findings concerning Toxic Air Contaminant (TAC) emission dispersion rates from roadways and large sources showing that emissions diminish substantially between 500 and 1,000 feet from emission sources.

A one-quarter mile radius, or 1,320 feet, is commonly utilized for identifying sensitive receptors, such as schools, that may be impacted by a proposed project. This radius is more robust than, and therefore provides a more health protective scenario for evaluation than the 1,000-foot impact radius identified above.

There are no schools within ¼ mile of the Project site. The nearest school is Romoland Elementary School, which is located approximately 4,130 feet southeast of the Project site. Because there is no reasonable potential that TAC emissions would cause significant health impacts at distances of more than ¼ mile from the air pollution source, there would be no significant impacts that would occur to any schools in the vicinity of the Project.

CONSTRUCTION AND OPERATIONAL IMPACTS

The land use with the greatest potential increased cancer risk due to exposure to Project construction-source and operational-source DPM emissions is Location R6. At this location, the maximum incremental cancer risk attributable to Project construction and operational DPM

1 SCAQMD guidance does not require assessment of the potential health risk to on-site workers. Excerpts from the document OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines—The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2003), also indicate that it is not necessary to examine the health effects to on-site workers unless required by RCRA (Resource Conservation and Recovery Act) / CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) or the worker resides on-site.

source emissions is estimated at 4.90 in one million, which is less than the threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction and operational activity. All other receptors during construction and operational activity would experience less risk than what is identified for this location. The nearest modeled receptors are illustrated on Exhibit 2-D.

SUMMARY OF FINDINGS

As shown on Tables ES-1, ES-2, and ES-3, the Project would not result in a significant cancer or non-cancer health risk impact from construction or operational activities. As such, a less than significant impact associated with potential exposure to DPM would occur.

TABLE ES-1: SUMMARY OF CONSTRUCTION CANCER AND NON-CANCER RISKS

Time Period	Location	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold	Significance Findings
0.84 Year Exposure	Maximum Exposed Sensitive Receptor	4.75	10	NO	Less Than Significant
Time Period	**Location**	**Maximum Hazard Index**	**Significance Threshold**	**Exceeds Significance Threshold**	**Significance Findings**
Annual Average	Maximum Exposed Sensitive Receptor	≤0.01	1.0	NO	Less Than Significant

TABLE ES-2: SUMMARY OF OPERATIONAL CANCER AND NON-CANCER RISKS

Time Period	Location	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold	Significance Findings
30 Year Exposure	Maximum Exposed Sensitive Receptor	0.31	10	NO	Less Than Significant
25 Year Exposure	Maximum Exposed Worker Receptor	0.08	10	NO	Less Than Significant
Time Period	**Location**	**Maximum Hazard Index**	**Significance Threshold**	**Exceeds Significance Threshold**	**Significance Findings**
Annual Average	Maximum Exposed Sensitive Receptor	≤0.01	1.0	NO	Less Than Significant
Annual Average	Maximum Exposed Worker Receptor	≤0.01	1.0	NO	Less Than Significant

TABLE ES-3: SUMMARY OF CONSTRUCTION AND OPERATIONAL CANCER AND NON-CANCER RISKS

Time Period	Location	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold	Significance Findings
30 Year Exposure	Maximum Exposed Sensitive Receptor	4.90	10	NO	Less Than Significance
Time Period	**Location**	**Maximum Hazard Index**	**Significance Threshold**	**Exceeds Significance Threshold**	**Significance Findings**
Annual Average	Maximum Exposed Sensitive Receptor	≤0.01	1.0	NO	Less Than Significance

1 INTRODUCTION

The South Coast Air Quality Management District (SCAQMD) typically issues a comment letter on the Notice of Preparation of a CEQA Document. Per the SCAQMD's typical comment letter, if a proposed Project is expected to generate/attract diesel trucks, which emit diesel particulate matter (DPM) or other Toxic Air Contaminants (TACs), preparation of a HRA is necessary. This document serves to meet the SCAQMD's request for preparation of a HRA. This HRA has been prepared in accordance with the document Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (2) and is comprised of all relevant and appropriate procedures presented by the United States Environmental Protection Agency (U.S. EPA), California EPA and SCAQMD. Cancer risk is expressed in terms of expected incremental incidence per million population. The SCAQMD has established an incidence rate of ten (10) persons per million as the maximum acceptable incremental cancer risk due to TAC exposure from a project such as the proposed Project. This threshold serves to determine whether or not a given project has a potentially significant development-specific and cumulatively considerable impact.

The AQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (3). In this report the AQMD states (Page D-3):

"…the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."

The SCAQMD has also established non-carcinogenic risk parameters for use in HRAs. Non-carcinogenic risks are quantified by calculating a "hazard index," expressed as the ratio between the ambient pollutant concentration and its toxicity or Reference Exposure Level (REL). An REL is a concentration at or below which health effects are not likely to occur. A hazard index less of than one (1.0) means that adverse health effects are not expected. In this HRA, non-carcinogenic exposures of less than 1.0 are considered less-than-significant. Both the cancer risk and non-carcinogenic risk thresholds are applied to the nearest sensitive receptors below.

1.1 SITE LOCATION

The proposed Project is located in the City of Perris at the southwest corner of Sherman Road and Mapes Road, as shown on Exhibit 1-A. The City is surrounded by the City of Moreno Valley to the north, unincorporated Riverside County to the east, the City of Murrieta and unincorporated Riverside County to the south, and the Cities of Perris and Lake Elsinore to the west. Regional access to the site is provided via Interstate 215 (I-215) and State Route 74 (SR-74). Local access to the site is provided via Mapes Road and Sherman Avenue.

1.2 PROJECT DESCRIPTION

The Project is proposed to consist of the development of 277,578 sf of high-cube fulfillment center warehouse use within a single building. It is anticipated that the Project would operate seven days a week 24 hours a day and be developed in a single phase with an anticipated Opening Year of 2024. The site plan for the proposed Project is shown on Exhibit 1-B.

EXHIBIT 1-A: LOCATION MAP

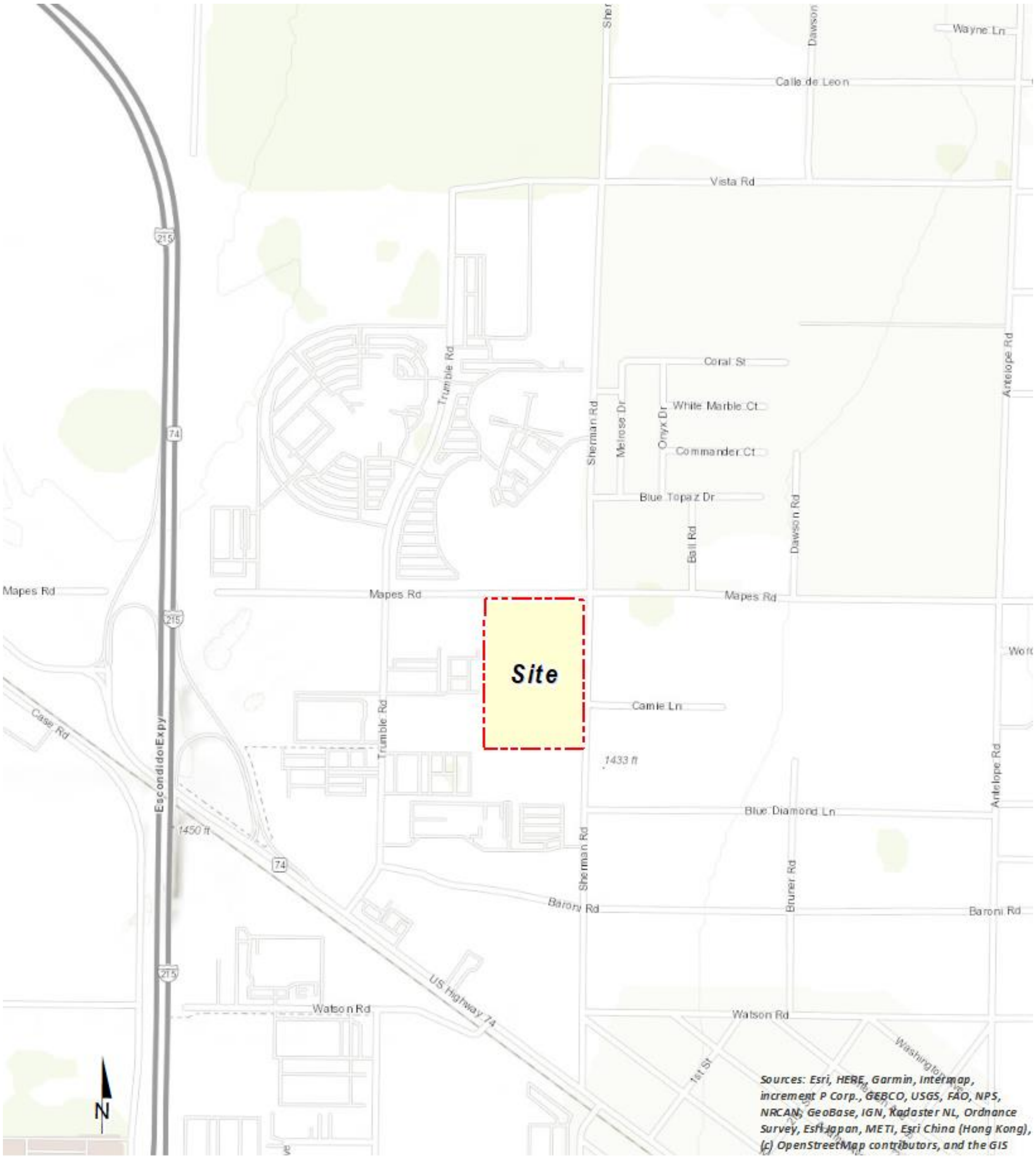
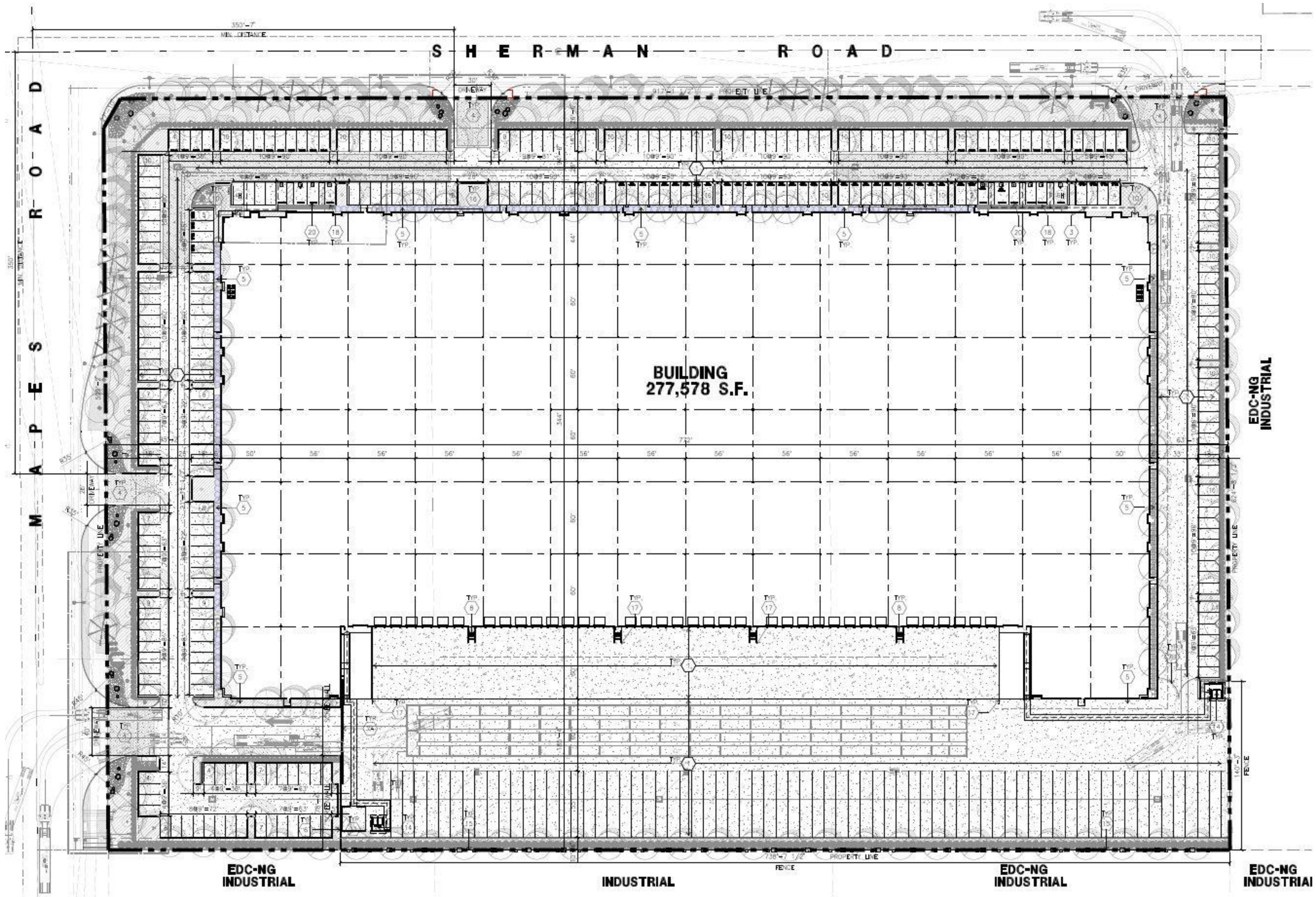


EXHIBIT 1-B: SITE PLAN



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2 BACKGROUND

2.1 BACKGROUND ON RECOMMENDED METHODOLOGY

This HRA is based on SCAQMD guidelines to produce conservative estimates of human health risk posed by exposure to DPM. The conservative nature of this analysis is due primarily to the following factors:

- The ARB-adopted diesel exhaust Unit Risk Factor (URF) of 300 in one million per µg/m^3 is based upon the upper 95 percentile of estimated risk for each of the epidemiological studies utilized to develop the URF. Using the 95th percentile URF represents a very conservative (health-protective) risk posed by DPM because it represents breathing rates that are high for the human body (95% higher than the average population).
- The emissions derived assume that every truck accessing the Project site will idle for 15 minutes under the unmitigated scenario, and this is an overestimation of actual idling times and thus conservative.[2] The California Air Resources Board (CARB's) anti-idling requirements impose a 5-minute maximum idling time and therefore the analysis conservatively overestimates DPM emissions from idling by a factor of 3.

2.2 CONSTRUCTION HEALTH RISK ASSESSMENT

2.2.1 EMISSIONS CALCULATIONS

The emissions calculations for the construction HRA component are based on an assumed mix of construction equipment and hauling activity as presented in the *Mapes & Sherman Commerce Center (DEV2022-003) Air Quality Impact Analysis* ("technical study") prepared by Urban Crossroads, Inc. (4)

Construction related DPM emissions are expected to occur primarily as a function of heavy-duty construction equipment that would be operating on-site.

As discussed in the technical study, the Project would result in approximately 220 total working-days of construction activity. The construction duration by phase is shown on Table 2-1. A detailed summary of construction equipment assumptions by phase is provided at Table 2-2. The CalEEMod emissions outputs are presented in Appendix 2.1. The modeled emission sources for construction activity are illustrated on Exhibit 2-A.

[2] Although the Project is required to comply with ARB's idling limit of 5 minutes, staff at SCAQMD recommends that the on-site idling emissions should be estimated for 15 minutes of truck idling (personal communication, in person, with Jillian Wong, December 22, 2016), which would take into account on-site idling which occurs while the trucks are waiting to pull up to the truck bays, idling at the bays, idling at check-in and check-out, etc.

TABLE 2-1: CONSTRUCTION DURATION

Construction Activity	Start Date	End Date	Working Days
Site Preparation	10/03/2023	10/16/2023	10
Grading	10/17/2023	11/27/2023	30
Building Construction	11/28/2023	08/05/2024	180
Paving	07/09/2024	08/05/2024	20
Architectural Coating	06/11/2024	08/05/2024	40

TABLE 2-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Activity	Equipment	Amount	Hours Per Day
Site Preparation	Rubber Tired Dozers	3	8
	Crawler Tractors	4	8
Grading	Graders	1	8
	Excavators	2	8
	Scrapers	2	8
	Rubber Tired Dozers	1	8
	Crawler Tractors	2	8
Building Construction	Forklifts	3	8
	Generator Sets	1	8
	Cranes	1	8
	Welders	1	8
	Crawler Tractors	3	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

EXHIBIT 2-A: MODELED CONSTRUCTION EMISSION SOURCES

2.3 OPERATIONAL HEALTH RISK ASSESSMENT

2.3.1 ON-SITE AND OFF-SITE TRUCK ACTIVITY

Vehicle DPM emissions were calculated using emission factors for particulate matter less than 10µm in diameter (PM_{10}) generated with the 2021 version of the EMission FACtor model (EMFAC) developed by the CARB. EMFAC 2021 is a mathematical model that CARB developed to calculate emission rates from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the ARB to project changes in future emissions from on-road mobile sources (5). The most recent version of this model, EMFAC 2021, incorporates regional motor vehicle data, information and estimates regarding the distribution of vehicle miles traveled (VMT) by speed, and number of starts per day.

Several distinct emission processes are included in EMFAC 2021. Emission factors calculated using EMFAC 2021 are expressed in units of grams per vehicle miles traveled (g/VMT) or grams per idle-hour (g/idle-hr), depending on the emission process. The emission processes and corresponding emission factor units associated with diesel particulate exhaust for this Project are presented below.

For this Project, annual average PM_{10} emission factors were generated by running EMFAC 2021 in EMFAC Mode for vehicles in the Riverside County jurisdiction. The EMFAC Mode generates emission factors in terms of grams of pollutant emitted per vehicle activity and can calculate a matrix of emission factors at specific values of temperature, relative humidity, and vehicle speed. The model was run for speeds traveled in the vicinity of the Project. The vehicle travel speeds for each segment modeled are summarized below.

- Idling – on-site loading/unloading and truck gate
- 5 miles per hour – on-site vehicle movement including driving and maneuvering
- 25 miles per hour – off-site vehicle movement including driving and maneuvering.

Calculated emission factors are shown at Table 2-3. As a conservative measure, a 2024 EMFAC 2021 run was conducted and a static 2024 emissions factor data set was used for the entire duration of analysis herein (e.g., 30 years). Use of 2024 emission factors would overstate potential impacts since this approach assumes that emission factors remain "static" and do not change over time due to fleet turnover or cleaner technology with lower emissions that would be incorporated into vehicles after 2024. Additionally, based on EMFAC 2021, Light-Heavy-Duty Trucks are comprised of 57.0% diesel, Medium-Heavy-Duty Trucks are comprised of 91.3% diesel, and Heavy-Heavy-Duty Trucks are comprised of 95.2% diesel. Trucks fueled by diesel are accounted for by these percentages accordingly in the emissions factor generation. Appendix 2.2 includes additional details on the emissions estimates from EMFAC.

The vehicle DPM exhaust emissions were calculated for running exhaust emissions. The running exhaust emissions were calculated by applying the running exhaust PM_{10} emission factor (g/VMT) from EMFAC over the total distance traveled. The following equation was used to estimate off-site emissions for each of the different vehicle classes comprising the mobile sources (6):

$Emissions_{speedA}$ (g/s) = $EF_{RunExhaust}$ (g/VMT) * Distance (VMT/trip) * Number of Trips (trips/day) / seconds per day

Where:

$Emissions_{speedA}$ (g/s): Vehicle emissions at a given speed A;

$EF_{RunExhaust}$ (g/VMT): EMFAC running exhaust PM_{10} emission factor at speed A;

Distance (VMT/trip): Total distance traveled per trip.

Similar to off-site traffic, on-site vehicle running emissions were calculated by applying the running exhaust PM_{10} emission factor (g/VMT) from EMFAC and the total vehicle trip number over the length of the driving path using the same formula presented above for on-site emissions. In addition, on-site vehicle idling exhaust emissions were calculated by applying the idle exhaust PM_{10} emission factor (g/idle-hr) from EMFAC and the total truck trip over the total assumed idle time (15 minutes). The following equation was used to estimate the on-site vehicle idling emissions for each of the different vehicle classes (6):

$Emissions_{idle}$ (g/s) = EF_{idle} (g/hr) * Number of Trips (trips/day) * Idling Time (min/trip) *

60 minutes per hour / seconds per day

Where:

$Emissions_{idle}$ (g/s): Vehicle emissions during idling;

EF_{idle}(g/s): EMFAC idle exhaust PM_{10} emission factor.

TABLE 2-3: 2024 WEIGHTED AVERAGE DPM EMISSIONS FACTORS

Speed	Weighted Average
0 (idling)	0.06299 (g/idle-hr)
5	0.01945 (g/s)
25	0.00866 (g/s)

Each roadway was modeled as a line source (made up of multiple adjacent volume sources). Due to the large number of volume sources modeled for this analysis, the corresponding coordinates of each volume source have not been included in this report but are included in Appendix 2.3. The DPM emission rate for each volume source was calculated by multiplying the emission factor (based on the average travel speed along the roadway) by the number of trips and the distance traveled along each roadway segment and dividing the result by the number of volume sources along that roadway, as illustrated on Table 2-4. The modeled emission sources are illustrated on Exhibit 2-B for on-site sources and Exhibit 2-C for off-site sources. The modeling domain is limited to the Project’s primary truck route and includes off-site sources in the study area for more than ¾ mile. This modeling domain is more inclusive and conservative than using only a ¼ mile modeling domain which is the distance supported by several reputable studies which conclude that the greatest potential risks occur within a ¼ mile of the primary source of emissions (1) (in the case of the Project, the primary source of emissions is the on-site idling and on-site travel).

EXHIBIT 2-B: MODELED ON-SITE EMISSION SOURCES

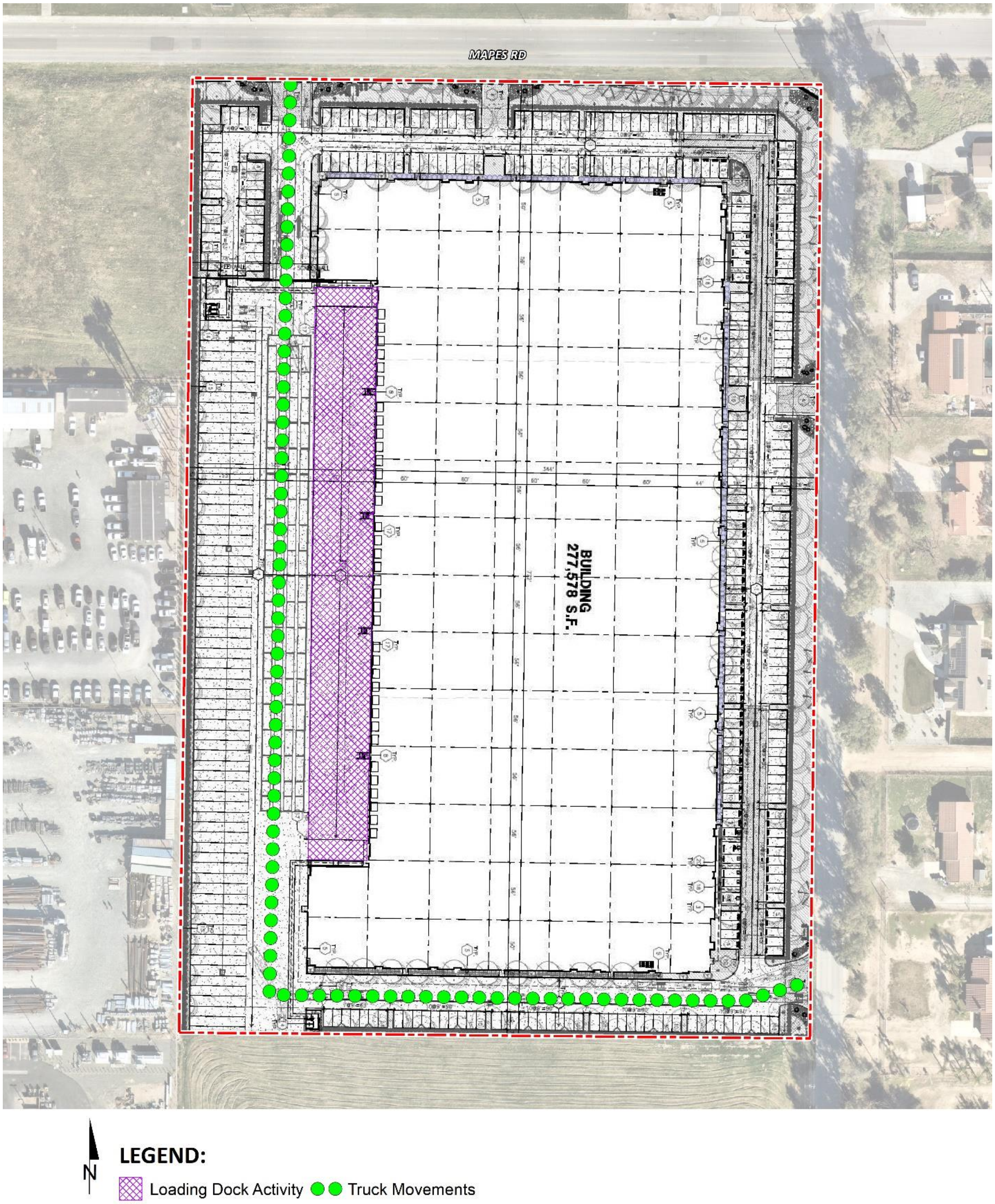

EXHIBIT 2-C: MODELED OFF-SITE EMISSION SOURCES

TABLE 2-4: DPM EMISSIONS FROM PROJECT TRUCKS (2024 ANALYSIS YEAR)

Truck Emission Rates						
Source	Trucks Per Day	VMT [a] (miles/day)	Truck Emission Rate [b] (grams/mile)	Truck Emission Rate [b] (grams/idle-hour)	Daily Truck Emissions [c] (grams/day)	Modeled Emission Rates (g/second)
On-Site Idling	53			0.0630	0.83	9.660E-06
On-Site Travel	106	29.38	0.0194		0.57	6.613E-06
Off-Site Travel - Sherman Road 15% Inbound/Outbound	16	2.79	0.0087		0.02	2.797E-07
Off-Site Travel - Mapes Road 15% Inbound/Outbound	16	1.69	0.0087		0.01	1.697E-07
Off-Site Travel - Mapes Road 100% Inbound/Outbound	106	109.11	0.0087		0.94	1.093E-05

[a] Vehicle miles traveled are for modeled truck route only.

[b] Emission rates determined using EMFAC 2021. Idle emission rates are expressed in grams per idle hour rather than grams per mile.

[c] This column includes the total truck travel and truck idle emissions. For idle emissions this column includes emissions based on the assumption that each truck idles for 15 minutes.

On-site truck idling was estimated to occur as trucks enter and travel through the Project site. Although the Project's diesel-fueled truck and equipment operators will be required by State law to comply with CARB's idling limit of 5 minutes, staff at SCAQMD recommends that the on-site idling emissions be calculated assuming 15 minutes of truck idling (7), which would take into account on-site idling which occurs while the trucks are waiting to pull up to the truck bays, idling at the bays, idling at check-in and check-out, etc. As such, this analysis calculates truck idling at 15 minutes, consistent with SCAQMD's recommendation.

The Project is expected to generate a total of approximately 592 vehicular trip-ends (actual vehicles) per day (296 vehicles inbound + 296 vehicles outbound) which includes 486 two-way passenger car trip-ends (243 passenger cars inbound + 243 passenger cars outbound) and 106 two-way truck trip-ends per day (53 trucks inbound + 53 trucks outbound) (8).

2.4 EXPOSURE QUANTIFICATION

The analysis herein has been conducted in accordance with the guidelines in the Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (2). SCAQMD recommends using the Environmental Protection Agency's (U.S. EPA's) AERMOD model. For purposes of this analysis, the Lakes AERMOD View (Version 11.0.0) was used to calculate annual average particulate concentrations associated with site operations. Lakes AERMOD View was utilized to incorporate the U.S. EPA's latest AERMOD Version 22112 (9).

The model offers additional flexibility by allowing the user to assign an initial release height and vertical dispersion parameters for mobile sources representative of a roadway. For this HRA, the roadways were modeled as adjacent volume sources. Roadways were modeled using the U.S. EPA's haul route methodology for modeling of on-site and off-site truck movement. More specifically, the Haul Road Volume Source Calculator in Lakes AERMOD View has been utilized to determine the release height parameters. Based on the US EPA methodology, the Project's modeled sources would result in a release height of 3.49 meters, and an initial lateral dimension of 4.0 meters, and an initial vertical dimension of 3.25 meters.

SCAQMD-recommended model parameters are presented in Table 2-5 (10). The model requires additional input parameters including emission data and local meteorology. Meteorological data from the SCAQMD's Perris Valley monitoring station was used to represent local weather conditions and prevailing winds (10).

TABLE 2-5: AERMOD MODEL PARAMETERS

Dispersion Coefficient (Urban/Rural)	Urban (Population 2,189,641)
Terrain (Flat/Elevated)	Elevated (Regulatory Default)
Averaging Time	1 year (5-year Meteorological Data Set)
Receptor Height	0 meters (Regulatory Default)

Universal Transverse Mercator (UTM) coordinates for World Geodetic System (WGS) 84 were used to locate the Project site boundaries, each volume source location, and receptor locations in the Project site's vicinity. The AERMOD dispersion model summary output files for the proposed Project are presented in Appendix 2.3. Modeled sensitive receptors were placed at residential and non-residential locations.

Receptors may be placed at applicable structure locations for residential and worker property and not necessarily the boundaries of the properties containing these uses because the human receptors (residents and workers) spend a majority of their time at the residence or in the workplace's building, and not on the property line. It should be noted that the primary purpose of receptor placement is focused on long-term exposure. For example, the HRA evaluates the potential health risks to residents and workers over a period of 30 or 25 years of exposure, respectively. Notwithstanding, as a conservative measure, receptors were placed at either the outdoor living area or the building façade, whichever is closer to the Project site.

For purposes of this HRA, receptors include both residential and non-residential (worker) land uses in the vicinity of the Project. These receptors are included in the HRA since residents and workers may be exposed at these locations over a long-term duration of 30 and 25 years, respectively. This methodology is consistent with SCAQMD and OEHHA recommended guidance.

Any impacts to residents or workers located further away from the Project site than the modeled residential and workers would have a lesser impact than what has already been disclosed in the HRA at the MEIR and MEIW because concentrations dissipate with distance.

Consistent with SCAQMD modeling guidance, all receptors were set to existing elevation height so that only ground-level concentrations are analyzed (11). United States Geological Survey (USGS) Digital Elevation Model (DEM) terrain data based on a 7.5-minute topographic quadrangle map series using AERMAP was utilized in the HRA modeling to set elevations (12).

Discrete variants for daily breathing rates, exposure frequency, and exposure duration were obtained from relevant distribution profiles presented in the 2015 OEHHA Guidelines. Tables 2-6 through 2-8 summarize the Exposure Parameters for Residents and Workers based on 2015 OEHHA Guidelines. Appendix 2.4 includes the detailed risk calculation.

TABLE 2-6: EXPOSURE ASSUMPTIONS FOR INDIVIDUAL CANCER RISK (CONSTRUCTION ACTIVITY)

Age	Daily Breathing Rate (L/kg-day)	Age Specific Factor	Exposure Duration (years)	Fraction of Time at Home	Exposure Frequency (days/year)	Exposure Time (hours/day)
0 to 2	1,090	10	0.84	1.0	260	8

TABLE 2-7: EXPOSURE ASSUMPTIONS FOR INDIVIDUAL CANCER RISK (30 YEAR RESIDENTIAL)

Age	Daily Breathing Rate (L/kg-day)	Age Specific Factor	Exposure Duration (years)	Fraction of Time at Home	Exposure Frequency (days/year)	Exposure Time (hours/day)
-0.25 to 0	361	10	0.25	0.85	350	24
0 to 2	1,090	10	2	0.85	350	24

Age	Daily Breathing Rate (L/kg-day)	Age Specific Factor	Exposure Duration (years)	Fraction of Time at Home	Exposure Frequency (days/year)	Exposure Time (hours/day)
2 to 16	572	3	14	0.72	350	24
16 to 30	261	1	14	0.73	350	24

TABLE 2-8: EXPOSURE ASSUMPTIONS FOR INDIVIDUAL CANCER RISK (25 YEAR WORKER)

Age	Daily Breathing Rate (L/kg-day)	Age Specific Factor	Exposure Duration (years)	Exposure Frequency (days/year)	Exposure Time (hours/day)
16 to 41	230	1	25	250	12

2.5 CARCINOGENIC CHEMICAL RISK

The SCAQMD CEQA Air Quality Handbook (1993) states that emissions of toxic air contaminants (TACs) are considered significant if a HRA shows an increased risk of greater than 10 in one million. Based on guidance from the SCAQMD in the document Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (2), for purposes of this analysis, 10 in one million is used as the cancer risk threshold for the proposed Project.

Excess cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens over a specified exposure duration. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF). A risk level of 10 in one million implies a likelihood that up to 10 people, out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the levels of toxic air contaminants over a specified duration of time.

Guidance from CARB and the California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (OEHHA) recommends a refinement to the standard point estimate approach when alternate human body weights and breathing rates are utilized to assess risk for susceptible subpopulations such as children. For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify dose. Once determined, contaminant dose is multiplied by the cancer potency factor (CPF) in units of inverse dose expressed in milligrams per kilogram per day $(mg/kg/day)^{-1}$ to derive the cancer risk estimate. Therefore, to assess exposures, the following dose algorithm was utilized.

$$DOSE_{air} = (C_{air} \times [BR/BW] \times A \times EF) \times (1 \times 10^{-6})$$

Where:

$DOSE_{air}$ = chronic daily intake (mg/kg/day)

Cair = concentration of contaminant in air (ug/m^3)

[BR/BW] = daily breathing rate normalized to body weight (L/kg BW-day)

A = inhalation absorption factor

EF = exposure frequency (days/365 days)

BW = body weight (kg)

1×10^{-6}= conversion factors (µg to mg, L to m^3)

$RISK_{air} = DOSE_{air} \times CPF \times ED/AT$

Where:

$DOSE_{air}$ = chronic daily intake (mg/kg/day)

CPF = cancer potency factor

ED = number of years within particular age group

AT = averaging time

2.6 NON-CARCINOGENIC EXPOSURES

An evaluation of the potential noncarcinogenic effects of chronic exposures was also conducted. Adverse health effects are evaluated by comparing a compound's annual concentration with its toxicity factor or Reference Exposure Level (REL). The REL for diesel particulates was obtained from OEHHA for this analysis. The chronic reference exposure level (REL) for DPM was established by OEHHA as 5 µg/m^3 (13).

The non-cancer hazard index was calculated (consistent with SCAQMD methodology) as follows:

The relationship for the non-cancer health effects of DPM is given by the following equation:

$$HI_{DPM} = C_{DPM}/REL_{DPM}$$

Where:

HI_{DPM} = Hazard Index; an expression of the potential for non-cancer health effects.

C_{DPM} = Annual average DPM concentration (µg/m^3).

REL_{DPM} = Reference exposure level (REL) for DPM; the DPM concentration at which no adverse health effects are anticipated.

2.7 POTENTIAL PROJECT-RELATED DPM SOURCE CANCER AND NON-CANCER RISKS

CONSTRUCTION IMPACTS

The land use with the greatest potential exposure to Project construction-source DPM emissions is Location R6 which is located approximately 126 feet east the Project site at an existing residence located at 25146 Sherman Road. Because there are no private outdoor living areas facing the Project site, R6 is placed at the building façade nearest the Project site. At the MEIR, the maximum incremental cancer risk attributable to Project construction-source DPM emissions is estimated at 4.75 in one million, which is less than the SCAQMD's significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction activity. All other receptors during construction activity would experience less risk than what is identified for this location. The nearest modeled receptors are illustrated on Exhibit 2-D.

OPERATIONAL IMPACTS

Residential Exposure Scenario:

The residential land use with the greatest potential exposure to Project operational-source DPM emissions is Location R6 which is located approximately 126 feet east of the Project site at an existing residence located at 25146 Sherman Road. Because there are no private outdoor living areas facing the Project site, R6 is placed at the building façade nearest the Project site. At the MEIR, the maximum incremental cancer risk attributable to Project operational-source DPM emissions is estimated at 0.31 in one million, which is less than the SCAQMD's significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled residential receptors are exposed to lesser concentrations and are located at a greater distance from the Project site than the MEIR analyzed herein, and TACs generally dissipates with distance from the source, all other residential receptors in the vicinity of the Project site would be exposed to less emissions and therefore less risk than the MEIR identified herein. As such, the Project will not cause a significant human health or cancer risk to nearby residences. The nearest modeled receptors are illustrated on Exhibit 2-D.

Worker Exposure Scenario[3]*:*

The worker receptor land use with the greatest potential exposure to Project operational-source DPM emissions is Location R7, which represents the potential worker receptor approximately 139 feet west of the Project site. At the MEIW, the maximum incremental cancer risk impact is 0.08 in one million which is less than the SCAQMD's threshold of 10 in one million. Maximum

3 SCAQMD guidance does not require assessment of the potential health risk to on-site workers. Excerpts from the document OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines—The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2003), also indicate that it is not necessary to examine the health effects to on-site workers unless required by RCRA (Resource Conservation and Recovery Act) / CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) or the worker resides on-site.

non-cancer risks at this same location were estimated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled worker receptors are located at a greater distance than the MEIW analyzed herein, and DPM dissipates with distance from the source, all other worker receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIW identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent workers. The nearest modeled receptors are illustrated on Exhibit 2-D.

School Child Exposure Scenario:

Proximity to sources of toxics is critical to determining the impact. In traffic-related studies, the additional non-cancer health risk attributable to proximity was seen within 1,000 feet and was strongest within 300 feet. California freeway studies show about a 70-percent drop-off in particulate pollution levels at 500 feet. Based on California Air Resources Board (CARB) and SCAQMD emissions and modeling analyses, an 80-percent drop-off in pollutant concentrations is expected at approximately 1,000 feet from a distribution center (1).

The 1,000-foot evaluation distance is supported by research-based findings concerning Toxic Air Contaminant (TAC) emission dispersion rates from roadways and large sources showing that emissions diminish substantially between 500 and 1,000 feet from emission sources.

A one-quarter mile radius, or 1,320 feet, is commonly utilized for identifying sensitive receptors, such as schools, that may be impacted by a proposed project. This radius is more robust than, and therefore provides a more health protective scenario for evaluation than the 1,000-foot impact radius identified above.

There are no schools within ¼ mile of the Project site. The nearest school is Romoland Elementary School, which is located approximately 4,130 feet southeast of the Project site. Because there is no reasonable potential that TAC emissions would cause significant health impacts at distances of more than ¼ mile from the air pollution source, there would be no significant impacts that would occur to any schools in the vicinity of the Project.

CONSTRUCTION AND OPERATIONAL IMPACTS

The land use with the greatest potential increased cancer risk due to exposure to Project construction-source and operational-source DPM emissions is Location R6. At this location, the maximum incremental cancer risk attributable to Project construction and operational DPM source emissions is estimated at 4.90 in one million, which is less than the threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction and operational activity. All other receptors during construction and operational activity would experience less risk than what is identified for this location. The nearest modeled receptors are illustrated on Exhibit 2-D.

It should be noted that the receptors presented in Exhibit 2-D do not represent all modeled receptors.

EXHIBIT 2-D: RECEPTOR LOCATIONS

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3 REFERENCES

1. **Air Resources Board.** *Air Quality and Land Use Handbook: A Community Health Perspective.* 2005.
2. **South Coast Air Quality Managment District.** Mobile Source Toxics Analysis. [Online] 2003. http://www.aqmd.gov/ceqa/handbook/mobile_toxic/mobile_toxic.html.
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4 CERTIFICATIONS

The contents of this health risk assessment represent an accurate depiction of the impacts to sensitive receptors associated with the proposed Mapes & Sherman Commerce Center (DEV2022-003) Project. The information contained in this health risk assessment report is based on the best available data at the time of preparation. If you have any questions, please contact me at (949) 660-1994.

Haseeb Qureshi
Associate Principal
URBAN CROSSROADS, INC.
(949) 660-1994
hqureshi@urbanxroads.com

EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June 2013
Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

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APPENDIX 2.1:

CALEEMOD OUTPUTS

Mapes & Sherman (Construction) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Mapes & Sherman (Construction)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	0.20
Location	33.75710422655197, -117.18112679049779
County	Riverside-South Coast
City	Menifee
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5512
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Unrefrigerated Warehouse-No Rail	278	1000sqft	7.98	277,578	69,981	0.00	—	—
Parking Lot	377	Space	2.02	0.00	0.00	0.00	—	—

Other Asphalt Surfaces	145	1000sqft	3.34	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.46	39.2	28.2	40.9	0.05	1.48	2.34	3.82	1.36	0.56	1.92	—	7,875	7,875	0.30	0.29	12.1	7,979
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.94	4.99	47.2	39.3	0.08	2.53	5.92	8.46	2.33	2.75	5.08	—	10,189	10,189	0.34	0.57	0.27	10,368
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.37	5.00	8.73	11.3	0.02	0.47	0.83	1.30	0.43	0.21	0.63	—	2,503	2,503	0.10	0.11	1.91	2,540
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.25	0.91	1.59	2.06	< 0.005	0.09	0.15	0.24	0.08	0.04	0.12	—	414	414	0.02	0.02	0.32	421

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.46	39.2	28.2	40.9	0.05	1.48	2.34	3.82	1.36	0.56	1.92	—	7,875	7,875	0.30	0.29	12.1	7,979
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	5.94	4.99	47.2	39.3	0.08	2.53	5.92	8.46	2.33	2.75	5.08	—	10,189	10,189	0.34	0.57	0.27	10,368
2024	2.98	2.53	19.1	23.8	0.04	1.04	1.85	2.89	0.96	0.45	1.41	—	5,503	5,503	0.21	0.25	0.26	5,584
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.80	0.67	6.35	5.62	0.01	0.31	0.59	0.91	0.29	0.21	0.50	—	1,369	1,369	0.05	0.07	0.61	1,390
2024	1.37	5.00	8.73	11.3	0.02	0.47	0.83	1.30	0.43	0.20	0.63	—	2,503	2,503	0.10	0.11	1.91	2,540
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.15	0.12	1.16	1.03	< 0.005	0.06	0.11	0.17	0.05	0.04	0.09	—	227	227	0.01	0.01	0.10	230
2024	0.25	0.91	1.59	2.06	< 0.005	0.09	0.15	0.24	0.08	0.04	0.12	—	414	414	0.02	0.02	0.32	421

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.83	4.90	47.0	38.0	0.05	2.53	—	2.53	2.33	—	2.33	—	5,530	5,530	0.22	0.04	—	5,549

Dust From Material Movement	—	—	—	—	—	—	5.66	5.66	—	2.69	2.69	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.29	1.04	< 0.005	0.07	—	0.07	0.06	—	0.06	—	152	152	0.01	< 0.005	—	152
Dust From Material Movement	—	—	—	—	—	—	0.16	0.16	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.24	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.1	25.1	< 0.005	< 0.005	—	25.2
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.11	1.24	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	243	243	0.01	0.01	0.03	246
Vendor	< 0.005	< 0.005	0.12	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	94.3	94.3	< 0.005	0.01	0.01	98.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	6.74	6.74	< 0.005	< 0.005	0.01	6.84
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.58	2.58	< 0.005	< 0.005	< 0.005	2.70
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.12	1.12	< 0.005	< 0.005	< 0.005	1.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.43	0.43	< 0.005	< 0.005	< 0.005	0.45
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.00	4.20	40.9	32.7	0.06	1.96	—	1.96	1.80	—	1.80	—	6,715	6,715	0.27	0.05	—	6,738
Dust From Material Movement	—	—	—	—	—	—	2.67	2.67	—	0.98	0.98	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	3.36	2.69	0.01	0.16	—	0.16	0.15	—	0.15	—	552	552	0.02	< 0.005	—	554

Dust From Material Movement	—	—	—	—	—	—	0.22	0.22	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.61	0.49	< 0.005	0.03	—	0.03	0.03	—	0.03	—	91.4	91.4	< 0.005	< 0.005	—	91.7
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.12	1.37	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	270	270	0.01	0.01	0.03	273
Vendor	0.01	0.01	0.27	0.08	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	220	220	< 0.005	0.03	0.02	230
Hauling	0.12	0.04	3.58	0.83	0.02	0.06	0.20	0.26	0.06	0.07	0.13	—	2,984	2,984	0.05	0.47	0.16	3,127
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	22.5	22.5	< 0.005	< 0.005	0.04	22.8
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.1	18.1	< 0.005	< 0.005	0.02	18.9
Hauling	0.01	< 0.005	0.30	0.07	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	245	245	< 0.005	0.04	0.22	257
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	3.72	3.72	< 0.005	< 0.005	0.01	3.77
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.99	2.99	< 0.005	< 0.005	< 0.005	3.13

Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	40.6	40.6	< 0.005	0.01	0.04	42.6

3.5. Building Construction (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.47	2.07	18.3	16.2	0.03	1.14	—	1.14	1.05	—	1.05	—	2,806	2,806	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.14	1.22	1.08	< 0.005	0.08	—	0.08	0.07	—	0.07	—	187	187	0.01	< 0.005	—	187
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.9	30.9	< 0.005	< 0.005	—	31.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.65	0.59	0.72	8.04	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,579	1,579	0.08	0.06	0.19	1,599
Vendor	0.06	0.03	1.42	0.43	0.01	0.02	0.07	0.08	0.02	0.02	0.04	—	1,163	1,163	0.02	0.17	0.08	1,215
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.05	0.56	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	106	106	0.01	< 0.005	0.21	108
Vendor	< 0.005	< 0.005	0.10	0.03	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	77.3	77.3	< 0.005	0.01	0.09	80.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	17.6	17.6	< 0.005	< 0.005	0.03	17.9
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.31	1.93	17.1	16.0	0.03	1.03	—	1.03	0.94	—	0.94	—	2,805	2,805	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.31	1.93	17.1	16.0	0.03	1.03	—	1.03	0.94	—	0.94	—	2,805	2,805	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.98	0.82	7.29	6.83	0.01	0.44	—	0.44	0.40	—	0.40	—	1,197	1,197	0.05	0.01	—	1,201
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.33	1.25	< 0.005	0.08	—	0.08	0.07	—	0.07	—	198	198	0.01	< 0.005	—	199
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.66	0.60	0.56	9.77	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,684	1,684	0.07	0.06	6.68	1,710
Vendor	0.05	0.03	1.30	0.40	0.01	0.02	0.07	0.08	0.02	0.02	0.04	—	1,149	1,149	0.02	0.17	3.24	1,204
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.62	0.56	0.67	7.38	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,548	1,548	0.07	0.06	0.17	1,567
Vendor	0.05	0.03	1.36	0.41	0.01	0.02	0.07	0.08	0.02	0.02	0.04	—	1,150	1,150	0.02	0.17	0.08	1,202
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.24	0.28	3.32	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	669	669	0.03	0.02	1.23	678
Vendor	0.02	0.01	0.58	0.18	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	490	490	0.01	0.07	0.59	513

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.61	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	111	111	0.01	< 0.005	0.20	112
Vendor	< 0.005	< 0.005	0.11	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	81.2	81.2	< 0.005	0.01	0.10	84.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.43	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8

Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	1.25	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	216	216	0.01	0.01	0.86	219
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	11.0	11.0	< 0.005	< 0.005	0.02	11.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.82	1.82	< 0.005	< 0.005	< 0.005	1.85
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2024) - Unmitigated

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

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

Off-Road Equipment	0.22	0.18	1.21	1.53	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	34.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.5	19.5	< 0.005	< 0.005	—	19.6
Architectural Coatings	—	3.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.23	3.23	< 0.005	< 0.005	—	3.24
Architectural Coatings	—	0.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.92	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	331	331	0.01	0.01	1.31	336
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.17	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	33.8	33.8	< 0.005	< 0.005	0.06	34.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	5.59	5.59	< 0.005	< 0.005	0.01	5.67
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description

Site Preparation	Site Preparation	10/3/2023	10/16/2023	5.00	10.0	—
Grading	Grading	10/17/2023	11/27/2023	5.00	30.0	—
Building Construction	Building Construction	11/28/2023	8/5/2024	5.00	180	—
Paving	Paving	7/9/2024	8/5/2024	5.00	20.0	—
Architectural Coating	Architectural Coating	6/11/2024	8/5/2024	5.00	40.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Average	4.00	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Building Construction	Crawler Tractors	Diesel	Average	3.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	18.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	3.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	7.00	10.2	HHDT,MHDT
Grading	Hauling	42.0	20.0	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	117	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	37.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	0.00	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	0.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	23.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT

Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	427,392	142,464	14,700

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	35.0	0.00	—
Grading	10,100	0.00	120	0.00	—
Paving	0.00	0.00	0.00	0.00	5.36

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt

Unrefrigerated Warehouse-No Rail	0.00	0%
Parking Lot	2.02	100%
Other Asphalt Surfaces	3.34	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.1	annual days of extreme heat
Extreme Precipitation	2.60	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	15.2	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A

Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract

Exposure Indicators	—
AQ-Ozone	95.3
AQ-PM	50.7
AQ-DPM	43.2
Drinking Water	10.2
Lead Risk Housing	35.1
Pesticides	57.8
Toxic Releases	25.3
Traffic	81.8
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	35.6
Impaired Water Bodies	0.00
Solid Waste	35.7
Sensitive Population	—
Asthma	39.1
Cardio-vascular	72.9
Low Birth Weights	37.9
Socioeconomic Factor Indicators	—
Education	86.4
Housing	73.4
Linguistic	44.4
Poverty	87.8
Unemployment	67.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	21.59630438
Employed	8.956756063
Education	—
Bachelor's or higher	3.836776594
High school enrollment	6.685486975
Preschool enrollment	31.33581419
Transportation	—
Auto Access	49.51879892
Active commuting	15.06480175
Social	—
2-parent households	62.08135506
Voting	24.39368664
Neighborhood	—
Alcohol availability	66.20043629
Park access	2.194276915
Retail density	9.316052868
Supermarket access	32.97831387
Tree canopy	0.667265495
Housing	—
Homeownership	65.03272167
Housing habitability	43.02579238
Low-inc homeowner severe housing cost burden	15.44976261
Low-inc renter severe housing cost burden	71.34607982
Uncrowded housing	14.42320031
Health Outcomes	—

Insured adults	9.547029385
Arthritis	32.0
Asthma ER Admissions	60.6
High Blood Pressure	38.5
Cancer (excluding skin)	55.0
Asthma	27.9
Coronary Heart Disease	28.5
Chronic Obstructive Pulmonary Disease	23.6
Diagnosed Diabetes	33.2
Life Expectancy at Birth	16.6
Cognitively Disabled	44.8
Physically Disabled	87.9
Heart Attack ER Admissions	34.3
Mental Health Not Good	26.2
Chronic Kidney Disease	27.1
Obesity	17.5
Pedestrian Injuries	90.3
Physical Health Not Good	26.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	35.4
Current Smoker	23.0
No Leisure Time for Physical Activity	24.4
Climate Change Exposures	—
Wildfire Risk	7.3
SLR Inundation Area	0.0
Children	81.0

Elderly	85.6
English Speaking	69.8
Foreign-born	42.8
Outdoor Workers	5.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	92.8
Traffic Density	52.0
Traffic Access	23.0
Other Indices	—
Hardship	80.6
Other Decision Support	—
2016 Voting	37.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	58.0
Healthy Places Index Score for Project Location (b)	11.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health and Equity Evaluation Scorecard not completed.

8. User Changes to Default Data

Screen	Justification
Land Use	Total Project area is +/- 13.3 acres
Construction: Construction Phases	Construction anticipated to begin October 2023 and end August 2024
Construction: Off-Road Equipment	Equipment adjusted based on the changes made to the Construction Schedule
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Site Preparation, Grading, and Building Construction
Construction: Architectural Coatings	Rule 1113

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APPENDIX 2.2:

EMFAC EMISSIONS SUMMARY

Emissions	Phase	Lb/Day	# Days	Emissions	Avg/Lb Day	Avg/Hourly
On-Site	Site Preparation	2.53	10	25.3	2.53	0.31625
Exhaust PM-10	Grading	1.96	30	58.8	1.96	0.245
	Building Construction	1.09	180	195.3	1.085	0.135625
	Paving	0.39	20	7.8	0.39	0.04875
	Architectural Coatings	0.04	40	1.6	0.04	0.005
		6.01	220	288.8	1.312727273	0.164090909
Off-Site	Site Preparation	2.00E-02	10	0.2	0.02	0.0025
Exhaust PM-10	Grading	6.50E-02	30	1.95	0.065	0.008125
	Building Construction	2.00E-02	180	3.6	0.02	0.0025
	Paving	0.00E+00	20	0	0	0
	Architectural Coatings	0.00E+00	40	0	0	0
		1.05E-01	220	5.75	0.026136364	0.003267045

Phase	Start Date	End Date	No. Days
Site Preparation	10/3/2023	10/16/2023	10
Grading	10/17/2023	11/27/2023	30
Building Construction	11/28/2023	8/5/2024	180
Paving	7/9/2024	8/5/2024	20
Arch Coatings	6/11/2024	8/5/2024	40
		Total Days of Construction	**220**

AVERAGE EMISSION FACTOR
RIVERSIDE COUNTY 2024

Speed	LHD1	LHD2	MHD	HHD
0	0.364164	0.578609	0.062209	0.01271
5	0.048579	0.069107	0.036909	0.01206
25	0.022221	0.03303	0.009618	0.00621

Speed	**Weighted Average Emissions**
0	**0.06299**
5	**0.01945**
25	**0.00866**

Truck Emission Rates						
Source	Trucks Per Day	VMT [a] (miles/day)	Truck Emission Rate [b] (grams/mile)	Truck Emission Rate [b] (grams/idle-hour)	Daily Truck Emissions [c] (grams/day)	Modeled Emission Rates (g/second)
On-Site Idling	53			0.0630	0.83	9.660E-06
On-Site Travel	106	29.38	0.0194		0.57	6.613E-06
Off-Site Travel - Sherman Road 15% Inbound/Outbound	16	2.79	0.0087		0.02	2.797E-07
Off-Site Travel - Mapes Road 15% Inbound/Outbound	16	1.69	0.0087		0.01	1.697E-07
Off-Site Travel - Mapes Road 100% Inbound/Outbound	106	109.11	0.0087		0.94	1.093E-05

[a] Vehicle miles traveled are for modeled truck route only.

[b] Emission rates determined using EMFAC 2021. Idle emission rates are expressed in grams per idle hour rather than grams per mile.

[c] This column includes the total truck travel and truck idle emissions. For idle emissions this column includes emissions based on the assumption that each truck idles for 15 minutes.

calendar_y	season_m	sub_area	vehicle_class	fuel	temperatu	relative_hu	process	speed_tim	pollutant	emission_rate
2024	Annual	Riverside (	HHDT	Dsl	60	70	RUNEX	5	PM10	0.012665
2024	Annual	Riverside (	HHDT	Dsl	60	70	RUNEX	25	PM10	0.006524
2024	Annual	Riverside (	HHDT	Dsl			IDLEX		PM10	0.013354
2024	Annual	Riverside (	LHDT1	Dsl	60	70	RUNEX	5	PM10	0.105382
2024	Annual	Riverside (	LHDT1	Dsl	60	70	RUNEX	25	PM10	0.048204
2024	Annual	Riverside (	LHDT1	Dsl			IDLEX		PM10	0.789975
2024	Annual	Riverside (	LHDT2	Dsl	60	70	RUNEX	5	PM10	0.094294
2024	Annual	Riverside (	LHDT2	Dsl	60	70	RUNEX	25	PM10	0.045068
2024	Annual	Riverside (	LHDT2	Dsl			IDLEX		PM10	0.789487
2024	Annual	Riverside (	MHDT	Dsl	60	70	RUNEX	5	PM10	0.040436
2024	Annual	Riverside (	MHDT	Dsl	60	70	RUNEX	25	PM10	0.010537
2024	Annual	Riverside (	MHDT	Dsl			IDLEX		PM10	0.068154

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Riverside (SC)
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Y	Vehicle Ca	Model Yea	Speed	Fuel	Population
Riverside	2024	HHDT	Aggregate	Aggregate	Gasoline	7.58948
Riverside	2024	HHDT	Aggregate	Aggregate	Diesel	14792
Riverside	2024	HHDT	Aggregate	Aggregate	Natural Ga	740.071
Riverside	2024	LHDT1	Aggregate	Aggregate	Gasoline	17828.7
Riverside	2024	LHDT1	Aggregate	Aggregate	Diesel	15247.6
Riverside	2024	LHDT2	Aggregate	Aggregate	Gasoline	2494.68
Riverside	2024	LHDT2	Aggregate	Aggregate	Diesel	6844.93
Riverside	2024	MHDT	Aggregate	Aggregate	Gasoline	1238
Riverside	2024	MHDT	Aggregate	Aggregate	Diesel	12954.4
Riverside	2024	MHDT	Aggregate	Aggregate	Natural Ga	158.047

HHDT% GAS/NG	0.04811
HHDT% DSL	0.95189
LHDT1% GAS	0.53902
LHDT1% DSL	0.46098
LHDT2% GAS	0.26711
LHDT2% DSL	0.73289
MHDT% GAS	0.08723
MHDT% DSL	0.91277

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APPENDIX 2.3:

AERMOD MODEL INPUT/OUTPUT

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 9/15/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and Sherman\14804 Construction\14804
Construction.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and Sherman\14804 O
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 2189641 Riverside_County
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "14804 Construction.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     483136.255  3735242.300      434.000
   LOCATION VOL2         VOLUME     483230.210  3735241.097      434.000
   LOCATION VOL3         VOLUME     483136.656  3735144.330      434.000
   LOCATION VOL4         VOLUME     483135.853  3735047.564      434.000
   LOCATION VOL5         VOLUME     483230.210  3735143.126      434.340
   LOCATION VOL6         VOLUME     483229.407  3735048.367      435.000
** ------------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 0.0004116407
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 10
** 483274.778, 3735300.120, 434.52, 3.49, 6.51
** 482892.532, 3735298.112, 433.00, 3.49, 6.51
** 482888.516, 3734771.720, 433.98, 3.49, 6.51
** 482823.872, 3734672.143, 433.86, 3.49, 6.51
** 482523.937, 3734882.138, 433.00, 3.49, 6.51
** 482416.329, 3734960.836, 433.00, 3.49, 6.51
** 482384.609, 3734998.980, 432.91, 3.49, 6.51
** 482366.943, 3735034.716, 432.43, 3.49, 6.51
** 482355.298, 3735086.110, 432.13, 3.49, 6.51
** 482353.692, 3735159.588, 432.06, 3.49, 6.51
** ------------------------------------------------------------------------
   LOCATION L0000001     VOLUME   483267.778 3735300.083 434.31
   LOCATION L0000002     VOLUME   483253.779 3735300.010 434.07
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LOCATION L0000003     VOLUME   483239.779 3735299.936 434.00
LOCATION L0000004     VOLUME   483225.779 3735299.863 434.00
LOCATION L0000005     VOLUME   483211.779 3735299.789 434.00
LOCATION L0000006     VOLUME   483197.779 3735299.716 434.00
LOCATION L0000007     VOLUME   483183.780 3735299.642 434.00
LOCATION L0000008     VOLUME   483169.780 3735299.568 434.00
LOCATION L0000009     VOLUME   483155.780 3735299.495 434.00
LOCATION L0000010     VOLUME   483141.780 3735299.421 434.00
LOCATION L0000011     VOLUME   483127.780 3735299.348 433.92
LOCATION L0000012     VOLUME   483113.780 3735299.274 433.46
LOCATION L0000013     VOLUME   483099.781 3735299.201 433.00
LOCATION L0000014     VOLUME   483085.781 3735299.127 433.00
LOCATION L0000015     VOLUME   483071.781 3735299.054 433.00
LOCATION L0000016     VOLUME   483057.781 3735298.980 433.00
LOCATION L0000017     VOLUME   483043.781 3735298.907 433.00
LOCATION L0000018     VOLUME   483029.782 3735298.833 433.00
LOCATION L0000019     VOLUME   483015.782 3735298.760 433.00
LOCATION L0000020     VOLUME   483001.782 3735298.686 433.00
LOCATION L0000021     VOLUME   482987.782 3735298.613 433.00
LOCATION L0000022     VOLUME   482973.782 3735298.539 433.00
LOCATION L0000023     VOLUME   482959.783 3735298.466 433.00
LOCATION L0000024     VOLUME   482945.783 3735298.392 433.00
LOCATION L0000025     VOLUME   482931.783 3735298.319 433.00
LOCATION L0000026     VOLUME   482917.783 3735298.245 433.00
LOCATION L0000027     VOLUME   482903.783 3735298.171 433.00
LOCATION L0000028     VOLUME   482892.511 3735295.364 433.00
LOCATION L0000029     VOLUME   482892.404 3735281.365 433.00
LOCATION L0000030     VOLUME   482892.297 3735267.365 433.00
LOCATION L0000031     VOLUME   482892.190 3735253.366 433.00
LOCATION L0000032     VOLUME   482892.084 3735239.366 433.00
LOCATION L0000033     VOLUME   482891.977 3735225.366 433.00
LOCATION L0000034     VOLUME   482891.870 3735211.367 433.00
LOCATION L0000035     VOLUME   482891.763 3735197.367 433.00
LOCATION L0000036     VOLUME   482891.656 3735183.368 433.00
LOCATION L0000037     VOLUME   482891.550 3735169.368 433.00
LOCATION L0000038     VOLUME   482891.443 3735155.368 433.00
LOCATION L0000039     VOLUME   482891.336 3735141.369 433.00
LOCATION L0000040     VOLUME   482891.229 3735127.369 433.00
LOCATION L0000041     VOLUME   482891.122 3735113.370 433.00
LOCATION L0000042     VOLUME   482891.016 3735099.370 433.00
LOCATION L0000043     VOLUME   482890.909 3735085.370 433.00
LOCATION L0000044     VOLUME   482890.802 3735071.371 433.00
LOCATION L0000045     VOLUME   482890.695 3735057.371 433.00
LOCATION L0000046     VOLUME   482890.589 3735043.372 433.00
LOCATION L0000047     VOLUME   482890.482 3735029.372 433.00
LOCATION L0000048     VOLUME   482890.375 3735015.372 433.00
LOCATION L0000049     VOLUME   482890.268 3735001.373 433.00
LOCATION L0000050     VOLUME   482890.161 3734987.373 433.00
LOCATION L0000051     VOLUME   482890.055 3734973.374 433.00
LOCATION L0000052     VOLUME   482889.948 3734959.374 433.00
LOCATION L0000053     VOLUME   482889.841 3734945.375 433.00
LOCATION L0000054     VOLUME   482889.734 3734931.375 433.00
LOCATION L0000055     VOLUME   482889.627 3734917.375 433.00
LOCATION L0000056     VOLUME   482889.521 3734903.376 433.00
LOCATION L0000057     VOLUME   482889.414 3734889.376 433.00
LOCATION L0000058     VOLUME   482889.307 3734875.377 433.00
LOCATION L0000059     VOLUME   482889.200 3734861.377 433.00
LOCATION L0000060     VOLUME   482889.094 3734847.377 433.00
LOCATION L0000061     VOLUME   482888.987 3734833.378 433.00
LOCATION L0000062     VOLUME   482888.880 3734819.378 433.00
LOCATION L0000063     VOLUME   482888.773 3734805.379 433.02
LOCATION L0000064     VOLUME   482888.666 3734791.379 433.46
LOCATION L0000065     VOLUME   482888.560 3734777.379 433.91
LOCATION L0000066     VOLUME   482883.975 3734764.724 433.80
LOCATION L0000067     VOLUME   482876.352 3734752.982 433.54
LOCATION L0000068     VOLUME   482868.729 3734741.239 433.40
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   LOCATION L0000069     VOLUME   482861.105 3734729.497 433.57
   LOCATION L0000070     VOLUME   482853.482 3734717.754 433.74
   LOCATION L0000071     VOLUME   482845.859 3734706.012 433.68
   LOCATION L0000072     VOLUME   482838.236 3734694.269 433.80
   LOCATION L0000073     VOLUME   482830.613 3734682.527 434.00
   LOCATION L0000074     VOLUME   482822.544 3734673.073 433.75
   LOCATION L0000075     VOLUME   482811.076 3734681.102 433.37
   LOCATION L0000076     VOLUME   482799.607 3734689.132 433.00
   LOCATION L0000077     VOLUME   482788.139 3734697.161 433.00
   LOCATION L0000078     VOLUME   482776.670 3734705.191 433.00
   LOCATION L0000079     VOLUME   482765.202 3734713.220 433.00
   LOCATION L0000080     VOLUME   482753.733 3734721.250 433.00
   LOCATION L0000081     VOLUME   482742.265 3734729.279 433.00
   LOCATION L0000082     VOLUME   482730.796 3734737.309 433.00
   LOCATION L0000083     VOLUME   482719.328 3734745.338 433.00
   LOCATION L0000084     VOLUME   482707.859 3734753.368 433.00
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   LOCATION L0000086     VOLUME   482684.922 3734769.427 433.00
   LOCATION L0000087     VOLUME   482673.454 3734777.456 433.00
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   LOCATION L0000090     VOLUME   482639.048 3734801.545 433.00
   LOCATION L0000091     VOLUME   482627.579 3734809.574 433.00
   LOCATION L0000092     VOLUME   482616.111 3734817.604 433.05
   LOCATION L0000093     VOLUME   482604.642 3734825.633 433.34
   LOCATION L0000094     VOLUME   482593.174 3734833.663 433.83
   LOCATION L0000095     VOLUME   482581.705 3734841.692 433.59
   LOCATION L0000096     VOLUME   482570.237 3734849.722 433.18
   LOCATION L0000097     VOLUME   482558.768 3734857.751 433.01
   LOCATION L0000098     VOLUME   482547.300 3734865.781 433.00
   LOCATION L0000099     VOLUME   482535.831 3734873.810 433.00
   LOCATION L0000100     VOLUME   482524.363 3734881.840 433.00
   LOCATION L0000101     VOLUME   482513.056 3734890.096 433.00
   LOCATION L0000102     VOLUME   482501.756 3734898.360 433.00
   LOCATION L0000103     VOLUME   482490.455 3734906.624 433.00
   LOCATION L0000104     VOLUME   482479.155 3734914.889 433.00
   LOCATION L0000105     VOLUME   482467.855 3734923.153 433.00
   LOCATION L0000106     VOLUME   482456.554 3734931.418 433.00
   LOCATION L0000107     VOLUME   482445.254 3734939.682 433.00
   LOCATION L0000108     VOLUME   482433.953 3734947.947 433.00
   LOCATION L0000109     VOLUME   482422.653 3734956.211 433.00
   LOCATION L0000110     VOLUME   482412.387 3734965.577 433.00
   LOCATION L0000111     VOLUME   482403.436 3734976.341 433.00
   LOCATION L0000112     VOLUME   482394.484 3734987.105 433.00
   LOCATION L0000113     VOLUME   482385.533 3734997.870 433.00
   LOCATION L0000114     VOLUME   482379.045 3735010.236 432.97
   LOCATION L0000115     VOLUME   482372.840 3735022.786 432.76
   LOCATION L0000116     VOLUME   482366.790 3735035.390 432.56
   LOCATION L0000117     VOLUME   482363.696 3735049.044 432.46
   LOCATION L0000118     VOLUME   482360.603 3735062.698 432.35
   LOCATION L0000119     VOLUME   482357.509 3735076.352 432.25
   LOCATION L0000120     VOLUME   482355.211 3735090.104 432.17
   LOCATION L0000121     VOLUME   482354.905 3735104.101 432.16
   LOCATION L0000122     VOLUME   482354.599 3735118.097 432.15
   LOCATION L0000123     VOLUME   482354.293 3735132.094 432.14
   LOCATION L0000124     VOLUME   482353.987 3735146.091 432.13
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
   SRCPARAM VOL1         0.0034458511     5.000    22.598     1.400
   SRCPARAM VOL2         0.0034458511     5.000    22.598     1.400
   SRCPARAM VOL3         0.0034458511     5.000    22.598     1.400
   SRCPARAM VOL4         0.0034458511     5.000    22.598     1.400
   SRCPARAM VOL5         0.0034458511     5.000    22.598     1.400
   SRCPARAM VOL6         0.0034458511     5.000    22.598     1.400
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001     0.00000332      3.49      6.51      3.25
```

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SRCPARAM L0000002     0.00000332       3.49       6.51       3.25
SRCPARAM L0000003     0.00000332       3.49       6.51       3.25
SRCPARAM L0000004     0.00000332       3.49       6.51       3.25
SRCPARAM L0000005     0.00000332       3.49       6.51       3.25
SRCPARAM L0000006     0.00000332       3.49       6.51       3.25
SRCPARAM L0000007     0.00000332       3.49       6.51       3.25
SRCPARAM L0000008     0.00000332       3.49       6.51       3.25
SRCPARAM L0000009     0.00000332       3.49       6.51       3.25
SRCPARAM L0000010     0.00000332       3.49       6.51       3.25
SRCPARAM L0000011     0.00000332       3.49       6.51       3.25
SRCPARAM L0000012     0.00000332       3.49       6.51       3.25
SRCPARAM L0000013     0.00000332       3.49       6.51       3.25
SRCPARAM L0000014     0.00000332       3.49       6.51       3.25
SRCPARAM L0000015     0.00000332       3.49       6.51       3.25
SRCPARAM L0000016     0.00000332       3.49       6.51       3.25
SRCPARAM L0000017     0.00000332       3.49       6.51       3.25
SRCPARAM L0000018     0.00000332       3.49       6.51       3.25
SRCPARAM L0000019     0.00000332       3.49       6.51       3.25
SRCPARAM L0000020     0.00000332       3.49       6.51       3.25
SRCPARAM L0000021     0.00000332       3.49       6.51       3.25
SRCPARAM L0000022     0.00000332       3.49       6.51       3.25
SRCPARAM L0000023     0.00000332       3.49       6.51       3.25
SRCPARAM L0000024     0.00000332       3.49       6.51       3.25
SRCPARAM L0000025     0.00000332       3.49       6.51       3.25
SRCPARAM L0000026     0.00000332       3.49       6.51       3.25
SRCPARAM L0000027     0.00000332       3.49       6.51       3.25
SRCPARAM L0000028     0.00000332       3.49       6.51       3.25
SRCPARAM L0000029     0.00000332       3.49       6.51       3.25
SRCPARAM L0000030     0.00000332       3.49       6.51       3.25
SRCPARAM L0000031     0.00000332       3.49       6.51       3.25
SRCPARAM L0000032     0.00000332       3.49       6.51       3.25
SRCPARAM L0000033     0.00000332       3.49       6.51       3.25
SRCPARAM L0000034     0.00000332       3.49       6.51       3.25
SRCPARAM L0000035     0.00000332       3.49       6.51       3.25
SRCPARAM L0000036     0.00000332       3.49       6.51       3.25
SRCPARAM L0000037     0.00000332       3.49       6.51       3.25
SRCPARAM L0000038     0.00000332       3.49       6.51       3.25
SRCPARAM L0000039     0.00000332       3.49       6.51       3.25
SRCPARAM L0000040     0.00000332       3.49       6.51       3.25
SRCPARAM L0000041     0.00000332       3.49       6.51       3.25
SRCPARAM L0000042     0.00000332       3.49       6.51       3.25
SRCPARAM L0000043     0.00000332       3.49       6.51       3.25
SRCPARAM L0000044     0.00000332       3.49       6.51       3.25
SRCPARAM L0000045     0.00000332       3.49       6.51       3.25
SRCPARAM L0000046     0.00000332       3.49       6.51       3.25
SRCPARAM L0000047     0.00000332       3.49       6.51       3.25
SRCPARAM L0000048     0.00000332       3.49       6.51       3.25
SRCPARAM L0000049     0.00000332       3.49       6.51       3.25
SRCPARAM L0000050     0.00000332       3.49       6.51       3.25
SRCPARAM L0000051     0.00000332       3.49       6.51       3.25
SRCPARAM L0000052     0.00000332       3.49       6.51       3.25
SRCPARAM L0000053     0.00000332       3.49       6.51       3.25
SRCPARAM L0000054     0.00000332       3.49       6.51       3.25
SRCPARAM L0000055     0.00000332       3.49       6.51       3.25
SRCPARAM L0000056     0.00000332       3.49       6.51       3.25
SRCPARAM L0000057     0.00000332       3.49       6.51       3.25
SRCPARAM L0000058     0.00000332       3.49       6.51       3.25
SRCPARAM L0000059     0.00000332       3.49       6.51       3.25
SRCPARAM L0000060     0.00000332       3.49       6.51       3.25
SRCPARAM L0000061     0.00000332       3.49       6.51       3.25
SRCPARAM L0000062     0.00000332       3.49       6.51       3.25
SRCPARAM L0000063     0.00000332       3.49       6.51       3.25
SRCPARAM L0000064     0.00000332       3.49       6.51       3.25
SRCPARAM L0000065     0.00000332       3.49       6.51       3.25
SRCPARAM L0000066     0.00000332       3.49       6.51       3.25
SRCPARAM L0000067     0.00000332       3.49       6.51       3.25
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   SRCPARAM L0000068     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000069     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000070     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000071     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000072     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000073     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000074     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000075     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000076     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000077     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000078     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000079     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000080     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000081     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000082     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000083     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000084     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000085     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000086     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000087     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000088     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000089     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000090     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000091     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000092     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000093     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000094     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000095     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000096     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000097     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000098     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000099     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000100     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000101     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000102     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000103     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000104     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000105     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000106     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000107     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000108     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000109     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000110     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000111     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000112     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000113     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000114     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000115     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000116     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000117     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000118     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000119     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000120     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000121     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000122     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000123     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000124     0.00000332      3.49      6.51      3.25
** ------------------------------------------------------------------------
   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL5        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL6        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT L0000001    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000001    HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000001    HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000001    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000002    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000002    HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000002    HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000002    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000003    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000003    HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000003    HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000003    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000004    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000004    HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000004    HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000004    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000005    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000005    HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000005    HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000005    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000006    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000006    HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000006    HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000006    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000007    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000007    HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000007    HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000007    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000008    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000008    HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000008    HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000008    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000009    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000009    HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000009    HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000009    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000010    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000010    HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000010    HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000010    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000011    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000011    HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000011    HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000011    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000012    HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000012     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000012     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000012     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000013     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000013     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000013     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000013     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000014     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000014     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000014     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000014     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000015     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000015     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000015     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000015     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000016     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000016     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000016     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000016     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000017     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000018     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000019     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000020     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000021     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000022     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000023     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000023     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000023     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000023     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000024     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000024     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000024     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000024     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000025     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000025     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000025     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000025     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000026     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000026     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000026     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000026     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000027     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000027     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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EMISFACT L0000028     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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EMISFACT L0000094     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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EMISFACT L0000110     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   SRCGROUP ALL
SO FINISHED
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** AERMOD Receptor Pathway
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RE STARTING
   INCLUDED "14804 Construction.rou"
RE FINISHED
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** AERMOD Meteorology Pathway
***************************************
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ME STARTING
   SURFFILE PERI_V9_ADJU\PERI_v9.SFC
   PROFFILE PERI_V9_ADJU\PERI_v9.PFL
   SURFDATA 3171 2010
   UAIRDATA 3190 2010
   SITEDATA 99999 2010
   PROFBASE 442.0 METERS
ME FINISHED
**
***************************************
** AERMOD Output Pathway
***************************************
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OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "14804 CONSTRUCTION.AD\AN00GALL.PLT" 31
   SUMMFILE "14804 Construction.sum"
OU FINISHED
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** Project Parameters
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** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
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** Lakes Environmental AERMOD MPI
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** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 9/15/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and Sherman\14804 Construction\14804
Construction.ADI
**
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**
**
****************************************
** AERMOD Control Pathway
****************************************
**
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CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and Sherman\14804 O
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 2189641 Riverside_County
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "14804 Construction.err"
CO FINISHED
**
****************************************
** AERMOD Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     483136.255  3735242.300      434.000
   LOCATION VOL2         VOLUME     483230.210  3735241.097      434.000
   LOCATION VOL3         VOLUME     483136.656  3735144.330      434.000
   LOCATION VOL4         VOLUME     483135.853  3735047.564      434.000
   LOCATION VOL5         VOLUME     483230.210  3735143.126      434.340
   LOCATION VOL6         VOLUME     483229.407  3735048.367      435.000
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** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 0.0004116407
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 10
** 483274.778, 3735300.120, 434.52, 3.49, 6.51
** 482892.532, 3735298.112, 433.00, 3.49, 6.51
** 482888.516, 3734771.720, 433.98, 3.49, 6.51
** 482823.872, 3734672.143, 433.86, 3.49, 6.51
** 482523.937, 3734882.138, 433.00, 3.49, 6.51
** 482416.329, 3734960.836, 433.00, 3.49, 6.51
** 482384.609, 3734998.980, 432.91, 3.49, 6.51
** 482366.943, 3735034.716, 432.43, 3.49, 6.51
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LOCATION L0000004     VOLUME   483225.779 3735299.863 434.00
LOCATION L0000005     VOLUME   483211.779 3735299.789 434.00
LOCATION L0000006     VOLUME   483197.779 3735299.716 434.00
LOCATION L0000007     VOLUME   483183.780 3735299.642 434.00
LOCATION L0000008     VOLUME   483169.780 3735299.568 434.00
LOCATION L0000009     VOLUME   483155.780 3735299.495 434.00
LOCATION L0000010     VOLUME   483141.780 3735299.421 434.00
LOCATION L0000011     VOLUME   483127.780 3735299.348 433.92
LOCATION L0000012     VOLUME   483113.780 3735299.274 433.46
LOCATION L0000013     VOLUME   483099.781 3735299.201 433.00
LOCATION L0000014     VOLUME   483085.781 3735299.127 433.00
LOCATION L0000015     VOLUME   483071.781 3735299.054 433.00
LOCATION L0000016     VOLUME   483057.781 3735298.980 433.00
LOCATION L0000017     VOLUME   483043.781 3735298.907 433.00
LOCATION L0000018     VOLUME   483029.782 3735298.833 433.00
LOCATION L0000019     VOLUME   483015.782 3735298.760 433.00
LOCATION L0000020     VOLUME   483001.782 3735298.686 433.00
LOCATION L0000021     VOLUME   482987.782 3735298.613 433.00
LOCATION L0000022     VOLUME   482973.782 3735298.539 433.00
LOCATION L0000023     VOLUME   482959.783 3735298.466 433.00
LOCATION L0000024     VOLUME   482945.783 3735298.392 433.00
LOCATION L0000025     VOLUME   482931.783 3735298.319 433.00
LOCATION L0000026     VOLUME   482917.783 3735298.245 433.00
LOCATION L0000027     VOLUME   482903.783 3735298.171 433.00
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LOCATION L0000029     VOLUME   482892.404 3735281.365 433.00
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LOCATION L0000032     VOLUME   482892.084 3735239.366 433.00
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LOCATION L0000034     VOLUME   482891.870 3735211.367 433.00
LOCATION L0000035     VOLUME   482891.763 3735197.367 433.00
LOCATION L0000036     VOLUME   482891.656 3735183.368 433.00
LOCATION L0000037     VOLUME   482891.550 3735169.368 433.00
LOCATION L0000038     VOLUME   482891.443 3735155.368 433.00
LOCATION L0000039     VOLUME   482891.336 3735141.369 433.00
LOCATION L0000040     VOLUME   482891.229 3735127.369 433.00
LOCATION L0000041     VOLUME   482891.122 3735113.370 433.00
LOCATION L0000042     VOLUME   482891.016 3735099.370 433.00
LOCATION L0000043     VOLUME   482890.909 3735085.370 433.00
LOCATION L0000044     VOLUME   482890.802 3735071.371 433.00
LOCATION L0000045     VOLUME   482890.695 3735057.371 433.00
LOCATION L0000046     VOLUME   482890.589 3735043.372 433.00
LOCATION L0000047     VOLUME   482890.482 3735029.372 433.00
LOCATION L0000048     VOLUME   482890.375 3735015.372 433.00
LOCATION L0000049     VOLUME   482890.268 3735001.373 433.00
LOCATION L0000050     VOLUME   482890.161 3734987.373 433.00
LOCATION L0000051     VOLUME   482890.055 3734973.374 433.00
LOCATION L0000052     VOLUME   482889.948 3734959.374 433.00
LOCATION L0000053     VOLUME   482889.841 3734945.375 433.00
LOCATION L0000054     VOLUME   482889.734 3734931.375 433.00
LOCATION L0000055     VOLUME   482889.627 3734917.375 433.00
LOCATION L0000056     VOLUME   482889.521 3734903.376 433.00
LOCATION L0000057     VOLUME   482889.414 3734889.376 433.00
LOCATION L0000058     VOLUME   482889.307 3734875.377 433.00
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LOCATION L0000060     VOLUME   482889.094 3734847.377 433.00
LOCATION L0000061     VOLUME   482888.987 3734833.378 433.00
LOCATION L0000062     VOLUME   482888.880 3734819.378 433.00
LOCATION L0000063     VOLUME   482888.773 3734805.379 433.02
LOCATION L0000064     VOLUME   482888.666 3734791.379 433.46
LOCATION L0000065     VOLUME   482888.560 3734777.379 433.91
LOCATION L0000066     VOLUME   482883.975 3734764.724 433.80
LOCATION L0000067     VOLUME   482876.352 3734752.982 433.54
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   LOCATION L0000069     VOLUME   482861.105 3734729.497 433.57
   LOCATION L0000070     VOLUME   482853.482 3734717.754 433.74
   LOCATION L0000071     VOLUME   482845.859 3734706.012 433.68
   LOCATION L0000072     VOLUME   482838.236 3734694.269 433.80
   LOCATION L0000073     VOLUME   482830.613 3734682.527 434.00
   LOCATION L0000074     VOLUME   482822.544 3734673.073 433.75
   LOCATION L0000075     VOLUME   482811.076 3734681.102 433.37
   LOCATION L0000076     VOLUME   482799.607 3734689.132 433.00
   LOCATION L0000077     VOLUME   482788.139 3734697.161 433.00
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   LOCATION L0000081     VOLUME   482742.265 3734729.279 433.00
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   LOCATION L0000084     VOLUME   482707.859 3734753.368 433.00
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   LOCATION L0000086     VOLUME   482684.922 3734769.427 433.00
   LOCATION L0000087     VOLUME   482673.454 3734777.456 433.00
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   LOCATION L0000089     VOLUME   482650.516 3734793.515 433.00
   LOCATION L0000090     VOLUME   482639.048 3734801.545 433.00
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   LOCATION L0000098     VOLUME   482547.300 3734865.781 433.00
   LOCATION L0000099     VOLUME   482535.831 3734873.810 433.00
   LOCATION L0000100     VOLUME   482524.363 3734881.840 433.00
   LOCATION L0000101     VOLUME   482513.056 3734890.096 433.00
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   LOCATION L0000105     VOLUME   482467.855 3734923.153 433.00
   LOCATION L0000106     VOLUME   482456.554 3734931.418 433.00
   LOCATION L0000107     VOLUME   482445.254 3734939.682 433.00
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   LOCATION L0000109     VOLUME   482422.653 3734956.211 433.00
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   LOCATION L0000111     VOLUME   482403.436 3734976.341 433.00
   LOCATION L0000112     VOLUME   482394.484 3734987.105 433.00
   LOCATION L0000113     VOLUME   482385.533 3734997.870 433.00
   LOCATION L0000114     VOLUME   482379.045 3735010.236 432.97
   LOCATION L0000115     VOLUME   482372.840 3735022.786 432.76
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   LOCATION L0000118     VOLUME   482360.603 3735062.698 432.35
   LOCATION L0000119     VOLUME   482357.509 3735076.352 432.25
   LOCATION L0000120     VOLUME   482355.211 3735090.104 432.17
   LOCATION L0000121     VOLUME   482354.905 3735104.101 432.16
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   LOCATION L0000124     VOLUME   482353.987 3735146.091 432.13
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** Source Parameters **
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   SRCPARAM VOL2         0.0034458511     5.000    22.598     1.400
   SRCPARAM VOL3         0.0034458511     5.000    22.598     1.400
   SRCPARAM VOL4         0.0034458511     5.000    22.598     1.400
   SRCPARAM VOL5         0.0034458511     5.000    22.598     1.400
   SRCPARAM VOL6         0.0034458511     5.000    22.598     1.400
** LINE VOLUME Source ID = SLINE1
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SRCPARAM	L0000008	0.00000332	3.49	6.51	3.25
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SRCPARAM	L0000010	0.00000332	3.49	6.51	3.25
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SRCPARAM	L0000033	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000034	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000035	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000036	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000037	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000038	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000039	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000040	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000041	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000042	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000043	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000044	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000045	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000046	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000047	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000048	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000049	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000050	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000051	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000052	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000053	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000054	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000055	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000056	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000057	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000058	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000059	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000060	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000061	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000062	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000063	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000064	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000065	0.00000332	3.49	6.51	3.25
SRCPARAM	L0000066	0.00000332	3.49	6.51	3.25

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   SRCPARAM L0000067     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000068     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000069     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000070     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000071     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000072     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000073     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000074     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000075     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000076     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000077     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000078     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000079     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000080     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000081     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000082     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000083     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000084     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000085     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000086     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000087     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000088     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000089     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000090     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000091     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000092     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000093     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000094     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000095     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000096     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000097     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000098     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000099     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000100     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000101     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000102     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000103     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000104     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000105     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000106     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000107     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000108     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000109     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000110     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000111     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000112     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000113     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000114     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000115     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000116     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000117     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000118     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000119     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000120     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000121     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000122     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000123     0.00000332      3.49      6.51      3.25
   SRCPARAM L0000124     0.00000332      3.49      6.51      3.25
** ----------------------------------------------------------------------
   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL1          HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL2          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2          HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2          HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3          HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3          HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4          HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4          HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL5          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5          HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5          HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL5          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL5          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5          HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000001     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000001     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000002     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000003     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000004     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000004     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000004     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000004     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000005     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000005     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000005     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000005     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000006     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000006     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000006     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000006     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000007     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000007     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000007     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000007     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000008     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000008     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000008     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000008     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000009     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000009     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000009     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000009     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000010     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000010     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000010     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000010     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000011     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000011     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000011     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000011     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000012     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000012     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000012     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000012     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000013     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000013     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000013     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000013     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000014     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000014     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000014     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000014     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000015     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000015     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000015     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000015     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000016     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000016     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000016     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000016     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000017     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000018     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000019     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000020     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000021     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000022     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000023     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000023     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000023     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000023     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000024     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000024     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000024     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000024     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000025     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000025     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000025     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000025     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000026     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000026     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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EMISFACT L0000027     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000028     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000028     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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EMISFACT L0000033     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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EMISFACT L0000104     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000105     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000106     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000109     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000109     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000110     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000113     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000120     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000121     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000121     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000121     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000122     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000122     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000122     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000124     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000124     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000124     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000124     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
```

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**
**
RE STARTING
   INCLUDED "14804 Construction.rou"
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE PERI_V9_ADJU\PERI_v9.SFC
   PROFFILE PERI_V9_ADJU\PERI_v9.PFL
   SURFDATA 3171 2010
   UAIRDATA 3190 2010
   SITEDATA 99999 2010
   PROFBASE 442.0 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "14804 CONSTRUCTION.AD\AN00GALL.PLT" 31
   SUMMFILE "14804 Construction.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186    1931       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used           0.50
 ME W187    1931       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                        ***        15:14:07

                      PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                              ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - -

 ** Model Options Selected:
```

```
     * Model Uses Regulatory DEFAULT Options
     * Model Is Setup For Calculation of Average CONCentration Values.
     * NO GAS DEPOSITION Data Provided.
     * NO PARTICLE DEPOSITION Data Provided.
     * Model Uses NO DRY DEPLETION. DDPLETE  =  F
     * Model Uses NO WET DEPLETION. WETDPLT  =  F
     * Stack-tip Downwash.
     * Model Accounts for ELEVated Terrain Effects.
     * Use Calms Processing Routine.
     * Use Missing Data Processing Routine.
     * No Exponential Decay.
     * Model Uses URBAN Dispersion Algorithm for the SBL for   130 Source(s),
       for Total of    1 Urban Area(s):
  Urban Population =   2189641.0 ;  Urban Roughness Length =  1.000 m
     * Urban Roughness Length of 1.0 Meter Used.
     * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
     * CCVR_Sub - Meteorological data includes CCVR substitutions
     * TEMP_Sub - Meteorological data includes TEMP substitutions
     * Model Assumes No FLAGPOLE Receptor Heights.
     * The User Specified a Pollutant Type of: DPM

**Model Calculates ANNUAL Averages Only

**This Run Includes:    130 Source(s);       1 Source Group(s); and      27 Receptor(s)

              with:      0 POINT(s), including
                         0 POINTCAP(s) and      0 POINTHOR(s)
               and:    130 VOLUME source(s)
               and:      0 AREA type source(s)
               and:      0 LINE source(s)
               and:      0 RLINE/RLINEXT source(s)
               and:      0 OPENPIT source(s)
               and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
               and:      0 SWPOINT source(s)


**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date:  16216

**Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing
                                                                Hours

**Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   442.00 ;  Decay Coef. =
0.000     ;  Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                                ;  Emission Rate
                 Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =      3.6 MB of RAM.

**Input Runstream File:
aermod.inp
**Output Print File:
aermod.out

**Detailed Error/Message File:   14804
Construction.err
**File for Summary of Results:   14804
```

Construction.sum

```
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***       09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                       ***       15:14:07

                     PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                    *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
   SOURCE  SCALAR VARY
     ID        CATS.                (METERS) (METERS) (METERS) (METERS) (METERS)
     (METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - -


 VOL1              0   0.34459E-02  483136.3 3735242.3   434.0     5.00    22.60     1.40
 YES   HRDOW
 VOL2              0   0.34459E-02  483230.2 3735241.1   434.0     5.00    22.60     1.40
 YES   HRDOW
 VOL3              0   0.34459E-02  483136.7 3735144.3   434.0     5.00    22.60     1.40
 YES   HRDOW
 VOL4              0   0.34459E-02  483135.9 3735047.6   434.0     5.00    22.60     1.40
 YES   HRDOW
 VOL5              0   0.34459E-02  483230.2 3735143.1   434.3     5.00    22.60     1.40
 YES   HRDOW
 VOL6              0   0.34459E-02  483229.4 3735048.4   435.0     5.00    22.60     1.40
 YES   HRDOW
 L0000001          0   0.33200E-05  483267.8 3735300.1   434.3     3.49     6.51     3.25
 YES   HRDOW
 L0000002          0   0.33200E-05  483253.8 3735300.0   434.1     3.49     6.51     3.25
 YES   HRDOW
 L0000003          0   0.33200E-05  483239.8 3735299.9   434.0     3.49     6.51     3.25
 YES   HRDOW
 L0000004          0   0.33200E-05  483225.8 3735299.9   434.0     3.49     6.51     3.25
 YES   HRDOW
 L0000005          0   0.33200E-05  483211.8 3735299.8   434.0     3.49     6.51     3.25
 YES   HRDOW
 L0000006          0   0.33200E-05  483197.8 3735299.7   434.0     3.49     6.51     3.25
 YES   HRDOW
 L0000007          0   0.33200E-05  483183.8 3735299.6   434.0     3.49     6.51     3.25
 YES   HRDOW
 L0000008          0   0.33200E-05  483169.8 3735299.6   434.0     3.49     6.51     3.25
 YES   HRDOW
 L0000009          0   0.33200E-05  483155.8 3735299.5   434.0     3.49     6.51     3.25
 YES   HRDOW
 L0000010          0   0.33200E-05  483141.8 3735299.4   434.0     3.49     6.51     3.25
 YES   HRDOW
 L0000011          0   0.33200E-05  483127.8 3735299.3   433.9     3.49     6.51     3.25
 YES   HRDOW
 L0000012          0   0.33200E-05  483113.8 3735299.3   433.5     3.49     6.51     3.25
 YES   HRDOW
 L0000013          0   0.33200E-05  483099.8 3735299.2   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000014          0   0.33200E-05  483085.8 3735299.1   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000015          0   0.33200E-05  483071.8 3735299.1   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000016          0   0.33200E-05  483057.8 3735299.0   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000017          0   0.33200E-05  483043.8 3735298.9   433.0     3.49     6.51     3.25
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 YES   HRDOW
 L0000018         0   0.33200E-05  483029.8 3735298.8   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000019         0   0.33200E-05  483015.8 3735298.8   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000020         0   0.33200E-05  483001.8 3735298.7   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000021         0   0.33200E-05  482987.8 3735298.6   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000022         0   0.33200E-05  482973.8 3735298.5   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000023         0   0.33200E-05  482959.8 3735298.5   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000024         0   0.33200E-05  482945.8 3735298.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000025         0   0.33200E-05  482931.8 3735298.3   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000026         0   0.33200E-05  482917.8 3735298.2   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000027         0   0.33200E-05  482903.8 3735298.2   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000028         0   0.33200E-05  482892.5 3735295.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000029         0   0.33200E-05  482892.4 3735281.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000030         0   0.33200E-05  482892.3 3735267.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000031         0   0.33200E-05  482892.2 3735253.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000032         0   0.33200E-05  482892.1 3735239.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000033         0   0.33200E-05  482892.0 3735225.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000034         0   0.33200E-05  482891.9 3735211.4   433.0     3.49     6.51     3.25
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                      ***        15:14:07

                     PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                   *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                     BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY       SZ
   SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
     (METERS)              BY
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 L0000035         0   0.33200E-05  482891.8 3735197.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000036         0   0.33200E-05  482891.7 3735183.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000037         0   0.33200E-05  482891.5 3735169.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000038         0   0.33200E-05  482891.4 3735155.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000039         0   0.33200E-05  482891.3 3735141.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000040         0   0.33200E-05  482891.2 3735127.4   433.0     3.49     6.51     3.25
```

									YES	HRDOW
L0000041	0	0.33200E-05	482891.1	3735113.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000042	0	0.33200E-05	482891.0	3735099.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000043	0	0.33200E-05	482890.9	3735085.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000044	0	0.33200E-05	482890.8	3735071.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000045	0	0.33200E-05	482890.7	3735057.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000046	0	0.33200E-05	482890.6	3735043.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000047	0	0.33200E-05	482890.5	3735029.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000048	0	0.33200E-05	482890.4	3735015.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000049	0	0.33200E-05	482890.3	3735001.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000050	0	0.33200E-05	482890.2	3734987.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000051	0	0.33200E-05	482890.1	3734973.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000052	0	0.33200E-05	482889.9	3734959.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000053	0	0.33200E-05	482889.8	3734945.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000054	0	0.33200E-05	482889.7	3734931.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000055	0	0.33200E-05	482889.6	3734917.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000056	0	0.33200E-05	482889.5	3734903.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000057	0	0.33200E-05	482889.4	3734889.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000058	0	0.33200E-05	482889.3	3734875.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000059	0	0.33200E-05	482889.2	3734861.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000060	0	0.33200E-05	482889.1	3734847.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000061	0	0.33200E-05	482889.0	3734833.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000062	0	0.33200E-05	482888.9	3734819.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000063	0	0.33200E-05	482888.8	3734805.4	433.0	3.49	6.51	3.25	YES	HRDOW
L0000064	0	0.33200E-05	482888.7	3734791.4	433.5	3.49	6.51	3.25	YES	HRDOW
L0000065	0	0.33200E-05	482888.6	3734777.4	433.9	3.49	6.51	3.25	YES	HRDOW
L0000066	0	0.33200E-05	482884.0	3734764.7	433.8	3.49	6.51	3.25	YES	HRDOW
L0000067	0	0.33200E-05	482876.4	3734753.0	433.5	3.49	6.51	3.25	YES	HRDOW
L0000068	0	0.33200E-05	482868.7	3734741.2	433.4	3.49	6.51	3.25	YES	HRDOW
L0000069	0	0.33200E-05	482861.1	3734729.5	433.6	3.49	6.51	3.25	YES	HRDOW
L0000070	0	0.33200E-05	482853.5	3734717.8	433.7	3.49	6.51	3.25	YES	HRDOW
L0000071	0	0.33200E-05	482845.9	3734706.0	433.7	3.49	6.51	3.25	YES	HRDOW
L0000072	0	0.33200E-05	482838.2	3734694.3	433.8	3.49	6.51	3.25	YES	HRDOW
L0000073	0	0.33200E-05	482830.6	3734682.5	434.0	3.49	6.51	3.25		

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 YES   HRDOW
 L0000074         0   0.33200E-05  482822.5 3734673.1   433.8     3.49     6.51     3.25
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                      ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                    *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
   SOURCE  SCALAR VARY
     ID         CATS.                (METERS) (METERS) (METERS) (METERS) (METERS)
     (METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - -

 L0000075         0   0.33200E-05  482811.1 3734681.1   433.4     3.49     6.51     3.25
 YES   HRDOW
 L0000076         0   0.33200E-05  482799.6 3734689.1   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000077         0   0.33200E-05  482788.1 3734697.2   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000078         0   0.33200E-05  482776.7 3734705.2   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000079         0   0.33200E-05  482765.2 3734713.2   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000080         0   0.33200E-05  482753.7 3734721.2   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000081         0   0.33200E-05  482742.3 3734729.3   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000082         0   0.33200E-05  482730.8 3734737.3   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000083         0   0.33200E-05  482719.3 3734745.3   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000084         0   0.33200E-05  482707.9 3734753.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000085         0   0.33200E-05  482696.4 3734761.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000086         0   0.33200E-05  482684.9 3734769.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000087         0   0.33200E-05  482673.5 3734777.5   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000088         0   0.33200E-05  482662.0 3734785.5   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000089         0   0.33200E-05  482650.5 3734793.5   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000090         0   0.33200E-05  482639.0 3734801.5   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000091         0   0.33200E-05  482627.6 3734809.6   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000092         0   0.33200E-05  482616.1 3734817.6   433.1     3.49     6.51     3.25
 YES   HRDOW
 L0000093         0   0.33200E-05  482604.6 3734825.6   433.3     3.49     6.51     3.25
 YES   HRDOW
 L0000094         0   0.33200E-05  482593.2 3734833.7   433.8     3.49     6.51     3.25
 YES   HRDOW
 L0000095         0   0.33200E-05  482581.7 3734841.7   433.6     3.49     6.51     3.25
 YES   HRDOW
 L0000096         0   0.33200E-05  482570.2 3734849.7   433.2     3.49     6.51     3.25
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 YES   HRDOW
 L0000097         0   0.33200E-05  482558.8 3734857.8   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000098         0   0.33200E-05  482547.3 3734865.8   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000099         0   0.33200E-05  482535.8 3734873.8   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000100         0   0.33200E-05  482524.4 3734881.8   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000101         0   0.33200E-05  482513.1 3734890.1   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000102         0   0.33200E-05  482501.8 3734898.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000103         0   0.33200E-05  482490.5 3734906.6   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000104         0   0.33200E-05  482479.2 3734914.9   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000105         0   0.33200E-05  482467.9 3734923.2   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000106         0   0.33200E-05  482456.6 3734931.4   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000107         0   0.33200E-05  482445.3 3734939.7   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000108         0   0.33200E-05  482434.0 3734947.9   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000109         0   0.33200E-05  482422.7 3734956.2   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000110         0   0.33200E-05  482412.4 3734965.6   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000111         0   0.33200E-05  482403.4 3734976.3   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000112         0   0.33200E-05  482394.5 3734987.1   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000113         0   0.33200E-05  482385.5 3734997.9   433.0     3.49     6.51     3.25
 YES   HRDOW
 L0000114         0   0.33200E-05  482379.0 3735010.2   433.0     3.49     6.51     3.25
 YES   HRDOW
```



```
                                                   *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                         BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
   SOURCE      PART.  (GRAMS/SEC)     X         Y       ELEV.   HEIGHT      SY       SZ
   SOURCE  SCALAR VARY
     ID         CATS.                (METERS)  (METERS)  (METERS)  (METERS)  (METERS)
     (METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - -

 L0000115         0   0.33200E-05  482372.8 3735022.8   432.8     3.49     6.51     3.25
 YES   HRDOW
 L0000116         0   0.33200E-05  482366.8 3735035.4   432.6     3.49     6.51     3.25
 YES   HRDOW
 L0000117         0   0.33200E-05  482363.7 3735049.0   432.5     3.49     6.51     3.25
 YES   HRDOW
 L0000118         0   0.33200E-05  482360.6 3735062.7   432.4     3.49     6.51     3.25
 YES   HRDOW
 L0000119         0   0.33200E-05  482357.5 3735076.4   432.2     3.49     6.51     3.25
```

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 YES   HRDOW
 L0000120         0   0.33200E-05  482355.2 3735090.1   432.2     3.49     6.51     3.25
 YES   HRDOW
 L0000121         0   0.33200E-05  482354.9 3735104.1   432.2     3.49     6.51     3.25
 YES   HRDOW
 L0000122         0   0.33200E-05  482354.6 3735118.1   432.2     3.49     6.51     3.25
 YES   HRDOW
 L0000123         0   0.33200E-05  482354.3 3735132.1   432.1     3.49     6.51     3.25
 YES   HRDOW
 L0000124         0   0.33200E-05  482354.0 3735146.1   432.1     3.49     6.51     3.25
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                             *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                              SOURCE IDs
 -----------                                              ----------


  ALL        VOL1         , VOL2         , VOL3         , VOL4         , VOL5         , VOL6         ,
  L0000001    , L0000002    ,

             L0000003    , L0000004    , L0000005    , L0000006    , L0000007    , L0000008    ,
             L0000009    , L0000010    ,

             L0000011    , L0000012    , L0000013    , L0000014    , L0000015    , L0000016    ,
             L0000017    , L0000018    ,

             L0000019    , L0000020    , L0000021    , L0000022    , L0000023    , L0000024    ,
             L0000025    , L0000026    ,

             L0000027    , L0000028    , L0000029    , L0000030    , L0000031    , L0000032    ,
             L0000033    , L0000034    ,

             L0000035    , L0000036    , L0000037    , L0000038    , L0000039    , L0000040    ,
             L0000041    , L0000042    ,

             L0000043    , L0000044    , L0000045    , L0000046    , L0000047    , L0000048    ,
             L0000049    , L0000050    ,

             L0000051    , L0000052    , L0000053    , L0000054    , L0000055    , L0000056    ,
             L0000057    , L0000058    ,

             L0000059    , L0000060    , L0000061    , L0000062    , L0000063    , L0000064    ,
             L0000065    , L0000066    ,

             L0000067    , L0000068    , L0000069    , L0000070    , L0000071    , L0000072    ,
             L0000073    , L0000074    ,

             L0000075    , L0000076    , L0000077    , L0000078    , L0000079    , L0000080    ,
             L0000081    , L0000082    ,

             L0000083    , L0000084    , L0000085    , L0000086    , L0000087    , L0000088    ,
             L0000089    , L0000090    ,

             L0000091    , L0000092    , L0000093    , L0000094    , L0000095    , L0000096    ,
             L0000097    , L0000098    ,

             L0000099    , L0000100    , L0000101    , L0000102    , L0000103    , L0000104    ,
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            L0000105    , L0000106    ,

            L0000107    , L0000108    , L0000109    , L0000110    , L0000111    , L0000112    ,
            L0000113    , L0000114    ,

            L0000115    , L0000116    , L0000117    , L0000118    , L0000119    , L0000120    ,
            L0000121    , L0000122    ,

            L0000123    , L0000124    ,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                            *** SOURCE IDs DEFINED AS URBAN SOURCES ***

  URBAN ID   URBAN POP                                        SOURCE IDs
  --------   ---------                                        ----------


             2189641.   VOL1        , VOL2        , VOL3        , VOL4        , VOL5        ,
             VOL6        , L0000001    ,
 L0000002    ,

            L0000003    , L0000004    , L0000005    , L0000006    , L0000007    , L0000008    ,
            L0000009    , L0000010    ,

            L0000011    , L0000012    , L0000013    , L0000014    , L0000015    , L0000016    ,
            L0000017    , L0000018    ,

            L0000019    , L0000020    , L0000021    , L0000022    , L0000023    , L0000024    ,
            L0000025    , L0000026    ,

            L0000027    , L0000028    , L0000029    , L0000030    , L0000031    , L0000032    ,
            L0000033    , L0000034    ,

            L0000035    , L0000036    , L0000037    , L0000038    , L0000039    , L0000040    ,
            L0000041    , L0000042    ,

            L0000043    , L0000044    , L0000045    , L0000046    , L0000047    , L0000048    ,
            L0000049    , L0000050    ,

            L0000051    , L0000052    , L0000053    , L0000054    , L0000055    , L0000056    ,
            L0000057    , L0000058    ,

            L0000059    , L0000060    , L0000061    , L0000062    , L0000063    , L0000064    ,
            L0000065    , L0000066    ,

            L0000067    , L0000068    , L0000069    , L0000070    , L0000071    , L0000072    ,
            L0000073    , L0000074    ,

            L0000075    , L0000076    , L0000077    , L0000078    , L0000079    , L0000080    ,
            L0000081    , L0000082    ,

            L0000083    , L0000084    , L0000085    , L0000086    , L0000087    , L0000088    ,
            L0000089    , L0000090    ,

            L0000091    , L0000092    , L0000093    , L0000094    , L0000095    , L0000096    ,
            L0000097    , L0000098    ,

            L0000099    , L0000100    , L0000101    , L0000102    , L0000103    , L0000104    ,
            L0000105    , L0000106    ,
```

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            L0000107    , L0000108    , L0000109    , L0000110    , L0000111    , L0000112    ,
            L0000113    , L0000114    ,

            L0000115    , L0000116    , L0000117    , L0000118    , L0000119    , L0000120    ,
            L0000121    , L0000122    ,

            L0000123    , L0000124    ,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                     ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

 SOURCE ID = VOL1         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                     ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

 SOURCE ID = VOL2         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
```

```
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```


*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

```
 SOURCE ID = VOL3         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```


*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

```
 SOURCE ID = VOL4         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
```

```
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                        ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = VOL5         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                        ***        15:14:07
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL6 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- -

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000001 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- -

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14

```
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                      ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000002     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                      ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000003     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
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    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                        ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000004     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                        ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000005     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```



```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000006     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```



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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = L0000007     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```



```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000008     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

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*** AERMET - VERSION  16216 ***
***                                                                         ***        15:14:07

                     PAGE  22
*** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = L0000009     ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
*** AERMET - VERSION  16216 ***
***                                                                         ***        15:14:07

                     PAGE  23
*** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = L0000010     ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
```

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

```
 SOURCE ID = L0000011     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

```
 SOURCE ID = L0000012     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```

```
                                               DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```


*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

```
 SOURCE ID = L0000013     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                               DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```


*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

```
 SOURCE ID = L0000014     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000015     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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```
                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                    (HRDOW) *

 SOURCE ID = L0000016     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```



```
                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                    (HRDOW) *

 SOURCE ID = L0000017     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
```

```
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                         ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000018     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                         ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000019     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
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  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                     ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000020     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                     ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000021     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
```

```
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                       ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                    (HRDOW) *

 SOURCE ID = L0000022     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                            DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                       ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                    (HRDOW) *

 SOURCE ID = L0000023     ; SOURCE TYPE = VOLUME   :
```

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- -
- - - - - - - - - - - - - - - - -
DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000024 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- -
- - - - - - - - - - - - - - - - -
DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000025 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- -

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000026 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- -

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

```
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                       ***        15:14:07

                      PAGE  40
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000027     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                       ***        15:14:07

                      PAGE  41
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000028     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000029     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000030     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
```

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```



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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                 * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                 (HRDOW) *

 SOURCE ID = L0000031     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```



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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                 * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
```

(HRDOW) *

SOURCE ID = L0000032 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- -

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
(HRDOW) *

SOURCE ID = L0000033 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- -

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000034   ; SOURCE TYPE = VOLUME   :
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR
- -

DAY OF WEEK = WEEKDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
.0000E+00   7 .0000E+00   8 .0000E+00
9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14
.1000E+01   15 .1000E+01   16 .1000E+01
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
.0000E+00   7 .0000E+00   8 .0000E+00
9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14
.0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SUNDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
.0000E+00   7 .0000E+00   8 .0000E+00
9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14
.0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000035   ; SOURCE TYPE = VOLUME   :
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR
- -

DAY OF WEEK = WEEKDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
.0000E+00   7 .0000E+00   8 .0000E+00
9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14
.1000E+01   15 .1000E+01   16 .1000E+01
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
.0000E+00   7 .0000E+00   8 .0000E+00
9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14
.0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00

```
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000036     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```



```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000037     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
```

```
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

```
 SOURCE ID = L0000038     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

```
 SOURCE ID = L0000039     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
```

```
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000040     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000041     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                        ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000042     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
```

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000043 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- -

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000044 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- -

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14

```
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

```
                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                    (HRDOW) *

 SOURCE ID = L0000045     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                               DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

```
                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                    (HRDOW) *

 SOURCE ID = L0000046     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                               DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
```

```
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

```
                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000047     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

```
                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *
```

```
 SOURCE ID = L0000048     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                    (HRDOW) *

 SOURCE ID = L0000049     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

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***                                                                            ***        15:14:07

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*** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = L0000050     ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
*** AERMET - VERSION  16216 ***
***                                                                            ***        15:14:07

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*** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = L0000051     ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                         ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000052     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                         ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000053     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
```

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                          ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000054     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                               DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                          ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000055     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
```

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000056 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- -
DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000057 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- -

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000058 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- -

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

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 *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                          ***        15:14:07

                      PAGE  72
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000059     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
 *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                          ***        15:14:07

                      PAGE  73
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000060     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
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   .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***       09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                        ***       15:14:07

                      PAGE  74
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000061     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***       09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                        ***       15:14:07

                      PAGE  75
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000062     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
```

```
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```


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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                    (HRDOW) *

 SOURCE ID = L0000063     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```


```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                    (HRDOW) *

 SOURCE ID = L0000064     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
```

```
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```


* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

```
 SOURCE ID = L0000065     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```

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                       PAGE  79
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000066     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                        ***        15:14:07

                       PAGE  80
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000067     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
```

.0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000068   ; SOURCE TYPE = VOLUME   :
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
- -

DAY OF WEEK = WEEKDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14 .1000E+01   15 .1000E+01   16 .1000E+01
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SUNDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000069   ; SOURCE TYPE = VOLUME   :
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
- -

DAY OF WEEK = WEEKDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14 .1000E+01   15 .1000E+01   16 .1000E+01
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00

```
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000070     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```



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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000071     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```



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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000072     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```



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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
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```
 SOURCE ID = L0000073     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                      ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000074     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
```

*** AERMET - VERSION 16216 ***
*** *** 15:14:07

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000075 ; SOURCE TYPE = VOLUME :

```
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```


*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000076 ; SOURCE TYPE = VOLUME :

```
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
```

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```


*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

```
 SOURCE ID = L0000077     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                               DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```


*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

```
 SOURCE ID = L0000078     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                               DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```

```
                                               DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```



```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000079     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                               DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```



```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000080     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

- - - - - - - - - - - - - - - - - -
DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000081 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- -
- - - - - - - - - - - - - - - - - -
DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

```
                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

 SOURCE ID = L0000082     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                        ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

 SOURCE ID = L0000083     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
```

```
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                       ***        15:14:07

                       PAGE  97
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000084     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                       ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000085     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
```

```
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                      ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000086     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                      ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000087     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
```

.1000E+01   15 .1000E+01   16 .1000E+01
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
.0000E+00   7 .0000E+00   8 .0000E+00
9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14
.0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
.0000E+00   7 .0000E+00   8 .0000E+00
9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14
.0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000088   ; SOURCE TYPE = VOLUME   :
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR
- -
- - - - - - - - - - - - - - - - - -
DAY OF WEEK = WEEKDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
.0000E+00   7 .0000E+00   8 .0000E+00
9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14
.1000E+01   15 .1000E+01   16 .1000E+01
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
.0000E+00   7 .0000E+00   8 .0000E+00
9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14
.0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
.0000E+00   7 .0000E+00   8 .0000E+00
9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14
.0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000089   ; SOURCE TYPE = VOLUME   :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- -

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000090 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- -

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000091   ; SOURCE TYPE = VOLUME   :
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
- -

DAY OF WEEK = WEEKDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14 .1000E+01   15 .1000E+01   16 .1000E+01
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SUNDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000092   ; SOURCE TYPE = VOLUME   :
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
- -

DAY OF WEEK = WEEKDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14 .1000E+01   15 .1000E+01   16 .1000E+01
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SUNDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00

```
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                       ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000093     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                       ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000094     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                       ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000095     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                       ***        15:14:07

                        PAGE 109
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000096     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
```

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```



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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

 SOURCE ID = L0000097     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```



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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
```

```
                  (HRDOW) *

 SOURCE ID = L0000098     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

```
                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

 SOURCE ID = L0000099     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
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Sherman\14804 O ***   09/15/22
*** AERMET - VERSION 16216 ***
***   ***   15:14:07

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000100   ; SOURCE TYPE = VOLUME   :
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR
- -
- - - - - - - - - - - - - - - - -

DAY OF WEEK = WEEKDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
.0000E+00   7 .0000E+00   8 .0000E+00
9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14
.1000E+01   15 .1000E+01   16 .1000E+01
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
.0000E+00   7 .0000E+00   8 .0000E+00
9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14
.0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SUNDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
.0000E+00   7 .0000E+00   8 .0000E+00
9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14
.0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00

FF *** AERMOD - VERSION 22112 ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and Sherman\14804 O ***   09/15/22
*** AERMET - VERSION 16216 ***
***   ***   15:14:07

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000101   ; SOURCE TYPE = VOLUME   :
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR
- -
- - - - - - - - - - - - - - - - -

DAY OF WEEK = WEEKDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
.0000E+00   7 .0000E+00   8 .0000E+00
9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14
.1000E+01   15 .1000E+01   16 .1000E+01
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
.0000E+00   7 .0000E+00   8 .0000E+00
9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14
.0000E+00   15 .0000E+00   16 .0000E+00
17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
.0000E+00   23 .0000E+00   24 .0000E+00

DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000102 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- -
- - - - - - - - - - - - - - - - -

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000103 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- -
- - - - - - - - - - - - - - - - -

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22

```
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                        ***        15:14:07

                        PAGE 117
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000104     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                               DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                               DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                        ***        15:14:07

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000105     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
```

```
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                      ***        15:14:07

                        PAGE 119
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000106     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                      ***        15:14:07

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*** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = L0000107     ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
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*** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = L0000108     ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
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17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000109 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- -

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000110 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- -

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14

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   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000111     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                            DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000112     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                            DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
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9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000113 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- -

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

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 SOURCE ID = L0000114     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```


* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

```
 SOURCE ID = L0000115     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

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***                                                                            ***        15:14:07

                     PAGE 129
*** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = L0000116     ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
*** AERMET - VERSION  16216 ***
***                                                                            ***        15:14:07

                     PAGE 130
*** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = L0000117     ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                         ***        15:14:07

                      PAGE 131
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000118     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                         ***        15:14:07

                      PAGE 132
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000119     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
```

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```



```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000120     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```



```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                     (HRDOW) *

 SOURCE ID = L0000121     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
```

```
                                             DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```


* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

```
 SOURCE ID = L0000122     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                             DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000123 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- -

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000124 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- -

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
( 483322.2, 3735161.2,     435.0,     435.0,       0.0);         ( 483315.8, 3735206.6,
435.0,     435.0,       0.0);
( 483329.0, 3735267.7,     435.0,     435.0,       0.0);         ( 483309.9, 3735329.5,
435.0,     435.0,       0.0);
( 483116.9, 3735429.0,     433.0,     433.0,       0.0);         ( 483151.8, 3735321.9,
433.9,     433.9,       0.0);
( 483048.9, 3735188.7,     433.3,     433.3,       0.0);         ( 483081.9, 3734993.2,
434.0,     434.0,       0.0);
( 483322.5, 3735113.2,     435.0,     435.0,       0.0);         ( 483320.3, 3735062.8,
435.6,     435.6,       0.0);
( 483328.1, 3735015.9,     436.0,     436.0,       0.0);         ( 483349.5, 3734948.8,
436.0,     436.0,       0.0);
( 483319.0, 3734871.0,     436.0,     436.0,       0.0);         ( 483152.4, 3734895.6,
435.0,     435.0,       0.0);
( 483033.4, 3734938.4,     434.0,     434.0,       0.0);         ( 482938.7, 3734974.9,
433.0,     433.0,       0.0);
( 482865.3, 3734680.6,     434.0,     434.0,       0.0);         ( 483316.9, 3734817.5,
436.0,     436.0,       0.0);
( 483315.8, 3734727.6,     436.0,     436.0,       0.0);         ( 482855.8, 3735071.3,
433.0,     433.0,       0.0);
( 482853.3, 3734976.5,     433.0,     433.0,       0.0);         ( 482952.3, 3735193.1,
433.0,     433.0,       0.0);
( 482296.7, 3734931.4,     432.0,     432.0,       0.0);         ( 483326.8, 3735378.2,
435.0,     435.0,       0.0);
( 482786.4, 3735421.1,     432.0,     432.0,       0.0);         ( 483310.4, 3735454.2,
434.0,     434.0,       0.0);
( 484105.1, 3734042.9,     441.5,     441.5,
0.0);
```


*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file:
PERI_V9_ADJU\PERI_v9.SFC Met
Version: 16216
Profile file:
PERI_V9_ADJU\PERI_v9.PFL
Surface format:
FREE

Profile format:
FREE

Surface station no.: 3171 Upper air station no.: 3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2010 Year: 2010

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
10	01	01	1	01	-7.9	0.125	-9.000	-9.000	-999.	106.	21.2	0.19	0.61	1.00	1.30	335.	9.1	282.5	5.5
10	01	01	1	02	-3.9	0.088	-9.000	-9.000	-999.	62.	15.1	0.19	0.61	1.00	0.90	142.	9.1	280.9	5.5
10	01	01	1	03	-3.9	0.088	-9.000	-9.000	-999.	62.	15.1	0.19	0.61	1.00	0.90	324.	9.1	280.4	5.5
10	01	01	1	04	-1.3	0.064	-9.000	-9.000	-999.	39.	18.3	0.19	0.61	1.00	0.40	294.	9.1	278.8	5.5
10	01	01	1	05	-3.9	0.088	-9.000	-9.000	-999.	62.	15.0	0.19	0.61	1.00	0.90	205.	9.1	278.1	5.5
10	01	01	1	06	-1.3	0.065	-9.000	-9.000	-999.	39.	18.3	0.19	0.61	1.00	0.40	3.	9.1	277.0	5.5
10	01	01	1	07	-8.0	0.125	-9.000	-9.000	-999.	106.	21.0	0.19	0.61	1.00	1.30	99.	9.1	277.0	5.5
10	01	01	1	08	-3.3	0.086	-9.000	-9.000	-999.	61.	16.8	0.19	0.61	0.54	0.90	319.	9.1	278.8	5.5
10	01	01	1	09	20.1	0.128	0.307	0.010	49.	110.	-9.0	0.19	0.61	0.33	0.90	239.	9.1	284.2	5.5
10	01	01	1	10	56.7	0.087	0.560	0.010	107.	62.	-1.0	0.19	0.61	0.26	0.40	188.	9.1	289.2	5.5
10	01	01	1	11	81.5	0.323	0.867	0.008	277.	441.	-35.9	0.19	0.61	0.23	2.70	310.	9.1	290.9	5.5
10	01	01	1	12	97.1	0.281	1.058	0.008	421.	357.	-19.7	0.19	0.61	0.22	2.20	357.	9.1	293.1	5.5

```
 10 01 01   1 13   92.2  0.279  1.117  0.008  523.  354.    -20.4  0.19   0.61   0.22    2.20
 356.    9.1  293.8    5.5
 10 01 01   1 14   77.6  0.275  1.102  0.008  595.  347.    -23.2  0.19   0.61   0.23    2.20
 50.    9.1  294.2    5.5
 10 01 01   1 15   54.9  0.230  1.006  0.008  640.  266.    -19.2  0.19   0.61   0.27    1.80
 53.    9.1  293.8    5.5
 10 01 01   1 16   12.3  0.206  0.613  0.008  648.  225.    -61.5  0.19   0.61   0.36    1.80
 11.    9.1  292.5    5.5
 10 01 01   1 17   -3.6  0.087 -9.000 -9.000 -999.   71.     15.6  0.19   0.61   0.64    0.90
 351.    9.1  290.4    5.5
 10 01 01   1 18   -3.8  0.087 -9.000 -9.000 -999.   62.     15.2  0.19   0.61   1.00    0.90
 186.    9.1  287.5    5.5
 10 01 01   1 19   -3.8  0.087 -9.000 -9.000 -999.   62.     15.2  0.19   0.61   1.00    0.90
 275.    9.1  285.9    5.5
 10 01 01   1 20   -1.2  0.064 -9.000 -9.000 -999.   39.     18.1  0.19   0.61   1.00    0.40
 181.    9.1  285.4    5.5
 10 01 01   1 21   -7.8  0.125 -9.000 -9.000 -999.  106.     21.3  0.19   0.61   1.00    1.30
 318.    9.1  284.9    5.5
 10 01 01   1 22   -3.8  0.088 -9.000 -9.000 -999.   62.     15.1  0.19   0.61   1.00    0.90
 196.    9.1  283.1    5.5
 10 01 01   1 23   -3.8  0.088 -9.000 -9.000 -999.   62.     15.1  0.19   0.61   1.00    0.90
 330.    9.1  281.4    5.5
 10 01 01   1 24   -7.9  0.125 -9.000 -9.000 -999.  106.     21.2  0.19   0.61   1.00    1.30
 332.    9.1  280.9    5.5


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 10 01 01 01    5.5 0 -999.  -99.00   282.6   99.0  -99.00  -99.00
 10 01 01 01    9.1 1  335.    1.30  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                       ***        15:14:07

                      PAGE 141
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5 YEARS FOR
                   SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                                  VOL3        , VOL4        , VOL5        ,
                 VOL6        , L0000001    , L0000002    , L0000003    , L0000004    ,
                 L0000005    , L0000006    , L0000007    ,
                 L0000008    , L0000009    , L0000010    , L0000011    , L0000012    ,
                 L0000013    , L0000014    , L0000015    ,
                 L0000016    , L0000017    , L0000018    , L0000019    , L0000020    ,
                 L0000021    , L0000022    ,  . . .      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                         ** CONC OF DPM       IN
                                         MICROGRAMS/M**3                    **

      X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)   Y-COORD
      (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
        483322.24   3735161.24       0.06309                        483315.83
        3735206.60        0.06326
        483328.98   3735267.73       0.03525                        483309.87
        3735329.46        0.02776
        483116.87   3735428.96       0.01621                        483151.81
        3735321.91        0.06742
```

```
        483048.86    3735188.73        0.05878                             483081.92
        3734993.21        0.06952
        483322.46    3735113.17        0.06704                             483320.26
        3735062.79        0.06741
        483328.13    3735015.88        0.05389                             483349.54
        3734948.82        0.03287
        483319.00    3734871.05        0.02603                             483152.44
        3734895.61        0.03339
        483033.43    3734938.43        0.02349                             482938.66
        3734974.95        0.01392
        482865.31    3734680.57        0.00537                             483316.88
        3734817.52        0.01872
        483315.81    3734727.60        0.01130                             482855.75
        3735071.26        0.00921
        482853.34    3734976.55        0.00858                             482952.27
        3735193.11        0.01713
        482296.66    3734931.45        0.00132                             483326.80
        3735378.16        0.01613
        482786.36    3735421.08        0.00345                             483310.38
        3735454.22        0.01057
        484105.07    3734042.87
        0.00100

FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                       ***       15:14:07

                        PAGE 142
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                    *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER   5
                                    YEARS ***


                                     ** CONC OF DPM      IN
                                     MICROGRAMS/M**3                           **


           NETWORK
GROUP ID                        AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV, ZHILL,
ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.06952 AT (  483081.92,  3734993.21,   434.00,
434.00,    0.00)  DC
          2ND HIGHEST VALUE IS       0.06742 AT (  483151.81,  3735321.91,   433.95,
          433.95,    0.00)  DC
          3RD HIGHEST VALUE IS       0.06741 AT (  483320.26,  3735062.79,   435.63,
          435.63,    0.00)  DC
          4TH HIGHEST VALUE IS       0.06704 AT (  483322.46,  3735113.17,   435.00,
          435.00,    0.00)  DC
          5TH HIGHEST VALUE IS       0.06326 AT (  483315.83,  3735206.60,   435.00,
          435.00,    0.00)  DC
          6TH HIGHEST VALUE IS       0.06309 AT (  483322.24,  3735161.24,   435.00,
          435.00,    0.00)  DC
          7TH HIGHEST VALUE IS       0.05878 AT (  483048.86,  3735188.73,   433.29,
          433.29,    0.00)  DC
          8TH HIGHEST VALUE IS       0.05389 AT (  483328.13,  3735015.88,   436.00,
          436.00,    0.00)  DC
          9TH HIGHEST VALUE IS       0.03525 AT (  483328.98,  3735267.73,   435.00,
          435.00,    0.00)  DC
         10TH HIGHEST VALUE IS       0.03339 AT (  483152.44,  3734895.61,   435.00,
         435.00,    0.00)  DC
```

```
 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                       ***        15:14:07

                      PAGE 143
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of           0 Fatal Error Message(s)
 A Total of           4 Warning Message(s)
 A Total of        2028 Informational Message(s)

 A Total of       43824 Hours Were Processed

 A Total of         978 Calm Hours Identified

 A Total of        1050 Missing Hours Identified (  2.40 Percent)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186    1931       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187    1931       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
 MX W450   17521       CHKDAT: Record Out of Sequence in Meteorological File at:     14010101
 MX W450   17521       CHKDAT: Record Out of Sequence in Meteorological File at:    2 year gap

    ************************************
    *** AERMOD Finishes Successfully ***
    ************************************
```

```
**
***************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 9/15/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and Sherman\14804 Ops\14804 Ops.ADI
**
***************************************
**
**
***************************************
** AERMOD Control Pathway
***************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and Sherman\14804 O
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 2189641 Riverside_County
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "14804 Ops.err"
CO FINISHED
**
***************************************
** AERMOD Source Pathway
***************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ------------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC Idle
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 9.66E-06
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 2
** 483133.488, 3735051.338, 434.00, 3.49, 4.00
** 483134.398, 3735226.219, 434.00, 3.49, 4.00
** ------------------------------------------------------------------------
   LOCATION L0000256     VOLUME   483133.511 3735055.633 434.00
   LOCATION L0000257     VOLUME   483133.555 3735064.223 434.00
   LOCATION L0000258     VOLUME   483133.600 3735072.813 434.00
   LOCATION L0000259     VOLUME   483133.645 3735081.403 434.00
   LOCATION L0000260     VOLUME   483133.689 3735089.993 434.00
   LOCATION L0000261     VOLUME   483133.734 3735098.583 434.00
   LOCATION L0000262     VOLUME   483133.779 3735107.173 434.00
   LOCATION L0000263     VOLUME   483133.823 3735115.762 434.00
   LOCATION L0000264     VOLUME   483133.868 3735124.352 434.00
   LOCATION L0000265     VOLUME   483133.913 3735132.942 434.00
   LOCATION L0000266     VOLUME   483133.957 3735141.532 434.00
   LOCATION L0000267     VOLUME   483134.002 3735150.122 434.00
   LOCATION L0000268     VOLUME   483134.047 3735158.712 434.00
   LOCATION L0000269     VOLUME   483134.091 3735167.302 434.00
   LOCATION L0000270     VOLUME   483134.136 3735175.892 434.00
   LOCATION L0000271     VOLUME   483134.181 3735184.482 434.00
   LOCATION L0000272     VOLUME   483134.225 3735193.071 434.00
```

```
   LOCATION L0000273     VOLUME   483134.270 3735201.661 434.00
   LOCATION L0000274     VOLUME   483134.315 3735210.251 434.00
   LOCATION L0000275     VOLUME   483134.359 3735218.841 434.00
** End of LINE VOLUME Source ID = SLINE1
** ------------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE2
** DESCRSRC Onsite
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 6.613E-06
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 5
** 483278.314, 3735013.336, 435.99, 3.49, 4.00
** 483261.724, 3735014.138, 435.25, 3.49, 4.00
** 483247.542, 3735011.730, 435.02, 3.49, 4.00
** 483114.283, 3735010.660, 434.00, 3.49, 4.00
** 483118.297, 3735292.429, 433.67, 3.49, 4.00
** ------------------------------------------------------------------------
   LOCATION L0000276     VOLUME   483274.024 3735013.543 435.80
   LOCATION L0000277     VOLUME   483265.444 3735013.958 435.51
   LOCATION L0000278     VOLUME   483256.927 3735013.324 435.23
   LOCATION L0000279     VOLUME   483248.459 3735011.886 435.00
   LOCATION L0000280     VOLUME   483239.882 3735011.669 435.00
   LOCATION L0000281     VOLUME   483231.292 3735011.600 435.00
   LOCATION L0000282     VOLUME   483222.702 3735011.531 435.00
   LOCATION L0000283     VOLUME   483214.113 3735011.462 435.00
   LOCATION L0000284     VOLUME   483205.523 3735011.393 435.00
   LOCATION L0000285     VOLUME   483196.933 3735011.324 435.00
   LOCATION L0000286     VOLUME   483188.344 3735011.255 435.00
   LOCATION L0000287     VOLUME   483179.754 3735011.186 435.00
   LOCATION L0000288     VOLUME   483171.164 3735011.117 435.00
   LOCATION L0000289     VOLUME   483162.574 3735011.048 435.00
   LOCATION L0000290     VOLUME   483153.985 3735010.979 434.80
   LOCATION L0000291     VOLUME   483145.395 3735010.910 434.51
   LOCATION L0000292     VOLUME   483136.805 3735010.841 434.22
   LOCATION L0000293     VOLUME   483128.216 3735010.772 434.00
   LOCATION L0000294     VOLUME   483119.626 3735010.703 434.00
   LOCATION L0000295     VOLUME   483114.330 3735013.907 434.00
   LOCATION L0000296     VOLUME   483114.452 3735022.496 434.00
   LOCATION L0000297     VOLUME   483114.574 3735031.085 434.00
   LOCATION L0000298     VOLUME   483114.697 3735039.674 434.00
   LOCATION L0000299     VOLUME   483114.819 3735048.263 434.00
   LOCATION L0000300     VOLUME   483114.941 3735056.853 434.00
   LOCATION L0000301     VOLUME   483115.064 3735065.442 434.00
   LOCATION L0000302     VOLUME   483115.186 3735074.031 434.00
   LOCATION L0000303     VOLUME   483115.309 3735082.620 434.00
   LOCATION L0000304     VOLUME   483115.431 3735091.209 434.00
   LOCATION L0000305     VOLUME   483115.553 3735099.798 434.00
   LOCATION L0000306     VOLUME   483115.676 3735108.387 434.00
   LOCATION L0000307     VOLUME   483115.798 3735116.976 434.00
   LOCATION L0000308     VOLUME   483115.920 3735125.566 434.00
   LOCATION L0000309     VOLUME   483116.043 3735134.155 434.00
   LOCATION L0000310     VOLUME   483116.165 3735142.744 434.00
   LOCATION L0000311     VOLUME   483116.287 3735151.333 434.00
   LOCATION L0000312     VOLUME   483116.410 3735159.922 434.00
   LOCATION L0000313     VOLUME   483116.532 3735168.511 434.00
   LOCATION L0000314     VOLUME   483116.654 3735177.100 434.00
   LOCATION L0000315     VOLUME   483116.777 3735185.690 434.00
   LOCATION L0000316     VOLUME   483116.899 3735194.279 434.00
   LOCATION L0000317     VOLUME   483117.021 3735202.868 434.00
   LOCATION L0000318     VOLUME   483117.144 3735211.457 434.00
   LOCATION L0000319     VOLUME   483117.266 3735220.046 434.00
   LOCATION L0000320     VOLUME   483117.388 3735228.635 434.00
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   LOCATION L0000321     VOLUME   483117.511 3735237.224 434.00
   LOCATION L0000322     VOLUME   483117.633 3735245.813 434.00
   LOCATION L0000323     VOLUME   483117.756 3735254.403 434.00
   LOCATION L0000324     VOLUME   483117.878 3735262.992 433.91
   LOCATION L0000325     VOLUME   483118.000 3735271.581 433.79
   LOCATION L0000326     VOLUME   483118.123 3735280.170 433.68
   LOCATION L0000327     VOLUME   483118.245 3735288.759 433.61
** End of LINE VOLUME Source ID = SLINE2
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE3
** DESCRSRC Sherman 15%
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 2.797E-07
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 2
** 483286.624, 3735013.205, 435.97, 3.49, 4.00
** 483289.376, 3735295.755, 434.93, 3.49, 4.00
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   LOCATION L0000328     VOLUME   483286.666 3735017.500 435.96
   LOCATION L0000329     VOLUME   483286.750 3735026.089 435.74
   LOCATION L0000330     VOLUME   483286.833 3735034.679 435.52
   LOCATION L0000331     VOLUME   483286.917 3735043.268 435.30
   LOCATION L0000332     VOLUME   483287.001 3735051.858 435.19
   LOCATION L0000333     VOLUME   483287.084 3735060.448 435.12
   LOCATION L0000334     VOLUME   483287.168 3735069.037 435.05
   LOCATION L0000335     VOLUME   483287.252 3735077.627 435.00
   LOCATION L0000336     VOLUME   483287.335 3735086.216 435.00
   LOCATION L0000337     VOLUME   483287.419 3735094.806 435.00
   LOCATION L0000338     VOLUME   483287.503 3735103.396 435.00
   LOCATION L0000339     VOLUME   483287.586 3735111.985 435.00
   LOCATION L0000340     VOLUME   483287.670 3735120.575 435.00
   LOCATION L0000341     VOLUME   483287.754 3735129.164 435.00
   LOCATION L0000342     VOLUME   483287.837 3735137.754 435.00
   LOCATION L0000343     VOLUME   483287.921 3735146.344 435.00
   LOCATION L0000344     VOLUME   483288.004 3735154.933 435.00
   LOCATION L0000345     VOLUME   483288.088 3735163.523 435.00
   LOCATION L0000346     VOLUME   483288.172 3735172.112 435.00
   LOCATION L0000347     VOLUME   483288.255 3735180.702 435.00
   LOCATION L0000348     VOLUME   483288.339 3735189.292 435.00
   LOCATION L0000349     VOLUME   483288.423 3735197.881 435.00
   LOCATION L0000350     VOLUME   483288.506 3735206.471 435.00
   LOCATION L0000351     VOLUME   483288.590 3735215.060 435.00
   LOCATION L0000352     VOLUME   483288.674 3735223.650 435.00
   LOCATION L0000353     VOLUME   483288.757 3735232.240 435.00
   LOCATION L0000354     VOLUME   483288.841 3735240.829 435.00
   LOCATION L0000355     VOLUME   483288.925 3735249.419 435.00
   LOCATION L0000356     VOLUME   483289.008 3735258.008 435.00
   LOCATION L0000357     VOLUME   483289.092 3735266.598 435.00
   LOCATION L0000358     VOLUME   483289.176 3735275.187 435.00
   LOCATION L0000359     VOLUME   483289.259 3735283.777 435.00
   LOCATION L0000360     VOLUME   483289.343 3735292.367 434.85
** End of LINE VOLUME Source ID = SLINE3
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE4
** DESCRSRC Mapes 15%
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 1.697E-07
** Vertical Dimension = 6.99
** SZINIT = 3.25
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** Nodes = 2
** 483289.911, 3735301.910, 434.53, 3.49, 6.51
** 483118.384, 3735300.572, 433.40, 3.49, 6.51
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   LOCATION L0000361     VOLUME   483282.911 3735301.855 434.52
   LOCATION L0000362     VOLUME   483268.912 3735301.746 434.30
   LOCATION L0000363     VOLUME   483254.912 3735301.637 434.08
   LOCATION L0000364     VOLUME   483240.913 3735301.528 434.00
   LOCATION L0000365     VOLUME   483226.913 3735301.418 434.00
   LOCATION L0000366     VOLUME   483212.913 3735301.309 434.00
   LOCATION L0000367     VOLUME   483198.914 3735301.200 434.00
   LOCATION L0000368     VOLUME   483184.914 3735301.091 434.00
   LOCATION L0000369     VOLUME   483170.915 3735300.982 434.00
   LOCATION L0000370     VOLUME   483156.915 3735300.872 434.00
   LOCATION L0000371     VOLUME   483142.916 3735300.763 434.00
   LOCATION L0000372     VOLUME   483128.916 3735300.654 433.96
** End of LINE VOLUME Source ID = SLINE4
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE5
** DESCRSRC Mapes 100%
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 0.00001093
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 10
** 483117.314, 3735300.572, 433.37, 3.49, 6.51
** 482894.142, 3735298.431, 433.00, 3.49, 6.51
** 482889.325, 3734781.978, 433.96, 3.49, 6.51
** 482886.470, 3734769.082, 433.93, 3.49, 6.51
** 482823.747, 3734670.776, 433.87, 3.49, 6.51
** 482443.793, 3734940.362, 433.00, 3.49, 6.51
** 482399.164, 3734981.976, 432.96, 3.49, 6.51
** 482369.612, 3735030.224, 432.44, 3.49, 6.51
** 482353.328, 3735077.266, 432.02, 3.49, 6.51
** 482357.550, 3735231.057, 432.12, 3.49, 6.51
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   LOCATION L0000373     VOLUME   483110.314 3735300.505 433.34
   LOCATION L0000374     VOLUME   483096.315 3735300.370 433.00
   LOCATION L0000375     VOLUME   483082.316 3735300.236 433.00
   LOCATION L0000376     VOLUME   483068.316 3735300.102 433.00
   LOCATION L0000377     VOLUME   483054.317 3735299.967 433.00
   LOCATION L0000378     VOLUME   483040.317 3735299.833 433.00
   LOCATION L0000379     VOLUME   483026.318 3735299.699 433.00
   LOCATION L0000380     VOLUME   483012.319 3735299.565 433.00
   LOCATION L0000381     VOLUME   482998.319 3735299.430 433.00
   LOCATION L0000382     VOLUME   482984.320 3735299.296 433.00
   LOCATION L0000383     VOLUME   482970.321 3735299.162 433.00
   LOCATION L0000384     VOLUME   482956.321 3735299.027 433.00
   LOCATION L0000385     VOLUME   482942.322 3735298.893 433.00
   LOCATION L0000386     VOLUME   482928.323 3735298.759 433.00
   LOCATION L0000387     VOLUME   482914.323 3735298.625 433.00
   LOCATION L0000388     VOLUME   482900.324 3735298.490 433.00
   LOCATION L0000389     VOLUME   482894.069 3735290.614 433.00
   LOCATION L0000390     VOLUME   482893.938 3735276.614 433.00
   LOCATION L0000391     VOLUME   482893.808 3735262.615 433.00
   LOCATION L0000392     VOLUME   482893.677 3735248.616 433.00
   LOCATION L0000393     VOLUME   482893.547 3735234.616 433.00
   LOCATION L0000394     VOLUME   482893.416 3735220.617 433.00
   LOCATION L0000395     VOLUME   482893.286 3735206.617 433.00
   LOCATION L0000396     VOLUME   482893.155 3735192.618 433.00
   LOCATION L0000397     VOLUME   482893.024 3735178.619 433.00
   LOCATION L0000398     VOLUME   482892.894 3735164.619 433.00
   LOCATION L0000399     VOLUME   482892.763 3735150.620 433.00
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LOCATION L0000400     VOLUME   482892.633 3735136.620 433.00
LOCATION L0000401     VOLUME   482892.502 3735122.621 433.00
LOCATION L0000402     VOLUME   482892.372 3735108.622 433.00
LOCATION L0000403     VOLUME   482892.241 3735094.622 433.00
LOCATION L0000404     VOLUME   482892.110 3735080.623 433.00
LOCATION L0000405     VOLUME   482891.980 3735066.623 433.00
LOCATION L0000406     VOLUME   482891.849 3735052.624 433.00
LOCATION L0000407     VOLUME   482891.719 3735038.625 433.00
LOCATION L0000408     VOLUME   482891.588 3735024.625 433.00
LOCATION L0000409     VOLUME   482891.458 3735010.626 433.00
LOCATION L0000410     VOLUME   482891.327 3734996.627 433.00
LOCATION L0000411     VOLUME   482891.197 3734982.627 433.00
LOCATION L0000412     VOLUME   482891.066 3734968.628 433.00
LOCATION L0000413     VOLUME   482890.935 3734954.628 433.00
LOCATION L0000414     VOLUME   482890.805 3734940.629 433.00
LOCATION L0000415     VOLUME   482890.674 3734926.630 433.00
LOCATION L0000416     VOLUME   482890.544 3734912.630 433.00
LOCATION L0000417     VOLUME   482890.413 3734898.631 433.00
LOCATION L0000418     VOLUME   482890.283 3734884.631 433.00
LOCATION L0000419     VOLUME   482890.152 3734870.632 433.00
LOCATION L0000420     VOLUME   482890.021 3734856.633 433.00
LOCATION L0000421     VOLUME   482889.891 3734842.633 433.00
LOCATION L0000422     VOLUME   482889.760 3734828.634 433.00
LOCATION L0000423     VOLUME   482889.630 3734814.634 433.00
LOCATION L0000424     VOLUME   482889.499 3734800.635 433.18
LOCATION L0000425     VOLUME   482889.369 3734786.636 433.63
LOCATION L0000426     VOLUME   482887.306 3734772.857 433.91
LOCATION L0000427     VOLUME   482881.019 3734760.539 433.70
LOCATION L0000428     VOLUME   482873.489 3734748.737 433.45
LOCATION L0000429     VOLUME   482865.959 3734736.934 433.44
LOCATION L0000430     VOLUME   482858.428 3734725.132 433.66
LOCATION L0000431     VOLUME   482850.898 3734713.330 433.72
LOCATION L0000432     VOLUME   482843.368 3734701.527 433.71
LOCATION L0000433     VOLUME   482835.837 3734689.725 433.90
LOCATION L0000434     VOLUME   482828.307 3734677.923 433.94
LOCATION L0000435     VOLUME   482819.243 3734673.972 433.64
LOCATION L0000436     VOLUME   482807.825 3734682.073 433.26
LOCATION L0000437     VOLUME   482796.407 3734690.174 433.00
LOCATION L0000438     VOLUME   482784.989 3734698.276 433.00
LOCATION L0000439     VOLUME   482773.571 3734706.377 433.00
LOCATION L0000440     VOLUME   482762.154 3734714.478 433.00
LOCATION L0000441     VOLUME   482750.736 3734722.580 433.00
LOCATION L0000442     VOLUME   482739.318 3734730.681 433.00
LOCATION L0000443     VOLUME   482727.900 3734738.782 433.00
LOCATION L0000444     VOLUME   482716.482 3734746.884 433.00
LOCATION L0000445     VOLUME   482705.064 3734754.985 433.00
LOCATION L0000446     VOLUME   482693.646 3734763.086 433.00
LOCATION L0000447     VOLUME   482682.228 3734771.187 433.00
LOCATION L0000448     VOLUME   482670.810 3734779.289 433.00
LOCATION L0000449     VOLUME   482659.392 3734787.390 433.00
LOCATION L0000450     VOLUME   482647.974 3734795.491 433.00
LOCATION L0000451     VOLUME   482636.556 3734803.593 433.00
LOCATION L0000452     VOLUME   482625.138 3734811.694 433.00
LOCATION L0000453     VOLUME   482613.720 3734819.795 433.10
LOCATION L0000454     VOLUME   482602.303 3734827.896 433.43
LOCATION L0000455     VOLUME   482590.885 3734835.998 433.97
LOCATION L0000456     VOLUME   482579.467 3734844.099 433.47
LOCATION L0000457     VOLUME   482568.049 3734852.200 433.12
LOCATION L0000458     VOLUME   482556.631 3734860.302 433.02
LOCATION L0000459     VOLUME   482545.213 3734868.403 433.00
LOCATION L0000460     VOLUME   482533.795 3734876.504 433.00
LOCATION L0000461     VOLUME   482522.377 3734884.605 433.00
LOCATION L0000462     VOLUME   482510.959 3734892.707 433.00
LOCATION L0000463     VOLUME   482499.541 3734900.808 433.00
LOCATION L0000464     VOLUME   482488.123 3734908.909 433.00
LOCATION L0000465     VOLUME   482476.705 3734917.011 433.00
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   LOCATION L0000466     VOLUME   482465.287 3734925.112 433.00
   LOCATION L0000467     VOLUME   482453.869 3734933.213 433.00
   LOCATION L0000468     VOLUME   482442.590 3734941.484 433.00
   LOCATION L0000469     VOLUME   482432.351 3734951.032 433.00
   LOCATION L0000470     VOLUME   482422.111 3734960.580 433.00
   LOCATION L0000471     VOLUME   482411.872 3734970.127 433.00
   LOCATION L0000472     VOLUME   482401.633 3734979.675 433.00
   LOCATION L0000473     VOLUME   482393.615 3734991.037 433.00
   LOCATION L0000474     VOLUME   482386.302 3735002.975 433.00
   LOCATION L0000475     VOLUME   482378.990 3735014.914 432.96
   LOCATION L0000476     VOLUME   482371.677 3735026.852 432.72
   LOCATION L0000477     VOLUME   482366.326 3735039.717 432.54
   LOCATION L0000478     VOLUME   482361.746 3735052.947 432.39
   LOCATION L0000479     VOLUME   482357.167 3735066.177 432.24
   LOCATION L0000480     VOLUME   482353.390 3735079.531 432.11
   LOCATION L0000481     VOLUME   482353.775 3735093.525 432.12
   LOCATION L0000482     VOLUME   482354.159 3735107.520 432.14
   LOCATION L0000483     VOLUME   482354.543 3735121.515 432.15
   LOCATION L0000484     VOLUME   482354.927 3735135.510 432.16
   LOCATION L0000485     VOLUME   482355.311 3735149.504 432.18
   LOCATION L0000486     VOLUME   482355.695 3735163.499 432.19
   LOCATION L0000487     VOLUME   482356.080 3735177.494 432.20
   LOCATION L0000488     VOLUME   482356.464 3735191.488 432.21
   LOCATION L0000489     VOLUME   482356.848 3735205.483 432.23
   LOCATION L0000490     VOLUME   482357.232 3735219.478 432.24
** End of LINE VOLUME Source ID = SLINE5
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000256     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000257     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000258     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000259     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000260     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000261     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000262     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000263     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000264     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000265     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000266     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000267     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000268     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000269     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000270     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000271     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000272     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000273     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000274     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000275     0.000000483      3.49      4.00      3.25
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** LINE VOLUME Source ID = SLINE2
   SRCPARAM L0000276     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000277     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000278     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000279     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000280     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000281     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000282     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000283     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000284     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000285     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000286     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000287     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000288     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000289     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000290     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000291     0.0000001272      3.49      4.00      3.25
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   SRCPARAM L0000292     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000293     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000294     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000295     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000296     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000297     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000298     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000299     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000300     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000301     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000302     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000303     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000304     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000305     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000306     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000307     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000308     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000309     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000310     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000311     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000312     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000313     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000314     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000315     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000316     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000317     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000318     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000319     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000320     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000321     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000322     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000323     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000324     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000325     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000326     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000327     0.0000001272      3.49      4.00      3.25
** ----------------------------------------------------------------------
** LINE VOLUME Source ID = SLINE3
   SRCPARAM L0000328     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000329     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000330     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000331     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000332     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000333     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000334     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000335     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000336     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000337     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000338     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000339     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000340     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000341     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000342     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000343     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000344     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000345     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000346     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000347     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000348     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000349     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000350     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000351     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000352     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000353     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000354     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000355     0.000000008476      3.49      4.00      3.25
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   SRCPARAM L0000356     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000357     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000358     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000359     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000360     0.000000008476      3.49      4.00      3.25
** ----------------------------------------------------------------------
** LINE VOLUME Source ID = SLINE4
   SRCPARAM L0000361     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000362     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000363     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000364     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000365     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000366     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000367     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000368     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000369     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000370     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000371     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000372     0.00000001414      3.49      6.51      3.25
** ----------------------------------------------------------------------
** LINE VOLUME Source ID = SLINE5
   SRCPARAM L0000373     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000374     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000375     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000376     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000377     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000378     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000379     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000380     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000381     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000382     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000383     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000384     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000385     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000386     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000387     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000388     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000389     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000390     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000391     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000392     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000393     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000394     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000395     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000396     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000397     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000398     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000399     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000400     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000401     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000402     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000403     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000404     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000405     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000406     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000407     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000408     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000409     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000410     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000411     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000412     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000413     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000414     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000415     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000416     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000417     0.00000009263      3.49      6.51      3.25
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SRCPARAM	L0000418	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000419	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000420	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000421	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000422	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000423	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000424	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000425	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000426	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000427	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000428	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000429	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000430	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000431	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000432	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000433	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000434	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000435	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000436	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000437	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000438	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000439	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000440	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000441	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000442	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000443	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000444	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000445	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000446	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000447	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000448	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000449	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000450	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000451	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000452	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000453	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000454	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000455	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000456	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000457	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000458	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000459	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000460	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000461	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000462	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000463	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000464	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000465	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000466	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000467	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000468	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000469	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000470	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000471	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000472	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000473	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000474	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000475	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000476	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000477	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000478	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000479	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000480	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000481	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000482	0.00000009263	3.49	6.51	3.25
SRCPARAM	L0000483	0.00000009263	3.49	6.51	3.25

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   SRCPARAM L0000484     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000485     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000486     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000487     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000488     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000489     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000490     0.00000009263      3.49      6.51      3.25
** ------------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
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**
**
RE STARTING
   INCLUDED "14804 Ops.rou"
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE PERI_V9_ADJU\PERI_v9.SFC
   PROFFILE PERI_V9_ADJU\PERI_v9.PFL
   SURFDATA 3171 2010
   UAIRDATA 3190 2010
   SITEDATA 99999 2010
   PROFBASE 442.0 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "14804 Ops.AD\AN00GALL.PLT" 31
   SUMMFILE "14804 Ops.sum"
OU FINISHED
**
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** Project Parameters
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** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
** Lakes Environmental AERMOD MPI
**
****************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 9/15/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and Sherman\14804 Ops\14804 Ops.ADI
**
****************************************
**
**
****************************************
** AERMOD Control Pathway
****************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and Sherman\14804 O
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 2189641 Riverside_County
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "14804 Ops.err"
CO FINISHED
**
****************************************
** AERMOD Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ------------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC Idle
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 9.66E-06
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 2
** 483133.488, 3735051.338, 434.00, 3.49, 4.00
** 483134.398, 3735226.219, 434.00, 3.49, 4.00
** ------------------------------------------------------------------------
   LOCATION L0000256     VOLUME   483133.511 3735055.633 434.00
   LOCATION L0000257     VOLUME   483133.555 3735064.223 434.00
   LOCATION L0000258     VOLUME   483133.600 3735072.813 434.00
   LOCATION L0000259     VOLUME   483133.645 3735081.403 434.00
   LOCATION L0000260     VOLUME   483133.689 3735089.993 434.00
   LOCATION L0000261     VOLUME   483133.734 3735098.583 434.00
   LOCATION L0000262     VOLUME   483133.779 3735107.173 434.00
   LOCATION L0000263     VOLUME   483133.823 3735115.762 434.00
   LOCATION L0000264     VOLUME   483133.868 3735124.352 434.00
   LOCATION L0000265     VOLUME   483133.913 3735132.942 434.00
   LOCATION L0000266     VOLUME   483133.957 3735141.532 434.00
   LOCATION L0000267     VOLUME   483134.002 3735150.122 434.00
   LOCATION L0000268     VOLUME   483134.047 3735158.712 434.00
   LOCATION L0000269     VOLUME   483134.091 3735167.302 434.00
   LOCATION L0000270     VOLUME   483134.136 3735175.892 434.00
   LOCATION L0000271     VOLUME   483134.181 3735184.482 434.00
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   LOCATION L0000272     VOLUME   483134.225 3735193.071 434.00
   LOCATION L0000273     VOLUME   483134.270 3735201.661 434.00
   LOCATION L0000274     VOLUME   483134.315 3735210.251 434.00
   LOCATION L0000275     VOLUME   483134.359 3735218.841 434.00
** End of LINE VOLUME Source ID = SLINE1
** ------------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE2
** DESCRSRC Onsite
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 6.613E-06
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 5
** 483278.314, 3735013.336, 435.99, 3.49, 4.00
** 483261.724, 3735014.138, 435.25, 3.49, 4.00
** 483247.542, 3735011.730, 435.02, 3.49, 4.00
** 483114.283, 3735010.660, 434.00, 3.49, 4.00
** 483118.297, 3735292.429, 433.67, 3.49, 4.00
** ------------------------------------------------------------------------
   LOCATION L0000276     VOLUME   483274.024 3735013.543 435.80
   LOCATION L0000277     VOLUME   483265.444 3735013.958 435.51
   LOCATION L0000278     VOLUME   483256.927 3735013.324 435.23
   LOCATION L0000279     VOLUME   483248.459 3735011.886 435.00
   LOCATION L0000280     VOLUME   483239.882 3735011.669 435.00
   LOCATION L0000281     VOLUME   483231.292 3735011.600 435.00
   LOCATION L0000282     VOLUME   483222.702 3735011.531 435.00
   LOCATION L0000283     VOLUME   483214.113 3735011.462 435.00
   LOCATION L0000284     VOLUME   483205.523 3735011.393 435.00
   LOCATION L0000285     VOLUME   483196.933 3735011.324 435.00
   LOCATION L0000286     VOLUME   483188.344 3735011.255 435.00
   LOCATION L0000287     VOLUME   483179.754 3735011.186 435.00
   LOCATION L0000288     VOLUME   483171.164 3735011.117 435.00
   LOCATION L0000289     VOLUME   483162.574 3735011.048 435.00
   LOCATION L0000290     VOLUME   483153.985 3735010.979 434.80
   LOCATION L0000291     VOLUME   483145.395 3735010.910 434.51
   LOCATION L0000292     VOLUME   483136.805 3735010.841 434.22
   LOCATION L0000293     VOLUME   483128.216 3735010.772 434.00
   LOCATION L0000294     VOLUME   483119.626 3735010.703 434.00
   LOCATION L0000295     VOLUME   483114.330 3735013.907 434.00
   LOCATION L0000296     VOLUME   483114.452 3735022.496 434.00
   LOCATION L0000297     VOLUME   483114.574 3735031.085 434.00
   LOCATION L0000298     VOLUME   483114.697 3735039.674 434.00
   LOCATION L0000299     VOLUME   483114.819 3735048.263 434.00
   LOCATION L0000300     VOLUME   483114.941 3735056.853 434.00
   LOCATION L0000301     VOLUME   483115.064 3735065.442 434.00
   LOCATION L0000302     VOLUME   483115.186 3735074.031 434.00
   LOCATION L0000303     VOLUME   483115.309 3735082.620 434.00
   LOCATION L0000304     VOLUME   483115.431 3735091.209 434.00
   LOCATION L0000305     VOLUME   483115.553 3735099.798 434.00
   LOCATION L0000306     VOLUME   483115.676 3735108.387 434.00
   LOCATION L0000307     VOLUME   483115.798 3735116.976 434.00
   LOCATION L0000308     VOLUME   483115.920 3735125.566 434.00
   LOCATION L0000309     VOLUME   483116.043 3735134.155 434.00
   LOCATION L0000310     VOLUME   483116.165 3735142.744 434.00
   LOCATION L0000311     VOLUME   483116.287 3735151.333 434.00
   LOCATION L0000312     VOLUME   483116.410 3735159.922 434.00
   LOCATION L0000313     VOLUME   483116.532 3735168.511 434.00
   LOCATION L0000314     VOLUME   483116.654 3735177.100 434.00
   LOCATION L0000315     VOLUME   483116.777 3735185.690 434.00
   LOCATION L0000316     VOLUME   483116.899 3735194.279 434.00
   LOCATION L0000317     VOLUME   483117.021 3735202.868 434.00
   LOCATION L0000318     VOLUME   483117.144 3735211.457 434.00
   LOCATION L0000319     VOLUME   483117.266 3735220.046 434.00
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   LOCATION L0000320     VOLUME   483117.388 3735228.635 434.00
   LOCATION L0000321     VOLUME   483117.511 3735237.224 434.00
   LOCATION L0000322     VOLUME   483117.633 3735245.813 434.00
   LOCATION L0000323     VOLUME   483117.756 3735254.403 434.00
   LOCATION L0000324     VOLUME   483117.878 3735262.992 433.91
   LOCATION L0000325     VOLUME   483118.000 3735271.581 433.79
   LOCATION L0000326     VOLUME   483118.123 3735280.170 433.68
   LOCATION L0000327     VOLUME   483118.245 3735288.759 433.61
** End of LINE VOLUME Source ID = SLINE2
** ------------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE3
** DESCRSRC Sherman 15%
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 2.797E-07
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 2
** 483286.624, 3735013.205, 435.97, 3.49, 4.00
** 483289.376, 3735295.755, 434.93, 3.49, 4.00
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   LOCATION L0000328     VOLUME   483286.666 3735017.500 435.96
   LOCATION L0000329     VOLUME   483286.750 3735026.089 435.74
   LOCATION L0000330     VOLUME   483286.833 3735034.679 435.52
   LOCATION L0000331     VOLUME   483286.917 3735043.268 435.30
   LOCATION L0000332     VOLUME   483287.001 3735051.858 435.19
   LOCATION L0000333     VOLUME   483287.084 3735060.448 435.12
   LOCATION L0000334     VOLUME   483287.168 3735069.037 435.05
   LOCATION L0000335     VOLUME   483287.252 3735077.627 435.00
   LOCATION L0000336     VOLUME   483287.335 3735086.216 435.00
   LOCATION L0000337     VOLUME   483287.419 3735094.806 435.00
   LOCATION L0000338     VOLUME   483287.503 3735103.396 435.00
   LOCATION L0000339     VOLUME   483287.586 3735111.985 435.00
   LOCATION L0000340     VOLUME   483287.670 3735120.575 435.00
   LOCATION L0000341     VOLUME   483287.754 3735129.164 435.00
   LOCATION L0000342     VOLUME   483287.837 3735137.754 435.00
   LOCATION L0000343     VOLUME   483287.921 3735146.344 435.00
   LOCATION L0000344     VOLUME   483288.004 3735154.933 435.00
   LOCATION L0000345     VOLUME   483288.088 3735163.523 435.00
   LOCATION L0000346     VOLUME   483288.172 3735172.112 435.00
   LOCATION L0000347     VOLUME   483288.255 3735180.702 435.00
   LOCATION L0000348     VOLUME   483288.339 3735189.292 435.00
   LOCATION L0000349     VOLUME   483288.423 3735197.881 435.00
   LOCATION L0000350     VOLUME   483288.506 3735206.471 435.00
   LOCATION L0000351     VOLUME   483288.590 3735215.060 435.00
   LOCATION L0000352     VOLUME   483288.674 3735223.650 435.00
   LOCATION L0000353     VOLUME   483288.757 3735232.240 435.00
   LOCATION L0000354     VOLUME   483288.841 3735240.829 435.00
   LOCATION L0000355     VOLUME   483288.925 3735249.419 435.00
   LOCATION L0000356     VOLUME   483289.008 3735258.008 435.00
   LOCATION L0000357     VOLUME   483289.092 3735266.598 435.00
   LOCATION L0000358     VOLUME   483289.176 3735275.187 435.00
   LOCATION L0000359     VOLUME   483289.259 3735283.777 435.00
   LOCATION L0000360     VOLUME   483289.343 3735292.367 434.85
** End of LINE VOLUME Source ID = SLINE3
** ------------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE4
** DESCRSRC Mapes 15%
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 1.697E-07
** Vertical Dimension = 6.99
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** SZINIT = 3.25
** Nodes = 2
** 483289.911, 3735301.910, 434.53, 3.49, 6.51
** 483118.384, 3735300.572, 433.40, 3.49, 6.51
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   LOCATION L0000361     VOLUME   483282.911 3735301.855 434.52
   LOCATION L0000362     VOLUME   483268.912 3735301.746 434.30
   LOCATION L0000363     VOLUME   483254.912 3735301.637 434.08
   LOCATION L0000364     VOLUME   483240.913 3735301.528 434.00
   LOCATION L0000365     VOLUME   483226.913 3735301.418 434.00
   LOCATION L0000366     VOLUME   483212.913 3735301.309 434.00
   LOCATION L0000367     VOLUME   483198.914 3735301.200 434.00
   LOCATION L0000368     VOLUME   483184.914 3735301.091 434.00
   LOCATION L0000369     VOLUME   483170.915 3735300.982 434.00
   LOCATION L0000370     VOLUME   483156.915 3735300.872 434.00
   LOCATION L0000371     VOLUME   483142.916 3735300.763 434.00
   LOCATION L0000372     VOLUME   483128.916 3735300.654 433.96
** End of LINE VOLUME Source ID = SLINE4
** ------------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE5
** DESCRSRC Mapes 100%
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 0.00001093
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 10
** 483117.314, 3735300.572, 433.37, 3.49, 6.51
** 482894.142, 3735298.431, 433.00, 3.49, 6.51
** 482889.325, 3734781.978, 433.96, 3.49, 6.51
** 482886.470, 3734769.082, 433.93, 3.49, 6.51
** 482823.747, 3734670.776, 433.87, 3.49, 6.51
** 482443.793, 3734940.362, 433.00, 3.49, 6.51
** 482399.164, 3734981.976, 432.96, 3.49, 6.51
** 482369.612, 3735030.224, 432.44, 3.49, 6.51
** 482353.328, 3735077.266, 432.02, 3.49, 6.51
** 482357.550, 3735231.057, 432.12, 3.49, 6.51
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   LOCATION L0000373     VOLUME   483110.314 3735300.505 433.34
   LOCATION L0000374     VOLUME   483096.315 3735300.370 433.00
   LOCATION L0000375     VOLUME   483082.316 3735300.236 433.00
   LOCATION L0000376     VOLUME   483068.316 3735300.102 433.00
   LOCATION L0000377     VOLUME   483054.317 3735299.967 433.00
   LOCATION L0000378     VOLUME   483040.317 3735299.833 433.00
   LOCATION L0000379     VOLUME   483026.318 3735299.699 433.00
   LOCATION L0000380     VOLUME   483012.319 3735299.565 433.00
   LOCATION L0000381     VOLUME   482998.319 3735299.430 433.00
   LOCATION L0000382     VOLUME   482984.320 3735299.296 433.00
   LOCATION L0000383     VOLUME   482970.321 3735299.162 433.00
   LOCATION L0000384     VOLUME   482956.321 3735299.027 433.00
   LOCATION L0000385     VOLUME   482942.322 3735298.893 433.00
   LOCATION L0000386     VOLUME   482928.323 3735298.759 433.00
   LOCATION L0000387     VOLUME   482914.323 3735298.625 433.00
   LOCATION L0000388     VOLUME   482900.324 3735298.490 433.00
   LOCATION L0000389     VOLUME   482894.069 3735290.614 433.00
   LOCATION L0000390     VOLUME   482893.938 3735276.614 433.00
   LOCATION L0000391     VOLUME   482893.808 3735262.615 433.00
   LOCATION L0000392     VOLUME   482893.677 3735248.616 433.00
   LOCATION L0000393     VOLUME   482893.547 3735234.616 433.00
   LOCATION L0000394     VOLUME   482893.416 3735220.617 433.00
   LOCATION L0000395     VOLUME   482893.286 3735206.617 433.00
   LOCATION L0000396     VOLUME   482893.155 3735192.618 433.00
   LOCATION L0000397     VOLUME   482893.024 3735178.619 433.00
   LOCATION L0000398     VOLUME   482892.894 3735164.619 433.00
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LOCATION L0000399     VOLUME   482892.763 3735150.620 433.00
LOCATION L0000400     VOLUME   482892.633 3735136.620 433.00
LOCATION L0000401     VOLUME   482892.502 3735122.621 433.00
LOCATION L0000402     VOLUME   482892.372 3735108.622 433.00
LOCATION L0000403     VOLUME   482892.241 3735094.622 433.00
LOCATION L0000404     VOLUME   482892.110 3735080.623 433.00
LOCATION L0000405     VOLUME   482891.980 3735066.623 433.00
LOCATION L0000406     VOLUME   482891.849 3735052.624 433.00
LOCATION L0000407     VOLUME   482891.719 3735038.625 433.00
LOCATION L0000408     VOLUME   482891.588 3735024.625 433.00
LOCATION L0000409     VOLUME   482891.458 3735010.626 433.00
LOCATION L0000410     VOLUME   482891.327 3734996.627 433.00
LOCATION L0000411     VOLUME   482891.197 3734982.627 433.00
LOCATION L0000412     VOLUME   482891.066 3734968.628 433.00
LOCATION L0000413     VOLUME   482890.935 3734954.628 433.00
LOCATION L0000414     VOLUME   482890.805 3734940.629 433.00
LOCATION L0000415     VOLUME   482890.674 3734926.630 433.00
LOCATION L0000416     VOLUME   482890.544 3734912.630 433.00
LOCATION L0000417     VOLUME   482890.413 3734898.631 433.00
LOCATION L0000418     VOLUME   482890.283 3734884.631 433.00
LOCATION L0000419     VOLUME   482890.152 3734870.632 433.00
LOCATION L0000420     VOLUME   482890.021 3734856.633 433.00
LOCATION L0000421     VOLUME   482889.891 3734842.633 433.00
LOCATION L0000422     VOLUME   482889.760 3734828.634 433.00
LOCATION L0000423     VOLUME   482889.630 3734814.634 433.00
LOCATION L0000424     VOLUME   482889.499 3734800.635 433.18
LOCATION L0000425     VOLUME   482889.369 3734786.636 433.63
LOCATION L0000426     VOLUME   482887.306 3734772.857 433.91
LOCATION L0000427     VOLUME   482881.019 3734760.539 433.70
LOCATION L0000428     VOLUME   482873.489 3734748.737 433.45
LOCATION L0000429     VOLUME   482865.959 3734736.934 433.44
LOCATION L0000430     VOLUME   482858.428 3734725.132 433.66
LOCATION L0000431     VOLUME   482850.898 3734713.330 433.72
LOCATION L0000432     VOLUME   482843.368 3734701.527 433.71
LOCATION L0000433     VOLUME   482835.837 3734689.725 433.90
LOCATION L0000434     VOLUME   482828.307 3734677.923 433.94
LOCATION L0000435     VOLUME   482819.243 3734673.972 433.64
LOCATION L0000436     VOLUME   482807.825 3734682.073 433.26
LOCATION L0000437     VOLUME   482796.407 3734690.174 433.00
LOCATION L0000438     VOLUME   482784.989 3734698.276 433.00
LOCATION L0000439     VOLUME   482773.571 3734706.377 433.00
LOCATION L0000440     VOLUME   482762.154 3734714.478 433.00
LOCATION L0000441     VOLUME   482750.736 3734722.580 433.00
LOCATION L0000442     VOLUME   482739.318 3734730.681 433.00
LOCATION L0000443     VOLUME   482727.900 3734738.782 433.00
LOCATION L0000444     VOLUME   482716.482 3734746.884 433.00
LOCATION L0000445     VOLUME   482705.064 3734754.985 433.00
LOCATION L0000446     VOLUME   482693.646 3734763.086 433.00
LOCATION L0000447     VOLUME   482682.228 3734771.187 433.00
LOCATION L0000448     VOLUME   482670.810 3734779.289 433.00
LOCATION L0000449     VOLUME   482659.392 3734787.390 433.00
LOCATION L0000450     VOLUME   482647.974 3734795.491 433.00
LOCATION L0000451     VOLUME   482636.556 3734803.593 433.00
LOCATION L0000452     VOLUME   482625.138 3734811.694 433.00
LOCATION L0000453     VOLUME   482613.720 3734819.795 433.10
LOCATION L0000454     VOLUME   482602.303 3734827.896 433.43
LOCATION L0000455     VOLUME   482590.885 3734835.998 433.97
LOCATION L0000456     VOLUME   482579.467 3734844.099 433.47
LOCATION L0000457     VOLUME   482568.049 3734852.200 433.12
LOCATION L0000458     VOLUME   482556.631 3734860.302 433.02
LOCATION L0000459     VOLUME   482545.213 3734868.403 433.00
LOCATION L0000460     VOLUME   482533.795 3734876.504 433.00
LOCATION L0000461     VOLUME   482522.377 3734884.605 433.00
LOCATION L0000462     VOLUME   482510.959 3734892.707 433.00
LOCATION L0000463     VOLUME   482499.541 3734900.808 433.00
LOCATION L0000464     VOLUME   482488.123 3734908.909 433.00
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   LOCATION L0000465     VOLUME   482476.705 3734917.011 433.00
   LOCATION L0000466     VOLUME   482465.287 3734925.112 433.00
   LOCATION L0000467     VOLUME   482453.869 3734933.213 433.00
   LOCATION L0000468     VOLUME   482442.590 3734941.484 433.00
   LOCATION L0000469     VOLUME   482432.351 3734951.032 433.00
   LOCATION L0000470     VOLUME   482422.111 3734960.580 433.00
   LOCATION L0000471     VOLUME   482411.872 3734970.127 433.00
   LOCATION L0000472     VOLUME   482401.633 3734979.675 433.00
   LOCATION L0000473     VOLUME   482393.615 3734991.037 433.00
   LOCATION L0000474     VOLUME   482386.302 3735002.975 433.00
   LOCATION L0000475     VOLUME   482378.990 3735014.914 432.96
   LOCATION L0000476     VOLUME   482371.677 3735026.852 432.72
   LOCATION L0000477     VOLUME   482366.326 3735039.717 432.54
   LOCATION L0000478     VOLUME   482361.746 3735052.947 432.39
   LOCATION L0000479     VOLUME   482357.167 3735066.177 432.24
   LOCATION L0000480     VOLUME   482353.390 3735079.531 432.11
   LOCATION L0000481     VOLUME   482353.775 3735093.525 432.12
   LOCATION L0000482     VOLUME   482354.159 3735107.520 432.14
   LOCATION L0000483     VOLUME   482354.543 3735121.515 432.15
   LOCATION L0000484     VOLUME   482354.927 3735135.510 432.16
   LOCATION L0000485     VOLUME   482355.311 3735149.504 432.18
   LOCATION L0000486     VOLUME   482355.695 3735163.499 432.19
   LOCATION L0000487     VOLUME   482356.080 3735177.494 432.20
   LOCATION L0000488     VOLUME   482356.464 3735191.488 432.21
   LOCATION L0000489     VOLUME   482356.848 3735205.483 432.23
   LOCATION L0000490     VOLUME   482357.232 3735219.478 432.24
** End of LINE VOLUME Source ID = SLINE5
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000256     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000257     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000258     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000259     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000260     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000261     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000262     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000263     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000264     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000265     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000266     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000267     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000268     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000269     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000270     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000271     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000272     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000273     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000274     0.000000483      3.49      4.00      3.25
   SRCPARAM L0000275     0.000000483      3.49      4.00      3.25
** ----------------------------------------------------------------------
** LINE VOLUME Source ID = SLINE2
   SRCPARAM L0000276     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000277     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000278     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000279     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000280     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000281     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000282     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000283     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000284     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000285     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000286     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000287     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000288     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000289     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000290     0.0000001272      3.49      4.00      3.25
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   SRCPARAM L0000291     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000292     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000293     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000294     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000295     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000296     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000297     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000298     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000299     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000300     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000301     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000302     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000303     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000304     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000305     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000306     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000307     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000308     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000309     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000310     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000311     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000312     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000313     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000314     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000315     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000316     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000317     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000318     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000319     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000320     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000321     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000322     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000323     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000324     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000325     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000326     0.0000001272      3.49      4.00      3.25
   SRCPARAM L0000327     0.0000001272      3.49      4.00      3.25
** ------------------------------------------------------------------------
** LINE VOLUME Source ID = SLINE3
   SRCPARAM L0000328     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000329     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000330     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000331     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000332     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000333     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000334     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000335     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000336     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000337     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000338     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000339     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000340     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000341     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000342     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000343     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000344     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000345     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000346     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000347     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000348     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000349     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000350     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000351     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000352     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000353     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000354     0.000000008476      3.49      4.00      3.25
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   SRCPARAM L0000355     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000356     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000357     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000358     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000359     0.000000008476      3.49      4.00      3.25
   SRCPARAM L0000360     0.000000008476      3.49      4.00      3.25
** ------------------------------------------------------------------------
** LINE VOLUME Source ID = SLINE4
   SRCPARAM L0000361     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000362     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000363     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000364     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000365     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000366     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000367     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000368     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000369     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000370     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000371     0.00000001414      3.49      6.51      3.25
   SRCPARAM L0000372     0.00000001414      3.49      6.51      3.25
** ------------------------------------------------------------------------
** LINE VOLUME Source ID = SLINE5
   SRCPARAM L0000373     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000374     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000375     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000376     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000377     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000378     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000379     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000380     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000381     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000382     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000383     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000384     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000385     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000386     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000387     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000388     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000389     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000390     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000391     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000392     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000393     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000394     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000395     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000396     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000397     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000398     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000399     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000400     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000401     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000402     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000403     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000404     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000405     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000406     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000407     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000408     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000409     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000410     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000411     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000412     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000413     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000414     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000415     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000416     0.00000009263      3.49      6.51      3.25
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SRCPARAM L0000417     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000418     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000419     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000420     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000421     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000422     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000423     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000424     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000425     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000426     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000427     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000428     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000429     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000430     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000431     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000432     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000433     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000434     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000435     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000436     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000437     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000438     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000439     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000440     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000441     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000442     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000443     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000444     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000445     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000446     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000447     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000448     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000449     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000450     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000451     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000452     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000453     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000454     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000455     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000456     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000457     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000458     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000459     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000460     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000461     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000462     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000463     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000464     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000465     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000466     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000467     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000468     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000469     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000470     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000471     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000472     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000473     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000474     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000475     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000476     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000477     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000478     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000479     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000480     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000481     0.00000009263      3.49      6.51      3.25
SRCPARAM L0000482     0.00000009263      3.49      6.51      3.25
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   SRCPARAM L0000483     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000484     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000485     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000486     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000487     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000488     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000489     0.00000009263      3.49      6.51      3.25
   SRCPARAM L0000490     0.00000009263      3.49      6.51      3.25
** ------------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED "14804 Ops.rou"
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE PERI_V9_ADJU\PERI_v9.SFC
   PROFFILE PERI_V9_ADJU\PERI_v9.PFL
   SURFDATA 3171 2010
   UAIRDATA 3190 2010
   SITEDATA 99999 2010
   PROFBASE 442.0 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "14804 Ops.AD\AN00GALL.PLT" 31
   SUMMFILE "14804 Ops.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of           0 Fatal Error Message(s)
 A Total of           2 Warning Message(s)
 A Total of           0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     628       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used           0.50
 ME W187     628       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 ***********************************
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```
 *** SETUP Finishes Successfully ***
 ***********************************

FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                       ***        14:57:36

                     PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                           ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses URBAN Dispersion Algorithm for the SBL for   235 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   2189641.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
      * The User Specified a Pollutant Type of: DPM

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:    235 Source(s);       1 Source Group(s); and      27 Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:    235 VOLUME source(s)
                and:      0 AREA type source(s)
                and:      0 LINE source(s)
                and:      0 RLINE/RLINEXT source(s)
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                and:      0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and Missing
                                                                 Hours
```

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 442.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.6 MB of RAM.

**Input Runstream File:
aermod.inp
**Output Print File:
aermod.out

**Detailed Error/Message File: 14804
Ops.err
**File for Summary of Results: 14804
Ops.sum

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000256	0	0.48300E-06	483133.5	3735055.6	434.0	3.49	4.00	3.25	YES	
L0000257	0	0.48300E-06	483133.6	3735064.2	434.0	3.49	4.00	3.25	YES	
L0000258	0	0.48300E-06	483133.6	3735072.8	434.0	3.49	4.00	3.25	YES	
L0000259	0	0.48300E-06	483133.6	3735081.4	434.0	3.49	4.00	3.25	YES	
L0000260	0	0.48300E-06	483133.7	3735090.0	434.0	3.49	4.00	3.25	YES	
L0000261	0	0.48300E-06	483133.7	3735098.6	434.0	3.49	4.00	3.25	YES	
L0000262	0	0.48300E-06	483133.8	3735107.2	434.0	3.49	4.00	3.25	YES	
L0000263	0	0.48300E-06	483133.8	3735115.8	434.0	3.49	4.00	3.25	YES	
L0000264	0	0.48300E-06	483133.9	3735124.4	434.0	3.49	4.00	3.25	YES	
L0000265	0	0.48300E-06	483133.9	3735132.9	434.0	3.49	4.00	3.25	YES	
L0000266	0	0.48300E-06	483134.0	3735141.5	434.0	3.49	4.00	3.25	YES	
L0000267	0	0.48300E-06	483134.0	3735150.1	434.0	3.49	4.00	3.25	YES	
L0000268	0	0.48300E-06	483134.0	3735158.7	434.0	3.49	4.00	3.25	YES	
L0000269	0	0.48300E-06	483134.1	3735167.3	434.0	3.49	4.00	3.25	YES	
L0000270	0	0.48300E-06	483134.1	3735175.9	434.0	3.49	4.00	3.25		

YES

L0000271	0	0.48300E-06	483134.2	3735184.5	434.0	3.49	4.00	3.25	YES
L0000272	0	0.48300E-06	483134.2	3735193.1	434.0	3.49	4.00	3.25	YES
L0000273	0	0.48300E-06	483134.3	3735201.7	434.0	3.49	4.00	3.25	YES
L0000274	0	0.48300E-06	483134.3	3735210.3	434.0	3.49	4.00	3.25	YES
L0000275	0	0.48300E-06	483134.4	3735218.8	434.0	3.49	4.00	3.25	YES
L0000276	0	0.12720E-06	483274.0	3735013.5	435.8	3.49	4.00	3.25	YES
L0000277	0	0.12720E-06	483265.4	3735014.0	435.5	3.49	4.00	3.25	YES
L0000278	0	0.12720E-06	483256.9	3735013.3	435.2	3.49	4.00	3.25	YES
L0000279	0	0.12720E-06	483248.5	3735011.9	435.0	3.49	4.00	3.25	YES
L0000280	0	0.12720E-06	483239.9	3735011.7	435.0	3.49	4.00	3.25	YES
L0000281	0	0.12720E-06	483231.3	3735011.6	435.0	3.49	4.00	3.25	YES
L0000282	0	0.12720E-06	483222.7	3735011.5	435.0	3.49	4.00	3.25	YES
L0000283	0	0.12720E-06	483214.1	3735011.5	435.0	3.49	4.00	3.25	YES
L0000284	0	0.12720E-06	483205.5	3735011.4	435.0	3.49	4.00	3.25	YES
L0000285	0	0.12720E-06	483196.9	3735011.3	435.0	3.49	4.00	3.25	YES
L0000286	0	0.12720E-06	483188.3	3735011.3	435.0	3.49	4.00	3.25	YES
L0000287	0	0.12720E-06	483179.8	3735011.2	435.0	3.49	4.00	3.25	YES
L0000288	0	0.12720E-06	483171.2	3735011.1	435.0	3.49	4.00	3.25	YES
L0000289	0	0.12720E-06	483162.6	3735011.0	435.0	3.49	4.00	3.25	YES
L0000290	0	0.12720E-06	483154.0	3735011.0	434.8	3.49	4.00	3.25	YES
L0000291	0	0.12720E-06	483145.4	3735010.9	434.5	3.49	4.00	3.25	YES
L0000292	0	0.12720E-06	483136.8	3735010.8	434.2	3.49	4.00	3.25	YES
L0000293	0	0.12720E-06	483128.2	3735010.8	434.0	3.49	4.00	3.25	YES
L0000294	0	0.12720E-06	483119.6	3735010.7	434.0	3.49	4.00	3.25	YES
L0000295	0	0.12720E-06	483114.3	3735013.9	434.0	3.49	4.00	3.25	YES

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE	NUMBER PART.	EMISSION RATE (GRAMS/SEC)	X	Y	BASE ELEV.	RELEASE HEIGHT	INIT. SY	INIT. SZ	URBAN SOURCE	EMISSION RATE SCALAR VARY

ID	CATS.		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)	BY
L0000296	0	0.12720E-06	483114.5	3735022.5	434.0	3.49	4.00	3.25	YES
L0000297	0	0.12720E-06	483114.6	3735031.1	434.0	3.49	4.00	3.25	YES
L0000298	0	0.12720E-06	483114.7	3735039.7	434.0	3.49	4.00	3.25	YES
L0000299	0	0.12720E-06	483114.8	3735048.3	434.0	3.49	4.00	3.25	YES
L0000300	0	0.12720E-06	483114.9	3735056.9	434.0	3.49	4.00	3.25	YES
L0000301	0	0.12720E-06	483115.1	3735065.4	434.0	3.49	4.00	3.25	YES
L0000302	0	0.12720E-06	483115.2	3735074.0	434.0	3.49	4.00	3.25	YES
L0000303	0	0.12720E-06	483115.3	3735082.6	434.0	3.49	4.00	3.25	YES
L0000304	0	0.12720E-06	483115.4	3735091.2	434.0	3.49	4.00	3.25	YES
L0000305	0	0.12720E-06	483115.6	3735099.8	434.0	3.49	4.00	3.25	YES
L0000306	0	0.12720E-06	483115.7	3735108.4	434.0	3.49	4.00	3.25	YES
L0000307	0	0.12720E-06	483115.8	3735117.0	434.0	3.49	4.00	3.25	YES
L0000308	0	0.12720E-06	483115.9	3735125.6	434.0	3.49	4.00	3.25	YES
L0000309	0	0.12720E-06	483116.0	3735134.2	434.0	3.49	4.00	3.25	YES
L0000310	0	0.12720E-06	483116.2	3735142.7	434.0	3.49	4.00	3.25	YES
L0000311	0	0.12720E-06	483116.3	3735151.3	434.0	3.49	4.00	3.25	YES
L0000312	0	0.12720E-06	483116.4	3735159.9	434.0	3.49	4.00	3.25	YES
L0000313	0	0.12720E-06	483116.5	3735168.5	434.0	3.49	4.00	3.25	YES
L0000314	0	0.12720E-06	483116.7	3735177.1	434.0	3.49	4.00	3.25	YES
L0000315	0	0.12720E-06	483116.8	3735185.7	434.0	3.49	4.00	3.25	YES
L0000316	0	0.12720E-06	483116.9	3735194.3	434.0	3.49	4.00	3.25	YES
L0000317	0	0.12720E-06	483117.0	3735202.9	434.0	3.49	4.00	3.25	YES
L0000318	0	0.12720E-06	483117.1	3735211.5	434.0	3.49	4.00	3.25	YES
L0000319	0	0.12720E-06	483117.3	3735220.0	434.0	3.49	4.00	3.25	YES
L0000320	0	0.12720E-06	483117.4	3735228.6	434.0	3.49	4.00	3.25	YES
L0000321	0	0.12720E-06	483117.5	3735237.2	434.0	3.49	4.00	3.25	YES
L0000322	0	0.12720E-06	483117.6	3735245.8	434.0	3.49	4.00	3.25	YES
L0000323	0	0.12720E-06	483117.8	3735254.4	434.0	3.49	4.00	3.25	YES
L0000324	0	0.12720E-06	483117.9	3735263.0	433.9	3.49	4.00	3.25	YES
L0000325	0	0.12720E-06	483118.0	3735271.6	433.8	3.49	4.00	3.25	YES
L0000326	0	0.12720E-06	483118.1	3735280.2	433.7	3.49	4.00	3.25	

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
									YES	
L0000327	0	0.12720E-06	483118.2	3735288.8	433.6	3.49	4.00	3.25	YES	
L0000328	0	0.84760E-08	483286.7	3735017.5	436.0	3.49	4.00	3.25	YES	
L0000329	0	0.84760E-08	483286.8	3735026.1	435.7	3.49	4.00	3.25	YES	
L0000330	0	0.84760E-08	483286.8	3735034.7	435.5	3.49	4.00	3.25	YES	
L0000331	0	0.84760E-08	483286.9	3735043.3	435.3	3.49	4.00	3.25	YES	
L0000332	0	0.84760E-08	483287.0	3735051.9	435.2	3.49	4.00	3.25	YES	
L0000333	0	0.84760E-08	483287.1	3735060.4	435.1	3.49	4.00	3.25	YES	
L0000334	0	0.84760E-08	483287.2	3735069.0	435.1	3.49	4.00	3.25	YES	
L0000335	0	0.84760E-08	483287.3	3735077.6	435.0	3.49	4.00	3.25	YES	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000336	0	0.84760E-08	483287.3	3735086.2	435.0	3.49	4.00	3.25	YES	
L0000337	0	0.84760E-08	483287.4	3735094.8	435.0	3.49	4.00	3.25	YES	
L0000338	0	0.84760E-08	483287.5	3735103.4	435.0	3.49	4.00	3.25	YES	
L0000339	0	0.84760E-08	483287.6	3735112.0	435.0	3.49	4.00	3.25	YES	
L0000340	0	0.84760E-08	483287.7	3735120.6	435.0	3.49	4.00	3.25	YES	
L0000341	0	0.84760E-08	483287.8	3735129.2	435.0	3.49	4.00	3.25	YES	
L0000342	0	0.84760E-08	483287.8	3735137.8	435.0	3.49	4.00	3.25	YES	
L0000343	0	0.84760E-08	483287.9	3735146.3	435.0	3.49	4.00	3.25	YES	
L0000344	0	0.84760E-08	483288.0	3735154.9	435.0	3.49	4.00	3.25	YES	
L0000345	0	0.84760E-08	483288.1	3735163.5	435.0	3.49	4.00	3.25	YES	
L0000346	0	0.84760E-08	483288.2	3735172.1	435.0	3.49	4.00	3.25	YES	
L0000347	0	0.84760E-08	483288.3	3735180.7	435.0	3.49	4.00	3.25	YES	
L0000348	0	0.84760E-08	483288.3	3735189.3	435.0	3.49	4.00	3.25	YES	
L0000349	0	0.84760E-08	483288.4	3735197.9	435.0	3.49	4.00	3.25		

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 YES
 L0000350         0   0.84760E-08  483288.5 3735206.5   435.0     3.49     4.00     3.25
 YES
 L0000351         0   0.84760E-08  483288.6 3735215.1   435.0     3.49     4.00     3.25
 YES
 L0000352         0   0.84760E-08  483288.7 3735223.6   435.0     3.49     4.00     3.25
 YES
 L0000353         0   0.84760E-08  483288.8 3735232.2   435.0     3.49     4.00     3.25
 YES
 L0000354         0   0.84760E-08  483288.8 3735240.8   435.0     3.49     4.00     3.25
 YES
 L0000355         0   0.84760E-08  483288.9 3735249.4   435.0     3.49     4.00     3.25
 YES
 L0000356         0   0.84760E-08  483289.0 3735258.0   435.0     3.49     4.00     3.25
 YES
 L0000357         0   0.84760E-08  483289.1 3735266.6   435.0     3.49     4.00     3.25
 YES
 L0000358         0   0.84760E-08  483289.2 3735275.2   435.0     3.49     4.00     3.25
 YES
 L0000359         0   0.84760E-08  483289.3 3735283.8   435.0     3.49     4.00     3.25
 YES
 L0000360         0   0.84760E-08  483289.3 3735292.4   434.9     3.49     4.00     3.25
 YES
 L0000361         0   0.14140E-07  483282.9 3735301.9   434.5     3.49     6.51     3.25
 YES
 L0000362         0   0.14140E-07  483268.9 3735301.7   434.3     3.49     6.51     3.25
 YES
 L0000363         0   0.14140E-07  483254.9 3735301.6   434.1     3.49     6.51     3.25
 YES
 L0000364         0   0.14140E-07  483240.9 3735301.5   434.0     3.49     6.51     3.25
 YES
 L0000365         0   0.14140E-07  483226.9 3735301.4   434.0     3.49     6.51     3.25
 YES
 L0000366         0   0.14140E-07  483212.9 3735301.3   434.0     3.49     6.51     3.25
 YES
 L0000367         0   0.14140E-07  483198.9 3735301.2   434.0     3.49     6.51     3.25
 YES
 L0000368         0   0.14140E-07  483184.9 3735301.1   434.0     3.49     6.51     3.25
 YES
 L0000369         0   0.14140E-07  483170.9 3735301.0   434.0     3.49     6.51     3.25
 YES
 L0000370         0   0.14140E-07  483156.9 3735300.9   434.0     3.49     6.51     3.25
 YES
 L0000371         0   0.14140E-07  483142.9 3735300.8   434.0     3.49     6.51     3.25
 YES
 L0000372         0   0.14140E-07  483128.9 3735300.7   434.0     3.49     6.51     3.25
 YES
 L0000373         0   0.92630E-07  483110.3 3735300.5   433.3     3.49     6.51     3.25
 YES
 L0000374         0   0.92630E-07  483096.3 3735300.4   433.0     3.49     6.51     3.25
 YES
 L0000375         0   0.92630E-07  483082.3 3735300.2   433.0     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                            ***        14:57:36

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                     *** VOLUME SOURCE DATA ***

                 NUMBER EMISSION RATE                         BASE    RELEASE    INIT.    INIT.
                 URBAN  EMISSION RATE
```

SOURCE ID	PART. CATS.	(GRAMS/SEC)	X (METERS)	Y (METERS)	ELEV. (METERS)	HEIGHT (METERS)	SY (METERS)	SZ (METERS)	SOURCE SCALAR VARY BY
L0000376	0	0.92630E-07	483068.3	3735300.1	433.0	3.49	6.51	3.25	YES
L0000377	0	0.92630E-07	483054.3	3735300.0	433.0	3.49	6.51	3.25	YES
L0000378	0	0.92630E-07	483040.3	3735299.8	433.0	3.49	6.51	3.25	YES
L0000379	0	0.92630E-07	483026.3	3735299.7	433.0	3.49	6.51	3.25	YES
L0000380	0	0.92630E-07	483012.3	3735299.6	433.0	3.49	6.51	3.25	YES
L0000381	0	0.92630E-07	482998.3	3735299.4	433.0	3.49	6.51	3.25	YES
L0000382	0	0.92630E-07	482984.3	3735299.3	433.0	3.49	6.51	3.25	YES
L0000383	0	0.92630E-07	482970.3	3735299.2	433.0	3.49	6.51	3.25	YES
L0000384	0	0.92630E-07	482956.3	3735299.0	433.0	3.49	6.51	3.25	YES
L0000385	0	0.92630E-07	482942.3	3735298.9	433.0	3.49	6.51	3.25	YES
L0000386	0	0.92630E-07	482928.3	3735298.8	433.0	3.49	6.51	3.25	YES
L0000387	0	0.92630E-07	482914.3	3735298.6	433.0	3.49	6.51	3.25	YES
L0000388	0	0.92630E-07	482900.3	3735298.5	433.0	3.49	6.51	3.25	YES
L0000389	0	0.92630E-07	482894.1	3735290.6	433.0	3.49	6.51	3.25	YES
L0000390	0	0.92630E-07	482893.9	3735276.6	433.0	3.49	6.51	3.25	YES
L0000391	0	0.92630E-07	482893.8	3735262.6	433.0	3.49	6.51	3.25	YES
L0000392	0	0.92630E-07	482893.7	3735248.6	433.0	3.49	6.51	3.25	YES
L0000393	0	0.92630E-07	482893.5	3735234.6	433.0	3.49	6.51	3.25	YES
L0000394	0	0.92630E-07	482893.4	3735220.6	433.0	3.49	6.51	3.25	YES
L0000395	0	0.92630E-07	482893.3	3735206.6	433.0	3.49	6.51	3.25	YES
L0000396	0	0.92630E-07	482893.2	3735192.6	433.0	3.49	6.51	3.25	YES
L0000397	0	0.92630E-07	482893.0	3735178.6	433.0	3.49	6.51	3.25	YES
L0000398	0	0.92630E-07	482892.9	3735164.6	433.0	3.49	6.51	3.25	YES
L0000399	0	0.92630E-07	482892.8	3735150.6	433.0	3.49	6.51	3.25	YES
L0000400	0	0.92630E-07	482892.6	3735136.6	433.0	3.49	6.51	3.25	YES
L0000401	0	0.92630E-07	482892.5	3735122.6	433.0	3.49	6.51	3.25	YES
L0000402	0	0.92630E-07	482892.4	3735108.6	433.0	3.49	6.51	3.25	YES
L0000403	0	0.92630E-07	482892.2	3735094.6	433.0	3.49	6.51	3.25	YES
L0000404	0	0.92630E-07	482892.1	3735080.6	433.0	3.49	6.51	3.25	YES
L0000405	0	0.92630E-07	482892.0	3735066.6	433.0	3.49	6.51	3.25	

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 YES
 L0000406          0   0.92630E-07  482891.8 3735052.6   433.0     3.49     6.51     3.25
 YES
 L0000407          0   0.92630E-07  482891.7 3735038.6   433.0     3.49     6.51     3.25
 YES
 L0000408          0   0.92630E-07  482891.6 3735024.6   433.0     3.49     6.51     3.25
 YES
 L0000409          0   0.92630E-07  482891.5 3735010.6   433.0     3.49     6.51     3.25
 YES
 L0000410          0   0.92630E-07  482891.3 3734996.6   433.0     3.49     6.51     3.25
 YES
 L0000411          0   0.92630E-07  482891.2 3734982.6   433.0     3.49     6.51     3.25
 YES
 L0000412          0   0.92630E-07  482891.1 3734968.6   433.0     3.49     6.51     3.25
 YES
 L0000413          0   0.92630E-07  482890.9 3734954.6   433.0     3.49     6.51     3.25
 YES
 L0000414          0   0.92630E-07  482890.8 3734940.6   433.0     3.49     6.51     3.25
 YES
 L0000415          0   0.92630E-07  482890.7 3734926.6   433.0     3.49     6.51     3.25
 YES
 *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                    *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                     BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
   SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
     (METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - -

 L0000416          0   0.92630E-07  482890.5 3734912.6   433.0     3.49     6.51     3.25
 YES
 L0000417          0   0.92630E-07  482890.4 3734898.6   433.0     3.49     6.51     3.25
 YES
 L0000418          0   0.92630E-07  482890.3 3734884.6   433.0     3.49     6.51     3.25
 YES
 L0000419          0   0.92630E-07  482890.2 3734870.6   433.0     3.49     6.51     3.25
 YES
 L0000420          0   0.92630E-07  482890.0 3734856.6   433.0     3.49     6.51     3.25
 YES
 L0000421          0   0.92630E-07  482889.9 3734842.6   433.0     3.49     6.51     3.25
 YES
 L0000422          0   0.92630E-07  482889.8 3734828.6   433.0     3.49     6.51     3.25
 YES
 L0000423          0   0.92630E-07  482889.6 3734814.6   433.0     3.49     6.51     3.25
 YES
 L0000424          0   0.92630E-07  482889.5 3734800.6   433.2     3.49     6.51     3.25
 YES
 L0000425          0   0.92630E-07  482889.4 3734786.6   433.6     3.49     6.51     3.25
 YES
 L0000426          0   0.92630E-07  482887.3 3734772.9   433.9     3.49     6.51     3.25
 YES
 L0000427          0   0.92630E-07  482881.0 3734760.5   433.7     3.49     6.51     3.25
 YES
 L0000428          0   0.92630E-07  482873.5 3734748.7   433.4     3.49     6.51     3.25
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 YES
 L0000429         0   0.92630E-07  482866.0 3734736.9   433.4     3.49     6.51     3.25
 YES
 L0000430         0   0.92630E-07  482858.4 3734725.1   433.7     3.49     6.51     3.25
 YES
 L0000431         0   0.92630E-07  482850.9 3734713.3   433.7     3.49     6.51     3.25
 YES
 L0000432         0   0.92630E-07  482843.4 3734701.5   433.7     3.49     6.51     3.25
 YES
 L0000433         0   0.92630E-07  482835.8 3734689.7   433.9     3.49     6.51     3.25
 YES
 L0000434         0   0.92630E-07  482828.3 3734677.9   433.9     3.49     6.51     3.25
 YES
 L0000435         0   0.92630E-07  482819.2 3734674.0   433.6     3.49     6.51     3.25
 YES
 L0000436         0   0.92630E-07  482807.8 3734682.1   433.3     3.49     6.51     3.25
 YES
 L0000437         0   0.92630E-07  482796.4 3734690.2   433.0     3.49     6.51     3.25
 YES
 L0000438         0   0.92630E-07  482785.0 3734698.3   433.0     3.49     6.51     3.25
 YES
 L0000439         0   0.92630E-07  482773.6 3734706.4   433.0     3.49     6.51     3.25
 YES
 L0000440         0   0.92630E-07  482762.2 3734714.5   433.0     3.49     6.51     3.25
 YES
 L0000441         0   0.92630E-07  482750.7 3734722.6   433.0     3.49     6.51     3.25
 YES
 L0000442         0   0.92630E-07  482739.3 3734730.7   433.0     3.49     6.51     3.25
 YES
 L0000443         0   0.92630E-07  482727.9 3734738.8   433.0     3.49     6.51     3.25
 YES
 L0000444         0   0.92630E-07  482716.5 3734746.9   433.0     3.49     6.51     3.25
 YES
 L0000445         0   0.92630E-07  482705.1 3734755.0   433.0     3.49     6.51     3.25
 YES
 L0000446         0   0.92630E-07  482693.6 3734763.1   433.0     3.49     6.51     3.25
 YES
 L0000447         0   0.92630E-07  482682.2 3734771.2   433.0     3.49     6.51     3.25
 YES
 L0000448         0   0.92630E-07  482670.8 3734779.3   433.0     3.49     6.51     3.25
 YES
 L0000449         0   0.92630E-07  482659.4 3734787.4   433.0     3.49     6.51     3.25
 YES
 L0000450         0   0.92630E-07  482648.0 3734795.5   433.0     3.49     6.51     3.25
 YES
 L0000451         0   0.92630E-07  482636.6 3734803.6   433.0     3.49     6.51     3.25
 YES
 L0000452         0   0.92630E-07  482625.1 3734811.7   433.0     3.49     6.51     3.25
 YES
 L0000453         0   0.92630E-07  482613.7 3734819.8   433.1     3.49     6.51     3.25
 YES
 L0000454         0   0.92630E-07  482602.3 3734827.9   433.4     3.49     6.51     3.25
 YES
 L0000455         0   0.92630E-07  482590.9 3734836.0   434.0     3.49     6.51     3.25
 YES
 *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                          ***        14:57:36

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                                     *** VOLUME SOURCE DATA ***
```

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000456	0	0.92630E-07	482579.5	3734844.1	433.5	3.49	6.51	3.25	YES	
L0000457	0	0.92630E-07	482568.0	3734852.2	433.1	3.49	6.51	3.25	YES	
L0000458	0	0.92630E-07	482556.6	3734860.3	433.0	3.49	6.51	3.25	YES	
L0000459	0	0.92630E-07	482545.2	3734868.4	433.0	3.49	6.51	3.25	YES	
L0000460	0	0.92630E-07	482533.8	3734876.5	433.0	3.49	6.51	3.25	YES	
L0000461	0	0.92630E-07	482522.4	3734884.6	433.0	3.49	6.51	3.25	YES	
L0000462	0	0.92630E-07	482511.0	3734892.7	433.0	3.49	6.51	3.25	YES	
L0000463	0	0.92630E-07	482499.5	3734900.8	433.0	3.49	6.51	3.25	YES	
L0000464	0	0.92630E-07	482488.1	3734908.9	433.0	3.49	6.51	3.25	YES	
L0000465	0	0.92630E-07	482476.7	3734917.0	433.0	3.49	6.51	3.25	YES	
L0000466	0	0.92630E-07	482465.3	3734925.1	433.0	3.49	6.51	3.25	YES	
L0000467	0	0.92630E-07	482453.9	3734933.2	433.0	3.49	6.51	3.25	YES	
L0000468	0	0.92630E-07	482442.6	3734941.5	433.0	3.49	6.51	3.25	YES	
L0000469	0	0.92630E-07	482432.4	3734951.0	433.0	3.49	6.51	3.25	YES	
L0000470	0	0.92630E-07	482422.1	3734960.6	433.0	3.49	6.51	3.25	YES	
L0000471	0	0.92630E-07	482411.9	3734970.1	433.0	3.49	6.51	3.25	YES	
L0000472	0	0.92630E-07	482401.6	3734979.7	433.0	3.49	6.51	3.25	YES	
L0000473	0	0.92630E-07	482393.6	3734991.0	433.0	3.49	6.51	3.25	YES	
L0000474	0	0.92630E-07	482386.3	3735003.0	433.0	3.49	6.51	3.25	YES	
L0000475	0	0.92630E-07	482379.0	3735014.9	433.0	3.49	6.51	3.25	YES	
L0000476	0	0.92630E-07	482371.7	3735026.9	432.7	3.49	6.51	3.25	YES	
L0000477	0	0.92630E-07	482366.3	3735039.7	432.5	3.49	6.51	3.25	YES	
L0000478	0	0.92630E-07	482361.7	3735052.9	432.4	3.49	6.51	3.25	YES	
L0000479	0	0.92630E-07	482357.2	3735066.2	432.2	3.49	6.51	3.25	YES	
L0000480	0	0.92630E-07	482353.4	3735079.5	432.1	3.49	6.51	3.25	YES	
L0000481	0	0.92630E-07	482353.8	3735093.5	432.1	3.49	6.51	3.25	YES	
L0000482	0	0.92630E-07	482354.2	3735107.5	432.1	3.49	6.51	3.25	YES	
L0000483	0	0.92630E-07	482354.5	3735121.5	432.2	3.49	6.51	3.25	YES	
L0000484	0	0.92630E-07	482354.9	3735135.5	432.2	3.49	6.51	3.25		

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 YES
 L0000485         0   0.92630E-07  482355.3 3735149.5   432.2     3.49     6.51     3.25
 YES
 L0000486         0   0.92630E-07  482355.7 3735163.5   432.2     3.49     6.51     3.25
 YES
 L0000487         0   0.92630E-07  482356.1 3735177.5   432.2     3.49     6.51     3.25
 YES
 L0000488         0   0.92630E-07  482356.5 3735191.5   432.2     3.49     6.51     3.25
 YES
 L0000489         0   0.92630E-07  482356.8 3735205.5   432.2     3.49     6.51     3.25
 YES
 L0000490         0   0.92630E-07  482357.2 3735219.5   432.2     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                      ***        14:57:36

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                              *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                                SOURCE IDs
 -----------                                                ----------


  ALL        L0000256    , L0000257    , L0000258    , L0000259    , L0000260    , L0000261    ,
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          L0000414    , L0000415    ,
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                            *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                                SOURCE IDs
 -----------                                                ----------


          L0000416    , L0000417    , L0000418    , L0000419    , L0000420    , L0000421    ,
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

```
 URBAN ID   URBAN POP                                            SOURCE IDs
 --------   ---------                                            ----------

             2189641.   L0000256    , L0000257    , L0000258    , L0000259    , L0000260    ,
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L0000263    ,

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```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                            *** SOURCE IDs DEFINED AS URBAN SOURCES ***

  URBAN ID   URBAN POP                                          SOURCE IDs
  --------   ---------                                          ----------


            L0000416    , L0000417    , L0000418    , L0000419    , L0000420    , L0000421    ,
            L0000422    , L0000423    ,

            L0000424    , L0000425    , L0000426    , L0000427    , L0000428    , L0000429    ,
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            L0000486    , L0000487    ,

            L0000488    , L0000489    , L0000490    ,
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```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                               *** DISCRETE CARTESIAN RECEPTORS ***
                                             (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                              (METERS)

     ( 483322.2, 3735161.2,     435.0,     435.0,       0.0);         ( 483315.8, 3735206.6,
     435.0,     435.0,       0.0);
     ( 483329.0, 3735267.7,     435.0,     435.0,       0.0);         ( 483309.9, 3735329.5,
     435.0,     435.0,       0.0);
```

```
     ( 483116.9, 3735429.0,     433.0,     433.0,       0.0);         ( 483151.8, 3735321.9,
     433.9,     433.9,       0.0);
     ( 483048.9, 3735188.7,     433.3,     433.3,       0.0);         ( 483081.9, 3734993.2,
     434.0,     434.0,       0.0);
     ( 483322.5, 3735113.2,     435.0,     435.0,       0.0);         ( 483320.3, 3735062.8,
     435.6,     435.6,       0.0);
     ( 483328.1, 3735015.9,     436.0,     436.0,       0.0);         ( 483349.5, 3734948.8,
     436.0,     436.0,       0.0);
     ( 483319.0, 3734871.0,     436.0,     436.0,       0.0);         ( 483152.4, 3734895.6,
     435.0,     435.0,       0.0);
     ( 483033.4, 3734938.4,     434.0,     434.0,       0.0);         ( 482938.7, 3734974.9,
     433.0,     433.0,       0.0);
     ( 482865.3, 3734680.6,     434.0,     434.0,       0.0);         ( 483316.9, 3734817.5,
     436.0,     436.0,       0.0);
     ( 483315.8, 3734727.6,     436.0,     436.0,       0.0);         ( 482855.8, 3735071.3,
     433.0,     433.0,       0.0);
     ( 482853.3, 3734976.5,     433.0,     433.0,       0.0);         ( 482952.3, 3735193.1,
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     ( 482296.7, 3734931.4,     432.0,     432.0,       0.0);         ( 483326.8, 3735378.2,
     435.0,     435.0,       0.0);
     ( 482786.4, 3735421.1,     432.0,     432.0,       0.0);         ( 483310.4, 3735454.2,
     434.0,     434.0,       0.0);
     ( 484105.1, 3734042.9,     441.5,     441.5,
     0.0);
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                      ***        14:57:36

                        PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                              *** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
                                                                 (1=YES; 0=NO)

            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1

                NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS
                INCLUDED IN THE DATA FILE.



                                    *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES
                                    ***
                                                              (METERS/SEC)

                                                   1.54,   3.09,   5.14,   8.23,  10.80,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                      ***        14:57:36
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file:
PERI_V9_ADJU\PERI_v9.SFC Met
Version: 16216
Profile file:
PERI_V9_ADJU\PERI_v9.PFL
Surface format:
FREE

Profile format:
FREE

Surface station no.: 3171 Upper air station no.: 3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2010 Year: 2010

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
10	01	01	1	01	-7.9	0.125	-9.000	-9.000	-999.	106.	21.2	0.19	0.61	1.00	1.30	335.	9.1	282.5	5.5
10	01	01	1	02	-3.9	0.088	-9.000	-9.000	-999.	62.	15.1	0.19	0.61	1.00	0.90	142.	9.1	280.9	5.5
10	01	01	1	03	-3.9	0.088	-9.000	-9.000	-999.	62.	15.1	0.19	0.61	1.00	0.90	324.	9.1	280.4	5.5
10	01	01	1	04	-1.3	0.064	-9.000	-9.000	-999.	39.	18.3	0.19	0.61	1.00	0.40	294.	9.1	278.8	5.5
10	01	01	1	05	-3.9	0.088	-9.000	-9.000	-999.	62.	15.0	0.19	0.61	1.00	0.90	205.	9.1	278.1	5.5
10	01	01	1	06	-1.3	0.065	-9.000	-9.000	-999.	39.	18.3	0.19	0.61	1.00	0.40	3.	9.1	277.0	5.5
10	01	01	1	07	-8.0	0.125	-9.000	-9.000	-999.	106.	21.0	0.19	0.61	1.00	1.30	99.	9.1	277.0	5.5
10	01	01	1	08	-3.3	0.086	-9.000	-9.000	-999.	61.	16.8	0.19	0.61	0.54	0.90	319.	9.1	278.8	5.5
10	01	01	1	09	20.1	0.128	0.307	0.010	49.	110.	-9.0	0.19	0.61	0.33	0.90	239.	9.1	284.2	5.5
10	01	01	1	10	56.7	0.087	0.560	0.010	107.	62.	-1.0	0.19	0.61	0.26	0.40	188.	9.1	289.2	5.5
10	01	01	1	11	81.5	0.323	0.867	0.008	277.	441.	-35.9	0.19	0.61	0.23	2.70	310.	9.1	290.9	5.5
10	01	01	1	12	97.1	0.281	1.058	0.008	421.	357.	-19.7	0.19	0.61	0.22	2.20	357.	9.1	293.1	5.5
10	01	01	1	13	92.2	0.279	1.117	0.008	523.	354.	-20.4	0.19	0.61	0.22	2.20	356.	9.1	293.8	5.5
10	01	01	1	14	77.6	0.275	1.102	0.008	595.	347.	-23.2	0.19	0.61	0.23	2.20	50.	9.1	294.2	5.5
10	01	01	1	15	54.9	0.230	1.006	0.008	640.	266.	-19.2	0.19	0.61	0.27	1.80	53.	9.1	293.8	5.5
10	01	01	1	16	12.3	0.206	0.613	0.008	648.	225.	-61.5	0.19	0.61	0.36	1.80	11.	9.1	292.5	5.5
10	01	01	1	17	-3.6	0.087	-9.000	-9.000	-999.	71.	15.6	0.19	0.61	0.64	0.90	351.	9.1	290.4	5.5
10	01	01	1	18	-3.8	0.087	-9.000	-9.000	-999.	62.	15.2	0.19	0.61	1.00	0.90	186.	9.1	287.5	5.5
10	01	01	1	19	-3.8	0.087	-9.000	-9.000	-999.	62.	15.2	0.19	0.61	1.00	0.90	275.	9.1	285.9	5.5
10	01	01	1	20	-1.2	0.064	-9.000	-9.000	-999.	39.	18.1	0.19	0.61	1.00	0.40	181.	9.1	285.4	5.5

```
 10 01 01   1 21   -7.8  0.125 -9.000 -9.000 -999.  106.     21.3  0.19   0.61   1.00    1.30
 318.    9.1  284.9    5.5
 10 01 01   1 22   -3.8  0.088 -9.000 -9.000 -999.   62.     15.1  0.19   0.61   1.00    0.90
 196.    9.1  283.1    5.5
 10 01 01   1 23   -3.8  0.088 -9.000 -9.000 -999.   62.     15.1  0.19   0.61   1.00    0.90
 330.    9.1  281.4    5.5
 10 01 01   1 24   -7.9  0.125 -9.000 -9.000 -999.  106.     21.2  0.19   0.61   1.00    1.30
 332.    9.1  280.9    5.5


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 10 01 01 01    5.5 0 -999.  -99.00   282.6   99.0  -99.00  -99.00
 10 01 01 01    9.1 1  335.    1.30  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and
Sherman\14804 O ***        09/15/22
 *** AERMET - VERSION  16216 ***
 ***                                                                        ***        14:57:36

                     PAGE  15
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5 YEARS FOR
                  SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     L0000256    , L0000257    ,
                                 L0000258    , L0000259    , L0000260    ,
                L0000261    , L0000262    , L0000263    , L0000264    , L0000265    ,
                L0000266    , L0000267    , L0000268    ,
                L0000269    , L0000270    , L0000271    , L0000272    , L0000273    ,
                L0000274    , L0000275    , L0000276    ,
                L0000277    , L0000278    , L0000279    , L0000280    , L0000281    ,
                L0000282    , L0000283    ,  . . .      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                         ** CONC OF DPM      IN
                                         MICROGRAMS/M**3                        **

      X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)   Y-COORD
      (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
        483322.24    3735161.24       0.00048                        483315.83
        3735206.60        0.00047
        483328.98    3735267.73       0.00036                        483309.87
        3735329.46        0.00032
        483116.87    3735428.96       0.00031                        483151.81
        3735321.91        0.00083
        483048.86    3735188.73       0.00131                        483081.92
        3734993.21        0.00117
        483322.46    3735113.17       0.00051                        483320.26
        3735062.79        0.00055
        483328.13    3735015.88       0.00051                        483349.54
        3734948.82        0.00034
        483319.00    3734871.05       0.00030                        483152.44
        3734895.61        0.00052
        483033.43    3734938.43       0.00054                        482938.66
        3734974.95        0.00063
        482865.31    3734680.57       0.00059                        483316.88
        3734817.52        0.00024
        483315.81    3734727.60       0.00017                        482855.75
        3735071.26        0.00063
        482853.34    3734976.55       0.00059                        482952.27
        3735193.11        0.00071
```

482296.66 3734931.45 0.00016 483326.80
3735378.16 0.00023
482786.36 3735421.08 0.00017 483310.38
3735454.22 0.00018
484105.07 3734042.87
0.00002

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and Sherman\14804 O *** 09/15/22
*** AERMET - VERSION 16216 ***
*** *** 14:57:36

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 5 YEARS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	0.00131 AT	(483048.86, 3735188.73, 433.29, 433.29, 0.00)	DC	
	2ND HIGHEST VALUE IS	0.00117 AT	(483081.92, 3734993.21, 434.00, 434.00, 0.00)	DC	
	3RD HIGHEST VALUE IS	0.00083 AT	(483151.81, 3735321.91, 433.95, 433.95, 0.00)	DC	
	4TH HIGHEST VALUE IS	0.00071 AT	(482952.27, 3735193.11, 433.00, 433.00, 0.00)	DC	
	5TH HIGHEST VALUE IS	0.00063 AT	(482938.66, 3734974.95, 433.00, 433.00, 0.00)	DC	
	6TH HIGHEST VALUE IS	0.00063 AT	(482855.75, 3735071.26, 433.00, 433.00, 0.00)	DC	
	7TH HIGHEST VALUE IS	0.00059 AT	(482853.34, 3734976.55, 433.00, 433.00, 0.00)	DC	
	8TH HIGHEST VALUE IS	0.00059 AT	(482865.31, 3734680.57, 434.00, 434.00, 0.00)	DC	
	9TH HIGHEST VALUE IS	0.00055 AT	(483320.26, 3735062.79, 435.63, 435.63, 0.00)	DC	
	10TH HIGHEST VALUE IS	0.00054 AT	(483033.43, 3734938.43, 434.00, 434.00, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14804 Mapes and Sherman\14804 O *** 09/15/22
*** AERMET - VERSION 16216 ***
*** *** 14:57:36

PAGE 17
*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

```
A Total of            0 Fatal Error Message(s)
A Total of            4 Warning Message(s)
A Total of         2028 Informational Message(s)

A Total of        43824 Hours Were Processed

A Total of          978 Calm Hours Identified

A Total of         1050 Missing Hours Identified (  2.40 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186     628      MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
ME W187     628      MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
MX W450   17521      CHKDAT: Record Out of Sequence in Meteorological File at:     14010101
MX W450   17521      CHKDAT: Record Out of Sequence in Meteorological File at:    2 year gap

   ************************************
   *** AERMOD Finishes Successfully ***
   ************************************
```

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APPENDIX 2.4:

RISK CALCULATIONS

Table 1
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
0-2 Age Bin Exposure Scenario - Construction Activity

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**										
					URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
	(ug/m^3)	(mg/m^3)			$(ug/m^3)^{-1}$	$(mg/kg/day)^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)								
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
	0.06741	6.74E-05	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	4.4E-05	4.7E-06	5.0E+00	1.4E-03	1.3E-02							
TOTAL								4.7E-06			1.3E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

4.75

** Key to Toxicological Endpoints

RESP	Respiratory System
CNS/PNS	Central/Peripheral Nervous System
CV/BL	Cardiovascular/Blood System
IMMUN	Immune System
KIDN	Kidney
GI/LV	Gastrointestinal System/Liver
REPRO	Reproductive System (e.g. teratogenic and developmental effects)
EYES	Eye irritation and/or other effects

Note: Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	220
exposure duration (years)	0.84
inhalation rate (L/kg-day))	1090
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85
age sensitivity factor (0 to 2 years old)	10

Table 3
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
2-16 Age Bin Exposure Scenario

Source	Mass GLC		Weight	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**									
	(ug/m^3)	(mg/m^3)	Fraction		URF (ug/m^3)$^{-1}$	CPF ($mg/kg/day$)$^{-1}$	DOSE (mg/kg-day)	RISK	REL (ug/m^3)	RfD ($mg/kg/day$)	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
	0.00055	5.50E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	3.0E-07	1.3E-07	5.0E+00	1.4E-03	1.1E-04							
TOTAL								1.3E-07			1.1E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

0.13

** Key to Toxicological Endpoints

RESP	Respiratory System
CNS/PNS	Central/Peripheral Nervous System
CV/BL	Cardiovascular/Blood System
IMMUN	Immune System
KIDN	Kidney
GI/LV	Gastrointestinal System/Liver
REPRO	Reproductive System (e.g. teratogenic and developmental effects)
EYES	Eye irritation and/or other effects

Note: Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	350
exposure duration (years)	13.23
inhalation rate (L/kg-day))	572
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.72
age sensitivity factor (ages 2 to 16 years	3

Table 4
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
16-30 Age Bin Exposure Scenario

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**									
					URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)								
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
	0.00055	5.50E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.4E-07	2.1E-08	5.0E+00	1.4E-03	1.1E-04							
TOTAL								2.1E-08			1.1E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

0.02

** Key to Toxicological Endpoints

RESP	Respiratory System
CNS/PNS	Central/Peripheral Nervous System
CV/BL	Cardiovascular/Blood System
IMMUN	Immune System
KIDN	Kidney
GI/LV	Gastrointestinal System/Liver
REPRO	Reproductive System (e.g. teratogenic and developmental effects)
EYES	Eye irritation and/or other effects

Note: Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	350
exposure duration (years)	14
inhalation rate (L/kg-day))	261
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.73
age sensitivity factor (ages 16 to 30 years old)	1

Total Risk for All Age Bins (per million) **4.90**

Table 1
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
-0.25 to 0 Age Bin Exposure Scenario

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**									
					URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)								
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
	0.00055	5.50E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.9E-07	6.1E-09	5.0E+00	1.4E-03	1.1E-04							
TOTAL								6.1E-09			1.1E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

** Key to Toxicological Endpoints

RESP	Respiratory System
CNS/PNS	Central/Peripheral Nervous System
CV/BL	Cardiovascular/Blood System
IMMUN	Immune System
KIDN	Kidney
GI/LV	Gastrointestinal System/Liver
REPRO	Reproductive System (e.g. teratogenic and developmental effects)
EYES	Eye irritation and/or other effects

Note: Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	350
exposure duration (years)	0.25
inhalation rate (L/kg-day))	361
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85
age sensitivity factor (age third trimester	10

Table 2
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
0-2 Age Bin Exposure Scenario

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**									
	(ug/m^3)	(mg/m^3)			URF (ug/m^3)$^{-1}$	CPF (mg/kg/day)$^{-1}$	DOSE (mg/kg-day)	RISK	REL (ug/m^3)	RfD (mg/kg/day)	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
	0.00055	5.50E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	5.7E-07	1.5E-07	5.0E+00	1.4E-03	1.1E-04							
TOTAL								1.5E-07			1.1E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

** Key to Toxicological Endpoints

RESP	Respiratory System
CNS/PNS	Central/Peripheral Nervous System
CV/BL	Cardiovascular/Blood System
IMMUN	Immune System
KIDN	Kidney
GI/LV	Gastrointestinal System/Liver
REPRO	Reproductive System (e.g. teratogenic and developmental effects)
EYES	Eye irritation and/or other effects

Note: Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	350
exposure duration (years)	2
inhalation rate (L/kg-day))	1090
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85
age sensitivity factor (0 to 2 years old)	10

Table 3
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
2-16 Age Bin Exposure Scenario

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**									
	(ug/m^3)	(mg/m^3)			URF (ug/m^3)$^{-1}$	CPF (mg/kg/day)$^{-1}$	DOSE (mg/kg-day)	RISK	REL (ug/m^3)	RfD (mg/kg/day)	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
	0.00055	5.50E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	3.0E-07	1.4E-07	5.0E+00	1.4E-03	1.1E-04							
TOTAL								1.4E-07			1.1E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

** Key to Toxicological Endpoints

RESP	Respiratory System
CNS/PNS	Central/Peripheral Nervous System
CV/BL	Cardiovascular/Blood System
IMMUN	Immune System
KIDN	Kidney
GI/LV	Gastrointestinal System/Liver
REPRO	Reproductive System (e.g. teratogenic and developmental effects)
EYES	Eye irritation and/or other effects

Note: Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	350
exposure duration (years)	14
inhalation rate (L/kg-day))	572
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.72
age sensitivity factor (ages 2 to 16 years	3

Table 4
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
16-30 Age Bin Exposure Scenario

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**									
					URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)								
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
	0.00055	5.50E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.4E-07	2.1E-08	5.0E+00	1.4E-03	1.1E-04							
TOTAL								2.1E-08			1.1E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
								0.02										

** Key to Toxicological Endpoints

RESP	Respiratory System
CNS/PNS	Central/Peripheral Nervous System
CV/BL	Cardiovascular/Blood System
IMMUN	Immune System
KIDN	Kidney
GI/LV	Gastrointestinal System/Liver
REPRO	Reproductive System (e.g. teratogenic and developmental effects)
EYES	Eye irritation and/or other effects

Note: Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	350
exposure duration (years)	14
inhalation rate (L/kg-day))	261
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.73
age sensitivity factor (ages 16 to 30 years old)	1

Total Risk for All Age Bins (per million) **0.31**

Table 5
Quantification of Carcinogenic Risks and Noncarcinogenic Risks
25-Year Worker Exposure Scenario

	Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**									
						URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
		(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)								
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
1	Diesel Particulates	1.31E-03	1.31E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	2.1E-07	7.7E-08	5.0E+00	1.4E-03	2.6E-04							
	TOTAL								7.7E-08 0.08			2.6E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

** Key to Toxicological Endpoints

RESP	Respiratory System
CNS/PNS	Central/Peripheral Nervous System
CV/BL	Cardiovascular/Blood System
IMMUN	Immune System
KIDN	Kidney
GI/LV	Gastrointestinal System/Liver
REPRO	Reproductive System (e.g. teratogenic and developmental effects)
EYES	Eye irritation and/or other effects

Note: Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	250
exposure duration (years)	25
inhalation rate (L/kg-day))	230
inhalation absorption factor	1
averaging time (years)	70

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A.4 - Energy Analysis

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Mapes & Sherman Commerce Center (DEV2022-003)

ENERGY ANALYSIS

CITY OF MENIFEE

PREPARED BY:

Haseeb Qureshi
hqureshi@urbanxroads.com

Alyssa Barnett
abarnett@urbanxroads.com

SEPTEMBER 16, 2022

TABLE OF CONTENTS

APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

%	Percent
(1)	Reference
AGSP	Airport Gateway Specific Plan
AQIA	*Mapes & Sherman Commerce Center (DEV2022-003) Air Quality Impact Analysis*
BACM	Best Available Control Measures
BTU	British Thermal Units
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
City	City of Menifee
CPEP	Clean Power and Electrification Pathway
CPUC	California Public Utilities Commission
DMV	Department of Motor Vehicles
EIA	Energy Information Administration
EPA	Environmental Protection Agency
EMFAC	EMissions FACtor
FERC	Federal Energy Regulatory Commission
GHG	Greenhouse Gas
GWh	Gigawatt Hour
HHD	Heavy-Heavy Duty Trucks
hp-hr-gal	Horsepower Hours Per Gallon
I-215	Interstate 215
IEPR	Integrated Energy Policy Report
ISO	Independent Service Operator
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
kBTU	Thousand-British Thermal Units
kWh	Kilowatt Hour
LDA	Light Duty Auto
LDT1/LDT2	Light-Duty Trucks
LHD1/LHD2	Light-Heavy Duty Trucks
MDV	Medium Duty Trucks

MHD	Medium-Heavy Duty Trucks
MMcfd	Million Cubic Feet Per Day
mpg	Miles Per Gallon
MPO	Metropolitan Planning Organization
PG&E	Pacific Gas and Electric
Project	Mapes & Sherman Commerce Center (DEV2022-003)
PV	Photovoltaic
SCAB	South Coast Air Basin
SCE	Southern California Edison
SDAB	San Diego Air Basin
sf	Square Feet
SoCalGas	Southern California Gas
SR-74	State Route 74
TEA-21	Transportation Equity Act for the 21st Century
U.S.	United States
VMT	Vehicle Miles Traveled

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Mapes & Sherman Commerce Center (DEV2022-003) Energy Analysis* is summarized below based on the significance criteria in Section 5 of this report consistent with Appendix G of the *CEQA Guidelines* (*CEQA Guidelines*) (1). Table ES-1 shows the findings of significance for potential energy impacts under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Energy Impact #1: Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	5.0	*Less Than Significant*	*n/a*
Energy Impact #2: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	5.0	*Less Than Significant*	*n/a*

ES.2 PROJECT REQUIREMENTS

The Project would be required to comply with regulations imposed by the federal and state agencies that regulate energy use and consumption through various means and programs. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of energy usage include:

- Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)
- The Transportation Equity Act for the 21st Century (TEA-21
- Integrated Energy Policy Report (IEPR)
- State of California Energy Plan
- California Code Title 24, Part 6, Energy Efficiency Standards
- California Code Title 24, Part 11, California Green Building Standards Code (CALGreen)
- AB 1493 Pavley Regulations and Fuel Efficiency Standards
- California's Renewable Portfolio Standard (RPS)
- Clean Energy and Pollution Reduction Act of 2015 (SB 350)

Consistency with the above regulations is discussed in detail in section 5 of this report.

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1 INTRODUCTION

This report presents the results of the energy analysis prepared by Urban Crossroads, Inc., for the proposed Mapes & Sherman Commerce Center (DEV2022-003) Project (Project). The purpose of this report is to ensure that energy implication is considered by the City of Menifee (Lead Agency), as the lead agency, and to quantify anticipated energy usage associated with construction and operation of the proposed Project, determine if the usage amounts are efficient, typical, or wasteful for the land use type, and to emphasize avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

1.1 SITE LOCATION

The proposed Project is located in the City of Menifee at the southwest corner of Sherman Road and Mapes Road, as shown on Exhibit 1-A. The City is surrounded by the City of Moreno Valley to the north, unincorporated Riverside County to the east, the City of Murrieta and unincorporated Riverside County to the south, and the Cities of Perris and Lake Elsinore to the west. Regional access to the site is provided via Interstate 215 (I-215) and State Route 74 (SR-74). Local access to the site is provided via Mapes Road and Sherman Avenue.

1.2 PROJECT DESCRIPTION

The Project is proposed to consist of the development of 277,578 square feet (sf) of high-cube fulfillment center warehouse use within a single building. It is anticipated that the Project would operate seven days a week 24 hours a day and be developed in a single phase with an anticipated Opening Year of 2024. The site plan for the proposed Project is shown on Exhibit 1-B.

EXHIBIT 1-A: LOCATION MAP

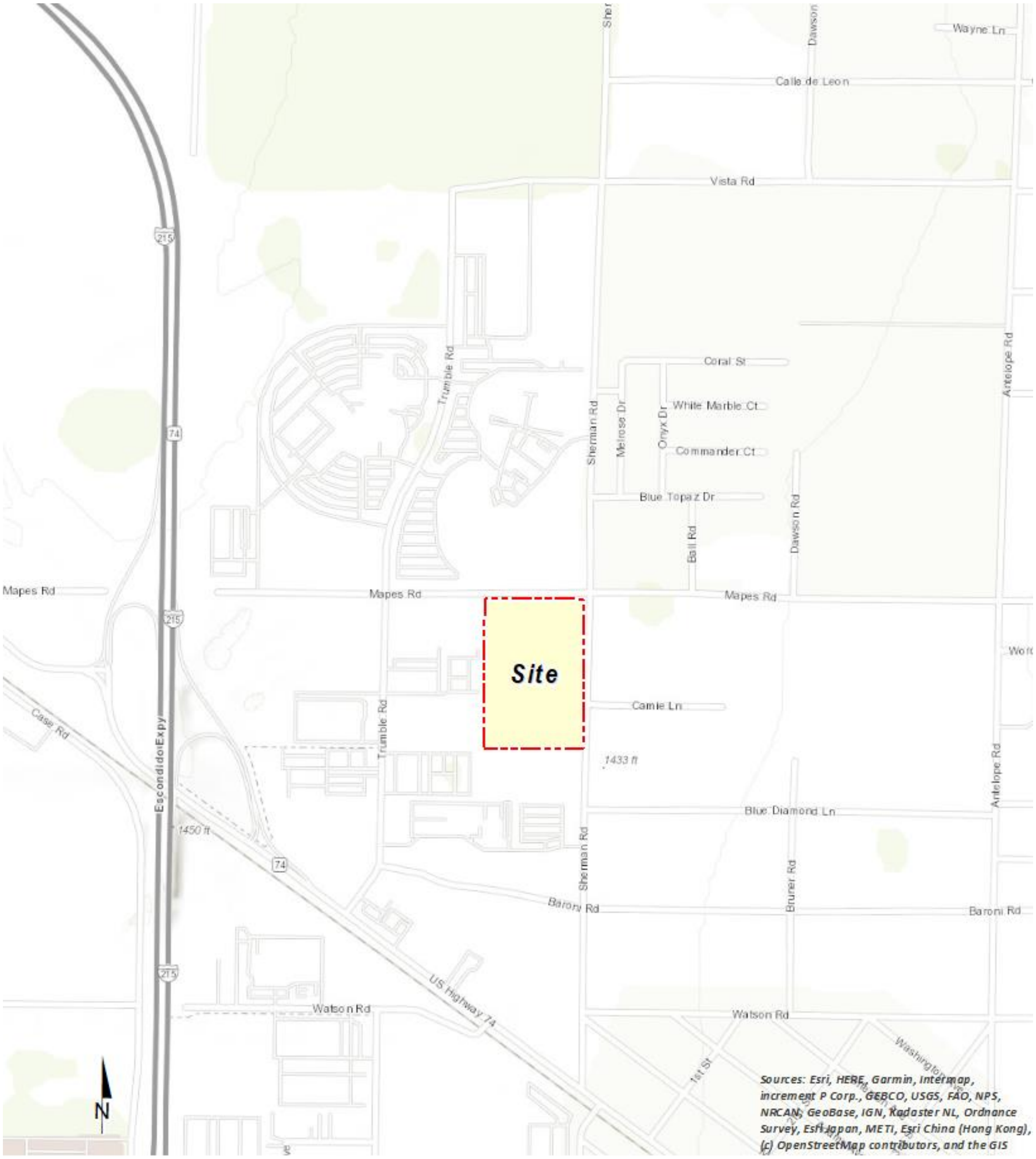
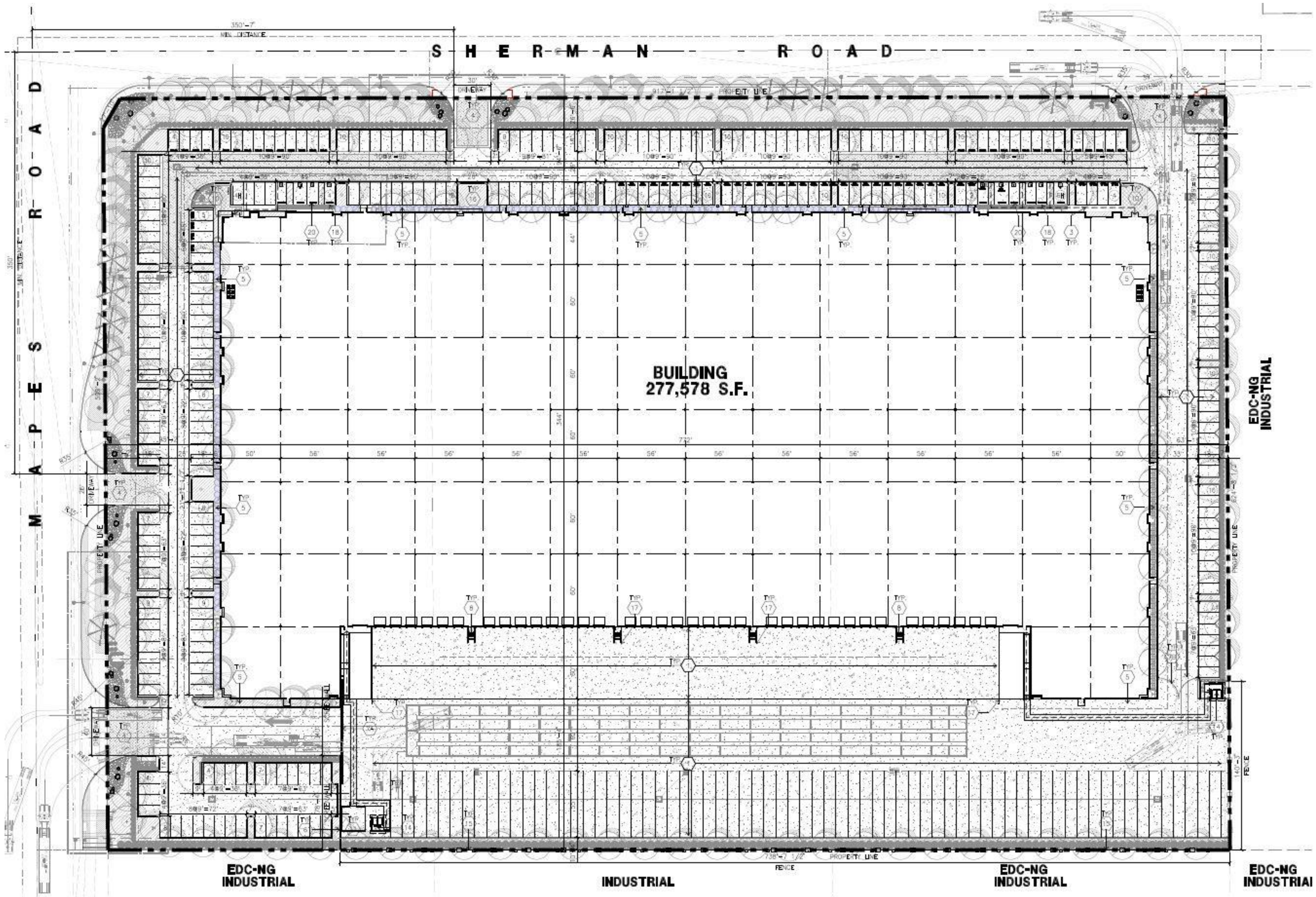


EXHIBIT 1-B: SITE PLAN



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2 EXISTING CONDITIONS

This section provides an overview of the existing energy conditions in the Project region.

2.1 OVERVIEW

The most recent data for California's estimated total energy consumption and natural gas consumption is from 2020, released by the United States (U.S.) Energy Information Administration's (EIA) California State Profile and Energy Estimates in 2021 and included (2):

- As of 2020, approximately 6,923 trillion British Thermal Unit (BTU) of energy was consumed
- As of 2020, approximately 524 million barrels of petroleum
- As of 2020, approximately 2,075 billion cubic feet of natural gas
- As of 2020, approximately 1 million short tons of coal

The California Energy Commission's (CEC) Transportation Energy Demand Forecast released the 2018-2030 was released in order to support the 2017 Integrated Energy Policy Report. The Transportation energy Demand Forecast 2018-2030 lays out graphs and data supporting CEC's projections of California's future transportation energy demand. The projected inputs consider expected variable changes in fuel prices, income, population, and other variables. Predictions regarding fuel demand included:

- Gasoline demand in the transportation sector is expected to decline from approximately 15.8 billion gallons in 2017 to between 12.3 billion and 12.7 billion gallons in 2030 (3)
- Diesel demand in the transportation sector is expected to rise, increasing from approximately 3.7 billion diesel gallons in 2015 to approximately 4.7 billion in 2030 (3)
- Data from the Department of Energy states that approximately 3.9 billion gallons of diesel fuel were consumed in 2019 (4)

The most recent data provided by the EIA for energy use in California by demand sector is from 2020 and is reported as follows:

- Approximately 34.0% transportation
- Approximately 24.6% industrial
- Approximately 21.8% residential
- Approximately 19.6% commercial (5)

In 2021, total system electric generation for California was 277,764 gigawatt hours (GWh). California's massive electricity in-state generation system generated approximately 194,127 GWh which accounted for approximately 70% of the electricity it uses; the rest was imported from the Pacific Northwest (12%) and the U.S. Southwest (18%) (6). Natural gas is the main source for electricity generation at 50.19% of the total in-state electric generation system power as shown in Table 2-1.

TABLE 2-1: TOTAL ELECRICITY SYSTEM POWER (CALIFORNIA 2021)

Fuel Type	California In-State Generation (GWh)	% of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total Imports (GWh)	% of Imports	Total California Energy Mix	Total California Power Mix
Coal	303	0.2%	181	7,788	7,969	9.5%	8,272	3.0%
Natural Gas	97,431	50.2%	45	7,880	7,925	9.5%	105,356	379.0%
Oil	37	0.0%	-	-	-	0.0%	37	0.0%
Other (Waste Heat/Petroleum Coke)	382	0.2%	68	15	83	0.1%	465	0.2%
Nuclear	16,477	8.5%	524	8,756	9,281	11.1%	25,758	9.3%
Large Hydro	12,036	6.2%	12,042	1,578	13,620	16.3%	25,656	9.2%
Unspecified	-	0.0%	8,156	10,731	18,887	22.6%	18,887	6.8%
Total Thermal and Non-Renewables	**126,666**	**65.2%**	**21,017**	**36,748**	**57,764**	**6910.0%**	**184,431**	**66.4%**
Biomass	5,381	2.8%	864	26	890	1.1%	6,271	2.3%
Geothermal	11,116	5.7%	192	1,906	2,098	2.5%	13,214	4.8%
Small Hydro	2,531	1.3%	304	1	304	0.4%	2,835	1.0%
Solar	33,260	17.1%	220	5,979	6,199	7.4%	39,458	14.2%
Wind	15,173	7.8%	9,976	6,405	16,381	19.6%	31,555	11.4%
Total Renewables	**67,461**	**34.8%**	**11,555**	**14,317**	**25,872**	**3090.0%**	**93,333**	**33.6%**
SYSTEM TOTALS	***194,127***	***100.0%***	***32,572***	***51,064***	***83,636***	***100.0%***	***277,764***	***100.0%***

Source: CECs 2021 Total System Electric Generation

An updated summary of, and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below (7):

- In 2021, California was the seventh-largest producer of crude oil among the 50 states, and, as of January 2021, it ranked third in crude oil refining capacity.
- California is the largest consumer of jet fuel and second-largest consumer of motor gasoline among the 50 states and, the state accounted for 15% of the nation's jet fuel consumption and 10% of motor gasoline consumption in 2020.
- In 2019, California was the second-largest total energy consumer among the states, but its per capita energy consumption was less than in all other states except Rhode Island, due in part to its mild climate and its energy efficiency programs.
- In 2021, California was the nation's top producer of electricity from solar, geothermal, and biomass energy. The state was fourth in the nation in conventional hydroelectric power generation, down from second in 2019, in part because of drought and increased water demand.
- In 2021, California was the fourth-largest electricity producer in the nation, but the state was also the nation's second-largest consumer of electricity, and in 2020, it received about 30% of its electricity supply from generating facilities outside of California, including imports from Mexico.

As indicated above, California is one of the nation's leading energy-producing states, and California's per capita energy use is among the nation's most efficient. Given the nature of the Project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the Project—namely, electricity, natural gas, and transportation fuel for vehicle trips associated with the uses planned for the Project.

2.2 ELECTRICITY

The usage associated with electricity use were calculated using CalEEMod Version 2022.1. The Southern California region's electricity reliability has been of concern for the past several years due to the planned retirement of aging facilities that depend upon once-through cooling technologies, as well as the June 2013 retirement of the San Onofre Nuclear Generating Station (San Onofre). While the once-through cooling phase-out has been ongoing since the May 2010 adoption of the State Water Resources Control Board's once-through cooling policy, the retirement of San Onofre complicated the situation. California Independent Service Operator (ISO) studies revealed the extent to which the South Coast Air Basin (SCAB) and the San Diego Air Basin (SDAB) region were vulnerable to low-voltage and post-transient voltage instability concerns. A preliminary plan to address these issues was detailed in the 2013 Integrative Energy Policy Report (IEPR) after a collaborative process with other energy agencies, utilities, and air districts (8). Similarly, the subsequent 2021 IEPR's provides information and policy recommendations on advancing a clean, reliable, and affordable energy system.

California's electricity industry is an organization of traditional utilities, private generating companies, and state agencies, each with a variety of roles and responsibilities to ensure that electrical power is provided to consumers. The California ISO is a nonprofit public benefit corporation and is the impartial operator of the State's wholesale power grid and is charged with maintaining grid reliability, and to direct uninterrupted electrical energy supplies to California's homes and communities. While utilities still own transmission assets, the ISO routes electrical power along these assets, maximizing the use of the transmission system and its power generation resources. The ISO matches buyers and sellers of electricity to ensure that enough power is available to meet demand. To these ends, every five minutes the ISO forecasts electrical demands, accounts for operating reserves, and assigns the lowest cost power plant unit to meet demands while ensuring adequate system transmission capacities and capabilities (9).

Part of the ISO's charge is to plan and coordinate grid enhancements to ensure that electrical power is provided to California consumers. To this end, utilities file annual transmission expansion/modification plans to accommodate the State's growing electrical needs. The ISO reviews and either approves or denies the proposed additions. In addition, and perhaps most importantly, the ISO works with other areas in the western United States electrical grid to ensure that adequate power supplies are available to the State. In this manner, continuing reliable and affordable electrical power is assured to existing and new consumers throughout the State.

Electricity is currently provided to the Project site by Southern California Edison (SCE). SCE provides electric power to more than 15 million persons in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles. Based on SCE's 2018 Power Content Label Mix, SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers (10).

Table 2-2, SCE's specific proportional shares of electricity sources in 2020. As indicated in Table 2-2, the 2020 SCE Power Mix has renewable energy at 30.9% of the overall energy resources. Geothermal resources are at 5.5%, wind power is at 9.4%, large hydroelectric sources are at 3.3%, solar energy is at 15.1%, and coal is at 0% (11).

TABLE 2-2: SCE 2020 POWER CONTENT MIX

Energy Resources	2020 SCE Power Mix
Eligible Renewable	**30.9%**
Biomass & Waste	0.1%
Geothermal	5.5%
Eligible Hydroelectric	0.8%
Solar	15.1%
Wind	9.4%
Coal	**0.0%**
Large Hydroelectric	**3.3%**
Natural Gas	**15.2%**
Nuclear	**8.4%**
Other	**0.3%**
Unspecified Sources of power*	42.0%
Total	**100%**

* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources

2.3 NATURAL GAS

The following summary of natural gas customers and volumes, supplies, delivery of supplies, storage, service options, and operations is excerpted from information provided by the California Public Utilities Commission (CPUC).

> *"The CPUC regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller natural gas utilities. The CPUC also regulates independent storage operators: Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.*
>
> *California's natural gas utilities provide service to over 11 million gas meters. SoCalGas and PG&E provide service to about 5.9 million and 4.3 million customers, respectively, while SDG&E provides service to over 800, 000 customers. In 2018, California gas utilities forecasted that they would deliver about 4740 million cubic feet per day (MMcfd) of gas to their customers, on average, under normal weather conditions.*
>
> *The overwhelming majority of natural gas utility customers in California are residential and small commercials customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%.*

A significant amount of gas (about 19%, or 1131 MMcfd, of the total forecasted California consumption in 2018) is also directly delivered to some California large volume consumers, without being transported over the regulated utility pipeline system. Those customers, referred to as "bypass" customers, take service directly from interstate pipelines or directly from California producers.

SDG&E and Southwest Gas' southern division are wholesale customers of SoCalGas, i.e., they receive deliveries of gas from SoCalGas and in turn deliver that gas to their own customers. (Southwest Gas also provides natural gas distribution service in the Lake Tahoe area.) Similarly, West Coast Gas, a small gas utility, is a wholesale customer of PG&E. Some other wholesale customers are municipalities like the cities of Palo Alto, Long Beach, and Vernon, which are not regulated by the CPUC.

Natural gas from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. The major interstate pipelines that deliver out-of-state natural gas to California gas utilities are Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, Ruby Pipeline, Mojave Pipeline, and Tuscarora. Another pipeline, the North Baja - Baja Norte Pipeline takes gas off the El Paso Pipeline at the California/Arizona border and delivers that gas through California into Mexico. While the Federal Energy Regulatory Commission (FERC) regulates the transportation of natural gas on the interstate pipelines, and authorizes rates for that service, the California Public Utilities Commission may participate in FERC regulatory proceedings to represent the interests of California natural gas consumers.

The gas transported to California gas utilities via the interstate pipelines, as well as some of the California-produced gas, is delivered into the PG&E and SoCalGas intrastate natural gas transmission pipelines systems (commonly referred to as California's "backbone" pipeline system). Natural gas on the utilities' backbone pipeline systems is then delivered to the local transmission and distribution pipeline systems, or to natural gas storage fields. Some large volume noncore customers take natural gas delivery directly off the high-pressure backbone and local transmission pipeline systems, while core customers and other noncore customers take delivery off the utilities' distribution pipeline systems. The state's natural gas utilities operate over 100,000 miles of transmission and distribution pipelines, and thousands more miles of service lines.

Bypass customers take most of their deliveries directly off the Kern/Mojave pipeline system, but they also take a significant amount of gas from California production.

PG&E and SoCalGas own and operate several natural gas storage fields that are located within their service territories in northern and southern California, respectively. These storage fields, and four independently owned storage utilities - Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage - help meet peak seasonal and daily natural gas demand and allow California natural gas customers to secure natural gas supplies more efficiently. PG&E is a 25% owner of the Gill Ranch Storage field. These storage fields provide a significant amount of infrastructure capacity to help meet

California's natural gas requirements, and without these storage fields, California would need much more pipeline capacity in order to meet peak gas requirements .

Prior to the late 1980s, California regulated utilities provided virtually all natural gas services to all their customers. Since then, the Commission has gradually restructured the California gas industry in order to give customers more options while assuring regulatory protections for those customers that wish to, or are required to, continue receiving utility-provided services.

The option to purchase natural gas from independent suppliers is one of the results of this restructuring process. Although the regulated utilities procure natural gas supplies for most core customers, core customers have the option to purchase natural gas from independent natural gas marketers, called "core transport agents" (CTA). Contact information for core transport agents can be found on the utilities' web sites. Noncore customers, on the other hand, make natural gas supply arrangements directly with producers or with marketers.

Another option resulting from the restructuring process occurred in 1993, when the Commission removed the utilities' storage service responsibility for noncore customers, along with the cost of this service from noncore customers' transportation rates. The Commission also encouraged the development of independent storage fields, and in subsequent years, all the independent storage fields in California were established. Noncore customers and marketers may now take storage service from the utility or from an independent storage provider (if available), and pay for that service, or may opt to take no storage service at all. For core customers, the Commission assures that the utility has adequate storage capacity set aside to meet core requirements, and core customers pay for that service.

In a 1997 decision, the Commission adopted PG&E's "Gas Accord", which unbundled PG&E's backbone transmission costs from noncore transportation rates. This decision gave customers and marketers the opportunity to obtain pipeline capacity rights on PG&E's backbone transmission pipeline system, if desired, and pay for that service at rates authorized by the Commission. The Gas Accord also required PG&E to set aside a certain amount of backbone transmission capacity in order to deliver gas to its core customers. Subsequent Commission decisions modified and extended the initial terms of the Gas Accord. The "Gas Accord" framework is still in place today for PG&E's backbone and storage rates and services and is now simply referred to as PG&E Gas Transmission and Storage (GT&S).

In a 2006 decision, the Commission adopted a similar gas transmission framework for Southern California, called the "firm access rights" system. SoCalGas and SDG&E implemented the firm access rights (FAR) system in 2008, and it is now referred to as the backbone transmission system (BTS) framework. As under the PG&E backbone transmission system, SoCalGas backbone transmission costs are unbundled from noncore transportation rates. Noncore customers and marketers may obtain, and pay for, firm backbone transmission capacity at various receipt points on the SoCalGas system. A *certain amount of backbone transmission capacity is obtained for core customers to assure meeting their requirements.*

Many if not most noncore customers now use a marketer to provide for several of the services formerly provided by the utility. That is, a noncore customer may simply arrange for a marketer to procure its supplies, and obtain any needed storage and backbone transmission capacity, in order to assure that it will receive its needed deliveries of natural gas supplies. Core customers still mainly rely on the utilities for procurement service, but they have the option to take procurement service from a CTA. Backbone transmission and storage capacity is either set aside or obtained for core customers in amounts to assure very high levels of service.

In order properly operate their natural gas transmission pipeline and storage systems, PG&E and SoCalGas must balance the amount of gas received into the pipeline system and delivered to customers or to storage fields. Some of these utilities' storage capacity is dedicated to this service, and under most circumstances, customers do not need to precisely match their deliveries with their consumption. However, when too much or too little gas is expected to be delivered into the utilities' systems, relative to the amount being consumed, the utilities require customers to more precisely match up their deliveries with their consumption. And, if customers do not meet certain delivery requirements, they could face financial penalties. The utilities do not profit from these financial penalties - the amounts are then returned to customers as a whole. If the utilities find that they are unable to deliver all the gas that is expected to be consumed, they may even call for a curtailment of some gas deliveries. These curtailments are typically required for just the largest, noncore customers. It has been many years since there has been a significant curtailment of core customers in California." (12)

As indicated in the preceding discussions, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available via existing delivery systems, thereby increasing the availability and reliability of resources in total. The CPUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State.

Based on information provided by the Project applicant, no natural gas would be used as a result of the Project, and as such use of natural gas is not considered in the analysis.

2.4 TRANSPORTATION ENERGY RESOURCES

The Project would generate additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. The Department of Motor Vehicles (DMV) identified 36.2 million registered vehicles in California (13), and those vehicles consume an estimated 17.2 billion gallons of fuel each year[1]. Gasoline (and other vehicle fuels) are

[1] Fuel consumptions estimated utilizing information from EMFAC2021.

commercially provided commodities and would be available to the Project patrons and employees via commercial outlets.

California’s on-road transportation system includes 396,616 lane miles, more than 26.6 million passenger vehicles and light trucks, and almost 9.0 million medium- and heavy-duty vehicles (13). While gasoline consumption has been declining since 2008 it is still by far the dominant fuel. California is the second-largest consumer of petroleum products, after Texas, and accounts for 10% of the nation's total consumption. The state is the largest U.S. consumer of motor gasoline and jet fuel, and 85% of the petroleum consumed in California is used in the transportation sector (14).

California accounts for less than 1% of total U.S. natural gas reserves and production. As with crude oil, California's natural gas production has experienced a gradual decline since 1985. In 2019, about 37% of the natural gas delivered to consumers went to the state's industrial sector, and about 28% was delivered to the electric power sector. Natural gas fueled more than two-fifths of the state's utility-scale electricity generation in 2019. The residential sector, where two-thirds of California households use natural gas for home heating, accounted for 22% of natural gas deliveries. The commercial sector received 12% of the deliveries to end users and the transportation sector consumed the remaining 1% (14).

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3 REGULATORY BACKGROUND

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency (EPA) are three federal agencies with substantial influence over energy policies and programs. On the state level, the CPUC and the CEC are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

3.1 FEDERAL REGULATIONS

3.1.1 INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991 (ISTEA)

ISTEA promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

3.1.2 THE TRANSPORTATION EQUITY ACT FOR THE 21ST CENTURY (TEA-21)

TEA-21 was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

3.2 CALIFORNIA REGULATIONS

3.2.1 INTEGRATED ENERGY POLICY REPORT (IEPR)

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code § 25301[a]). The CEC prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2021 IEPR was adopted February 2022, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2021 IEPR provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the state is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs. Additionally, the 2021 IEPR provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the state is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs (15).

3.2.2 STATE OF CALIFORNIA ENERGY PLAN

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies several strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

3.2.3 CALIFORNIA CODE TITLE 24, PART 6, ENERGY EFFICIENCY STANDARDS

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on August 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that will be effective on January 1, 2023[2]. The Project would be required to comply with the applicable standards in place at the time plan check submittals are made (16).

3.2.4 AB 1493 PAVLEY REGULATIONS AND FUEL EFFICIENCY STANDARDS

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Under this legislation, CARB adopted regulations to reduce GHG emissions from non-commercial passenger vehicles (cars and light-duty trucks). Although aimed at reducing GHG emissions, specifically, a co-benefit of the Pavley standards is an improvement in fuel efficiency and consequently a reduction in fuel consumption.

[2] The 2022 California Green Building Standard Code will be published July 1, 2022.

3.2.5 CALIFORNIA'S RENEWABLE PORTFOLIO STANDARD (RPS)

First established in 2002 under Senate Bill (SB) 1078, California's Renewable Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable resources to 33% of total retail sales by 2020 (17).

3.2.6 CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015 (SB 350)

In October 2015, the legislature approved, and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the CEC, and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

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4 PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

4.1 EVALUATION CRITERIA

Appendix F of the *State CEQA Guidelines* (18), states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas, and oil; and
- Increasing reliance on renewable energy sources.

In compliance with Appendix G of the *State CEQA Guidelines* (19), this report analyzes the Project's anticipated energy use during construction and operations to determine if the Project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency

4.2 METHODOLOGY

Information from the CalEEMod Version 2022.1 outputs for the *Mapes & Sherman Commerce Center (DEV2022-003) Air Quality Impact Analysis* (AQIA) (20) was utilized in this analysis, detailing Project related construction equipment, transportation energy demands, and facility energy demands.

4.2.1 CALEEMOD

In May 2022, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutants and GHG emissions from direct and indirect sources as well as energy usage (21). Accordingly, the latest version of CalEEMod has been used to determine the proposed Project's anticipated transportation and facility energy demands. Outputs from the annual model runs are provided in Appendices 4.1 through 4.2.

4.2.2 EMISSION FACTORS MODEL

On May 2, 2022, the EPA approved the 2021 version of the EMissions FACtor model (EMFAC2021) web database for use in State Implementation Plan and transportation conformity analyses. EMFAC2021 is a mathematical model that was developed to calculate emission rates, fuel consumption, VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources (22). This energy study utilizes the different fuel types for each vehicle class from the annual EMFAC2021 emission inventory in order to derive the average vehicle fuel economy which is then used to determine the estimated annual fuel consumption associated with vehicle usage during Project construction and operational activities. For purposes of analysis, the 2023 and 2024 analysis years were utilized to determine the average vehicle fuel economy used throughout the duration of the Project. Outputs from the EMFAC2021 model run is provided in Appendix 4.3.

4.3 CONSTRUCTION ENERGY DEMANDS

The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the proposed Project.

4.3.1 CONSTRUCTION POWER COST

The total Project construction power costs is the summation of the products of the area (sf) by the construction duration and the typical power cost.

CONSTRUCTION DURATION

For purposes of analysis, construction of Project is expected to commence in July 2023 and would last through September 2024 (20). The construction schedule utilized in the analysis, shown in Table 4-1, represents a "worst-case" analysis scenario. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (23).

TABLE 4-1: CONSTRUCTION DURATION

Construction Activity	Start Date	End Date	Days
Site Preparation	10/03/2023	10/16/2023	10
Grading	10/17/2023	11/27/2023	30
Building Construction	11/28/2023	08/05/2024	180
Paving	07/09/2024	08/05/2024	20
Architectural Coating	06/11/2024	08/05/2024	40

PROJECT CONSTRUCTION POWER COST

The *2022 National Construction Estimator* identifies a typical power cost per 1,000 sf of construction per month of $2.41, which was used to calculate the Project's total construction power cost (24).

As shown on Table 4-2, the total power cost of the on-site electricity usage during the construction of the Project is estimated to be approximately $13,999.04.

TABLE 4-2: CONSTRUCTION POWER COST

Land Use	**Power Cost** (per 1,000 SF of construction per month)	**Size** (1,000 SF)	**Construction Duration** (months)	**Project Construction Power Cost**
High-Cube Fulfillment	$2.41	277.578	10	$6,689.63
Landscape	$2.41	69.981	10	$1,686.54
Parking	$2.41	88.008	10	$2,120.99
Other Asphalt Surfaces	$2.41	145.306	10	$3,501.87
			CONSTRUCTION POWER COST	***$13,999.04***

4.3.2 CONSTRUCTION ELECTRICITY USAGE

The total Project construction electricity usage is the summation of the products of the power cost (estimated in Table 4-2) by the utility provider cost per kilowatt hour (kWh) of electricity.

PROJECT CONSTRUCTION ELECTRICITY USAGE

The SCE's general service rate schedule were used to determine the Project's electrical usage. As of June 1, 2022, SCE's general service rate is $0.13 per kilowatt hours (kWh) of electricity for industrial services (25). As shown on Table 4-3, the total electricity usage from on-site Project construction related activities is estimated to be approximately 105,486 kWh.

TABLE 4-3: CONSTRUCTION ELECTRICITY USAGE

Land Use	Cost per kWh	Project Construction Electricity Usage (kWh)
High-Cube Fulfillment	$0.13	50,408
Landscape	$0.13	12,708
Parking	$0.13	15,982
Other Asphalt Surfaces	$0.13	26,387
	ONSTRUCTION ELECTRICITY USAGE	***105,486***

4.3.3 CONSTRUCTION EQUIPMENT FUEL ESTIMATES

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction.

CONSTRUCTION EQUIPMENT

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 4-4 will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code.

TABLE 4-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Activity	Equipment	Amount	Hours Per Day
Site Preparation	Rubber Tired Dozers	3	8
	Crawler Tractors	4	8
Grading	Graders	1	8
	Excavators	2	8
	Scrapers	2	8
	Rubber Tired Dozers	1	8
	Crawler Tractors	2	8
Building Construction	Forklifts	3	8
	Generator Sets	1	8
	Cranes	1	8
	Welders	1	8
	Crawler Tractors	3	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

PROJECT CONSTRUCTION EQUIPMENT FUEL CONSUMPTION

Project construction activity timeline estimates, construction equipment schedules, equipment power ratings, load factors, and associated fuel consumption estimates are presented in Table 4-5. The aggregate fuel consumption rate for all equipment is estimated at 18.5 horsepower hour per gallon (hp-hr-gal.), obtained from CARB 2018 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines (26). For the purposes of this analysis, the calculations are based on all construction equipment being diesel-powered, which is consistent with industry standards.

Diesel fuel would be supplied by existing commercial fuel providers serving the Project area and region[3]. As presented in Table 4-5, Project construction activities would consume an estimated 36,791 gallons of diesel fuel. Project construction would represent a "single-event" diesel fuel demand and would not require ongoing or permanent commitment of diesel fuel resources for this purpose.

[3] Based on Appendix A of the CalEEMod User's Guide, Construction consists of several types of off-road equipment. Since the majority of the off-road construction equipment used for construction projects are diesel fueled, CalEEMod assumes all of the equipment operates on diesel fuel.

TABLE 4-5: CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES

Construction Activity	Duration (Days)	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption
Site Preparation	10	Rubber Tired Dozers	367	3	8	0.40	3,523	1,904
		Crawler Tractors	87	4	8	0.43	1,197	647
Grading	30	Graders	148	1	8	0.41	485	787
		Excavators	36	2	8	0.38	219	355
		Scrapers	423	2	8	0.48	3,249	5,268
		Rubber Tired Dozers	367	1	8	0.40	1,174	1,904
		Crawler Tractors	87	2	8	0.43	599	971
Building Construction	180	Forklifts	82	3	8	0.20	394	3,830
		Generator Sets	14	1	8	0.74	83	806
		Cranes	367	1	8	0.29	851	8,284
		Welders	46	1	8	0.45	166	1,611
		Crawler Tractors	87	3	8	0.43	898	8,736
Paving	20	Pavers	81	2	8	0.42	544	588
		Paving Equipment	89	2	8	0.36	513	554
		Rollers	36	2	8	0.38	219	237
Architectural Coating	40	Air Compressors	37	1	8	0.48	142	307
CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL)								***36,791***

4.3.4 CONSTRUCTION TRIPS AND VMT

Construction generates on-road vehicle emissions from vehicle usage for workers, vendors, and haul truck commuting to and from the site. The number of workers, vendor, and haul trips are presented below in Table 4-6. It should be noted that for vendor trips, specifically, CalEEMod only assigns vendor trips to the Building Construction phase. Vendor trips would likely occur during all phases of construction. As such, the CalEEMod defaults for vendor trips have been adjusted based on a ratio of the total vendor trips to the number of days of each subphase of activity.

TABLE 4-6: CONSTRUCTION TRIPS AND VMT

Construction Activity	Worker Trips Per Day	Vendor Trips Per Day	Hauling Trips Per Day
Site Preparation	18	3	0
Grading	20	7	42
Building Construction	117	37	0
Paving	15	0	0
Architectural Coating	23	0	0

4.3.5 CONSTRUCTION WORKER FUEL ESTIMATES

With respect to estimated VMT for the Project, the construction worker trips (personal vehicles used by workers commuting to the Project from home) would generate an estimated 434,565 VMT during the 10 months of construction (20). Based on CalEEMod methodology, it is assumed that 50% of all construction worker trips are from light-duty-auto vehicles (LDA), 25% are from light-duty-trucks (LDT1[4]), and 25% are from light-duty-trucks (LDT2[5]). Data regarding Project related construction worker trips were based on CalEEMod defaults utilized within the AQIA.

Vehicle fuel efficiencies for LDA, LDT1, and LDT2 were estimated using information generated within the 2021 version of the EMFAC developed by CARB. EMFAC2021 is a mathematical model that was developed to calculate emission rates, fuel consumption, and VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources (22). EMFAC2021 was run for the LDA, LDT1, and LDT2 vehicle class within the California sub-area for the 2023 and 2024 calendar years. Data from EMFAC2021 is shown in Appendix 4.3.

As shown in Table 4-7, the estimated annual fuel consumption resulting from Project construction worker trips is 15,811 gallons during full construction of the Project. It should be noted that construction worker trips would represent a "single-event" gasoline fuel demand and would not require ongoing or permanent commitment of fuel resources for this purpose.

[4] Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs.

[5] Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

TABLE 4-7: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES

Year	Construction Activity	Duration (Days)	Worker Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2023	LDA						
	Site Preparation	10	9	18.5	1,665	30.60	54
	Grading	30	10	18.5	5,550	30.60	181
	Building Construction	24	59	18.5	26,196	30.60	856
	LDT1						
	Site Preparation	10	5	18.5	925	24.15	38
	Grading	30	5	18.5	2,775	24.15	115
	Building Construction	24	30	18.5	13,320	24.15	552
	LDT2						
	Site Preparation	10	5	18.5	925	23.88	39
	Grading	30	5	18.5	2,775	23.88	116
	Building Construction	24	30	18.5	13,320	23.88	558
2024	LDA						
	Building Construction	156	59	18.5	170,274	31.51	5,404
	Paving	20	8	18.5	2,960	31.51	94
	Architectural Coating	40	12	18.5	8,880	31.51	282
	LDT1						
	Building Construction	156	30	18.5	86,580	24.62	3,516
	Paving	20	4	18.5	1,480	24.62	60
	Architectural Coating	40	6	18.5	4,440	24.62	180
	LDT2						
	Building Construction	156	30	18.5	86,580	24.57	3,523
	Paving	20	4	18.5	1,480	24.57	60
	Architectural Coating	40	6	18.5	4,440	24.57	181
TOTAL CONSTRUCTION WORKER FUEL CONSUMPTION							***15,811***

4.3.6 CONSTRUCTION VENDOR/HAULING FUEL ESTIMATES

With respect to estimated VMT, the construction vendor trips (vehicles that deliver materials to the site during construction) would generate an estimated 97,824 VMT along area roadways for the Project over the duration of construction activity (20). It is assumed that 50% of all vendor trips are from medium-heavy duty trucks (MHD), 50% of all vendor trips are from heavy-heavy duty trucks (HHD), and 100% of all hauling trips are from HHDs. These assumptions are consistent with the CalEEMod defaults utilized within the within the AQIA (20). Vehicle fuel efficiencies for MHDs and HHDs were estimated using information generated within EMFAC2021. EMFAC2021 was run for the MHD and HHD vehicle classes within the California sub-area for the 2023 and 2024 calendar years. Data from EMFAC2021 is shown in Appendix 4.3.

Based on Table 4-8, it is estimated that 14,407 gallons of fuel will be consumed related to construction vendor trips during full construction of the Project. It should be noted that Project construction vendor trips would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

TABLE 4-8: CONSTRUCTION VENDOR FUEL CONSUMPTION ESTIMATES

Year	**Construction Activity**	**Duration** (Days)	**Vendor Trips/Day**	**Trip Length** (miles)	**VMT**	**Average Vehicle Fuel Economy** (mpg)	**Estimated Fuel Consumption** (gallons)
2023	MHD						
	Site Preparation	10	2	10.2	204	8.40	24
	Grading	30	4	10.2	1,224	8.40	146
	Building Construction	24	19	10.2	4,651	8.40	554
	HHD (Vendor)						
	Site Preparation	10	2	10.2	204	6.04	34
	Grading	30	4	10.2	1,224	6.04	203
	Building Construction	24	19	10.2	4,651	6.04	770
	HHD (Hauling)						
	Grading	30	42	20	25,200	6.04	4,170
2024	MHD						
	Building Construction	156	19	10.2	30,233	8.47	3,568
	HHD (Vendor)						
	Building Construction	156	19	10.2	30,233	6.12	4,939
TOTAL CONSTRUCTION VENDOR/HAULING FUEL CONSUMPTION							***14,407***

4.3.7 CONSTRUCTION ENERGY EFFICIENCY/CONSERVATION MEASURES

Starting in 2014, CARB adopted the nation's first regulation aimed at cleaning up off-road construction equipment such as bulldozers, graders, and backhoes. These requirements ensure fleets gradually turnover the oldest and dirtiest equipment to newer, cleaner models and prevent fleets from adding older, dirtier equipment. As such, the equipment used for Project construction would conform to CARB regulations and California emissions standards. It should also be noted that there are no unusual Project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the Project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

Construction contractors would be required to comply with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additional construction-source energy efficiencies would occur due to required California regulations and best available control measures (BACM). For example, CCR Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Section 2449(d)(3) requires that grading plans shall reference the requirement that a sign shall be posted on-site stating that construction workers need to shut off engines at or before five minutes of idling." In this manner, construction equipment operators are required to be informed that engines are to be turned off at or prior to five minutes of idling. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

A full analysis related to the energy needed to form construction materials is not included in this analysis due to a lack of detailed Project-specific information on construction materials. At this time, an analysis of the energy needed to create Project-related construction materials would be extremely speculative and thus has not been prepared.

In general, construction processes promote conservation and efficient use of energy by reducing raw materials demands, with related reduction in energy demands associated with raw materials extraction, transportation, processing, and refinement. Use of materials in bulk reduces energy demands associated with preparation and transport of construction materials as well as the transport and disposal of construction waste and solid waste in general, with corollary reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations.

4.4 OPERATIONAL ENERGY DEMANDS

Energy consumption in support of or related to Project operations would include transportation fuel demands (fuel consumed by passenger car and truck vehicles accessing the Project site), fuel demands from operational equipment, and facilities energy demands (energy consumed by building operations and site maintenance activities).

4.4.1 TRANSPORTATION FUEL DEMANDS

Energy that would be consumed by Project-generated traffic is a function of total VMT and estimated vehicle fuel economies of vehicles accessing the Project site. The VMT per vehicle class can be determined by evaluated in the vehicle fleet mix and the total VMT. As with worker and vendors trips, operational vehicle fuel efficiencies were estimated using information generated within EMFAC2021 developed by CARB (22). EMFAC2021 was run for the Riverside County area for the 2024 calendar year. Data from EMFAC2021 is shown in Appendix 4.3.

The estimated transportation energy demands are summarized on Table 4-9. As summarized on Table 4-9 the Project would result in a 2,860,138 annual VMT and an estimated annual fuel consumption of 177,455 gallons of fuel.

TABLE 4-9: TOTAL PROJECT-GENERATED TRAFFIC ANNUAL FUEL CONSUMPTION

Vehicle Type	**Average Vehicle Fuel Economy** (mpg)	**Annual VMT**	**Estimated Annual Fuel Consumption** (gallons)
LDA	31.51	1,264,572	40,137
LDT1	24.62	102,508	4,163
LDT2	24.57	502,790	20,462
MDV	15.52	346,986	22,364
MCY	15.52	51,027	3,289
LHD1	16.16	51,822	3,206
LHD2	15.52	14,629	943
MHD	8.47	66,392	7,835
HHD	6.12	459,411	75,056
	TOTAL (ALL VEHICLES)	***2,860,138***	***177,455***

4.4.2 ON-SITE CARGO HANDLING EQUIPMENT FUEL DEMANDS

It is common for industrial buildings to require the operation of exterior cargo handling equipment in the building's truck court areas. For this particular Project, on-site modeled operational equipment includes up to one (1) 175 horsepower (hp), natural gas-powered cargo handling equipment – port tractors operating at 4 hours a day[6] for 365 days of the year.

Project operational activity estimates and associated fuel consumption estimates are based on the annual EMFAC2021 offroad emissions for the 2024 operational year and was used to derive the total annual fuel consumption associated on-site equipment. As presented in Table 4-10, Project on-site equipment would consume an estimated 4,642 gallons of natural gas.

[6] Based on Table II-3, Port and Rail Cargo Handling Equipment Demographics by Type, from CARB's Technology Assessment: Mobile Cargo Handling Equipment document, a single piece of equipment could operate up to 2 hours per day (Total Average Annual Activity divided by Total Number Pieces of Equipment). As such, the analysis conservatively assumes that the tractor/loader/backhoe would operate up to 4 hours per day.

TABLE 4-10: ON-SITE CARGO HANDLING EQUIPMENT FUEL CONSUMPTION ESTIMATES

Equipment	Quantity	Usage Hours	Days of Operation	EMFAC2021 Fuel Consumption (gal./yr)	EMFAC2021 Activity (hrs./yr)	Total Fuel Consumption
Cargo Handling Equipment	1	4	365	17,909	5,633	4,642
ON-SITE CARGO HANDLING EQUIPMENT FUEL DEMAND (GALLONS FUEL)						***4,642***

4.4.3 FACILITY ENERGY DEMANDS

Project building operations activities would result in the consumption of electricity, which would be supplied to the Project by SCE. Annual electricity demands of the Project are summarized in Table 4-11. As summarized on Table 4-11 the Project would result in 1,354,592 kWh/year of electricity.

Based on information provided by the Project Applicant, the Project would not use natural gas for the building envelope. As such, natural gas consumption has not been analyzed in this study.

TABLE 4-11: PROJECT ANNUAL OPERATIONAL ENERGY DEMAND SUMMARY

Land Use	**Electricity Demand** (kWh/year)
High-Cube Fulfillment	1,277,512
Landscape	0
Parking	77,080
Other Asphalt Surfaces	0
Landscape	***1,354,592***

4.4.4 OPERATIONAL ENERGY EFFICIENCY/CONSERVATION MEASURES

Energy efficiency/energy conservation attributes of the Project would be complemented by increasingly stringent state and federal regulatory actions addressing vehicle fuel economies and vehicle emissions standards; and enhanced building/utilities energy efficiencies mandated under California building codes (e.g., Title24, California Green Building Standards Code).

ENHANCED VEHICLE FUEL EFFICIENCIES

Project annual fuel consumption estimates presented previously in Table 4-9 represent likely potential maximums that would occur for the Project. Under subsequent future conditions, average fuel economies of vehicles accessing the Project site can be expected to improve as older, less fuel-efficient vehicles are removed from circulation, and in response to fuel economy and emissions standards imposed on newer vehicles entering the circulation system.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the

Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands.

4.5 SUMMARY

4.5.1 CONSTRUCTION ENERGY DEMANDS

The estimated power cost of on-site electricity usage during the construction of the Project is assumed to be approximately $13,999.04. Additionally, based on the assumed power cost, it is estimated that the total electricity usage during construction, after full Project buildout, is calculated to be approximately 105,486 kWh.

Construction equipment used by the Project would result in single event consumption of approximately 36,791 gallons of diesel fuel. Construction equipment use of fuel would not be atypical for the type of construction proposed because there are no aspects of the Project's proposed construction process that are unusual or energy-intensive, and Project construction equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. BACMs inform construction equipment operators of this requirement. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Construction worker trips for full construction of the Project would result in the estimated fuel consumption of 15,811 gallons of fuel. Additionally, fuel consumption from construction vendor trips (MHDs and HHDs) will total approximately 14,407 gallons. Diesel fuel would be supplied by City and regional commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved using bulk purchases, transport, and use of construction materials. The 2021 IEPR released by the CEC has shown that fuel efficiencies are getting better within on and off-road vehicle engines due to more stringent government requirements (15). As supported by the preceding discussions, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

4.5.2 OPERATIONAL ENERGY DEMANDS

TRANSPORTATION ENERGY DEMANDS

Annual vehicular trips and related VMT generated by the operation of the Project would result in a fuel demand of 177,455 gallons of fuel.

Fuel would be provided by current and future commercial vendors. Trip generation and VMT generated by the Project are consistent with other industrial uses of similar scale and configuration, as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Ed., 2021); and CalEEMod. As such, Project operations would not result in excessive and wasteful vehicle trips and VMT, nor excess and wasteful vehicle energy consumption compared to other industrial uses.

It should be noted that the state strategy for the transportation sector for medium and heavy-duty trucks is focused on making trucks more efficient and expediting truck turnover rather than reducing VMT from trucks. This is in contrast to the passenger vehicle component of the transportation sector where both per-capita VMT reductions and an increase in vehicle efficiency are forecasted to be needed to achieve the overall state emissions reductions goals.

Heavy duty trucks involved in goods movements are generally controlled on the technology side and through fleet turnover of older trucks and engines to newer and cleaner trucks and engines. The first battery-electric heavy-heavy duty trucks are being tested this year and SCAQMD is looking to integrate this new technology into large-scale truck operations. The following state strategies reduce GHG emissions from the medium and heavy-duty trucks:

- CARB's Mobile Source Strategy focuses on reducing GHGs through the transition to zero and low emission vehicles and from medium-duty and heavy-duty trucks.
- CARB's Sustainable Freight Action Plan establishes a goal to improve freight efficiency by 25% by 2030, deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.
- CARB's Emissions Reduction Plan for Ports and Goods Movement (Goods Movement Plan) in California focuses on reducing heavy-duty truck-related emissions focus on establishment of emissions standards for trucks, fleet turnover, truck retrofits, and restriction on truck idling (CARB 2006). While the focus of Goods Movement Plan is to reduce criteria air pollutant and air toxic emissions, the strategies to reduce these pollutants would also generally have a beneficial effect in reducing GHG emissions.
- CARB's On-Road Truck and Bus Regulation (2010) requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet particulate matter filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent (27).
- CARB's Heavy-Duty (Tractor-Trailer) GHG Regulation requires SmartWay tractor trailers that include idle-reduction technologies, aerodynamic technologies, and low-rolling resistant tires that would reduce fuel consumption and associated GHG emissions.

The proposed Project would implement project design features that would facilitate the accessibility, parking, and loading of trucks on-site.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. The Project would implement sidewalks, facilitating and encouraging pedestrian access. Facilitating pedestrian and bicycle access would reduce VMT and associated energy consumption. In compliance with the California Green

Building Standards Code and City requirements, the Project would promote the use of bicycles as an alternative mean of transportation by providing short-term and/or long-term bicycle parking accommodations. As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

ON-SITE CARGO HANDLING EQUIPMENT FUEL DEMANDS

As previously stated, it is common for industrial buildings to require the operation of exterior cargo handling equipment in the building's truck court areas. On-site cargo handling equipment used by the Project would result in approximately 4,642 gallons of natural gas. On-site equipment use of fuel would not be atypical for the type of construction proposed because there are no aspects of the Project's proposed operations that are unusual or energy-intensive, and Project on-site equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

FACILITY ENERGY DEMANDS

Project facility operational energy demands are estimated to be: 1,354,592 kWh/year of electricity which would be supplied by SCE. Based on information provided by the Project Applicant, the Project would not use natural gas. As such, natural gas consumption has not been analyzed in this study. The Project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. The Project does not propose uses that are inherently energy intensive and the energy demands in total would be comparable to other industrial uses of similar scale and configuration.

Lastly, the Project will comply with the applicable Title 24 standards. Compliance itself with applicable Title 24 standards will ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary.

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5 CONCLUSIONS

5.1 ENERGY IMPACT 1

Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

As supported by the preceding analyses, Project construction and operations would not result in the inefficient, wasteful, or unnecessary consumption of energy. The Project would therefore not cause or result in the need for additional energy producing or transmission facilities. The Project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California.

5.2 ENERGY IMPACT 2

Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The Project's consistency with the applicable state and local plans is discussed below.

CONSISTENCY WITH ISTEA

Transportation and access to the Project site is provided by the local and regional roadway systems. The Project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be realized pursuant to the ISTEA because SCAG is not planning for intermodal facilities on or through the Project site.

CONSISTENCY WITH TEA-21

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access, acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through collocation of similar uses. The Project supports the strong planning processes emphasized under TEA-21. The Project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of TEA-21.

CONSISTENCY WITH IEPR

Electricity would be provided to the Project by SCE. SCE's *Clean Power and Electrification Pathway* (CPEP) white paper builds on existing state programs and policies. As such, the Project is consistent with, and would not otherwise interfere with, nor obstruct implementation the goals presented in the 2021 IEPR.

Additionally, the Project will comply with the applicable Title 24 standards which would ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary. As such, development of the proposed Project would support the goals presented in the 2020 IEPR.

CONSISTENCY WITH STATE OF CALIFORNIA ENERGY PLAN

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access and takes advantage of existing infrastructure systems. The Project therefore supports urban design and planning processes identified under the State of California Energy Plan, is consistent with, and would not otherwise interfere with or obstruct, implementation of the State of California Energy Plan.

CONSISTENCY WITH CALIFORNIA CODE TITLE 24, PART 6, ENERGY EFFICIENCY STANDARDS

The 2022 version of Title 24 was adopted by the CEC and will become effective on January 1, 2023. As the Project building construction is anticipated in 2024, it is presumed that the Project would be required to comply with the Title 24 standards in place at that time. Therefore, the Project is would not result in a significant impact on energy resources (16). The proposed Project would be subject to Title 24 standards.

CONSISTENCY WITH CALIFORNIA CODE TITLE 24, PART 11, CALGREEN

As previously stated, CCR, Title 24, Part 11: CALGreen is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2009, and is administered by the California Building Standards Commission. CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that were published on July 1, 2022 and will become effective on January 1, 2023. The Project would be required to comply with the applicable standards in place at the time plan check submittals are made.

CONSISTENCY WITH AB 1493

AB 1493 is not applicable to the Project as it is a statewide measure establishing vehicle emissions standards. No feature of the Project would interfere with implementation of the requirements under AB 1493.

CONSISTENCY WITH RPS

California's RPS is not applicable to the Project as it is a statewide measure that establishes a renewable energy mix. No feature of the Project would interfere with implementation of the requirements under RPS.

CONSISTENCY WITH SB 350

The proposed Project would use energy from SCE, which have committed to diversify their portfolio of energy sources by increasing energy from wind and solar sources. No feature of the Project would interfere with implementation of SB 350. Additionally, the Project would be designed and constructed to implement the energy efficiency measures for new industrial developments and would include several measures designed to reduce energy consumption.

As shown above, the Project would not conflict with any of the state or local plans. As such, a less than significant impact is expected.

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7 CERTIFICATIONS

The contents of this energy analysis report represent an accurate depiction of the environmental impacts associated with the proposed Mapes & Sherman Commerce Center (DEV2022-003). The information contained in this energy analysis report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com.

Haseeb Qureshi
Associate Principal
Urban Crossroads, Inc.
hqureshi@urbanxroads.com

EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

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APPENDIX 4.1:

CALEEMOD PROJECT CONSTRUCTION EMISSIONS MODEL OUTPUTS

Mapes & Sherman (Construction) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Mapes & Sherman (Construction)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	0.20
Location	33.75710422655197, -117.18112679049779
County	Riverside-South Coast
City	Menifee
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5512
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Unrefrigerated Warehouse-No Rail	278	1000sqft	7.98	277,578	69,981	0.00	—	—
Parking Lot	377	Space	2.02	0.00	0.00	0.00	—	—

Other Asphalt Surfaces	145	1000sqft	3.34	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.46	39.2	28.2	40.9	0.05	1.48	2.34	3.82	1.36	0.56	1.92	—	7,875	7,875	0.30	0.29	12.1	7,979
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.94	4.99	47.2	39.3	0.08	2.53	5.92	8.46	2.33	2.75	5.08	—	10,189	10,189	0.34	0.57	0.27	10,368
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.37	5.00	8.73	11.3	0.02	0.47	0.83	1.30	0.43	0.21	0.63	—	2,503	2,503	0.10	0.11	1.91	2,540
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.25	0.91	1.59	2.06	< 0.005	0.09	0.15	0.24	0.08	0.04	0.12	—	414	414	0.02	0.02	0.32	421

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.46	39.2	28.2	40.9	0.05	1.48	2.34	3.82	1.36	0.56	1.92	—	7,875	7,875	0.30	0.29	12.1	7,979
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	5.94	4.99	47.2	39.3	0.08	2.53	5.92	8.46	2.33	2.75	5.08	—	10,189	10,189	0.34	0.57	0.27	10,368
2024	2.98	2.53	19.1	23.8	0.04	1.04	1.85	2.89	0.96	0.45	1.41	—	5,503	5,503	0.21	0.25	0.26	5,584
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.80	0.67	6.35	5.62	0.01	0.31	0.59	0.91	0.29	0.21	0.50	—	1,369	1,369	0.05	0.07	0.61	1,390
2024	1.37	5.00	8.73	11.3	0.02	0.47	0.83	1.30	0.43	0.20	0.63	—	2,503	2,503	0.10	0.11	1.91	2,540
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.15	0.12	1.16	1.03	< 0.005	0.06	0.11	0.17	0.05	0.04	0.09	—	227	227	0.01	0.01	0.10	230
2024	0.25	0.91	1.59	2.06	< 0.005	0.09	0.15	0.24	0.08	0.04	0.12	—	414	414	0.02	0.02	0.32	421

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.83	4.90	47.0	38.0	0.05	2.53	—	2.53	2.33	—	2.33	—	5,530	5,530	0.22	0.04	—	5,549

Dust From Material Movement	—	—	—	—	—	—	5.66	5.66	—	2.69	2.69	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.29	1.04	< 0.005	0.07	—	0.07	0.06	—	0.06	—	152	152	0.01	< 0.005	—	152
Dust From Material Movement	—	—	—	—	—	—	0.16	0.16	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.24	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.1	25.1	< 0.005	< 0.005	—	25.2
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.11	1.24	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	243	243	0.01	0.01	0.03	246
Vendor	< 0.005	< 0.005	0.12	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	94.3	94.3	< 0.005	0.01	0.01	98.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	6.74	6.74	< 0.005	< 0.005	0.01	6.84
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.58	2.58	< 0.005	< 0.005	< 0.005	2.70
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.12	1.12	< 0.005	< 0.005	< 0.005	1.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.43	0.43	< 0.005	< 0.005	< 0.005	0.45
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	5.00	4.20	40.9	32.7	0.06	1.96	—	1.96	1.80	—	1.80	—	6,715	6,715	0.27	0.05	—	6,738
Dust From Material Movement	—	—	—	—	—	—	2.67	2.67	—	0.98	0.98	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	3.36	2.69	0.01	0.16	—	0.16	0.15	—	0.15	—	552	552	0.02	< 0.005	—	554

Dust From Material Movement	—	—	—	—	—	—	0.22	0.22	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.61	0.49	< 0.005	0.03	—	0.03	0.03	—	0.03	—	91.4	91.4	< 0.005	< 0.005	—	91.7
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.12	1.37	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	270	270	0.01	0.01	0.03	273
Vendor	0.01	0.01	0.27	0.08	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	220	220	< 0.005	0.03	0.02	230
Hauling	0.12	0.04	3.58	0.83	0.02	0.06	0.20	0.26	0.06	0.07	0.13	—	2,984	2,984	0.05	0.47	0.16	3,127
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	22.5	22.5	< 0.005	< 0.005	0.04	22.8
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.1	18.1	< 0.005	< 0.005	0.02	18.9
Hauling	0.01	< 0.005	0.30	0.07	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	245	245	< 0.005	0.04	0.22	257
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	3.72	3.72	< 0.005	< 0.005	0.01	3.77
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.99	2.99	< 0.005	< 0.005	< 0.005	3.13

Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	40.6	40.6	< 0.005	0.01	0.04	42.6

3.5. Building Construction (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.47	2.07	18.3	16.2	0.03	1.14	—	1.14	1.05	—	1.05	—	2,806	2,806	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.14	1.22	1.08	< 0.005	0.08	—	0.08	0.07	—	0.07	—	187	187	0.01	< 0.005	—	187
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.9	30.9	< 0.005	< 0.005	—	31.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.65	0.59	0.72	8.04	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,579	1,579	0.08	0.06	0.19	1,599
Vendor	0.06	0.03	1.42	0.43	0.01	0.02	0.07	0.08	0.02	0.02	0.04	—	1,163	1,163	0.02	0.17	0.08	1,215
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.05	0.56	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	106	106	0.01	< 0.005	0.21	108
Vendor	< 0.005	< 0.005	0.10	0.03	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	77.3	77.3	< 0.005	0.01	0.09	80.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	17.6	17.6	< 0.005	< 0.005	0.03	17.9
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.02	13.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.31	1.93	17.1	16.0	0.03	1.03	—	1.03	0.94	—	0.94	—	2,805	2,805	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.31	1.93	17.1	16.0	0.03	1.03	—	1.03	0.94	—	0.94	—	2,805	2,805	0.11	0.02	—	2,815
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.98	0.82	7.29	6.83	0.01	0.44	—	0.44	0.40	—	0.40	—	1,197	1,197	0.05	0.01	—	1,201
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.33	1.25	< 0.005	0.08	—	0.08	0.07	—	0.07	—	198	198	0.01	< 0.005	—	199
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.66	0.60	0.56	9.77	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,684	1,684	0.07	0.06	6.68	1,710
Vendor	0.05	0.03	1.30	0.40	0.01	0.02	0.07	0.08	0.02	0.02	0.04	—	1,149	1,149	0.02	0.17	3.24	1,204
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.62	0.56	0.67	7.38	0.00	0.00	0.10	0.10	0.00	0.00	0.00	—	1,548	1,548	0.07	0.06	0.17	1,567
Vendor	0.05	0.03	1.36	0.41	0.01	0.02	0.07	0.08	0.02	0.02	0.04	—	1,150	1,150	0.02	0.17	0.08	1,202
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.24	0.28	3.32	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	669	669	0.03	0.02	1.23	678
Vendor	0.02	0.01	0.58	0.18	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	490	490	0.01	0.07	0.59	513

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.61	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	111	111	0.01	< 0.005	0.20	112
Vendor	< 0.005	< 0.005	0.11	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	81.2	81.2	< 0.005	0.01	0.10	84.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.43	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8

Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.07	1.25	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	216	216	0.01	0.01	0.86	219
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	11.0	11.0	< 0.005	< 0.005	0.02	11.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.82	1.82	< 0.005	< 0.005	< 0.005	1.85
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2024) - Unmitigated

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

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

Off-Road Equipment	0.22	0.18	1.21	1.53	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	—	34.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.5	19.5	< 0.005	< 0.005	—	19.6
Architectural Coatings	—	3.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.23	3.23	< 0.005	< 0.005	—	3.24
Architectural Coatings	—	0.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.11	1.92	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	331	331	0.01	0.01	1.31	336
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.17	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	33.8	33.8	< 0.005	< 0.005	0.06	34.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	5.59	5.59	< 0.005	< 0.005	0.01	5.67
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description

Site Preparation	Site Preparation	10/3/2023	10/16/2023	5.00	10.0	—
Grading	Grading	10/17/2023	11/27/2023	5.00	30.0	—
Building Construction	Building Construction	11/28/2023	8/5/2024	5.00	180	—
Paving	Paving	7/9/2024	8/5/2024	5.00	20.0	—
Architectural Coating	Architectural Coating	6/11/2024	8/5/2024	5.00	40.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Average	4.00	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Building Construction	Crawler Tractors	Diesel	Average	3.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	18.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	3.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	7.00	10.2	HHDT,MHDT
Grading	Hauling	42.0	20.0	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	117	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	37.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	0.00	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	0.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	23.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT

Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	427,392	142,464	14,700

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	35.0	0.00	—
Grading	10,100	0.00	120	0.00	—
Paving	0.00	0.00	0.00	0.00	5.36

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt

Unrefrigerated Warehouse-No Rail	0.00	0%
Parking Lot	2.02	100%
Other Asphalt Surfaces	3.34	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.1	annual days of extreme heat
Extreme Precipitation	2.60	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	15.2	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A

Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract

Exposure Indicators	—
AQ-Ozone	95.3
AQ-PM	50.7
AQ-DPM	43.2
Drinking Water	10.2
Lead Risk Housing	35.1
Pesticides	57.8
Toxic Releases	25.3
Traffic	81.8
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	35.6
Impaired Water Bodies	0.00
Solid Waste	35.7
Sensitive Population	—
Asthma	39.1
Cardio-vascular	72.9
Low Birth Weights	37.9
Socioeconomic Factor Indicators	—
Education	86.4
Housing	73.4
Linguistic	44.4
Poverty	87.8
Unemployment	67.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	21.59630438
Employed	8.956756063
Education	—
Bachelor's or higher	3.836776594
High school enrollment	6.685486975
Preschool enrollment	31.33581419
Transportation	—
Auto Access	49.51879892
Active commuting	15.06480175
Social	—
2-parent households	62.08135506
Voting	24.39368664
Neighborhood	—
Alcohol availability	66.20043629
Park access	2.194276915
Retail density	9.316052868
Supermarket access	32.97831387
Tree canopy	0.667265495
Housing	—
Homeownership	65.03272167
Housing habitability	43.02579238
Low-inc homeowner severe housing cost burden	15.44976261
Low-inc renter severe housing cost burden	71.34607982
Uncrowded housing	14.42320031
Health Outcomes	—

Insured adults	9.547029385
Arthritis	32.0
Asthma ER Admissions	60.6
High Blood Pressure	38.5
Cancer (excluding skin)	55.0
Asthma	27.9
Coronary Heart Disease	28.5
Chronic Obstructive Pulmonary Disease	23.6
Diagnosed Diabetes	33.2
Life Expectancy at Birth	16.6
Cognitively Disabled	44.8
Physically Disabled	87.9
Heart Attack ER Admissions	34.3
Mental Health Not Good	26.2
Chronic Kidney Disease	27.1
Obesity	17.5
Pedestrian Injuries	90.3
Physical Health Not Good	26.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	35.4
Current Smoker	23.0
No Leisure Time for Physical Activity	24.4
Climate Change Exposures	—
Wildfire Risk	7.3
SLR Inundation Area	0.0
Children	81.0

Elderly	85.6
English Speaking	69.8
Foreign-born	42.8
Outdoor Workers	5.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	92.8
Traffic Density	52.0
Traffic Access	23.0
Other Indices	—
Hardship	80.6
Other Decision Support	—
2016 Voting	37.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	58.0
Healthy Places Index Score for Project Location (b)	11.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health and Equity Evaluation Scorecard not completed.

8. User Changes to Default Data

Screen	Justification
Land Use	Total Project area is +/- 13.3 acres
Construction: Construction Phases	Construction anticipated to begin October 2023 and end August 2024
Construction: Off-Road Equipment	Equipment adjusted based on the changes made to the Construction Schedule
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Site Preparation, Grading, and Building Construction
Construction: Architectural Coatings	Rule 1113

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APPENDIX 4.2:

CALEEMOD PROJECT OPERATIONS EMISSIONS MODEL OUTPUTS

Mapes & Sherman (Operations) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Mapes & Sherman (Operations)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	0.20
Location	33.75710422655197, -117.18112679049779
County	Riverside-South Coast
City	Menifee
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5512
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Unrefrigerated Warehouse-No Rail	278	1000sqft	7.98	277,578	69,981	0.00	—	—
User Defined Industrial	278	User Defined Unit	0.00	0.00	0.00	0.00	—	—

Parking Lot	377	Space	2.02	0.00	0.00	0.00	—	—
Other Asphalt Surfaces	145	1000sqft	3.34	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.79	10.9	9.33	43.8	0.13	0.16	3.26	3.43	0.16	0.62	0.78	264	15,058	15,321	27.2	1.54	326	16,785
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.54	8.86	9.74	26.0	0.12	0.15	3.26	3.41	0.14	0.62	0.76	264	14,518	14,782	27.2	1.55	284	16,205
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.32	9.63	7.28	28.0	0.09	0.12	2.39	2.50	0.12	0.45	0.57	264	11,162	11,426	27.1	1.22	297	12,763
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.61	1.76	1.33	5.11	0.02	0.02	0.44	0.46	0.02	0.08	0.10	43.6	1,848	1,892	4.48	0.20	49.1	2,113

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.64	2.27	9.23	31.7	0.13	0.15	3.26	3.41	0.14	0.62	0.76	—	13,291	13,291	0.33	1.21	43.1	13,705
Area	2.15	8.68	0.10	12.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	49.6	49.6	< 0.005	< 0.005	—	51.1
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,294	1,294	0.12	0.01	—	1,301
Water	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Waste	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	4.79	10.9	9.33	43.8	0.13	0.16	3.26	3.43	0.16	0.62	0.78	264	15,058	15,321	27.2	1.54	326	16,785
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.54	2.16	9.74	26.0	0.12	0.15	3.26	3.41	0.14	0.62	0.76	—	12,801	12,801	0.34	1.23	1.12	13,176
Area	—	6.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,294	1,294	0.12	0.01	—	1,301
Water	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Waste	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	2.54	8.86	9.74	26.0	0.12	0.15	3.26	3.41	0.14	0.62	0.76	264	14,518	14,782	27.2	1.55	284	16,205
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.85	1.57	7.21	19.7	0.09	0.11	2.39	2.49	0.10	0.45	0.55	—	9,411	9,411	0.25	0.90	13.6	9,699
Area	1.47	8.06	0.07	8.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.0	34.0	< 0.005	< 0.005	—	35.0
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,294	1,294	0.12	0.01	—	1,301
Water	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Waste	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283

Total	3.32	9.63	7.28	28.0	0.09	0.12	2.39	2.50	0.12	0.45	0.57	264	11,162	11,426	27.1	1.22	297	12,763
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.34	0.29	1.32	3.60	0.02	0.02	0.44	0.45	0.02	0.08	0.10	—	1,558	1,558	0.04	0.15	2.25	1,606
Area	0.27	1.47	0.01	1.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.63	5.63	< 0.005	< 0.005	—	5.79
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	214	214	0.02	< 0.005	—	215
Water	—	—	—	—	—	—	—	—	—	—	—	20.4	70.0	90.4	2.09	0.05	—	158
Waste	—	—	—	—	—	—	—	—	—	—	—	23.3	0.00	23.3	2.33	0.00	—	81.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.8	46.8
Total	0.61	1.76	1.33	5.11	0.02	0.02	0.44	0.46	0.02	0.08	0.10	43.6	1,848	1,892	4.48	0.20	49.1	2,113

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	2.33	2.10	1.47	29.6	0.06	0.03	0.29	0.32	0.03	0.09	0.11	—	6,337	6,337	0.20	0.15	25.2	6,411
User Defined Industrial	0.31	0.16	7.76	2.13	0.06	0.12	0.49	0.61	0.11	0.16	0.27	—	6,954	6,954	0.13	1.07	17.9	7,294
Parking Lot	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	0.00

Other Asphalt Surfaces	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	0.00
Total	2.64	2.27	9.23	31.7	0.13	0.15	0.78	0.92	0.14	0.24	0.38	—	13,291	13,291	0.33	1.21	43.1	13,705
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	2.23	2.00	1.63	23.8	0.06	0.03	0.29	0.32	0.03	0.09	0.11	—	5,844	5,844	0.21	0.16	0.65	5,897
User Defined Industrial	0.30	0.16	8.10	2.15	0.06	0.12	0.49	0.61	0.11	0.16	0.27	—	6,957	6,957	0.13	1.07	0.46	7,279
Parking Lot	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	0.00
Other Asphalt Surfaces	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	0.00
Total	2.54	2.16	9.74	26.0	0.12	0.15	0.78	0.92	0.14	0.24	0.38	—	12,801	12,801	0.34	1.23	1.12	13,176
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.30	0.27	0.22	3.32	0.01	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	716	716	0.03	0.02	1.32	724
User Defined Industrial	0.04	0.02	1.09	0.28	0.01	0.02	0.07	0.08	0.02	0.02	0.04	—	842	842	0.02	0.13	0.94	882
Parking Lot	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	0.00
Other Asphalt Surfaces	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	0.00
Total	0.34	0.29	1.32	3.60	0.02	0.02	0.10	0.12	0.02	0.03	0.05	—	1,558	1,558	0.04	0.15	2.25	1,606

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,220	1,220	0.12	0.01	—	1,227
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	73.6	73.6	0.01	< 0.005	—	74.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,294	1,294	0.12	0.01	—	1,301
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,220	1,220	0.12	0.01	—	1,227
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	73.6	73.6	0.01	< 0.005	—	74.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,294	1,294	0.12	0.01	—	1,301
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	202	202	0.02	< 0.005	—	203
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.2	12.2	< 0.005	< 0.005	—	12.3
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	214	214	0.02	< 0.005	—	215

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	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

User Defined Industrial	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
Parking Lot	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
Other Asphalt Surfaces	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	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
User Defined Industrial	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
Parking Lot	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
Other Asphalt Surfaces	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	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
User Defined Industrial	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

Parking Lot	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
Other Asphalt Surfaces	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	5.96	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.15	1.98	0.10	12.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	49.6	49.6	< 0.005	< 0.005	—	51.1
Total	2.15	8.68	0.10	12.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	49.6	49.6	< 0.005	< 0.005	—	51.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	5.96	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	6.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.27	0.25	0.01	1.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.63	5.63	< 0.005	< 0.005	—	5.79
Total	0.27	1.47	0.01	1.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.63	5.63	< 0.005	< 0.005	—	5.79

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	123	423	546	12.7	0.30	—	953
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	20.4	70.0	90.4	2.09	0.05	—	158
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	20.4	70.0	90.4	2.09	0.05	—	158

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	141	0.00	141	14.1	0.00	—	492
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	23.3	0.00	23.3	2.33	0.00	—	81.5
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	23.3	0.00	23.3	2.33	0.00	—	81.5

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	283	283
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.8	46.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.8	46.8

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	486	41.1	16.5	129,712	8,497	719	288	2,267,884
User Defined Industrial	106	8.97	3.58	28,292	2,219	188	75.0	592,254
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	426,865	142,288	13,998

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	1,277,512	349	0.0330	0.0040	0.00
User Defined Industrial	0.00	349	0.0330	0.0040	0.00
Parking Lot	77,080	349	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	349	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	64,189,912	1,109,599
User Defined Industrial	0.00	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	261	0.00
User Defined Industrial	0.00	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Unrefrigerated Warehouse-No Rail	Cold storage	User Defined	150	7.50	7.50	7.50	25.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.1	annual days of extreme heat
Extreme Precipitation	2.60	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	15.2	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	95.3
AQ-PM	50.7
AQ-DPM	43.2
Drinking Water	10.2
Lead Risk Housing	35.1
Pesticides	57.8
Toxic Releases	25.3
Traffic	81.8
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	35.6

Impaired Water Bodies	0.00
Solid Waste	35.7
Sensitive Population	—
Asthma	39.1
Cardio-vascular	72.9
Low Birth Weights	37.9
Socioeconomic Factor Indicators	—
Education	86.4
Housing	73.4
Linguistic	44.4
Poverty	87.8
Unemployment	67.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	21.59630438
Employed	8.956756063
Education	—
Bachelor's or higher	3.836776594
High school enrollment	6.685486975
Preschool enrollment	31.33581419
Transportation	—
Auto Access	49.51879892
Active commuting	15.06480175
Social	—

2-parent households	62.08135506
Voting	24.39368664
Neighborhood	—
Alcohol availability	66.20043629
Park access	2.194276915
Retail density	9.316052868
Supermarket access	32.97831387
Tree canopy	0.667265495
Housing	—
Homeownership	65.03272167
Housing habitability	43.02579238
Low-inc homeowner severe housing cost burden	15.44976261
Low-inc renter severe housing cost burden	71.34607982
Uncrowded housing	14.42320031
Health Outcomes	—
Insured adults	9.547029385
Arthritis	32.0
Asthma ER Admissions	60.6
High Blood Pressure	38.5
Cancer (excluding skin)	55.0
Asthma	27.9
Coronary Heart Disease	28.5
Chronic Obstructive Pulmonary Disease	23.6
Diagnosed Diabetes	33.2
Life Expectancy at Birth	16.6
Cognitively Disabled	44.8
Physically Disabled	87.9

Heart Attack ER Admissions	34.3
Mental Health Not Good	26.2
Chronic Kidney Disease	27.1
Obesity	17.5
Pedestrian Injuries	90.3
Physical Health Not Good	26.5
Stroke	39.4
Health Risk Behaviors	—
Binge Drinking	35.4
Current Smoker	23.0
No Leisure Time for Physical Activity	24.4
Climate Change Exposures	—
Wildfire Risk	7.3
SLR Inundation Area	0.0
Children	81.0
Elderly	85.6
English Speaking	69.8
Foreign-born	42.8
Outdoor Workers	5.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	92.8
Traffic Density	52.0
Traffic Access	23.0
Other Indices	—
Hardship	80.6
Other Decision Support	—
2016 Voting	37.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	58.0
Healthy Places Index Score for Project Location (b)	11.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health and Equity Evaluation Scorecard not completed.

8. User Changes to Default Data

Screen	Justification
Land Use	Total Project area is +/- 13.3 acres
Construction: Construction Phases	Construction anticipated to begin October 2023 and end August 2024
Construction: Off-Road Equipment	Equipment adjusted based on the changes made to the Construction Schedule
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Site Preparation, Grading, and Building Construction
Construction: Architectural Coatings	Rule 1113
Operations: Vehicle Data	Trip characteristics based on information provided in the Traffic analysis
Operations: Fleet Mix	Passenger Car Mix estimated based on the CalEEMod default fleet mix and the ratio of the vehicle classes (LDA, LDT1, LDT2, MDV, & MCY). Truck Mix based on information in the Traffic analysis
Operations: Energy Use	The Project will not use natural gas

Operations: Refrigerants	Per 17 CCR 95371, new refrigeration equipment containing >50 lbs of refrigerant in new facilities is prohibited from utilizing refrigerants with a GWP of 150 or greater as of 1 Jan 2022

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APPENDIX 4.3:

EMFAC2021

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Riverside (SC)
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
Riverside (SC)	2023	HHDT	Aggregate	Aggregate	Gasoline	9.455104489	131459.0712	35.50354452	35503.54452	99150598.7	131459.0712	599123516.7	6.04	HHDT
Riverside (SC)	2023	HHDT	Aggregate	Aggregate	Diesel	14188.53655	583570327	96603.14331	96603143.31		583570327			
Riverside (SC)	2023	HHDT	Aggregate	Aggregate	Electricity	10.75839329	228949.2981	0	0		228949.2981			
Riverside (SC)	2023	HHDT	Aggregate	Aggregate	Natural Gas	693.7983116	15192781.36	2511.951841	2511951.841		15192781.36			
Riverside (SC)	2023	LDA	Aggregate	Aggregate	Gasoline	469124.6474	7067158685	242806.6852	242806685.2	246740301.6	7067158685	7550779257	30.60	LDA
Riverside (SC)	2023	LDA	Aggregate	Aggregate	Diesel	1558.762895	20320845.79	477.3973008	477397.3008		20320845.79			
Riverside (SC)	2023	LDA	Aggregate	Aggregate	Electricity	16185.78734	258364117.7	0	0		258364117.7			
Riverside (SC)	2023	LDA	Aggregate	Aggregate	Plug-in Hybrid	11651.42905	204935608.9	3456.219119	3456219.119		204935608.9			
Riverside (SC)	2023	LDT1	Aggregate	Aggregate	Gasoline	41569.09002	535313348.3	22207.82689	22207826.89	22223369.92	535313348.3	536734718.5	24.15	LDT1
Riverside (SC)	2023	LDT1	Aggregate	Aggregate	Diesel	20.22700504	133115.4936	5.428551707	5428.551707		133115.4936			
Riverside (SC)	2023	LDT1	Aggregate	Aggregate	Electricity	42.93918941	629191.2642	0	0		629191.2642			
Riverside (SC)	2023	LDT1	Aggregate	Aggregate	Plug-in Hybrid	33.25263876	659063.4443	10.11447806	10114.47806		659063.4443			
Riverside (SC)	2023	LDT2	Aggregate	Aggregate	Gasoline	191587.7811	2926985988	123727.7759	123727775.9	124415304.6	2926985988	2971260063	23.88	LDT2
Riverside (SC)	2023	LDT2	Aggregate	Aggregate	Diesel	577.8339592	9483128.387	294.7747611	294774.7611		9483128.387			
Riverside (SC)	2023	LDT2	Aggregate	Aggregate	Electricity	816.9774193	10243768.16	0	0		10243768.16			
Riverside (SC)	2023	LDT2	Aggregate	Aggregate	Plug-in Hybrid	1285.022226	24547178.6	392.753913	392753.913		24547178.6			
Riverside (SC)	2023	LHDT1	Aggregate	Aggregate	Gasoline	18052.34987	214710027.5	16264.43139	16264431.39	25315578.41	214710027.5	400294089.8	15.81	LHDT1
Riverside (SC)	2023	LHDT1	Aggregate	Aggregate	Diesel	15395.69696	185584062.3	9051.14702	9051147.02		185584062.3			
Riverside (SC)	2023	LHDT2	Aggregate	Aggregate	Gasoline	2523.570585	29590445.81	2489.092655	2489092.655	7416109.631	29590445.81	113374760.5	15.29	LHDT2
Riverside (SC)	2023	LHDT2	Aggregate	Aggregate	Diesel	6852.470307	83784314.72	4927.016975	4927016.975		83784314.72			
Riverside (SC)	2023	MCY	Aggregate	Aggregate	Gasoline	24170.7213	49108505.06	1180.944688	1180944.688	1180944.688	49108505.06	49108505.06	41.58	MCY
Riverside (SC)	2023	MDV	Aggregate	Aggregate	Gasoline	159138.1322	2240483695	117575.9492	117575949.2	119384446.1	2240483695	2303280197	19.29	MDV
Riverside (SC)	2023	MDV	Aggregate	Aggregate	Diesel	2483.005938	36136799.05	1546.826654	1546826.654		36136799.05			
Riverside (SC)	2023	MDV	Aggregate	Aggregate	Electricity	897.1539487	11221434.73	0	0		11221434.73			
Riverside (SC)	2023	MDV	Aggregate	Aggregate	Plug-in Hybrid	887.9224631	15438268.06	261.6701687	261670.1687		15438268.06			
Riverside (SC)	2023	MH	Aggregate	Aggregate	Gasoline	5083.841078	14589867.64	2987.294519	2987294.519	3555724.506	14589867.64	20481762.41	5.76	MH
Riverside (SC)	2023	MH	Aggregate	Aggregate	Diesel	2073.70666	5891894.766	568.4299865	568429.9865		5891894.766			
Riverside (SC)	2023	MHDT	Aggregate	Aggregate	Gasoline	1260.142241	16350653.43	3181.987303	3181987.303	22878390.46	16350653.43	192188901.4	8.40	MHDT
Riverside (SC)	2023	MHDT	Aggregate	Aggregate	Diesel	12683.243	173580543.8	19444.4315	19444431.5		173580543.8			
Riverside (SC)	2023	MHDT	Aggregate	Aggregate	Electricity	4.9202908	33851.09994	0	0		33851.09994			
Riverside (SC)	2023	MHDT	Aggregate	Aggregate	Natural Gas	147.6204682	2223853	251.9716552	251971.6552		2223853			
Riverside (SC)	2023	OBUS	Aggregate	Aggregate	Gasoline	386.6813181	4377338.625	865.1912845	865191.2845	1495782.789	4377338.625	9373868.799	6.27	OBUS
Riverside (SC)	2023	OBUS	Aggregate	Aggregate	Diesel	215.667787	4402321.003	569.9480953	569948.0953		4402321.003			
Riverside (SC)	2023	OBUS	Aggregate	Aggregate	Natural Gas	33.12387867	594209.1716	60.64340948	60643.40948		594209.1716			
Riverside (SC)	2023	SBUS	Aggregate	Aggregate	Gasoline	421.1646074	5416181.917	620.6011427	620601.1427	1928236.919	5416181.917	12328318.97	6.39	SBUS
Riverside (SC)	2023	SBUS	Aggregate	Aggregate	Diesel	499.0687276	3439904.877	470.0073536	470007.3536		3439904.877			
Riverside (SC)	2023	SBUS	Aggregate	Aggregate	Electricity	0.562315788	2136.364049	0	0		2136.364049			
Riverside (SC)	2023	SBUS	Aggregate	Aggregate	Natural Gas	428.0776414	3470095.813	837.6284223	837628.4223		3470095.813			
Riverside (SC)	2023	UBUS	Aggregate	Aggregate	Gasoline	145.9294435	6041770.968	1072.589711	1072589.711	3632187.011	6041770.968	16196846.91	4.46	UBUS
Riverside (SC)	2023	UBUS	Aggregate	Aggregate	Diesel	0.3117338	9845.875493	0.874590555	874.5905545		9845.875493			
Riverside (SC)	2023	UBUS	Aggregate	Aggregate	Electricity	0.030745281	971.0663719	0	0		971.0663719			
Riverside (SC)	2023	UBUS	Aggregate	Aggregate	Natural Gas	251.677147	10144259	2558.722709	2558722.709		10144259			

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Riverside (SC)
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
Riverside (SC)	2024	HHDT	Aggregate	Aggregate	Gasoline	7.589475903	113786.0091	30.14312909	30143.12909	100279731.4	113786.0091	613803692.2	6.12	HHDT
Riverside (SC)	2024	HHDT	Aggregate	Aggregate	Diesel	14792.02338	596340506.9	97669.72048	97669720.48		596340506.9			
Riverside (SC)	2024	HHDT	Aggregate	Aggregate	Electricity	47.99547895	1606253.347	0	0		1606253.347			
Riverside (SC)	2024	HHDT	Aggregate	Aggregate	Natural Gas	740.0705237	15743145.86	2579.867799	2579867.799		15743145.86			
Riverside (SC)	2024	LDA	Aggregate	Aggregate	Gasoline	469145.3818	7085090946	238903.8299	238903829.9	243062955.2	7085090946	7657987641	31.51	LDA
Riverside (SC)	2024	LDA	Aggregate	Aggregate	Diesel	1473.049219	18851626.2	439.7144995	439714.4995		18851626.2			
Riverside (SC)	2024	LDA	Aggregate	Aggregate	Electricity	19934.69439	328159523.9	0	0		328159523.9			
Riverside (SC)	2024	LDA	Aggregate	Aggregate	Plug-in Hybrid	12893.65575	225885544.7	3719.410801	3719410.801		225885544.7			
Riverside (SC)	2024	LDT1	Aggregate	Aggregate	Gasoline	40643.24621	528502252.2	21530.04768	21530047.68	21550200.91	528502252.2	530619904	24.62	LDT1
Riverside (SC)	2024	LDT1	Aggregate	Aggregate	Diesel	18.16927182	117875.1936	4.799392489	4799.392489		117875.1936			
Riverside (SC)	2024	LDT1	Aggregate	Aggregate	Electricity	60.98632141	968118.5799	0	0		968118.5799			
Riverside (SC)	2024	LDT1	Aggregate	Aggregate	Plug-in Hybrid	52.35545177	1031657.988	15.35383286	15353.83286		1031657.988			
Riverside (SC)	2024	LDT2	Aggregate	Aggregate	Gasoline	196761.1569	3030302696	124807.115	124807115	125588800.8	3030302696	3086012831	24.57	LDT2
Riverside (SC)	2024	LDT2	Aggregate	Aggregate	Diesel	611.2140627	10065688.28	305.506804	305506.804		10065688.28			
Riverside (SC)	2024	LDT2	Aggregate	Aggregate	Electricity	1212.721837	15079067.55	0	0		15079067.55			
Riverside (SC)	2024	LDT2	Aggregate	Aggregate	Plug-in Hybrid	1617.209463	30565379.76	476.178994	476178.994		30565379.76			
Riverside (SC)	2024	LHDT1	Aggregate	Aggregate	Gasoline	17828.73734	214762485.9	15814.52949	15814529.49	24706225.38	214762485.9	399295586.2	16.16	LHDT1
Riverside (SC)	2024	LHDT1	Aggregate	Aggregate	Diesel	15247.60565	183240310	8891.695883	8891695.883		183240310			
Riverside (SC)	2024	LHDT1	Aggregate	Aggregate	Electricity	53.50587181	1292790.328	0	0		1292790.328			
Riverside (SC)	2024	LHDT2	Aggregate	Aggregate	Gasoline	2494.679179	29349825.66	2415.690169	2415690.169	7267382.396	29349825.66	112758661.6	15.52	LHDT2
Riverside (SC)	2024	LHDT2	Aggregate	Aggregate	Diesel	6844.928194	83091798.01	4851.692227	4851692.227		83091798.01			
Riverside (SC)	2024	LHDT2	Aggregate	Aggregate	Electricity	13.8489928	317037.9282	0	0		317037.9282			
Riverside (SC)	2024	MCY	Aggregate	Aggregate	Gasoline	24077.0623	48669553.86	1165.648599	1165648.599	1165648.599	48669553.86	48669553.86	41.75	MCY
Riverside (SC)	2024	MDV	Aggregate	Aggregate	Gasoline	158529.7591	2244541310	115229.5708	115229570.8	117035531.4	2244541310	2315716725	19.79	MDV
Riverside (SC)	2024	MDV	Aggregate	Aggregate	Diesel	2456.219583	35407756.28	1494.401662	1494401.662		35407756.28			
Riverside (SC)	2024	MDV	Aggregate	Aggregate	Electricity	1347.135818	16720447.79	0	0		16720447.79			
Riverside (SC)	2024	MDV	Aggregate	Aggregate	Plug-in Hybrid	1094.492843	19047211.64	311.5588534	311558.8534		19047211.64			
Riverside (SC)	2024	MH	Aggregate	Aggregate	Gasoline	4781.777946	13610896.25	2785.688937	2785688.937	3339642.723	13610896.25	19350599.97	5.79	MH
Riverside (SC)	2024	MH	Aggregate	Aggregate	Diesel	2046.063726	5739703.715	553.953786	553953.786		5739703.715			
Riverside (SC)	2024	MHDT	Aggregate	Aggregate	Gasoline	1238.0029	16338867.45	3135.493991	3135493.991	23076682.45	16338867.45	195538138.7	8.47	MHDT
Riverside (SC)	2024	MHDT	Aggregate	Aggregate	Diesel	12954.3675	176205580.2	19676.0133	19676013.3		176205580.2			
Riverside (SC)	2024	MHDT	Aggregate	Aggregate	Electricity	40.46425607	652027.6804	0	0		652027.6804			
Riverside (SC)	2024	MHDT	Aggregate	Aggregate	Natural Gas	158.0466253	2341663.336	265.1751591	265175.1591		2341663.336			
Riverside (SC)	2024	OBUS	Aggregate	Aggregate	Gasoline	374.6153087	4179652.523	816.3886522	816388.6522	1448796.089	4179652.523	9235296.571	6.37	OBUS
Riverside (SC)	2024	OBUS	Aggregate	Aggregate	Diesel	219.2789175	4421146.516	569.7450307	569745.0307		4421146.516			
Riverside (SC)	2024	OBUS	Aggregate	Aggregate	Electricity	0.821516166	18182.28444	0	0		18182.28444			
Riverside (SC)	2024	OBUS	Aggregate	Aggregate	Natural Gas	34.6553722	616315.2475	62.66240627	62662.40627		616315.2475			
Riverside (SC)	2024	SBUS	Aggregate	Aggregate	Gasoline	423.5817437	5478383.868	626.1467184	626146.7184	1935258.575	5478383.868	12396347.67	6.41	SBUS
Riverside (SC)	2024	SBUS	Aggregate	Aggregate	Diesel	491.8063992	3343899.326	456.140685	456140.685		3343899.326			
Riverside (SC)	2024	SBUS	Aggregate	Aggregate	Electricity	2.445505521	20273.75397	0	0		20273.75397			
Riverside (SC)	2024	SBUS	Aggregate	Aggregate	Natural Gas	443.1589434	3553790.724	852.9711721	852971.1721		3553790.724			
Riverside (SC)	2024	UBUS	Aggregate	Aggregate	Gasoline	146.2127201	6053134.018	1073.421016	1073421.016	3614773.705	6053134.018	16229605.17	4.49	UBUS
Riverside (SC)	2024	UBUS	Aggregate	Aggregate	Diesel	0.3117338	9845.875493	0.874762616	874.7626165		9845.875493			
Riverside (SC)	2024	UBUS	Aggregate	Aggregate	Electricity	0.120004951	6004.935081	0	0		6004.935081			
Riverside (SC)	2024	UBUS	Aggregate	Aggregate	Natural Gas	252.109466	10160620.35	2540.477927	2540477.927		10160620.35			

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