Appendix C Construction Health Risk Assessment

Appendices

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1. Construction Health Risk Assessment

1.1 INTRODUCTION

The approximately 13.2-acre Norwalk Entertainment District – Civic Center Specific Plan area is in the City of Norwalk, Los Angeles County, California. It is bounded by Imperial Highway to the north, Avenida Manuel Salinas to the east, the Los Angeles County Superior Court–Norwalk and a surface parking lot to the south, and Norwalk Boulevard to the west. Construction would include the following activities: grading and excavation, demolition and removal of hardscapes, trenching for site utilities and irrigation, building construction, architectural coatings, driveway and walkway construction, landscaping, signage, and street connection improvements. Development of the proposed project is anticipated to commence in year 2023 and would generally occur from June 2023 to May 2025 (501 total workdays).

The nearest off-site sensitive receptors to the project are the residents in the two multifamily residential buildings across Norwalk Boulevard directly west of City Hall. Other nearby off-site sensitive receptors include the multifamily residential uses south of the project site across Civic Center Drive in addition to the surrounding single-family, other multi-family residential neighborhoods to the north and west, and Paddison Elementary School approximately 900 feet northwest of the project site. Guidance from the California Environmental Protection Agency (Cal/EPA), Office of Environmental Health Hazard Assessment (OEHHA), and California Air Pollution Control Officers Association (CAPCOA) recommend the completion of health risk assessments (HRA) to determine the impacts of hazardous air emissions upon sensitive receptors in the vicinity of the proposed project. As a result, a site-specific construction health risk assessment has been prepared for the proposed project. This Construction Health Risk Assessment (HRA) considers the health impact to sensitive receptors (adults and children in the nearby residences and school site) of construction emissions at the project site from diesel equipment exhaust (diesel particulate matter or DPM).

1.2 METHODOLOGY AND SIGNIFICANCE THRESHOLDS

For this HRA, the South Coast Air Quality Management District (South Coast AQMD) significance thresholds were deemed to be appropriate, and the thresholds that were used for this project are shown below:

- Excess cancer risk of more than 10 in a million
- Non-cancer hazard index (chronic or acute) greater than 1.0

The methodology used in this HRA is consistent with the following OEHHA guidance documents:

- OEHHA. 2015. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments.* February, 2015.

Potential exposures to DPM from project construction was evaluated for off-site sensitive receptors in close proximity to the project site. Pollutant concentrations were estimated using an air dispersion model, and excess lifetime cancer risks and chronic non-cancer hazard indexes were calculated. These risks were then compared to the significance thresholds adopted for this HRA.

It should be noted that these health impacts are based on conservative (i.e., health protective) assumptions. The United States Environmental Protection Agency (USEPA 2005) and the Office of Environmental Health Hazard Assessment (OEHHA 2015) note that conservative assumptions used in a risk assessment are intended to ensure that the estimated risks do not underestimate the actual risks. Therefore, the estimated risks may not necessarily represent actual risks experienced by populations at or near a site. The use of conservative assumptions tends to produce upper-bound estimates of exposure and thus risk.

For residential-based receptors, the following conservative assumptions were used:

- It was assumed that maximum-exposed off-site residential receptors (both children and adults) stood outdoors and are subject to DPM at their residence for 8 hours per day, and approximately 260 construction days per year. In reality, California residents typically will spend on average 2 hours per day outdoors at their residences (USEPA 2011). This would result in lower exposures to construction related DPM emissions and lower estimated risk values.

- The calculated risk for infants from third trimester to age 2 is multiplied by a factor of 10 to account for early life exposure and uncertainty in child versus adult exposure impacts (OEHHA 2015).

For school-based receptors, the following conservative assumptions were used:

- It was assumed that maximum-exposed school receptors (Paddison Elementary School at 12100 Crewe Street, offering kindergarten through 5th grade) stood outdoors and are subject to DPM for 8 hours per day and approximately 180 school days per year. In reality, students are exposed to outdoor pollutant concentration levels for a portion of the day and are exposed to reduced indoor pollutant concentrations for the remaining hours. This would result in lower estimated risk values.

- The calculated risk for students age 2 to 16 is multiplied by a factor of 3 to account for early life exposure and uncertainty in child versus adult exposure impacts (OEHHA 2015).

1.3 CONSTRUCTION EMISSIONS

Construction emissions were calculated as average daily emissions in pounds per day, using the proposed construction schedule and CalEEMod Version 2020.4.0 (CAPCOA 2021). DPM emissions were based on the CalEEMod construction runs, using annual exhaust PM_{10} construction emissions presented in pounds (lbs) per day.

The proposed project was assumed to have a cumulative duration of 501 workdays between June 2023 and May 2025. The average daily emission rates from construction equipment used during the proposed project were determined by dividing the annual average emissions for each construction year by the number of construction days per year for each calendar year of construction (i.e., 2023, 2024, and 2025). The off-site hauling emission rates were adjusted to evaluate localized emissions from the 1.26-mile haul route within 1,000 feet of the project site. The CalEEMod construction emissions output and emission rate calculations are provided in Appendix A of the HRA.

1.4 DISPERSION MODELING

Air quality modeling was performed using the AERMOD atmospheric dispersion model to assess the impact of emitted compounds on sensitive receptors near the project site. The model is a steady state Gaussian plume model and is an approved model by South Coast AQMD for estimating ground level impacts from point and fugitive sources in simple and complex terrain. The on-site construction emissions for the proposed project were modeled as poly-area sources. The off-site mobile sources were modeled as adjacent line volume sources. The model requires additional input parameters, including chemical emission data and local meteorology. Inputs for the construction emission rates are those described in Section 1.3, *Construction Emissions*. Meteorological data obtained from the South Coast AQMD for the nearest representative meteorological station (Fullerton Airport) with the five latest available years (2012 to 2016) of record were used to represent local weather conditions and prevailing winds (South Coast AQMD 2022). The prevailing wind direction at the Fullerton Airport meteorological station is to the north-northeast. The wind rose is provided in Appendix A.

The modeling analysis also considered the spatial distribution and elevation of each emitting source in relation to the sensitive receptors. To accommodate the model's Cartesian grid format, direction-dependent calculations were obtained by identifying the Universal Transverse Mercator (UTM) coordinates for each source location. In addition, digital elevation model (DEM) data for the area were obtained and included in the model runs to account for complex terrain. An emission release height of 4.15 meters was used as representative of the stack exhaust height for off-road construction equipment and diesel truck traffic, and an initial vertical dispersion parameter of 1.93 meters was used, per California Air Resources Board (CARB) guidance (CARB 2000).

To determine contaminant impacts during construction hours, the model's Hour-By-Day-of-Week (HRDOW) scalar option was invoked to predict ground level concentrations for construction emissions generated from Monday through Friday between the hours of 7:00 AM and 4:00 PM with a 1-hour lunch break.

A unit emission rate of 1 gram per second was used for all emission sources. The unit emission rates were proportioned over the poly-area sources for on-site construction emissions and divided between the volume sources for off-site hauling emissions. The maximum concentrations from the model output files were then multiplied by the emission rates calculated in Appendix A to obtain the ground-level concentrations at the

maximum exposed individual resident (MEIR). The MEIR is the two multifamily residential buildings directly west of City Hall across Norwalk Boulevard, and the maximum exposed school receptor lies within the athletic field in the southeastern portion of the Paddison Elementary School campus, which is approximately 900 feet northwest of the project site. The MEIR and the maximum exposed school receptor location are shown on Figure 1, *Project Sources and Off-Site Receptor Locations*.

The air dispersion model output for the emission sources is presented in Appendix B. The DPM concentrations at the MEIR and maximum exposed school receptor are provided in Appendix C.

1.5 RISK CHARACTERIZATION

1.5.1 Carcinogenic Chemical Risk

Carcinogenic compounds are not considered to have threshold levels (i.e., dose levels below which there are no risks). Therefore, any exposure will have some associated risk. The South Coast AQMD has established a maximum incremental cancer risk of 10 in a million (1×10^{-5} or 10×10^{-6}) for CEQA projects and the OEHHA also sets a typical risk management level as 10 in a million (OEHHA 2015).

Health risks associated with exposure to carcinogenic compounds can be defined in terms of the probability of developing cancer as a result of exposure to a chemical at a given concentration. The cancer risk probability is determined by multiplying the chemical's annual concentration by its cancer potency factor (CPF), a measure of the carcinogenic potential of a chemical when a dose is received through the inhalation pathway. It is an upper-limit estimate of the probability of contracting cancer as a result of continuous exposure to an ambient concentration of one microgram per cubic meter ($\mu g/m^3$), averaged over a lifetime of 70 years.

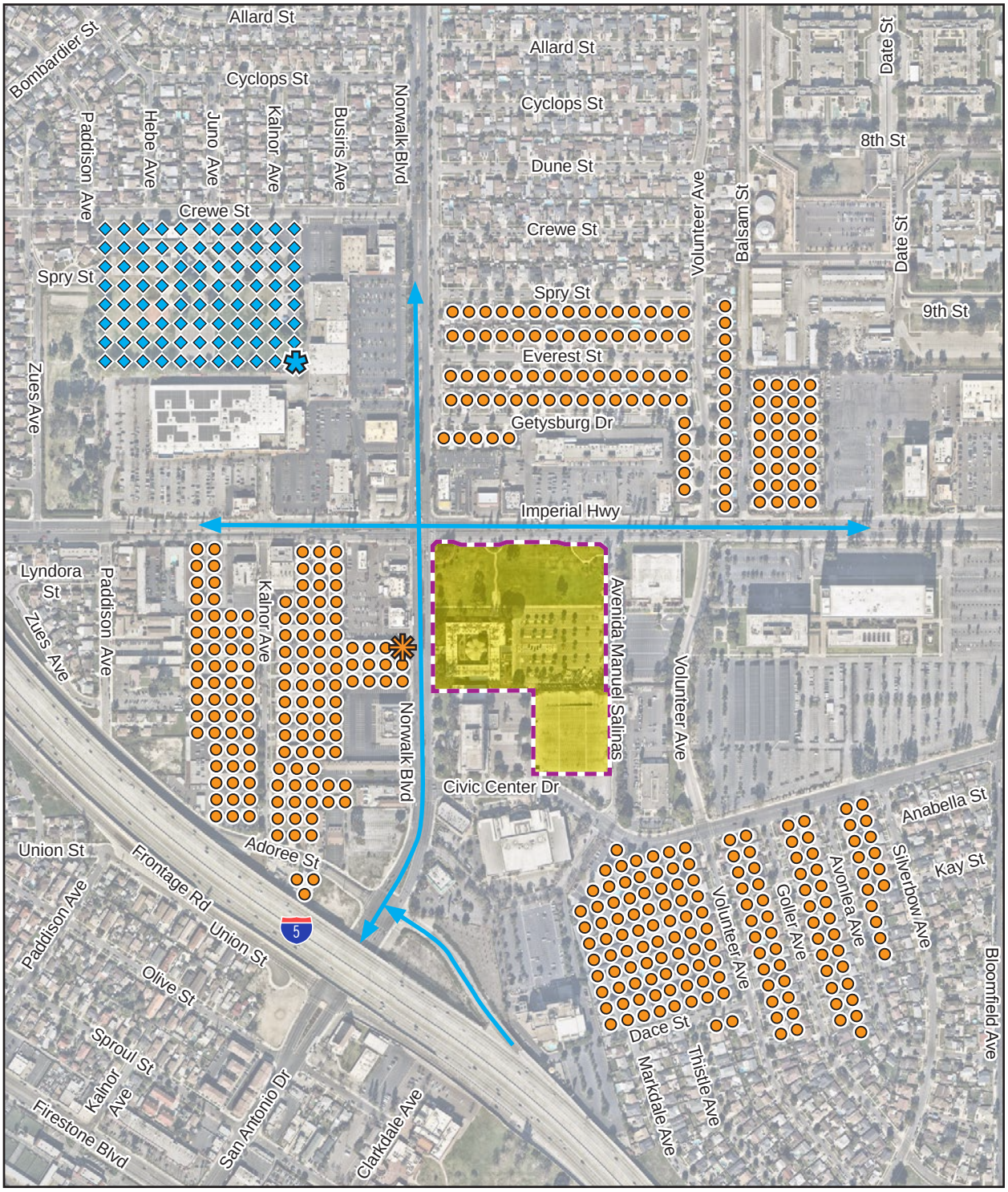
Recent guidance from OEHHA recommends a refinement to the standard point estimate approach with the use of age-specific breathing rates and age sensitivity factors (ASFs) to assess risk for susceptible subpopulations such as children. For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify dose for each age group. Once determined, contaminant dose is multiplied by the cancer potency factor in units of inverse dose expressed in milligrams per kilogram per day $(mg/kg/day)^{-1}$ to derive the cancer risk estimate. Therefore, the following dose algorithm was used to accommodate the unique exposures associated with each receptor type.

$$\text{Dose}_{\text{AIR,per age group}} = \left(C_{air} \times EF \times \left[\frac{BR}{BW}\right] \times A \times CF\right)$$

Where:

Dose_{AIR}	=	dose by inhalation (mg/kg-day), per age group
C_{air}	=	concentration of contaminant in air ($\mu g/m^3$)
EF	=	exposure frequency (number of days/365 days)
BR/BW	=	daily breathing rate normalized to body weight (L/kg-day)
A	=	inhalation absorption factor (default = 1)
CF	=	conversion factor ($1x10^{-6}$, µg to mg, L to m^3)

Figure 1 - Project Sources and Off-Site Receptor Locations



Project Boundary
Truck Route
Development Area
Receptors (Residential)
Receptors (Paddison Elementary School)
Maximum Exposed Individual Resident (MEIR)
Maximum Exposed Paddison Elementary School Receptor

0 600
Scale (Feet)

Source: ESRI, 2022

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The inhalation absorption factor (A) is a unitless factor that is only used if the cancer potency factor included a correction for absorption across the lung. The default value of 1 was used for this assessment. For residential receptors, the exposure frequency (EF) of 0.96 is used to represent 350 days per year to allow for a two-week period away from home each year (OEHHA 2015). For Paddison Elementary School, an EF of 0.49 is used to represent the traditional school calendar of 180 days per year (OEHHA 2004).

For construction analysis, the residential exposure duration spans the length of construction (e.g., 501 workdays). The 95th percentile daily breathing rates (BR/BW), exposure duration (ED), age sensitivity factors (ASFs), and fraction of time at home (FAH) for the various age groups are provided herein:

Age Groups	BR/BW (L/kg-day)	ED, 1.92 years	ASF	FAH
Third trimester	361	0.25	10	0.85
0-2 age group	1,090	1.67	10	0.85

For students at Paddison Elementary School, the 95th percentile 8-hour breathing rates (moderate intensity activity), ED, and ASF for the 2- to 16-year-old age group is provided below:

Age Groups	BR/BW (L/kg-day)	ED, 1.92 years	ASF
2-16 age group	520	1.92	3

To calculate the overall cancer risk, the risk for each appropriate age group is calculated per the following equation:

$$\text{Cancer Risk}_{\text{AIR}} = \text{Dose}_{\text{AIR}} \times \text{CPF} \times \text{ASF} \times \text{FAH} \times \frac{\text{ED}}{AT}$$

Where:

Dose_{AIR}	=	dose by inhalation (mg/kg-day), per age group
CPF	=	cancer potency factor, chemical-specific $(\text{mg/kg-day})^{-1}$
ASF	=	age sensitivity factor, per age group
FAH	=	fraction of time at home, per age group (for residential receptors only)
ED	=	exposure duration (years)
AT	=	averaging time period over which exposure duration is averaged (70 years)

The CPFs used in the assessment were obtained from OEHHA guidance. The excess lifetime cancer risks during the construction period to the maximally exposed resident were calculated based on the factors provided above. The cancer risks for each age group are summed to estimate the total cancer risk for each toxic chemical species. The final step converts the cancer risk in scientific notation to a whole number that expresses the cancer risk in "chances per million" by multiplying the cancer risk by a factor of 1×10^6 (i.e., 1 million).

The calculated results are provided in Appendix C.

1.5.2 Non-Carcinogenic Hazards

An evaluation was also conducted of the potential non-cancer effects of chronic chemical exposures. Adverse health effects are evaluated by comparing the annual receptor level concentration of each chemical compound with the appropriate reference exposure limit (REL). Available RELs promulgated by OEHHA were considered in the assessment.

The hazard index approach was used to quantify non-carcinogenic impacts. The hazard index assumes that chronic sub-threshold exposures adversely affect a specific organ or organ system (toxicological endpoint). Target organs presented in regulatory guidance were used for each discrete chemical exposure. To calculate the hazard index, each chemical concentration or dose is divided by the appropriate toxicity value. This ratio is summed for compounds affecting the same toxicological endpoint. A health hazard is presumed to exist where the total equals or exceeds one.

The chronic hazard analysis for DPM is provided in Appendix C. The calculations contain the relevant exposure concentrations and corresponding reference dose values used in the evaluation of non-carcinogenic exposures.

1.6 CONSTRUCTION HRA RESULTS

The calculated results are provided in Appendix C and the results are summarized in Table 1.

TABLE 1. CONSTRUCTION RISK SUMMARY - UNMITIGATED

Receptor	Cancer Risk (per million)	Chronic Hazards
Maximum Exposed Individual Resident (MEIR)	**21.7**	0.054
Maximum Exposed School Receptor	0.1	0.003
South Coast AQMD Threshold	10	1.0
Exceeds Threshold?	**Yes**	**No**

Note: Cancer risk calculated using 2015 OEHHA HRA guidance.

Cancer risk for the MEIR from project-related construction activities was calculated to be 21.7 in a million and would exceed the 10 in a million-significance threshold. Cancer risk for the maximum exposed school receptor at Paddison Elementary School was calculated to be 0.1 in a million and would not exceed the 10 in a million-significance threshold. For non-carcinogenic effects, the chronic hazard index identified for each toxicological endpoint totaled less than one for all the off-site sensitive receptors. Therefore, chronic non-carcinogenic hazards are less than significant.

Because cancer risk for the MEIR would exceed South Coast AQMD significance threshold due to construction activities associated with the proposed project, the following mitigation measure is proposed:

> **Mitigation Measure AQ-1:** Construction contractors shall, at minimum, use equipment that meets the United States Environmental Protection Agency's (EPA) Tier 4 Interim emissions standards for off-road diesel-powered construction equipment of 50 horsepower or more in use a total of 20 hours or more, unless it can be demonstrated to the City of Norwalk Community Development Department that such equipment is not commercially available. For purposes of this mitigation measure, "commercially available" shall mean the availability of Tier 4 Interim engines similar to the availability for other large-scale construction projects in the city occurring at the same time and taking into consideration factors such as (i) potential significant delays to critical-path timing of construction and (ii) geographic proximity to the project site of Tier 4 Interim equipment. Where such equipment is not commercially available, as demonstrated by the construction contractor, Tier 3 equipment retrofitted with a California Air Resources Board's Level 3 Verified Diesel Emissions Control Strategy (VDECS) shall be used. This requirement shall apply to for all activities (e.g., foundation, pile driving, vertical construction, etc.) related to construction of:
>
> - Existing Commercial Parking Garage Improvements (e.g., additional parking levels)
> - Proposed Buildings and Structures (e.g., proposed Buildings A and B)
>
> In addition, the following shall also be completed:
>
> - Prior to construction, the project engineer shall ensure that all construction (e.g., grading) plans clearly show the requirement for EPA Tier 4 Interim emissions standards for construction equipment of 50 horsepower or more and in use a total of 20 hours or more for the activities stated above.
> - During construction, the construction contractor shall maintain a list of all operating equipment in use on the construction site for a total of 20 hours or more for verification by the City of Norwalk.
> - The construction equipment list shall state the makes, models, Equipment Identification Numbers, Engine Family Numbers, and number of construction equipment onsite. Equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations.
> - To the extent that equipment is available and cost-effective, contractors shall use electric, hybrid, or alternate-fueled off-road construction equipment.
> - Contractors shall use electric construction tools, such as saws, drills, and compressors, where grid electricity is available.
> - Construction contractors shall also ensure that all nonessential idling of construction equipment is restricted to 5 minutes or less in compliance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9.

Mitigation Measure AQ-1 would reduce the project's construction emissions and potential off-site health risks, as shown in Table 2. The results indicate that, with mitigation, cancer risk at the MEIR would be reduced to 4.7 in a million and would be less than the South Coast AQMD's significance threshold. Therefore, the proposed project would not expose off-site sensitive receptors to substantial concentrations of toxic air contaminant emissions during construction.

TABLE 2. CONSTRUCTION RISK SUMMARY - MITIGATED

Receptor	Cancer Risk (per million)	Chronic Hazards
Maximum Exposed Individual Resident (MEIR)	4.7	0.014
South Coast AQMD Threshold	10	1.0
Exceeds Threshold?	**No**	**No**

Note: Cancer risk calculated using 2015 OEHHA HRA guidance.

2. References

California Air Pollution Control Officers Association (CAPCOA). 2021. California Emissions Estimator Model (CalEEMod). Version 2020.4. Prepared by: ENVIRON International Corporation and the California Air Districts.

California Air Resources Board (CARB). 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.*

Office of Environmental Health Hazard Assessment (OEHHA). 2015. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments.* Dated February 2015.

———. 2004. *Guidance for School Site Risk Assessment Pursuant to Health and Safety Code Section 901(f): Guidance for Assessing Exposures and Health Risks at Existing and Proposed School Sites*. Dated February 2004.

South Coast Air Quality Management District (South Coast AQMD). 2022, April 29 (accessed). 2012-2016. Meteorological Data Set for Fullerton Airport Meteorological Station. http://www.aqmd.gov/home/air-quality/meteorological-data/data-for-aermod.

United States Environmental Protection Agency (USEPA). 2011. *Exposure Factors Handbook 2011 Edition (Final)*. EPA/600/R-09/052F, 2011.

_____. 2005. *Guideline on Air Quality Models* (Revised). EPA-450/2-78-027R.

Appendix A. Emission Rate Calculations

Average Daily Emissions and Emission Rates: Unmitigated Scenario

Onsite Construction PM10 Exhaust Emissions[1]

Year	Annual PM10 Exhaust Emissions (Tons/Year)	Annual PM10 Exhaust Emissions (lbs/Year)	# of Construction Days/Year	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/hr)	Emission Rate (g/s)	# of Total Workdays/ Year	Construction Duration (Yr)[2]
2023	0.1358	271.62	152	1.79	2.23E-01	2.81E-02	260	0.58
2024	0.2925	585.00	262	2.23	2.79E-01	3.52E-02	262	1.00
2025	0.0919	183.72	87	2.11	2.64E-01	3.33E-02	261	0.33
			501					**1.92**

Offsite Construction PM10 Exhaust Emissions[1]

Year	Annual PM10 Exhaust Emissions (Tons/Year)	Annual PM10 Exhaust Emissions (lbs/Year)	# of Construction Days/Year	Average Daily Emissions (lbs/day)	Hauling Emissions w/in 1,000 ft (lbs/day) [3]	Emission Rate (lbs/hr)	Emission Rate (g/s)
2023	0.0073	14.680	152	9.66E-02	6.08E-03	7.60E-04	9.57E-05
2024	0.0087	17.4	262	6.64E-02	4.18E-03	5.22E-04	6.58E-05
2025	0.0030	5.9	87	6.80E-02	4.28E-03	5.35E-04	6.74E-05

Note: Emissions evenly distributed over 91 modeled volume sources.

	Demolition	Site Preparation	Rough Grading	Fine Grading
Haul Length (miles)	20	20	20	20
Number of Haul Trips	6	1,728	7,826	1,728

Hauling Length (miles) [3]	20.00	miles
Haul Length within 1,000 ft of Site (mile) [4]	1.26	miles
Hours per work day (7:00 AM to 4:00 PM, 1-hour of breaks) [5]	8	hours

[1] DPM emissions taken as PM_{10} exhaust emissions from CalEEMod annual emissions.

[2] Construction durations determined for each year to adjust receptor exposures to the exposure durations for each construction year (see App C - Risk Calculations).

[3] Offsite trip length is based on the CalEEMod default haul trip length.

[4] Emissions from CalEEMod offsite average daily emissions, which is based on proportioned haul truck trip distances, are adjusted to evaluate emissions from the **1.26-**mile route within 1,000 of the project site.

[5] Work hours applied in By Hour/Day (HRDOW) variable emissions module in air dispersion model (see App B - Air Dispersion Model Output Files).

Annual Construction Emissions

Asphalt Demolition

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Off-Road		6.91E-03	6.91E-03		6.49E-03	6.49E-03
Total		**6.91E-03**	**6.91E-03**		**6.49E-03**	**6.49E-03**
Offsite						
Hauling		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vendor		1.00E-05	1.80E-04	5.00E-05	1.00E-05	6.00E-05
Worker		1.00E-05	1.10E-03	2.90E-04	1.00E-05	3.00E-04
Total		**2.00E-05**	**1.28E-03**	**3.40E-04**	**2.00E-05**	**3.60E-04**
TOTAL		***0.0069***	***0.0082***	***0.0003***	***0.0065***	***0.0069***

Asphalt Demolition Debris Haul

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Fugitive Dust		0	2.20E-04	3.00E-05	0	3.00E-05
Off-Road		0.00E+00	0.00E+00		0.00E+00	0.00E+00
Total		**0.00E+00**	**2.20E-04**	**3.00E-05**	**0.00E+00**	**3.00E-05**
Offsite						
Hauling		0	9.00E-05	2.00E-05	0	2.00E-05
Vendor		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Worker		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total		**0.00E+00**	**9.00E-05**	**2.00E-05**	**0.00E+00**	**2.00E-05**
TOTAL		***0.0000***	***0.0003***	***0.0001***	***0.0000***	***0.0001***

Asphalt Demolition and Rough Grading

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Fugitive Dust		0	7.00E-02	3.48E-02	0	3.48E-02
Off-Road		1.84E-02	1.84E-02		1.72E-02	1.72E-02
Total		**1.84E-02**	**8.83E-02**	**3.48E-02**	**1.72E-02**	**5.20E-02**
Offsite						
Hauling		0	0.00E+00	0.00E+00	0	0.00E+00
Vendor		3.00E-05	1.10E-03	3.10E-04	3.00E-05	3.40E-04
Worker		3.00E-05	4.03E-03	1.07E-03	2.00E-05	1.09E-03
Total		**6.00E-05**	**5.13E-03**	**1.38E-03**	**5.00E-05**	**1.43E-03**
TOTAL		***0.0185***	***0.0934***	***0.0362***	***0.0173***	***0.0534***

Site Preparation and Rough Grading

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Fugitive Dust		0	0.0777	3.91E-02	0	3.91E-02
Off-Road		1.34E-02	1.34E-02		1.24E-02	1.24E-02
Total		**1.34E-02**	**9.11E-02**	**0.0391**	**1.24E-02**	**5.15E-02**
Offsite						
Hauling		0	0	0	0	0
Vendor		3.00E-05	1.10E-03	3.10E-04	3.00E-05	3.40E-04
Worker		2.00E-05	3.02E-03	8.00E-04	2.00E-05	8.20E-04
Total		**5.00E-05**	**4.12E-03**	**1.11E-03**	**5.00E-05**	**1.16E-03**
TOTAL		***0.0135***	***0.0952***	***0.0402***	***0.0125***	***0.0527***

Site Preparation Soil Haul

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Fugitive Dust		0	3.30E-04	5.00E-05	0	5.00E-05
Off-Road		0.00E+00	0.00E+00		0.00E+00	0.00E+00
Total		**0.00E+00**	**3.30E-04**	**5.00E-05**	**0.00E+00**	**5.00E-05**
Offsite						
Hauling		7.10E-04	0.0247	6.33E-03	6.80E-04	7.01E-03
Vendor		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Worker		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total		**7.10E-04**	**2.47E-02**	**6.33E-03**	**6.80E-04**	**7.01E-03**
TOTAL		***0.0007***	***0.0250***	***0.0064***	***0.0007***	***0.0071***

Rough Grading and Fine Grading

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Fugitive Dust		0	0.0545	2.64E-02	0	2.64E-02
Off-Road		1.40E-02	1.40E-02		1.28E-02	1.28E-02
Total		**1.40E-02**	**6.85E-02**	**0.0264**	**1.28E-02**	**3.92E-02**
Offsite						
Hauling		0	0	0	0	0
Vendor		5.00E-05	1.43E-03	4.00E-04	4.00E-05	4.50E-04
Worker		4.00E-05	5.49E-03	1.46E-03	3.00E-05	1.49E-03
Total		**9.00E-05**	**6.92E-03**	**1.86E-03**	**7.00E-05**	**1.94E-03**
TOTAL		***0.0141***	***0.0754***	***0.0283***	***0.0129***	***0.0411***

Rough Grading Soil Haul

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Fugitive Dust		0	1.51E-03	2.30E-04	0	2.30E-04
Off-Road		0.00E+00	0.00E+00		0.00E+00	0.00E+00
Total		**0.00E+00**	**1.51E-03**	**2.30E-04**	**0.00E+00**	**2.30E-04**

Offsite						
	Hauling	3.22E-03	0.112	0.0287	3.08E-03	0.0318
	Vendor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Worker	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Total	**3.22E-03**	**1.12E-01**	**2.87E-02**	**3.08E-03**	**3.18E-02**
TOTAL		***0.0032***	***0.1135***	***0.0289***	***0.0031***	***0.0320***

Fine Grading Soil Haul

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
	Fugitive Dust	0	3.30E-04	5.00E-05	0	5.00E-05
	Off-Road	0.00E+00	0.00E+00		0.00E+00	0.00E+00
	Total	**0.00E+00**	**3.30E-04**	**5.00E-05**	**0.00E+00**	**5.00E-05**
Offsite						
	Hauling	7.10E-04	0.0146	3.84E-03	6.80E-04	4.52E-03
	Vendor	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Worker	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Total	**7.10E-04**	**1.46E-02**	**3.84E-03**	**6.80E-04**	**4.52E-03**
TOTAL		***0.0007***	***0.0149***	***0.0039***	***0.0007***	***0.0046***

Commercial Parking Garage Addition and Pile Driving

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
	Off-Road	1.66E-02	1.66E-02		1.57E-02	1.57E-02
	Total	**1.66E-02**	**1.66E-02**		**1.57E-02**	**1.57E-02**
Offsite						
	Hauling	0	0	0	0	0
	Vendor	1.80E-04	5.81E-03	1.64E-03	1.80E-04	1.82E-03
	Worker	2.20E-04	0.0337	8.94E-03	2.10E-04	9.15E-03
	Total	**4.00E-04**	**0.0395**	**0.0106**	**3.90E-04**	**0.011**
TOTAL		***0.0170***	***0.0561***	***0.0106***	***0.0161***	***0.0267***

Building A, Parking Garage Building and Pile Driving

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
	Off-Road	1.66E-02	1.66E-02		1.57E-02	1.57E-02
	Total	**1.66E-02**	**1.66E-02**		**1.57E-02**	**1.57E-02**
Offsite						
	Hauling	0	0	0	0	0
	Vendor	1.80E-04	5.81E-03	1.64E-03	1.80E-04	1.82E-03
	Worker	2.20E-04	0.0337	8.94E-03	2.10E-04	9.15E-03
	Total	**4.00E-04**	**0.0395**	**0.0106**	**3.90E-04**	**0.011**
TOTAL		***0.0170***	***0.0561***	***0.0106***	***0.0161***	***0.0267***

Building B, Parking Garage Building and Pile Driving

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Off-Road		1.66E-02	1.66E-02		1.57E-02	1.57E-02
Total		**1.66E-02**	**1.66E-02**		**1.57E-02**	**1.57E-02**
Offsite						
Hauling		0	0	0	0	0
Vendor		1.80E-04	5.81E-03	1.64E-03	1.80E-04	1.82E-03
Worker		2.20E-04	0.0337	8.94E-03	2.10E-04	9.15E-03
Total		**4.00E-04**	**0.0395**	**0.0106**	**3.90E-04**	**0.011**
TOTAL		***0.0170***	***0.0561***	***0.0106***	***0.0161***	***0.0267***

Commercial Parking Garage Addition

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Off-Road		1.11E-02	1.11E-02		1.06E-02	1.06E-02
Total		**1.11E-02**	**1.11E-02**		**1.06E-02**	**1.06E-02**
Offsite						
Hauling		0	0	0	0	0
Vendor		1.30E-04	4.20E-03	1.19E-03	1.30E-04	1.31E-03
Worker		1.60E-04	0.0243	6.46E-03	1.50E-04	6.61E-03
Total		**2.90E-04**	**0.0285**	**7.65E-03**	**2.80E-04**	**7.92E-03**
TOTAL		***0.0114***	***0.0396***	***0.0077***	***0.0109***	***0.0185***

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2024**					
Off-Road		9.75E-02	9.75E-02		9.27E-02	9.27E-02
Total		**9.75E-02**	**9.75E-02**		**9.27E-02**	**9.27E-02**
Offsite						
Hauling		0	0	0	0	0
Vendor		1.35E-03	0.0423	1.20E-02	1.29E-03	0.0132
Worker		1.55E-03	0.2451	0.0651	1.43E-03	0.0665
Total		**2.90E-03**	**0.2874**	**0.0771**	**2.72E-03**	**0.0798**
TOTAL		***0.1004***	***0.3849***	***0.0771***	***0.0954***	***0.1725***

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2025**					
Off-Road		2.78E-02	2.78E-02		2.64E-02	2.64E-02
Total		**2.78E-02**	**2.78E-02**		**2.64E-02**	**2.64E-02**
Offsite						
Hauling		0	0	0	0	0
Vendor		4.50E-04	0.0141	3.97E-03	4.30E-04	4.40E-03
Worker		4.90E-04	0.0814	0.0216	4.50E-04	0.0221
Total		**9.40E-04**	**0.0954**	**0.0256**	**8.80E-04**	**0.0265**
TOTAL		***0.0287***	***0.1232***	***0.0256***	***0.0273***	***0.0529***

Building A and Parking Garage Building

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Off-Road		1.11E-02	1.11E-02		1.06E-02	1.06E-02
Total		**1.11E-02**	**1.11E-02**		**1.06E-02**	**1.06E-02**
Offsite						
Hauling		0	0	0	0	0
Vendor		3.20E-04	0.01	2.83E-03	3.00E-04	3.13E-03
Worker		3.80E-04	0.058	0.0154	3.50E-04	0.0158
Total		**7.00E-04**	**0.068**	**0.0182**	**6.50E-04**	**0.0189**
TOTAL		***0.0118***	***0.0791***	***0.0182***	***0.0113***	***0.0295***

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2024**					
Off-Road		9.75E-02	9.75E-02		9.27E-02	9.27E-02
Total		**9.75E-02**	**9.75E-02**		**9.27E-02**	**9.27E-02**
Offsite						
Hauling		0	0	0	0	0
Vendor		1.35E-03	0.0423	1.20E-02	1.29E-03	0.0132
Worker		1.55E-03	0.2451	0.0651	1.43E-03	0.0665
Total		**2.90E-03**	**0.2874**	**0.0771**	**2.72E-03**	**0.0798**
TOTAL		***0.1004***	***0.3849***	***0.0771***	***0.0954***	***0.1725***

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2025**					
Off-Road		2.78E-02	2.78E-02		2.64E-02	2.64E-02
Total		**2.78E-02**	**2.78E-02**		**2.64E-02**	**2.64E-02**
Offsite						
Hauling		0	0	0	0	0
Vendor		4.50E-04	0.0141	3.97E-03	4.30E-04	4.40E-03
Worker		4.90E-04	0.0814	0.0216	4.50E-04	0.0221
Total		**9.40E-04**	**0.0954**	**0.0256**	**8.80E-04**	**0.0265**
TOTAL		***0.0287***	***0.1232***	***0.0256***	***0.0273***	***0.0529***

Building B and Parking Garage Building

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Off-Road		1.11E-02	1.11E-02		1.06E-02	1.06E-02
Total		**1.11E-02**	**1.11E-02**		**1.06E-02**	**1.06E-02**

Offsite							
	Hauling		0	0	0	0	0
	Vendor		1.30E-04	4.20E-03	1.19E-03	1.30E-04	1.31E-03
	Worker		1.60E-04	0.0243	6.46E-03	1.50E-04	6.61E-03
	Total		**2.90E-04**	**0.0285**	**7.65E-03**	**2.80E-04**	**7.92E-03**
TOTAL			***0.0114***	***0.0396***	***0.0077***	***0.0109***	***0.0185***
			Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite		**2024**					
	Off-Road		9.75E-02	9.75E-02		9.27E-02	9.27E-02
	Total		**9.75E-02**	**9.75E-02**		**9.27E-02**	**9.27E-02**
Offsite							
	Hauling		0	0	0	0	0
	Vendor		1.35E-03	0.0423	1.20E-02	1.29E-03	0.0132
	Worker		1.55E-03	0.2451	0.0651	1.43E-03	0.0665
	Total		**2.90E-03**	**0.2874**	**0.0771**	**2.72E-03**	**0.0798**
TOTAL			***0.1004***	***0.3849***	***0.0771***	***0.0954***	***0.1725***
			Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite		**2025**					
	Off-Road		2.78E-02	2.78E-02		2.64E-02	2.64E-02
	Total		**2.78E-02**	**2.78E-02**		**2.64E-02**	**2.64E-02**
Offsite							
	Hauling		0	0	0	0	0
	Vendor		4.50E-04	0.0141	3.97E-03	4.30E-04	4.40E-03
	Worker		4.90E-04	0.0814	0.0216	4.50E-04	0.0221
	Total		**9.40E-04**	**0.0954**	**0.0256**	**8.80E-04**	**0.0265**
TOTAL			***0.0287***	***0.1232***	***0.0256***	***0.0273***	***0.0529***

Asphalt Paving

			Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite		**2025**					
	Off-Road		7.53E-03	7.53E-03		6.93E-03	6.93E-03
	Paving		0.00E+00	0.00E+00		0.00E+00	0.00E+00
	Total		**7.53E-03**	**7.53E-03**		**6.93E-03**	**6.93E-03**
Offsite							
	Hauling		0	0	0	0	0
	Vendor		0.00E+00	0	0	0.00E+00	0
	Worker		2.00E-05	2.74E-03	7.30E-04	2.00E-05	7.40E-04
	Total		**2.00E-05**	**2.74E-03**	**7.30E-04**	**2.00E-05**	**7.40E-04**
TOTAL			***0.0076***	***0.0103***	***0.0007***	***0.0070***	***0.0077***

Architectural Coating

			Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite		**2025**					
	Archit. Coating		0	0		0	0
	Off-Road		9.30E-04	9.30E-04		9.30E-04	9.30E-04
	Total		**9.30E-04**	**9.30E-04**		**9.30E-04**	**9.30E-04**
Offsite							
	Hauling		0	0	0	0	0
	Vendor		0.00E+00	0	0	0.00E+00	0
	Worker		1.20E-04	2.03E-02	5.40E-03	1.10E-04	5.51E-03
	Total		**1.20E-04**	**2.03E-02**	**5.40E-03**	**1.10E-04**	**5.51E-03**
TOTAL			***0.0011***	***0.0212***	***0.0054***	***0.0010***	***0.0064***

Average Daily Emissions and Emission Rates: Mitigated Scenario

Onsite Construction PM10 Exhaust Emissions[1]

Year	Annual PM10 Exhaust Emissions (Tons/Year)	Annual PM10 Exhaust Emissions (lbs/Year)	# of Construction Days/Year	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/hr)	Emission Rate (g/s)	# of Total Workdays/ Year	Construction Duration (Yr)[2]
2023	0.0631	126.12	152	0.83	1.04E-01	1.31E-02	260	0.58
2024	0.0372	74.40	262	0.28	3.55E-02	4.47E-03	262	1.00
2025	0.0200	39.90	87	0.46	5.73E-02	7.22E-03	261	0.33
			501					**1.92**

Offsite Construction PM10 Exhaust Emissions[1]

Year	Annual PM10 Exhaust Emissions (Tons/Year)	Annual PM10 Exhaust Emissions (lbs/Year)	# of Construction Days/Year	Average Daily Emissions (lbs/day)	Hauling Emissions w/in 1,000 ft (lbs/day) [3]	Emission Rate (lbs/hr)	Emission Rate (g/s)
2023	0.0073	14.680	152	9.66E-02	6.08E-03	7.60E-04	9.57E-05
2024	0.0087	17.4	262	6.64E-02	4.18E-03	5.22E-04	6.58E-05
2025	0.0030	5.9	87	6.80E-02	4.28E-03	5.35E-04	6.74E-05

Note: Emissions evenly distributed over 91 modeled volume sources.

	Demolition	Site Preparation	Rough Grading	Fine Grading
Haul Length (miles)	20	20	20	20
Number of Haul Trips	6	1728	7,826	1728

Hauling Length (miles) [3]	20.00	miles
Haul Length within 1,000 ft of Site (mile) [4]	1.26	miles
Hours per work day (7:00 AM to 4:00 PM, 1-hour of breaks) [5]	8	hours

[1] DPM emissions taken as PM_{10} exhaust emissions from CalEEMod annual emissions.

[2] Construction durations determined for each year to adjust receptor exposures to the exposure durations for each construction year (see App C - Risk Calculations).

[3] Offsite trip length is based on the CalEEMod default haul trip length.

[4] Emissions from CalEEMod offsite average daily emissions, which is based on proportioned haul truck trip distances, are adjusted to evaluate emissions from the **1.26-**mile route within 1,000 of the project site.

[5] Work hours applied in By Hour/Day (HRDOW) variable emissions module in air dispersion model (see App B - Air Dispersion Model Output Files).

Annual Construction Emissions

Asphalt Demolition

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Off-Road		6.91E-03	6.91E-03		6.49E-03	6.49E-03
Total		**6.91E-03**	**6.91E-03**		**6.49E-03**	**6.49E-03**
Offsite						
Hauling		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vendor		1.00E-05	1.80E-04	5.00E-05	1.00E-05	6.00E-05
Worker		1.00E-05	1.10E-03	2.90E-04	1.00E-05	3.00E-04
Total		**2.00E-05**	**1.28E-03**	**3.40E-04**	**2.00E-05**	**3.60E-04**
TOTAL		***0.0069***	***0.0082***	***0.0003***	***0.0065***	***0.0069***

Asphalt Demolition Debris Haul

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Fugitive Dust		0	7.00E-02	3.48E-02	0	3.48E-02
Off-Road		1.84E-02	1.84E-02		1.72E-02	1.72E-02
Total		**1.84E-02**	**8.83E-02**	**3.48E-02**	**1.72E-02**	**5.20E-02**
Offsite						
Hauling		0	0.00E+00	0.00E+00	0	0.00E+00
Vendor		3.00E-05	1.10E-03	3.10E-04	3.00E-05	3.40E-04
Worker		3.00E-05	4.03E-03	1.07E-03	2.00E-05	1.09E-03
Total		**6.00E-05**	**5.13E-03**	**1.38E-03**	**5.00E-05**	**1.43E-03**
TOTAL		***0.0185***	***0.0934***	***0.0362***	***0.0173***	***0.0534***

Asphalt Demolition and Rough Grading

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Fugitive Dust		0	2.20E-04	3.00E-05	0	3.00E-05
Off-Road		0.00E+00	0.00E+00		0.00E+00	0.00E+00
Total		**0.00E+00**	**2.20E-04**	**3.00E-05**	**0.00E+00**	**3.00E-05**
Offsite						
Hauling		0	9.00E-05	2.00E-05	0	2.00E-05
Vendor		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Worker		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total		**0.00E+00**	**9.00E-05**	**2.00E-05**	**0.00E+00**	**2.00E-05**
TOTAL		***0.0000***	***0.0003***	***0.0001***	***0.0000***	***0.0001***

Site Preparation and Rough Grading						
		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Fugitive Dust		0	0.0777	3.91E-02	0	3.91E-02
Off-Road		1.34E-02	1.34E-02		1.24E-02	1.24E-02
Total		**1.34E-02**	**9.11E-02**	**0.0391**	**1.24E-02**	**5.15E-02**
Offsite						
Hauling		0	0	0	0	0
Vendor		3.00E-05	1.10E-03	3.10E-04	3.00E-05	3.40E-04
Worker		2.00E-05	3.02E-03	8.00E-04	2.00E-05	8.20E-04
Total		**5.00E-05**	**4.12E-03**	**1.11E-03**	**5.00E-05**	**1.16E-03**
TOTAL		***0.0135***	***0.0952***	***0.0402***	***0.0125***	***0.0527***

Site Preparation Soil Haul

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Fugitive Dust		0	3.30E-04	5.00E-05	0	5.00E-05
Off-Road		0.00E+00	0.00E+00		0.00E+00	0.00E+00
Total		**0.00E+00**	**3.30E-04**	**5.00E-05**	**0.00E+00**	**5.00E-05**
Offsite						
Hauling		7.10E-04	0.0247	6.33E-03	6.80E-04	7.01E-03
Vendor		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Worker		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total		**7.10E-04**	**2.47E-02**	**6.33E-03**	**6.80E-04**	**7.01E-03**
TOTAL		***0.0007***	***0.0250***	***0.0064***	***0.0007***	***0.0071***

Rough Grading and Fine Grading

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Fugitive Dust		0	0.0545	2.64E-02	0	2.64E-02
Off-Road		1.40E-02	1.40E-02		1.28E-02	1.28E-02
Total		**1.40E-02**	**6.85E-02**	**0.0264**	**1.28E-02**	**3.92E-02**
Offsite						
Hauling		0	0	0	0	0
Vendor		5.00E-05	1.43E-03	4.00E-04	4.00E-05	4.50E-04
Worker		4.00E-05	5.49E-03	1.46E-03	3.00E-05	1.49E-03
Total		**9.00E-05**	**6.92E-03**	**1.86E-03**	**7.00E-05**	**1.94E-03**
TOTAL		***0.0141***	***0.0754***	***0.0283***	***0.0129***	***0.0411***

Rough Grading Soil Haul

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Fugitive Dust		0	1.51E-03	2.30E-04	0	2.30E-04
Off-Road		0.00E+00	0.00E+00		0.00E+00	0.00E+00
Total		**0.00E+00**	**1.51E-03**	**2.30E-04**	**0.00E+00**	**2.30E-04**
Offsite						
Hauling		3.22E-03	0.112	0.0287	3.08E-03	0.0318
Vendor		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Worker		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total		**3.22E-03**	**1.12E-01**	**2.87E-02**	**3.08E-03**	**3.18E-02**
TOTAL		***0.0032***	***0.1135***	***0.0289***	***0.0031***	***0.0320***

Fine Grading Soil Haul						
		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Fugitive Dust		0	3.30E-04	5.00E-05	0	5.00E-05
Off-Road		0.00E+00	0.00E+00		0.00E+00	0.00E+00
Total		**0.00E+00**	**3.30E-04**	**5.00E-05**	**0.00E+00**	**5.00E-05**
Offsite						
Hauling		7.10E-04	0.0146	3.84E-03	6.80E-04	4.52E-03
Vendor		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Worker		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total		**7.10E-04**	**1.46E-02**	**3.84E-03**	**6.80E-04**	**4.52E-03**
TOTAL		***0.0007***	***0.0149***	***0.0039***	***0.0007***	***0.0046***

Commercial Parking Garage Addition and Pile Driving						
		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Off-Road		2.12E-03	2.12E-03		2.12E-03	2.12E-03
Total		**2.12E-03**	**2.12E-03**		**2.12E-03**	**2.12E-03**
Offsite						
Hauling		0	0	0	0	0
Vendor		1.80E-04	5.81E-03	1.64E-03	1.80E-04	1.82E-03
Worker		2.20E-04	0.0337	8.94E-03	2.10E-04	9.15E-03
Total		**4.00E-04**	**0.0395**	**0.0106**	**3.90E-04**	**0.011**
TOTAL		***0.0025***	***0.0416***	***0.0106***	***0.0025***	***0.0131***

Building A, Parking Garage Building and Pile Driving						
		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Off-Road		2.12E-03	2.12E-03		2.12E-03	2.12E-03
Total		**2.12E-03**	**2.12E-03**		**2.12E-03**	**2.12E-03**
Offsite						
Hauling		0	0	0	0	0
Vendor		1.80E-04	5.81E-03	1.64E-03	1.80E-04	1.82E-03
Worker		2.20E-04	0.0337	8.94E-03	2.10E-04	9.15E-03
Total		**4.00E-04**	**0.0395**	**0.0106**	**3.90E-04**	**0.011**
TOTAL		***0.0025***	***0.0416***	***0.0106***	***0.0025***	***0.0131***

Building B, Parking Garage Building and Pile Driving						
		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Off-Road		2.12E-03	2.12E-03		2.12E-03	2.12E-03
Total		**2.12E-03**	**2.12E-03**		**2.12E-03**	**2.12E-03**
Offsite						
Hauling		0	0	0	0	0
Vendor		1.80E-04	5.81E-03	1.64E-03	1.80E-04	1.82E-03
Worker		2.20E-04	0.0337	8.94E-03	2.10E-04	9.15E-03
Total		**4.00E-04**	**0.0395**	**0.0106**	**3.90E-04**	**0.011**
TOTAL		***0.0025***	***0.0416***	***0.0106***	***0.0025***	***0.0131***

Commercial Parking Garage Addition						
		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2023**					
Off-Road		1.33E-03	1.33E-03		1.33E-03	1.33E-03
Total		**1.33E-03**	**1.33E-03**		**1.33E-03**	**1.33E-03**
Offsite						
Hauling		0	0	0	0	0
Vendor		1.30E-04	4.20E-03	1.19E-03	1.30E-04	1.31E-03
Worker		1.60E-04	0.0243	6.46E-03	1.50E-04	6.61E-03
Total		**2.90E-04**	**0.0285**	**7.65E-03**	**2.80E-04**	**7.92E-03**
TOTAL		***0.0016***	***0.0298***	***0.0077***	***0.0016***	***0.0093***

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2024**					
Off-Road		1.24E-02	1.24E-02		1.24E-02	1.24E-02
Total		**1.24E-02**	**1.24E-02**		**1.24E-02**	**1.24E-02**
Offsite						
Hauling		0	0	0	0	0
Vendor		1.35E-03	0.0423	1.20E-02	1.29E-03	0.0132
Worker		1.55E-03	0.2451	0.0651	1.43E-03	0.0665
Total		**2.90E-03**	**0.2874**	**0.0771**	**2.72E-03**	**0.0798**
TOTAL		***0.0153***	***0.2998***	***0.0771***	***0.0151***	***0.0922***

		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2025**					
Off-Road		3.83E-03	3.83E-03		3.83E-03	3.83E-03
Total		**3.83E-03**	**3.83E-03**		**3.83E-03**	**3.83E-03**

Offsite						
	Hauling	0	0	0	0	0
	Vendor	4.50E-04	0.0141	3.97E-03	4.30E-04	4.40E-03
	Worker	4.90E-04	0.0814	0.0216	4.50E-04	0.0221
	Total	**9.40E-04**	**0.0954**	**0.0256**	**8.80E-04**	**0.0265**
TOTAL		***0.0048***	***0.0992***	***0.0256***	***0.0047***	***0.0303***

Building A and Parking Garage Building

			Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite		**2023**					
	Off-Road		1.33E-03	1.33E-03		1.33E-03	1.33E-03
	Total		**1.33E-03**	**1.33E-03**		**1.33E-03**	**1.33E-03**
Offsite							
	Hauling		0	0	0	0	0
	Vendor		3.20E-04	0.01	2.83E-03	3.00E-04	3.13E-03
	Worker		3.80E-04	0.058	0.0154	3.50E-04	0.0158
	Total		**7.00E-04**	**0.068**	**0.0182**	**6.50E-04**	**0.0189**
TOTAL			***0.0020***	***0.0693***	***0.0182***	***0.0020***	***0.0202***

			Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite		**2024**					
	Off-Road		1.24E-02	1.24E-02		1.24E-02	1.24E-02
	Total		**1.24E-02**	**1.24E-02**		**1.24E-02**	**1.24E-02**
Offsite							
	Hauling		0	0	0	0	0
	Vendor		1.35E-03	0.0423	1.20E-02	1.29E-03	0.0132
	Worker		1.55E-03	0.2451	0.0651	1.43E-03	0.0665
	Total		**2.90E-03**	**0.2874**	**0.0771**	**2.72E-03**	**0.0798**
TOTAL			***0.0153***	***0.2998***	***0.0771***	***0.0151***	***0.0922***

			Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite		**2025**					
	Off-Road		3.83E-03	3.83E-03		3.83E-03	3.83E-03
	Total		**3.83E-03**	**3.83E-03**		**3.83E-03**	**3.83E-03**
Offsite							
	Hauling		0	0	0	0	0
	Vendor		4.50E-04	0.0141	3.97E-03	4.30E-04	4.40E-03
	Worker		4.90E-04	0.0814	0.0216	4.50E-04	0.0221
	Total		**9.40E-04**	**0.0954**	**0.0256**	**8.80E-04**	**0.0265**
TOTAL			***0.0048***	***0.0992***	***0.0256***	***0.0047***	***0.0303***

Building B and Parking Garage Building

			Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite		**2023**					
	Off-Road		1.33E-03	1.33E-03		1.33E-03	1.33E-03
	Total		**1.33E-03**	**1.33E-03**		**1.33E-03**	**1.33E-03**
Offsite							
	Hauling		0	0	0	0	0
	Vendor		1.30E-04	4.20E-03	1.19E-03	1.30E-04	1.31E-03
	Worker		1.60E-04	0.0243	6.46E-03	1.50E-04	6.61E-03
	Total		**2.90E-04**	**0.0285**	**7.65E-03**	**2.80E-04**	**7.92E-03**
TOTAL			***0.0016***	***0.0298***	***0.0077***	***0.0016***	***0.0093***

			Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite		**2024**					
	Off-Road		1.24E-02	1.24E-02		1.24E-02	1.24E-02
	Total		**1.24E-02**	**1.24E-02**		**1.24E-02**	**1.24E-02**
Offsite							
	Hauling		0	0	0	0	0
	Vendor		1.35E-03	0.0423	1.20E-02	1.29E-03	0.0132
	Worker		1.55E-03	0.2451	0.0651	1.43E-03	0.0665
	Total		**2.90E-03**	**0.2874**	**0.0771**	**2.72E-03**	**0.0798**
TOTAL			***0.0153***	***0.2998***	***0.0771***	***0.0151***	***0.0922***

			Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite		**2025**					
	Off-Road		3.83E-03	3.83E-03		3.83E-03	3.83E-03
	Total		**3.83E-03**	**3.83E-03**		**3.83E-03**	**3.83E-03**
Offsite							
	Hauling		0	0	0	0	0
	Vendor		4.50E-04	0.0141	3.97E-03	4.30E-04	4.40E-03
	Worker		4.90E-04	0.0814	0.0216	4.50E-04	0.0221
	Total		**9.40E-04**	**0.0954**	**0.0256**	**8.80E-04**	**0.0265**
TOTAL			***0.0048***	***0.0992***	***0.0256***	***0.0047***	***0.0303***

Asphalt Paving

			Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite		**2025**					
	Off-Road		7.53E-03	7.53E-03		6.93E-03	6.93E-03
	Paving		0.00E+00	0.00E+00		0.00E+00	0.00E+00
	Total		**7.53E-03**	**7.53E-03**		**6.93E-03**	**6.93E-03**

Offsite						
	Hauling	0	0	0	0	0
	Vendor	0.00E+00	0	0	0.00E+00	0
	Worker	2.00E-05	2.74E-03	7.30E-04	2.00E-05	7.40E-04
	Total	**2.00E-05**	**2.74E-03**	**7.30E-04**	**2.00E-05**	**7.40E-04**
TOTAL		***0.0076***	***0.0103***	***0.0007***	***0.0070***	***0.0077***

Architectural Coating

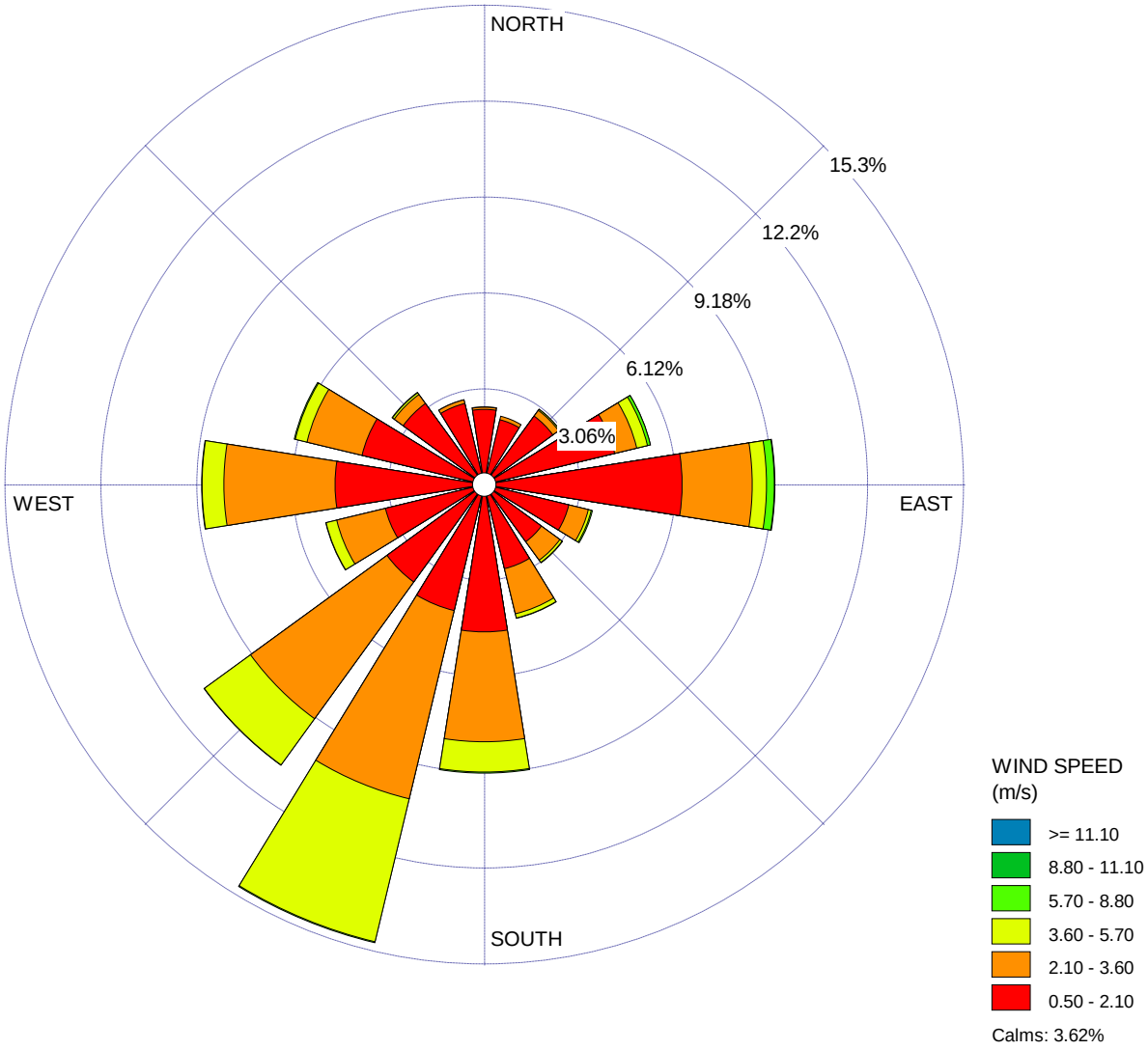
		Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Onsite	**2025**					
	Archit. Coating	0	0		0	0
	Off-Road	9.30E-04	9.30E-04		9.30E-04	9.30E-04
	Total	**9.30E-04**	**9.30E-04**		**9.30E-04**	**9.30E-04**
Offsite						
	Hauling	0	0	0	0	0
	Vendor	0.00E+00	0	0	0.00E+00	0
	Worker	1.20E-04	2.03E-02	5.40E-03	1.10E-04	5.51E-03
	Total	**1.20E-04**	**2.03E-02**	**5.40E-03**	**1.10E-04**	**5.51E-03**
TOTAL		***0.0011***	***0.0212***	***0.0054***	***0.0010***	***0.0064***

WIND ROSE PLOT:

Station #3166

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 1/1/2012 - 00:00** **End Date: 12/31/2016 - 23:59**	COMPANY NAME: **South Coast Air Quality Management District**	
		MODELER: **Melissa Sheffer**	
	CALM WINDS: **3.62%**	TOTAL COUNT: **43471 hrs.**	
	AVG. WIND SPEED: **2.02 m/s**	DATE: **5/23/2017**	PROJECT NO.:

Appendix B. Air Dispersion Model Output

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

```
*** AERMOD - VERSION 21112  ***   *** Construction HRA                                                    ***        05/03/22
*** AERMET - VERSION  16216 ***   *** Norwalk Entertainment District - Civic Center SP                    ***        09:56:43
                                                                                                                    PAGE   1
*** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                        ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Model Is Setup For Calculation of Average CONCentration Values.

  --  DEPOSITION LOGIC  --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
**Model Uses NO WET DEPLETION.  WETDPLT  =  F

**Model Uses URBAN Dispersion Algorithm for the SBL for    92 Source(s),
  for Total of    1 Urban Area(s):
  Urban Population =   9829544.0 ;  Urban Roughness Length =  1.000 m

**Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

**Other Options Specified:
        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:  OTHER

**Model Calculates PERIOD Averages Only

**This Run Includes:     92 Source(s);       2 Source Group(s); and    2138 Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:     91 VOLUME source(s)
                and:      1 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)
```

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

```
**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date:  16216

**Output Options Selected:
         Model Outputs Tables of PERIOD 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) =    29.00 ;  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 =      3.9 MB of RAM.

**Input Runstream File:          aermod.inp
**Output Print File:             aermod.out

**Detailed Error/Message File:   PRIM01.err
**File for Summary of Results:   PRIM01.sum
```

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

*** 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
L0000204	0	0.12407E-01	401416.8	3753480.9	32.3	4.15	11.63	1.93	YES	HRDOW
L0000205	0	0.12407E-01	401391.8	3753481.1	32.1	4.15	11.63	1.93	YES	HRDOW
L0000206	0	0.12407E-01	401366.8	3753481.3	32.2	4.15	11.63	1.93	YES	HRDOW
L0000207	0	0.12407E-01	401341.8	3753481.5	32.2	4.15	11.63	1.93	YES	HRDOW
L0000208	0	0.12407E-01	401316.8	3753481.7	32.3	4.15	11.63	1.93	YES	HRDOW
L0000209	0	0.12407E-01	401291.8	3753481.9	32.3	4.15	11.63	1.93	YES	HRDOW
L0000210	0	0.12407E-01	401266.8	3753482.1	32.2	4.15	11.63	1.93	YES	HRDOW
L0000211	0	0.12407E-01	401241.8	3753482.3	32.3	4.15	11.63	1.93	YES	HRDOW
L0000212	0	0.12407E-01	401216.8	3753482.5	32.3	4.15	11.63	1.93	YES	HRDOW
L0000213	0	0.12407E-01	401191.8	3753482.7	32.4	4.15	11.63	1.93	YES	HRDOW
L0000214	0	0.12407E-01	401166.8	3753482.9	32.5	4.15	11.63	1.93	YES	HRDOW
L0000215	0	0.12407E-01	401141.8	3753483.1	32.5	4.15	11.63	1.93	YES	HRDOW
L0000216	0	0.12407E-01	401116.8	3753483.4	32.5	4.15	11.63	1.93	YES	HRDOW
L0000217	0	0.12407E-01	401091.8	3753483.6	32.6	4.15	11.63	1.93	YES	HRDOW
L0000218	0	0.12407E-01	401066.8	3753483.8	32.7	4.15	11.63	1.93	YES	HRDOW
L0000219	0	0.12407E-01	401041.8	3753484.0	32.7	4.15	11.63	1.93	YES	HRDOW
L0000220	0	0.12407E-01	401016.8	3753484.2	32.7	4.15	11.63	1.93	YES	HRDOW
L0000221	0	0.12407E-01	400991.8	3753484.4	32.7	4.15	11.63	1.93	YES	HRDOW
L0000222	0	0.12407E-01	400966.8	3753484.6	32.8	4.15	11.63	1.93	YES	HRDOW
L0000223	0	0.12407E-01	400941.8	3753484.8	32.8	4.15	11.63	1.93	YES	HRDOW
L0000224	0	0.12407E-01	400916.8	3753485.0	32.8	4.15	11.63	1.93	YES	HRDOW
L0000225	0	0.12407E-01	400891.8	3753485.2	32.8	4.15	11.63	1.93	YES	HRDOW
L0000226	0	0.12407E-01	400866.8	3753485.4	32.9	4.15	11.63	1.93	YES	HRDOW
L0000227	0	0.12407E-01	400841.8	3753485.6	32.9	4.15	11.63	1.93	YES	HRDOW
L0000228	0	0.12407E-01	400816.8	3753485.8	33.0	4.15	11.63	1.93	YES	HRDOW
L0000229	0	0.12407E-01	400791.8	3753486.0	33.0	4.15	11.63	1.93	YES	HRDOW
L0000230	0	0.12407E-01	400766.8	3753486.2	32.9	4.15	11.63	1.93	YES	HRDOW
L0000231	0	0.12407E-01	400741.8	3753486.4	32.9	4.15	11.63	1.93	YES	HRDOW
L0000232	0	0.12407E-01	400716.8	3753486.6	32.8	4.15	11.63	1.93	YES	HRDOW
L0000233	0	0.12407E-01	400691.8	3753486.9	32.7	4.15	11.63	1.93	YES	HRDOW
L0000234	0	0.12407E-01	400666.8	3753487.1	32.7	4.15	11.63	1.93	YES	HRDOW
L0000235	0	0.12407E-01	400641.8	3753487.3	32.7	4.15	11.63	1.93	YES	HRDOW
L0000236	0	0.12407E-01	400616.9	3753487.5	32.6	4.15	11.63	1.93	YES	HRDOW
L0000237	0	0.12407E-01	400591.9	3753487.7	32.4	4.15	11.63	1.93	YES	HRDOW
L0000238	0	0.12407E-01	400566.9	3753487.9	32.3	4.15	11.63	1.93	YES	HRDOW
L0000170	0	0.12244E-01	400775.0	3752977.7	31.4	4.15	11.63	1.93	YES	HRDOW
L0000171	0	0.12244E-01	400788.6	3752998.6	31.6	4.15	11.63	1.93	YES	HRDOW
L0000172	0	0.12244E-01	400802.3	3753019.6	31.6	4.15	11.63	1.93	YES	HRDOW

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

L0000173	0	0.12244E-01	400815.9	3753040.5	31.7	4.15	11.63	1.93	YES	HRDOW
L0000174	0	0.12244E-01	400826.4	3753063.0	31.8	4.15	11.63	1.93	YES	HRDOW

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

*** 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
L0000175	0	0.12244E-01	400834.2	3753086.7	32.0	4.15	11.63	1.93	YES	HRDOW
L0000176	0	0.12244E-01	400841.8	3753110.5	32.1	4.15	11.63	1.93	YES	HRDOW
L0000177	0	0.12244E-01	400845.5	3753135.3	32.0	4.15	11.63	1.93	YES	HRDOW
L0000178	0	0.12244E-01	400847.3	3753160.1	32.1	4.15	11.63	1.93	YES	HRDOW
L0000179	0	0.12244E-01	400847.4	3753185.1	32.2	4.15	11.63	1.93	YES	HRDOW
L0000180	0	0.12244E-01	400847.5	3753210.1	32.2	4.15	11.63	1.93	YES	HRDOW
L0000181	0	0.12244E-01	400847.6	3753235.1	32.3	4.15	11.63	1.93	YES	HRDOW
L0000182	0	0.12244E-01	400847.7	3753260.1	32.3	4.15	11.63	1.93	YES	HRDOW
L0000183	0	0.12244E-01	400847.8	3753285.1	32.4	4.15	11.63	1.93	YES	HRDOW
L0000184	0	0.12244E-01	400847.9	3753310.1	32.4	4.15	11.63	1.93	YES	HRDOW
L0000185	0	0.12244E-01	400848.0	3753335.1	32.5	4.15	11.63	1.93	YES	HRDOW
L0000186	0	0.12244E-01	400848.1	3753360.1	32.5	4.15	11.63	1.93	YES	HRDOW
L0000187	0	0.12244E-01	400848.2	3753385.1	32.6	4.15	11.63	1.93	YES	HRDOW
L0000188	0	0.12244E-01	400848.3	3753410.1	32.7	4.15	11.63	1.93	YES	HRDOW
L0000189	0	0.12244E-01	400848.4	3753435.1	32.8	4.15	11.63	1.93	YES	HRDOW
L0000190	0	0.12244E-01	400848.5	3753460.1	32.8	4.15	11.63	1.93	YES	HRDOW
L0000191	0	0.12244E-01	400848.5	3753485.1	32.9	4.15	11.63	1.93	YES	HRDOW
L0000192	0	0.12244E-01	400848.5	3753510.1	32.9	4.15	11.63	1.93	YES	HRDOW
L0000193	0	0.12244E-01	400848.5	3753535.1	32.9	4.15	11.63	1.93	YES	HRDOW
L0000194	0	0.12244E-01	400848.5	3753560.1	33.0	4.15	11.63	1.93	YES	HRDOW
L0000195	0	0.12244E-01	400848.5	3753585.1	33.1	4.15	11.63	1.93	YES	HRDOW
L0000196	0	0.12244E-01	400848.5	3753610.1	33.2	4.15	11.63	1.93	YES	HRDOW
L0000197	0	0.12244E-01	400848.5	3753635.1	33.3	4.15	11.63	1.93	YES	HRDOW
L0000198	0	0.12244E-01	400848.5	3753660.1	33.4	4.15	11.63	1.93	YES	HRDOW
L0000199	0	0.12244E-01	400848.5	3753685.1	33.5	4.15	11.63	1.93	YES	HRDOW
L0000200	0	0.12244E-01	400848.5	3753710.1	33.5	4.15	11.63	1.93	YES	HRDOW
L0000201	0	0.12244E-01	400848.5	3753735.1	33.6	4.15	11.63	1.93	YES	HRDOW
L0000202	0	0.12244E-01	400848.6	3753760.1	33.7	4.15	11.63	1.93	YES	HRDOW
L0000203	0	0.12244E-01	400848.6	3753785.1	33.8	4.15	11.63	1.93	YES	HRDOW
L0000126	0	0.67939E-02	401012.4	3752781.2	31.5	4.15	6.51	1.93	YES	HRDOW
L0000127	0	0.67939E-02	401002.6	3752791.1	31.6	4.15	6.51	1.93	YES	HRDOW
L0000128	0	0.67939E-02	400992.8	3752801.1	31.9	4.15	6.51	1.93	YES	HRDOW
L0000129	0	0.67939E-02	400982.9	3752811.0	31.7	4.15	6.51	1.93	YES	HRDOW
L0000130	0	0.67939E-02	400973.1	3752821.0	31.0	4.15	6.51	1.93	YES	HRDOW
L0000131	0	0.67939E-02	400963.2	3752831.0	30.7	4.15	6.51	1.93	YES	HRDOW
L0000132	0	0.67939E-02	400953.4	3752840.9	32.1	4.15	6.51	1.93	YES	HRDOW
L0000133	0	0.67939E-02	400943.6	3752850.9	33.1	4.15	6.51	1.93	YES	HRDOW
L0000134	0	0.67939E-02	400933.7	3752860.8	33.4	4.15	6.51	1.93	YES	HRDOW

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

L0000135	0	0.67939E-02	400925.9	3752872.3	33.4	4.15	6.51	1.93	YES	HRDOW
L0000136	0	0.67939E-02	400918.6	3752884.3	33.2	4.15	6.51	1.93	YES	HRDOW

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

*** 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
L0000137	0	0.67939E-02	400911.3	3752896.2	33.1	4.15	6.51	1.93	YES	HRDOW
L0000138	0	0.67939E-02	400904.0	3752908.2	33.5	4.15	6.51	1.93	YES	HRDOW
L0000139	0	0.67939E-02	400896.7	3752920.2	34.1	4.15	6.51	1.93	YES	HRDOW
L0000140	0	0.67939E-02	400889.5	3752932.1	33.7	4.15	6.51	1.93	YES	HRDOW
L0000141	0	0.67939E-02	400882.2	3752944.1	32.1	4.15	6.51	1.93	YES	HRDOW
L0000142	0	0.67939E-02	400873.6	3752955.0	31.4	4.15	6.51	1.93	YES	HRDOW
L0000143	0	0.67939E-02	400863.7	3752964.9	31.7	4.15	6.51	1.93	YES	HRDOW
L0000144	0	0.67939E-02	400852.8	3752973.5	32.0	4.15	6.51	1.93	YES	HRDOW
L0000145	0	0.67939E-02	400841.2	3752981.5	32.0	4.15	6.51	1.93	YES	HRDOW
L0000146	0	0.67939E-02	400829.7	3752989.4	31.7	4.15	6.51	1.93	YES	HRDOW
L0000147	0	0.67939E-02	400818.1	3752997.3	31.8	4.15	6.51	1.93	YES	HRDOW

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
PAREA1	0	0.19433E-04	400863.5	3753463.4	33.0	4.15	14	1.93	YES	HRDOW

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ONSITE	PAREA1 ,
HAUL	L0000204 , L0000205 , L0000206 , L0000207 , L0000208 , L0000209 , L0000210 , L0000211 ,
	L0000212 , L0000213 , L0000214 , L0000215 , L0000216 , L0000217 , L0000218 , L0000219 ,
	L0000220 , L0000221 , L0000222 , L0000223 , L0000224 , L0000225 , L0000226 , L0000227 ,
	L0000228 , L0000229 , L0000230 , L0000231 , L0000232 , L0000233 , L0000234 , L0000235 ,
	L0000236 , L0000237 , L0000238 , L0000170 , L0000171 , L0000172 , L0000173 , L0000174 ,
	L0000175 , L0000176 , L0000177 , L0000178 , L0000179 , L0000180 , L0000181 , L0000182 ,
	L0000183 , L0000184 , L0000185 , L0000186 , L0000187 , L0000188 , L0000189 , L0000190 ,
	L0000191 , L0000192 , L0000193 , L0000194 , L0000195 , L0000196 , L0000197 , L0000198 ,
	L0000199 , L0000200 , L0000201 , L0000202 , L0000203 , L0000126 , L0000127 , L0000128 ,
	L0000129 , L0000130 , L0000131 , L0000132 , L0000133 , L0000134 , L0000135 , L0000136 ,
	L0000137 , L0000138 , L0000139 , L0000140 , L0000141 , L0000142 , L0000143 , L0000144 ,
	L0000145 , L0000146 , L0000147 ,

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	9829544.	PAREA1 , L0000204 , L0000205 , L0000206 , L0000207 , L0000208 , L0000209 , L0000210 ,
		L0000211 , L0000212 , L0000213 , L0000214 , L0000215 , L0000216 , L0000217 , L0000218 ,
		L0000219 , L0000220 , L0000221 , L0000222 , L0000223 , L0000224 , L0000225 , L0000226 ,
		L0000227 , L0000228 , L0000229 , L0000230 , L0000231 , L0000232 , L0000233 , L0000234 ,
		L0000235 , L0000236 , L0000237 , L0000238 , L0000170 , L0000171 , L0000172 , L0000173 ,
		L0000174 , L0000175 , L0000176 , L0000177 , L0000178 , L0000179 , L0000180 , L0000181 ,
		L0000182 , L0000183 , L0000184 , L0000185 , L0000186 , L0000187 , L0000188 , L0000189 ,
		L0000190 , L0000191 , L0000192 , L0000193 , L0000194 , L0000195 , L0000196 , L0000197 ,
		L0000198 , L0000199 , L0000200 , L0000201 , L0000202 , L0000203 , L0000126 , L0000127 ,
		L0000128 , L0000129 , L0000130 , L0000131 , L0000132 , L0000133 , L0000134 , L0000135 ,
		L0000136 , L0000137 , L0000138 , L0000139 , L0000140 , L0000141 , L0000142 , L0000143 ,
		L0000144 , L0000145 , L0000146 , L0000147 ,

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = PAREA1 ; SOURCE TYPE = AREAPOLY :

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	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.0000E+00	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

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000126-L0000238 ; 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	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.0000E+00	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

```
                                                     *** 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

              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,
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Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: ..\Met Data\KFUL_V9_ADJU\KFUL_v9.SFC Met Version: 16216
Profile file: ..\Met Data\KFUL_V9_ADJU\KFUL_v9.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 3166 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN
Year: 2012 Year: 2012

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
12	01	01	1	01	-4.8	0.098	-9.000	-9.000	-999.	74.	18.0	0.26	2.61	1.00	0.96	322.	10.1	283.8	2.0
12	01	01	1	02	-1.9	0.072	-9.000	-9.000	-999.	47.	18.0	0.26	2.61	1.00	0.52	13.	10.1	283.1	2.0
12	01	01	1	03	-3.1	0.083	-9.000	-9.000	-999.	57.	16.3	0.26	2.61	1.00	0.75	73.	10.1	282.0	2.0
12	01	01	1	04	-4.3	0.094	-9.000	-9.000	-999.	69.	17.3	0.26	2.61	1.00	0.91	98.	10.1	281.4	2.0
12	01	01	1	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.26	2.61	1.00	0.00	0.	10.1	280.9	2.0
12	01	01	1	06	-2.1	0.074	-9.000	-9.000	-999.	48.	17.6	0.26	2.61	1.00	0.55	80.	10.1	280.4	2.0
12	01	01	1	07	-2.8	0.080	-9.000	-9.000	-999.	54.	16.3	0.26	2.61	1.00	0.69	201.	10.1	280.4	2.0
12	01	01	1	08	-1.5	0.066	-9.000	-9.000	-999.	41.	17.0	0.26	2.61	0.54	0.52	72.	10.1	280.9	2.0
12	01	01	1	09	37.4	-9.000	-9.000	-9.000	38.	-999.	-99999.0	0.26	2.61	0.31	0.00	0.	10.1	285.9	2.0
12	01	01	1	10	109.1	0.151	0.713	0.008	121.	141.	-2.9	0.26	2.61	0.24	0.79	268.	10.1	289.9	2.0
12	01	01	1	11	160.5	0.148	1.143	0.005	338.	136.	-1.8	0.26	2.61	0.21	0.70	273.	10.1	294.2	2.0
12	01	01	1	12	186.9	0.156	1.483	0.005	634.	148.	-1.8	0.26	2.61	0.20	0.74	230.	10.1	297.5	2.0
12	01	01	1	13	187.4	0.210	1.777	0.005	1088.	231.	-4.5	0.26	2.61	0.20	1.20	227.	10.1	300.4	2.0
12	01	01	1	14	160.3	0.235	1.833	0.005	1395.	274.	-7.4	0.26	2.61	0.21	1.47	233.	10.1	300.9	2.0
12	01	01	1	15	109.1	0.197	1.662	0.005	1527.	210.	-6.3	0.26	2.61	0.25	1.20	233.	10.1	302.0	2.0
12	01	01	1	16	33.3	0.243	1.125	0.005	1548.	288.	-39.2	0.26	2.61	0.33	1.91	229.	10.1	298.1	2.0
12	01	01	1	17	-9.1	0.141	-9.000	-9.000	-999.	132.	28.3	0.26	2.61	0.60	1.37	212.	10.1	294.2	2.0
12	01	01	1	18	-4.3	0.094	-9.000	-9.000	-999.	69.	17.5	0.26	2.61	1.00	0.91	190.	10.1	292.0	2.0
12	01	01	1	19	-2.8	0.079	-9.000	-9.000	-999.	54.	16.3	0.26	2.61	1.00	0.70	302.	10.1	289.2	2.0
12	01	01	1	20	-4.0	0.091	-9.000	-9.000	-999.	65.	17.0	0.26	2.61	1.00	0.87	338.	10.1	288.1	2.0
12	01	01	1	21	-6.3	0.113	-9.000	-9.000	-999.	91.	20.5	0.26	2.61	1.00	1.11	304.	10.1	287.0	2.0
12	01	01	1	22	-3.1	0.082	-9.000	-9.000	-999.	57.	16.3	0.26	2.61	1.00	0.75	76.	10.1	285.4	2.0
12	01	01	1	23	-2.4	0.076	-9.000	-9.000	-999.	50.	16.7	0.26	2.61	1.00	0.62	306.	10.1	284.9	2.0
12	01	01	1	24	-3.6	0.087	-9.000	-9.000	-999.	62.	16.6	0.26	2.61	1.00	0.82	318.	10.1	283.8	2.0

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
12	01	01	01	10.1	1	322.	0.96	283.8	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ONSITE ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
400813.52	3753334.02	2.30637	400823.52	3753334.02	2.70155
400553.52	3753344.02	0.37240	400563.52	3753344.02	0.38838
400573.52	3753344.02	0.40547	400583.52	3753344.02	0.42383
400593.52	3753344.02	0.44360	400603.52	3753344.02	0.46492
400613.52	3753344.02	0.48797	400623.52	3753344.02	0.51291
400633.52	3753344.02	0.54000	400663.52	3753344.02	0.63731
400673.52	3753344.02	0.67621	400683.52	3753344.02	0.71916
400693.52	3753344.02	0.76678	400703.52	3753344.02	0.81980
400713.52	3753344.02	0.87916	400723.52	3753344.02	0.94608
400733.52	3753344.02	1.02196	400743.52	3753344.02	1.10866
400763.52	3753344.02	1.32495	400773.52	3753344.02	1.46180
400783.52	3753344.02	1.62510	400793.52	3753344.02	1.82335
400803.52	3753344.02	2.06904	400813.52	3753344.02	2.38175
400823.52	3753344.02	2.79409←-MEIR	400553.52	3753354.02	0.37349
400563.52	3753354.02	0.38962	400573.52	3753354.02	0.40688
400583.52	3753354.02	0.42542	400593.52	3753354.02	0.44541
400603.52	3753354.02	0.46699	400613.52	3753354.02	0.49033
400623.52	3753354.02	0.51562	400633.52	3753354.02	0.54312
400663.52	3753354.02	0.64202	400673.52	3753354.02	0.68166
400683.52	3753354.02	0.72548	400693.52	3753354.02	0.77411
400703.52	3753354.02	0.82832	400713.52	3753354.02	0.88910
400723.52	3753354.02	0.95772	400733.52	3753354.02	1.03568
400743.52	3753354.02	1.12485	400553.52	3753364.02	0.37352
400563.52	3753364.02	0.38972	400573.52	3753364.02	0.40707
400583.52	3753364.02	0.42571	400593.52	3753364.02	0.44581
400603.52	3753364.02	0.46753	400613.52	3753364.02	0.49103
400623.52	3753364.02	0.51650	400633.52	3753364.02	0.54422
400663.52	3753364.02	0.64407	400673.52	3753364.02	0.68415
400683.52	3753364.02	0.72850	400693.52	3753364.02	0.77777
400703.52	3753364.02	0.83275	400713.52	3753364.02	0.89448
400723.52	3753364.02	0.96424	400733.52	3753364.02	1.04360
400743.52	3753364.02	1.13447	400553.52	3753374.02	0.37250
400563.52	3753374.02	0.38868	400573.52	3753374.02	0.40602
400583.52	3753374.02	0.42466	400593.52	3753374.02	0.44478
400603.52	3753374.02	0.46651	400613.52	3753374.02	0.49003
400623.52	3753374.02	0.51554	400633.52	3753374.02	0.54329
400663.52	3753374.02	0.64339	400673.52	3753374.02	0.68362

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

400683.52	3753374.02	0.72815	400693.52	3753374.02	0.77767
400703.52	3753374.02	0.83300	400713.52	3753374.02	0.89516
400723.52	3753374.02	0.96549	400733.52	3753374.02	1.04556

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: HAUL ***
INCLUDING SOURCE(S): L0000204 , L0000205 , L0000206 , L0000207 , L0000208 ,
L0000209 , L0000210 , L0000211 , L0000212 , L0000213 , L0000214 , L0000215 , L0000216 ,
L0000217 , L0000218 , L0000219 , L0000220 , L0000221 , L0000222 , L0000223 , L0000224 ,
L0000225 , L0000226 , L0000227 , L0000228 , L0000229 , L0000230 , L0000231 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
400813.52	3753334.02	3.03253	400823.52	3753334.02	2.97681
400553.52	3753344.02	0.38487	400563.52	3753344.02	0.40419
400573.52	3753344.02	0.42418	400583.52	3753344.02	0.44482
400593.52	3753344.02	0.46611	400603.52	3753344.02	0.48810
400613.52	3753344.02	0.51087	400623.52	3753344.02	0.53457
400633.52	3753344.02	0.55937	400663.52	3753344.02	0.64284
400673.52	3753344.02	0.67509	400683.52	3753344.02	0.71045
400693.52	3753344.02	0.74966	400703.52	3753344.02	0.79375
400713.52	3753344.02	0.84396	400723.52	3753344.02	0.90192
400733.52	3753344.02	0.97000	400743.52	3753344.02	1.05141
400763.52	3753344.02	1.27493	400773.52	3753344.02	1.43488
400783.52	3753344.02	1.64794	400793.52	3753344.02	1.94404
400803.52	3753344.02	2.37873	400813.52	3753344.02	3.06341
400823.52	3753344.02	4.23532←-MEIR	400553.52	3753354.02	0.40624
400563.52	3753354.02	0.42748	400573.52	3753354.02	0.44939
400583.52	3753354.02	0.47187	400593.52	3753354.02	0.49490
400603.52	3753354.02	0.51851	400613.52	3753354.02	0.54277
400623.52	3753354.02	0.56783	400633.52	3753354.02	0.59385
400663.52	3753354.02	0.68025	400673.52	3753354.02	0.71325
400683.52	3753354.02	0.74925	400693.52	3753354.02	0.78903
400703.52	3753354.02	0.83364	400713.52	3753354.02	0.88427
400723.52	3753354.02	0.94258	400733.52	3753354.02	1.01091
400743.52	3753354.02	1.09251	400553.52	3753364.02	0.43160
400563.52	3753364.02	0.45532	400573.52	3753364.02	0.47965
400583.52	3753364.02	0.50448	400593.52	3753364.02	0.52971
400603.52	3753364.02	0.55535	400613.52	3753364.02	0.58146
400623.52	3753364.02	0.60818	400633.52	3753364.02	0.63568
400663.52	3753364.02	0.72556	400673.52	3753364.02	0.75944
400683.52	3753364.02	0.79621	400693.52	3753364.02	0.83667
400703.52	3753364.02	0.88185	400713.52	3753364.02	0.93296
400723.52	3753364.02	0.99167	400733.52	3753364.02	1.06031
400743.52	3753364.02	1.14217	400553.52	3753374.02	0.46207
400563.52	3753374.02	0.48903	400573.52	3753374.02	0.51654
400583.52	3753374.02	0.54439	400593.52	3753374.02	0.57243

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

400603.52	3753374.02	0.60063	400613.52	3753374.02	0.62904
400623.52	3753374.02	0.65782	400633.52	3753374.02	0.68714
400663.52	3753374.02	0.78115	400673.52	3753374.02	0.81608
400683.52	3753374.02	0.85376	400693.52	3753374.02	0.89499
400703.52	3753374.02	0.94081	400713.52	3753374.02	0.99246
400723.52	3753374.02	1.05164	400733.52	3753374.02	1.12066

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD (43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
			MEIR Location		
ONSITE	1ST HIGHEST VALUE IS	2.79409 AT	(400823.52, 3753344.02, 32.51, 32.51, 0.00)	DC	
	2ND HIGHEST VALUE IS	2.70155 AT	(400823.52, 3753334.02, 32.54, 32.54, 0.00)	DC	
	3RD HIGHEST VALUE IS	2.58421 AT	(400823.52, 3753324.02, 32.56, 32.56, 0.00)	DC	
	4TH HIGHEST VALUE IS	2.44583 AT	(401171.54, 3753504.44, 32.62, 32.62, 0.00)	DC	
	5TH HIGHEST VALUE IS	2.44055 AT	(400823.52, 3753314.02, 32.55, 32.55, 0.00)	DC	
	6TH HIGHEST VALUE IS	2.38175 AT	(400813.52, 3753344.02, 32.54, 32.54, 0.00)	DC	
	7TH HIGHEST VALUE IS	2.35555 AT	(401171.54, 3753514.44, 32.66, 32.66, 0.00)	DC	
	8TH HIGHEST VALUE IS	2.30637 AT	(400813.52, 3753334.02, 32.58, 32.58, 0.00)	DC	
	9TH HIGHEST VALUE IS	2.27156 AT	(400823.52, 3753304.02, 32.53, 32.53, 0.00)	DC	
	10TH HIGHEST VALUE IS	2.26229 AT	(401171.54, 3753524.44, 32.69, 32.69, 0.00)	DC	
HAUL	1ST HIGHEST VALUE IS	4.54968 AT	(400881.54, 3753584.44, 33.08, 33.08, 0.00)	DC	
	2ND HIGHEST VALUE IS	4.42776 AT	(400881.54, 3753594.44, 33.12, 33.12, 0.00)	DC	
	3RD HIGHEST VALUE IS	4.33019 AT	(400871.54, 3753584.44, 33.04, 33.04, 0.00)	DC	
	4TH HIGHEST VALUE IS	4.32099 AT	(400881.54, 3753604.44, 33.14, 33.14, 0.00)	DC	
	5TH HIGHEST VALUE IS	4.24149 AT	(400871.54, 3753594.44, 33.11, 33.11, 0.00)	DC	
	6TH HIGHEST VALUE IS	4.23532 AT	(400823.52, 3753344.02, 32.51, 32.51, 0.00)	DC	
	7TH HIGHEST VALUE IS	4.23379 AT	(400881.54, 3753614.44, 33.05, 33.05, 0.00)	DC	
	8TH HIGHEST VALUE IS	4.21650 AT	(400871.54, 3753604.44, 33.17, 33.17, 0.00)	DC	
	9TH HIGHEST VALUE IS	4.18078 AT	(400823.52, 3753324.02, 32.56, 32.56, 0.00)	DC	
	10TH HIGHEST VALUE IS	4.07489 AT	(400881.54, 3753634.44, 32.87, 32.87, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

Model Outputs - Residential Receptors Unit Emission Rates (1 gram/sec)

*** 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 2 Warning Message(s)
A Total of 2285 Informational Message(s)

A Total of 43848 Hours Were Processed

A Total of 1588 Calm Hours Identified

A Total of 697 Missing Hours Identified (1.59 Percent)

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
ME W186 3585 MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used 0.50
ME W187 3585 MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

****
*** AERMOD Finishes Successfully ***
****

Results Summary

Construction HRA
Norwalk Entertainment District - Civic Center SP

Concentration - Source Group: HAUL

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		4.54968	ug/m^3	400881.54	3753584.44	33.08	0.00	33.08	

Concentration - Source Group: ONSITE

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		2.79409	ug/m^3	400823.52	3753344.02	32.51	0.00	32.51	

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

```
*** AERMOD - VERSION 21112  ***   *** Construction HRA_Paddison ES                                  ***        05/03/22
*** AERMET - VERSION  16216 ***   *** Norwalk Entertainment District - Civic Center SP              ***        10:55:00
                                                                                                              PAGE   1
*** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                        ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Model Is Setup For Calculation of Average CONCentration Values.

  --  DEPOSITION LOGIC  --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
**Model Uses NO WET DEPLETION.  WETDPLT  =  F

**Model Uses URBAN Dispersion Algorithm for the SBL for    92 Source(s),
  for Total of    1 Urban Area(s):
  Urban Population =   9829544.0 ;  Urban Roughness Length =  1.000 m

**Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

**Other Options Specified:
        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:  OTHER

**Model Calculates PERIOD Averages Only

**This Run Includes:     92 Source(s);       2 Source Group(s); and     475 Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:     91 VOLUME source(s)
                and:      1 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)
```

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

```
**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date:  16216

**Output Options Selected:
         Model Outputs Tables of PERIOD 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) =    29.00 ;  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 =      3.7 MB of RAM.

**Input Runstream File:          aermod.inp
**Output Print File:             aermod.out

**Detailed Error/Message File:   PRIM01_ES.err
**File for Summary of Results:   PRIM01_ES.sum
```

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

*** 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
L0000204	0	0.12407E-01	401416.8	3753480.9	32.3	4.15	11.63	1.93	YES	HRDOW
L0000205	0	0.12407E-01	401391.8	3753481.1	32.1	4.15	11.63	1.93	YES	HRDOW
L0000206	0	0.12407E-01	401366.8	3753481.3	32.2	4.15	11.63	1.93	YES	HRDOW
L0000207	0	0.12407E-01	401341.8	3753481.5	32.2	4.15	11.63	1.93	YES	HRDOW
L0000208	0	0.12407E-01	401316.8	3753481.7	32.3	4.15	11.63	1.93	YES	HRDOW
L0000209	0	0.12407E-01	401291.8	3753481.9	32.3	4.15	11.63	1.93	YES	HRDOW
L0000210	0	0.12407E-01	401266.8	3753482.1	32.2	4.15	11.63	1.93	YES	HRDOW
L0000211	0	0.12407E-01	401241.8	3753482.3	32.3	4.15	11.63	1.93	YES	HRDOW
L0000212	0	0.12407E-01	401216.8	3753482.5	32.3	4.15	11.63	1.93	YES	HRDOW
L0000213	0	0.12407E-01	401191.8	3753482.7	32.4	4.15	11.63	1.93	YES	HRDOW
L0000214	0	0.12407E-01	401166.8	3753482.9	32.5	4.15	11.63	1.93	YES	HRDOW
L0000215	0	0.12407E-01	401141.8	3753483.1	32.5	4.15	11.63	1.93	YES	HRDOW
L0000216	0	0.12407E-01	401116.8	3753483.4	32.5	4.15	11.63	1.93	YES	HRDOW
L0000217	0	0.12407E-01	401091.8	3753483.6	32.6	4.15	11.63	1.93	YES	HRDOW
L0000218	0	0.12407E-01	401066.8	3753483.8	32.7	4.15	11.63	1.93	YES	HRDOW
L0000219	0	0.12407E-01	401041.8	3753484.0	32.7	4.15	11.63	1.93	YES	HRDOW
L0000220	0	0.12407E-01	401016.8	3753484.2	32.7	4.15	11.63	1.93	YES	HRDOW
L0000221	0	0.12407E-01	400991.8	3753484.4	32.7	4.15	11.63	1.93	YES	HRDOW
L0000222	0	0.12407E-01	400966.8	3753484.6	32.8	4.15	11.63	1.93	YES	HRDOW
L0000223	0	0.12407E-01	400941.8	3753484.8	32.8	4.15	11.63	1.93	YES	HRDOW
L0000224	0	0.12407E-01	400916.8	3753485.0	32.8	4.15	11.63	1.93	YES	HRDOW
L0000225	0	0.12407E-01	400891.8	3753485.2	32.8	4.15	11.63	1.93	YES	HRDOW
L0000226	0	0.12407E-01	400866.8	3753485.4	32.9	4.15	11.63	1.93	YES	HRDOW
L0000227	0	0.12407E-01	400841.8	3753485.6	32.9	4.15	11.63	1.93	YES	HRDOW
L0000228	0	0.12407E-01	400816.8	3753485.8	33.0	4.15	11.63	1.93	YES	HRDOW
L0000229	0	0.12407E-01	400791.8	3753486.0	33.0	4.15	11.63	1.93	YES	HRDOW
L0000230	0	0.12407E-01	400766.8	3753486.2	32.9	4.15	11.63	1.93	YES	HRDOW
L0000231	0	0.12407E-01	400741.8	3753486.4	32.9	4.15	11.63	1.93	YES	HRDOW
L0000232	0	0.12407E-01	400716.8	3753486.6	32.8	4.15	11.63	1.93	YES	HRDOW
L0000233	0	0.12407E-01	400691.8	3753486.9	32.7	4.15	11.63	1.93	YES	HRDOW
L0000234	0	0.12407E-01	400666.8	3753487.1	32.7	4.15	11.63	1.93	YES	HRDOW
L0000235	0	0.12407E-01	400641.8	3753487.3	32.7	4.15	11.63	1.93	YES	HRDOW
L0000236	0	0.12407E-01	400616.9	3753487.5	32.6	4.15	11.63	1.93	YES	HRDOW
L0000237	0	0.12407E-01	400591.9	3753487.7	32.4	4.15	11.63	1.93	YES	HRDOW
L0000238	0	0.12407E-01	400566.9	3753487.9	32.3	4.15	11.63	1.93	YES	HRDOW
L0000170	0	0.12244E-01	400775.0	3752977.7	31.4	4.15	11.63	1.93	YES	HRDOW
L0000171	0	0.12244E-01	400788.6	3752998.6	31.6	4.15	11.63	1.93	YES	HRDOW
L0000172	0	0.12244E-01	400802.3	3753019.6	31.6	4.15	11.63	1.93	YES	HRDOW

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

L0000173	0	0.12244E-01	400815.9	3753040.5	31.7	4.15	11.63	1.93	YES	HRDOW
L0000174	0	0.12244E-01	400826.4	3753063.0	31.8	4.15	11.63	1.93	YES	HRDOW

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

*** 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
L0000175	0	0.12244E-01	400834.2	3753086.7	32.0	4.15	11.63	1.93	YES	HRDOW
L0000176	0	0.12244E-01	400841.8	3753110.5	32.1	4.15	11.63	1.93	YES	HRDOW
L0000177	0	0.12244E-01	400845.5	3753135.3	32.0	4.15	11.63	1.93	YES	HRDOW
L0000178	0	0.12244E-01	400847.3	3753160.1	32.1	4.15	11.63	1.93	YES	HRDOW
L0000179	0	0.12244E-01	400847.4	3753185.1	32.2	4.15	11.63	1.93	YES	HRDOW
L0000180	0	0.12244E-01	400847.5	3753210.1	32.2	4.15	11.63	1.93	YES	HRDOW
L0000181	0	0.12244E-01	400847.6	3753235.1	32.3	4.15	11.63	1.93	YES	HRDOW
L0000182	0	0.12244E-01	400847.7	3753260.1	32.3	4.15	11.63	1.93	YES	HRDOW
L0000183	0	0.12244E-01	400847.8	3753285.1	32.4	4.15	11.63	1.93	YES	HRDOW
L0000184	0	0.12244E-01	400847.9	3753310.1	32.4	4.15	11.63	1.93	YES	HRDOW
L0000185	0	0.12244E-01	400848.0	3753335.1	32.5	4.15	11.63	1.93	YES	HRDOW
L0000186	0	0.12244E-01	400848.1	3753360.1	32.5	4.15	11.63	1.93	YES	HRDOW
L0000187	0	0.12244E-01	400848.2	3753385.1	32.6	4.15	11.63	1.93	YES	HRDOW
L0000188	0	0.12244E-01	400848.3	3753410.1	32.7	4.15	11.63	1.93	YES	HRDOW
L0000189	0	0.12244E-01	400848.4	3753435.1	32.8	4.15	11.63	1.93	YES	HRDOW
L0000190	0	0.12244E-01	400848.5	3753460.1	32.8	4.15	11.63	1.93	YES	HRDOW
L0000191	0	0.12244E-01	400848.5	3753485.1	32.9	4.15	11.63	1.93	YES	HRDOW
L0000192	0	0.12244E-01	400848.5	3753510.1	32.9	4.15	11.63	1.93	YES	HRDOW
L0000193	0	0.12244E-01	400848.5	3753535.1	32.9	4.15	11.63	1.93	YES	HRDOW
L0000194	0	0.12244E-01	400848.5	3753560.1	33.0	4.15	11.63	1.93	YES	HRDOW
L0000195	0	0.12244E-01	400848.5	3753585.1	33.1	4.15	11.63	1.93	YES	HRDOW
L0000196	0	0.12244E-01	400848.5	3753610.1	33.2	4.15	11.63	1.93	YES	HRDOW
L0000197	0	0.12244E-01	400848.5	3753635.1	33.3	4.15	11.63	1.93	YES	HRDOW
L0000198	0	0.12244E-01	400848.5	3753660.1	33.4	4.15	11.63	1.93	YES	HRDOW
L0000199	0	0.12244E-01	400848.5	3753685.1	33.5	4.15	11.63	1.93	YES	HRDOW
L0000200	0	0.12244E-01	400848.5	3753710.1	33.5	4.15	11.63	1.93	YES	HRDOW
L0000201	0	0.12244E-01	400848.5	3753735.1	33.6	4.15	11.63	1.93	YES	HRDOW
L0000202	0	0.12244E-01	400848.6	3753760.1	33.7	4.15	11.63	1.93	YES	HRDOW
L0000203	0	0.12244E-01	400848.6	3753785.1	33.8	4.15	11.63	1.93	YES	HRDOW
L0000126	0	0.67939E-02	401012.4	3752781.2	31.5	4.15	6.51	1.93	YES	HRDOW
L0000127	0	0.67939E-02	401002.6	3752791.1	31.6	4.15	6.51	1.93	YES	HRDOW
L0000128	0	0.67939E-02	400992.8	3752801.1	31.9	4.15	6.51	1.93	YES	HRDOW
L0000129	0	0.67939E-02	400982.9	3752811.0	31.7	4.15	6.51	1.93	YES	HRDOW
L0000130	0	0.67939E-02	400973.1	3752821.0	31.0	4.15	6.51	1.93	YES	HRDOW
L0000131	0	0.67939E-02	400963.2	3752831.0	30.7	4.15	6.51	1.93	YES	HRDOW
L0000132	0	0.67939E-02	400953.4	3752840.9	32.1	4.15	6.51	1.93	YES	HRDOW
L0000133	0	0.67939E-02	400943.6	3752850.9	33.1	4.15	6.51	1.93	YES	HRDOW
L0000134	0	0.67939E-02	400933.7	3752860.8	33.4	4.15	6.51	1.93	YES	HRDOW

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

L0000135	0	0.67939E-02	400925.9	3752872.3	33.4	4.15	6.51	1.93	YES	HRDOW
L0000136	0	0.67939E-02	400918.6	3752884.3	33.2	4.15	6.51	1.93	YES	HRDOW

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

*** 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
L0000137	0	0.67939E-02	400911.3	3752896.2	33.1	4.15	6.51	1.93	YES	HRDOW
L0000138	0	0.67939E-02	400904.0	3752908.2	33.5	4.15	6.51	1.93	YES	HRDOW
L0000139	0	0.67939E-02	400896.7	3752920.2	34.1	4.15	6.51	1.93	YES	HRDOW
L0000140	0	0.67939E-02	400889.5	3752932.1	33.7	4.15	6.51	1.93	YES	HRDOW
L0000141	0	0.67939E-02	400882.2	3752944.1	32.1	4.15	6.51	1.93	YES	HRDOW
L0000142	0	0.67939E-02	400873.6	3752955.0	31.4	4.15	6.51	1.93	YES	HRDOW
L0000143	0	0.67939E-02	400863.7	3752964.9	31.7	4.15	6.51	1.93	YES	HRDOW
L0000144	0	0.67939E-02	400852.8	3752973.5	32.0	4.15	6.51	1.93	YES	HRDOW
L0000145	0	0.67939E-02	400841.2	3752981.5	32.0	4.15	6.51	1.93	YES	HRDOW
L0000146	0	0.67939E-02	400829.7	3752989.4	31.7	4.15	6.51	1.93	YES	HRDOW
L0000147	0	0.67939E-02	400818.1	3752997.3	31.8	4.15	6.51	1.93	YES	HRDOW

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
PAREA1	0	0.19434E-04	400863.5	3753463.4	33.0	4.15	14	1.93	YES	HRDOW

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ONSITE	PAREA1 ,
HAUL	L0000204 , L0000205 , L0000206 , L0000207 , L0000208 , L0000209 , L0000210 , L0000211 ,
	L0000212 , L0000213 , L0000214 , L0000215 , L0000216 , L0000217 , L0000218 , L0000219 ,
	L0000220 , L0000221 , L0000222 , L0000223 , L0000224 , L0000225 , L0000226 , L0000227 ,
	L0000228 , L0000229 , L0000230 , L0000231 , L0000232 , L0000233 , L0000234 , L0000235 ,
	L0000236 , L0000237 , L0000238 , L0000170 , L0000171 , L0000172 , L0000173 , L0000174 ,
	L0000175 , L0000176 , L0000177 , L0000178 , L0000179 , L0000180 , L0000181 , L0000182 ,
	L0000183 , L0000184 , L0000185 , L0000186 , L0000187 , L0000188 , L0000189 , L0000190 ,
	L0000191 , L0000192 , L0000193 , L0000194 , L0000195 , L0000196 , L0000197 , L0000198 ,
	L0000199 , L0000200 , L0000201 , L0000202 , L0000203 , L0000126 , L0000127 , L0000128 ,
	L0000129 , L0000130 , L0000131 , L0000132 , L0000133 , L0000134 , L0000135 , L0000136 ,
	L0000137 , L0000138 , L0000139 , L0000140 , L0000141 , L0000142 , L0000143 , L0000144 ,
	L0000145 , L0000146 , L0000147 ,

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	9829544.	PAREA1 , L0000204 , L0000205 , L0000206 , L0000207 , L0000208 , L0000209 , L0000210 ,
		L0000211 , L0000212 , L0000213 , L0000214 , L0000215 , L0000216 , L0000217 , L0000218 ,
		L0000219 , L0000220 , L0000221 , L0000222 , L0000223 , L0000224 , L0000225 , L0000226 ,
		L0000227 , L0000228 , L0000229 , L0000230 , L0000231 , L0000232 , L0000233 , L0000234 ,
		L0000235 , L0000236 , L0000237 , L0000238 , L0000170 , L0000171 , L0000172 , L0000173 ,
		L0000174 , L0000175 , L0000176 , L0000177 , L0000178 , L0000179 , L0000180 , L0000181 ,
		L0000182 , L0000183 , L0000184 , L0000185 , L0000186 , L0000187 , L0000188 , L0000189 ,
		L0000190 , L0000191 , L0000192 , L0000193 , L0000194 , L0000195 , L0000196 , L0000197 ,
		L0000198 , L0000199 , L0000200 , L0000201 , L0000202 , L0000203 , L0000126 , L0000127 ,
		L0000128 , L0000129 , L0000130 , L0000131 , L0000132 , L0000133 , L0000134 , L0000135 ,
		L0000136 , L0000137 , L0000138 , L0000139 , L0000140 , L0000141 , L0000142 , L0000143 ,
		L0000144 , L0000145 , L0000146 , L0000147 ,

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = PAREA1 ; SOURCE TYPE = AREAPOLY :

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	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.0000E+00	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

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000126-L0000238 ; 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	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.0000E+00	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

```
                                        *** 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

              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,
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Model Output - School Receptors Unit Emission Rate (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: ..\Met Data\KFUL_V9_ADJU\KFUL_v9.SFC Met Version: 16216
Profile file: ..\Met Data\KFUL_V9_ADJU\KFUL_v9.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 3166 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN
Year: 2012 Year: 2012

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
12	01	01	1	01	-4.8	0.098	-9.000	-9.000	-999.	74.	18.0	0.26	2.61	1.00	0.96	322.	10.1	283.8	2.0
12	01	01	1	02	-1.9	0.072	-9.000	-9.000	-999.	47.	18.0	0.26	2.61	1.00	0.52	13.	10.1	283.1	2.0
12	01	01	1	03	-3.1	0.083	-9.000	-9.000	-999.	57.	16.3	0.26	2.61	1.00	0.75	73.	10.1	282.0	2.0
12	01	01	1	04	-4.3	0.094	-9.000	-9.000	-999.	69.	17.3	0.26	2.61	1.00	0.91	98.	10.1	281.4	2.0
12	01	01	1	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.26	2.61	1.00	0.00	0.	10.1	280.9	2.0
12	01	01	1	06	-2.1	0.074	-9.000	-9.000	-999.	48.	17.6	0.26	2.61	1.00	0.55	80.	10.1	280.4	2.0
12	01	01	1	07	-2.8	0.080	-9.000	-9.000	-999.	54.	16.3	0.26	2.61	1.00	0.69	201.	10.1	280.4	2.0
12	01	01	1	08	-1.5	0.066	-9.000	-9.000	-999.	41.	17.0	0.26	2.61	0.54	0.52	72.	10.1	280.9	2.0
12	01	01	1	09	37.4	-9.000	-9.000	-9.000	38.	-999.	-99999.0	0.26	2.61	0.31	0.00	0.	10.1	285.9	2.0
12	01	01	1	10	109.1	0.151	0.713	0.008	121.	141.	-2.9	0.26	2.61	0.24	0.79	268.	10.1	289.9	2.0
12	01	01	1	11	160.5	0.148	1.143	0.005	338.	136.	-1.8	0.26	2.61	0.21	0.70	273.	10.1	294.2	2.0
12	01	01	1	12	186.9	0.156	1.483	0.005	634.	148.	-1.8	0.26	2.61	0.20	0.74	230.	10.1	297.5	2.0
12	01	01	1	13	187.4	0.210	1.777	0.005	1088.	231.	-4.5	0.26	2.61	0.20	1.20	227.	10.1	300.4	2.0
12	01	01	1	14	160.3	0.235	1.833	0.005	1395.	274.	-7.4	0.26	2.61	0.21	1.47	233.	10.1	300.9	2.0
12	01	01	1	15	109.1	0.197	1.662	0.005	1527.	210.	-6.3	0.26	2.61	0.25	1.20	233.	10.1	302.0	2.0
12	01	01	1	16	33.3	0.243	1.125	0.005	1548.	288.	-39.2	0.26	2.61	0.33	1.91	229.	10.1	298.1	2.0
12	01	01	1	17	-9.1	0.141	-9.000	-9.000	-999.	132.	28.3	0.26	2.61	0.60	1.37	212.	10.1	294.2	2.0
12	01	01	1	18	-4.3	0.094	-9.000	-9.000	-999.	69.	17.5	0.26	2.61	1.00	0.91	190.	10.1	292.0	2.0
12	01	01	1	19	-2.8	0.079	-9.000	-9.000	-999.	54.	16.3	0.26	2.61	1.00	0.70	302.	10.1	289.2	2.0
12	01	01	1	20	-4.0	0.091	-9.000	-9.000	-999.	65.	17.0	0.26	2.61	1.00	0.87	338.	10.1	288.1	2.0
12	01	01	1	21	-6.3	0.113	-9.000	-9.000	-999.	91.	20.5	0.26	2.61	1.00	1.11	304.	10.1	287.0	2.0
12	01	01	1	22	-3.1	0.082	-9.000	-9.000	-999.	57.	16.3	0.26	2.61	1.00	0.75	76.	10.1	285.4	2.0
12	01	01	1	23	-2.4	0.076	-9.000	-9.000	-999.	50.	16.7	0.26	2.61	1.00	0.62	306.	10.1	284.9	2.0
12	01	01	1	24	-3.6	0.087	-9.000	-9.000	-999.	62.	16.6	0.26	2.61	1.00	0.82	318.	10.1	283.8	2.0

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
12	01	01	01	10.1	1	322.	0.96	283.8	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ONSITE ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC		X-COORD (M)	Y-COORD (M)	CONC
400450.99	3753697.57	0.09778		400460.99	3753697.57	0.09932
400470.99	3753697.57	0.10091		400480.99	3753697.57	0.10255
400490.99	3753697.57	0.10426		400500.99	3753697.57	0.10603
400510.99	3753697.57	0.10786		400520.99	3753697.57	0.10978
400530.99	3753697.57	0.11177		400540.99	3753697.57	0.11385
400550.99	3753697.57	0.11603		400560.99	3753697.57	0.11831
400570.99	3753697.57	0.12070		400580.99	3753697.57	0.12322
400590.99	3753697.57	0.12587		400600.99	3753697.57	0.12867
400610.99	3753697.57	0.13164		400620.99	3753697.57	0.13480
400630.99	3753697.57	0.13815		400640.99	3753697.57	0.14173
400650.99	3753697.57	0.14555		400660.99	3753697.57	0.14965
400670.99	3753697.57	0.15406		400680.99	3753697.57	0.15881
400690.99	3753697.57	0.16394	Max Exposed Receptor	400450.99	3753707.57	0.09391
400460.99	3753707.57	0.09534		400470.99	3753707.57	0.09683
400480.99	3753707.57	0.09837		400490.99	3753707.57	0.09997
400500.99	3753707.57	0.10163		400510.99	3753707.57	0.10335
400520.99	3753707.57	0.10515		400530.99	3753707.57	0.10702
400540.99	3753707.57	0.10898		400550.99	3753707.57	0.11103
400560.99	3753707.57	0.11318		400570.99	3753707.57	0.11544
400580.99	3753707.57	0.11782		400590.99	3753707.57	0.12034
400600.99	3753707.57	0.12299		400610.99	3753707.57	0.12581
400620.99	3753707.57	0.12880		400630.99	3753707.57	0.13199
400640.99	3753707.57	0.13540		400650.99	3753707.57	0.13904
400660.99	3753707.57	0.14294		400670.99	3753707.57	0.14714
400680.99	3753707.57	0.15166		400690.99	3753707.57	0.15655
400450.99	3753717.57	0.09022		400460.99	3753717.57	0.09156
400470.99	3753717.57	0.09296		400480.99	3753717.57	0.09441
400490.99	3753717.57	0.09591		400500.99	3753717.57	0.09747
400510.99	3753717.57	0.09909		400520.99	3753717.57	0.10079
400530.99	3753717.57	0.10255		400540.99	3753717.57	0.10440
400550.99	3753717.57	0.10634		400560.99	3753717.57	0.10838
400570.99	3753717.57	0.11052		400580.99	3753717.57	0.11278
400590.99	3753717.57	0.11517		400600.99	3753717.57	0.11770
400610.99	3753717.57	0.12038		400620.99	3753717.57	0.12323
400630.99	3753717.57	0.12627		400640.99	3753717.57	0.12952
400650.99	3753717.57	0.13299		400660.99	3753717.57	0.13672
400670.99	3753717.57	0.14073		400680.99	3753717.57	0.14505

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

400690.99	3753717.57	0.14971	400450.99	3753727.57	0.08671
400460.99	3753727.57	0.08798	400470.99	3753727.57	0.08929
400480.99	3753727.57	0.09065	400490.99	3753727.57	0.09207

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: HAUL ***
INCLUDING SOURCE(S): L0000204 , L0000205 , L0000206 , L0000207 , L0000208 ,
L0000209 , L0000210 , L0000211 , L0000212 , L0000213 , L0000214 , L0000215 , L0000216 ,
L0000217 , L0000218 , L0000219 , L0000220 , L0000221 , L0000222 , L0000223 , L0000224 ,
L0000225 , L0000226 , L0000227 , L0000228 , L0000229 , L0000230 , L0000231 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
400450.99	3753697.57	0.18138	400460.99	3753697.57	0.18910
400470.99	3753697.57	0.19737	400480.99	3753697.57	0.20624
400490.99	3753697.57	0.21574	400500.99	3753697.57	0.22594
400510.99	3753697.57	0.23691	400520.99	3753697.57	0.24872
400530.99	3753697.57	0.26145	400540.99	3753697.57	0.27515
400550.99	3753697.57	0.28986	400560.99	3753697.57	0.30565
400570.99	3753697.57	0.32263	400580.99	3753697.57	0.34083
400590.99	3753697.57	0.36020	400600.99	3753697.57	0.38073
400610.99	3753697.57	0.40245	400620.99	3753697.57	0.42543
400630.99	3753697.57	0.44972	400640.99	3753697.57	0.47542
400650.99	3753697.57	0.50271	400660.99	3753697.57	0.53184
400670.99	3753697.57	0.56312	400680.99	3753697.57	0.59702
400690.99	3753697.57	0.63415 Max Exposed Receptor	400450.99	3753707.57	0.17606
400460.99	3753707.57	0.18337	400470.99	3753707.57	0.19119
400480.99	3753707.57	0.19955	400490.99	3753707.57	0.20851
400500.99	3753707.57	0.21810	400510.99	3753707.57	0.22841
400520.99	3753707.57	0.23948	400530.99	3753707.57	0.25138
400540.99	3753707.57	0.26417	400550.99	3753707.57	0.27788
400560.99	3753707.57	0.29257	400570.99	3753707.57	0.30838
400580.99	3753707.57	0.32534	400590.99	3753707.57	0.34343
400600.99	3753707.57	0.36263	400610.99	3753707.57	0.38301
400620.99	3753707.57	0.40462	400630.99	3753707.57	0.42754
400640.99	3753707.57	0.45190	400650.99	3753707.57	0.47787
400660.99	3753707.57	0.50569	400670.99	3753707.57	0.53570
400680.99	3753707.57	0.56835	400690.99	3753707.57	0.60424
400450.99	3753717.57	0.17096	400460.99	3753717.57	0.17790
400470.99	3753717.57	0.18530	400480.99	3753717.57	0.19319
400490.99	3753717.57	0.20164	400500.99	3753717.57	0.21068
400510.99	3753717.57	0.22038	400520.99	3753717.57	0.23077
400530.99	3753717.57	0.24192	400540.99	3753717.57	0.25388
400550.99	3753717.57	0.26669	400560.99	3753717.57	0.28039
400570.99	3753717.57	0.29514	400580.99	3753717.57	0.31103
400590.99	3753717.57	0.32795	400600.99	3753717.57	0.34598
400610.99	3753717.57	0.36514	400620.99	3753717.57	0.38550

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

400630.99	3753717.57	0.40714	400640.99	3753717.57	0.43023
400650.99	3753717.57	0.45493	400660.99	3753717.57	0.48149
400670.99	3753717.57	0.51024	400680.99	3753717.57	0.54160
400690.99	3753717.57	0.57619	400450.99	3753727.57	0.16606
400460.99	3753727.57	0.17265	400470.99	3753727.57	0.17966
400480.99	3753727.57	0.18714	400490.99	3753727.57	0.19511

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD (43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
			MER Location		
ONSITE	1ST HIGHEST VALUE IS	0.16394 AT	(400690.99, 3753697.57, 33.30, 33.30, 0.00)	DC	
	2ND HIGHEST VALUE IS	0.15881 AT	(400680.99, 3753697.57, 33.29, 33.29, 0.00)	DC	
	3RD HIGHEST VALUE IS	0.15655 AT	(400690.99, 3753707.57, 33.32, 33.32, 0.00)	DC	
	4TH HIGHEST VALUE IS	0.15406 AT	(400670.99, 3753697.57, 33.29, 33.29, 0.00)	DC	
	5TH HIGHEST VALUE IS	0.15166 AT	(400680.99, 3753707.57, 33.30, 33.30, 0.00)	DC	
	6TH HIGHEST VALUE IS	0.14971 AT	(400690.99, 3753717.57, 33.34, 33.34, 0.00)	DC	
	7TH HIGHEST VALUE IS	0.14965 AT	(400660.99, 3753697.57, 33.27, 33.27, 0.00)	DC	
	8TH HIGHEST VALUE IS	0.14714 AT	(400670.99, 3753707.57, 33.28, 33.28, 0.00)	DC	
	9TH HIGHEST VALUE IS	0.14555 AT	(400650.99, 3753697.57, 33.26, 33.26, 0.00)	DC	
	10TH HIGHEST VALUE IS	0.14505 AT	(400680.99, 3753717.57, 33.30, 33.30, 0.00)	DC	
HAUL	1ST HIGHEST VALUE IS	0.63415 AT	(400690.99, 3753697.57, 33.30, 33.30, 0.00)	DC	
	2ND HIGHEST VALUE IS	0.60424 AT	(400690.99, 3753707.57, 33.32, 33.32, 0.00)	DC	
	3RD HIGHEST VALUE IS	0.59702 AT	(400680.99, 3753697.57, 33.29, 33.29, 0.00)	DC	
	4TH HIGHEST VALUE IS	0.57619 AT	(400690.99, 3753717.57, 33.34, 33.34, 0.00)	DC	
	5TH HIGHEST VALUE IS	0.56835 AT	(400680.99, 3753707.57, 33.30, 33.30, 0.00)	DC	
	6TH HIGHEST VALUE IS	0.56312 AT	(400670.99, 3753697.57, 33.29, 33.29, 0.00)	DC	
	7TH HIGHEST VALUE IS	0.54966 AT	(400690.99, 3753727.57, 33.36, 33.36, 0.00)	DC	
	8TH HIGHEST VALUE IS	0.54160 AT	(400680.99, 3753717.57, 33.30, 33.30, 0.00)	DC	
	9TH HIGHEST VALUE IS	0.53570 AT	(400670.99, 3753707.57, 33.28, 33.28, 0.00)	DC	
	10TH HIGHEST VALUE IS	0.53184 AT	(400660.99, 3753697.57, 33.27, 33.27, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

Model Output - School Receptors Unit Emission Rate (1 gram/sec)

*** 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 2 Warning Message(s)
A Total of 2285 Informational Message(s)

A Total of 43848 Hours Were Processed

A Total of 1588 Calm Hours Identified

A Total of 697 Missing Hours Identified (1.59 Percent)

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
ME W186 1922 MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used 0.50
ME W187 1922 MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

****
*** AERMOD Finishes Successfully ***
****

Results Summary

Construction HRA_Paddison ES
Norwalk Entertainment District - Civic Center SP

Concentration - Source Group: HAUL

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.63415	ug/m^3	400690.99	3753697.57	33.30	0.00	33.30	

Concentration - Source Group: ONSITE

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.16394	ug/m^3	400690.99	3753697.57	33.30	0.00	33.30	

Appendix C. Construction Risk Calculations

Table C1
Off-Site Residential Concentrations for Construction Risk Calculations

Contaminant		Source	Model Output [1] ($\mu g/m^3$)	Emission Rates [2] (g/s)	MEIR Conc. ($\mu g/m^3$)	Total MEIR Conc. Annual Average ($\mu g/m^3$)
(a)		(b)	(c)	(d)	(e)	(f)
Residential Receptors						
DPM	2023	On-Site	2.79	2.81E-02	7.86E-02	7.90E-02
		Truck Route	4.24	9.57E-05	4.05E-04	
	2024	On-Site	2.79	3.52E-02	9.83E-02	9.85E-02
		Truck Route	4.24	6.58E-05	2.79E-04	
	2025	On-Site	2.79	3.33E-02	9.29E-02	9.32E-02
		Truck Route	4.24	6.74E-05	2.86E-04	
Total DPM concentrations used for Cancer Risk and Chronic Hazard calculations						
Residential Receptors - Mitigated Run: Tier 4 Engines for eq. >= 50 HP (All Building Structures) - MM AQ-1						
DPM	2023	On-Site	2.79	1.31E-02	3.65E-02	3.69E-02
		Truck Route	4.24	9.57E-05	4.05E-04	
	2024	On-Site	2.79	4.47E-03	1.25E-02	1.28E-02
		Truck Route	4.24	6.58E-05	2.79E-04	
	2025	On-Site	2.79	7.22E-03	2.02E-02	2.05E-02
		Truck Route	4.24	6.74E-05	2.86E-04	
Total DPM concentrations used for Cancer Risk and Chronic Hazard calculations						

Maximum Exposed Individual Resident (MEIR) UTM coordinates: 400823.52E, 3753344.02N

[1] Model Output (Appendix B) at the MEIR based on unit emission rates for sources (1 g/s).

[2] Emission Rates from Emission Rate Calculations (Appendix A - Construction Emissions).

Note: The MEIR location is the receptor location associated with the maximum AERMOD predicted DPM concentrations from the on-site emission source because the calculated on-site emission rates are approximately 3 orders of magnitude higher than the calculated off-site emission rates [see column (d)]. Therefore, the maximum concentrations associated with the on-site emission sources produce the highest overall ground-level maximum exposed receptor concentrations and, consequently, highest calculated health risks.

Table C2
Quantification of Health Risks for Off-site Residents
Construction Emissions

Source		MEIR Conc. ($\mu g/m^3$)	Weight Fraction	Contaminant	URF $(\mu g/m^3)^{-1}$	CPF $(mg/kg/day)^{-1}$	Dose (by age bin) 3rd Trimester (mg/kg-day)	Dose (by age bin) 0 < 2 years (mg/kg-day)	Carcinogenic Risks (by age bin) 3rd Trimester per million	Carcinogenic Risks (by age bin) 0 < 2 years per million	**Total Cancer Risk** per million	**Chronic Hazards** [3] Chronic REL ($\mu g/m^3$)	**Chronic Hazards** [3] RESP
(a)		(b)	(c)	(d)	(e)	(f)	(g)	(h)	(m)	(n)	(r)	(s)	(t)
Residential Receptors													
2023	Onsite & Hauling Emission	7.90E-02	1.00E+00	DPM	3.0E-04	1.1E+00	2.74E-05	8.26E-05	8.72E-01	3.52E+00	4.40E+00	5.0E+00	1.58E-02
2024	Onsite & Hauling Emission	9.85E-02	1.00E+00					1.03E-04		1.31E+01	1.31E+01		1.97E-02
2025	Onsite & Hauling Emission	9.32E-02	1.00E+00					9.74E-05		4.14E+00	4.14E+00		1.86E-02
										Total	**21.7**		**0.054**
Residential Receptors - Mitigated Run: Tier 4 Engines for eq. >= 50 HP (All Building Structures) - MM AQ-1													
2023	Onsite & Hauling Emission	3.69E-02	1.00E+00	DPM	3.0E-04	1.1E+00	1.28E-05	3.86E-05	4.07E-01	1.65E+00	2.05	5.0E+00	7.38E-03
2024	Onsite & Hauling Emission	1.28E-02	1.00E+00					1.34E-05		1.70E+00	1.70		2.56E-03
2025	Onsite & Hauling Emission	2.05E-02	1.00E+00					2.14E-05		9.09E-01	0.91		4.09E-03
										Total	**4.7**		**0.014**

Maximum Exposed Individual Resident (MEIR) UTM coordinates: 400823.52E, 3753344.02N

OEHHA age bin	3rd Trimester	0 < 2 years
exposure year(s)	2023	2023-2025
Dose Exposure Factors: frequency (days/year)	350	350
inhalation rate (L/kg-day) [1]	361	1090
inhalation absorption factor	1	1
conversion factor (mg/µg; m^3/L)	1.0E-06	1.0E-06
Risk Calculation Factors: age sensitivity factor	10	10
averaging time (years)	70	70
per million	1.0E+06	1.0E+06
fraction of time at home	0.85	0.85

	exposure durations (year)[2]		
Construction Year	3rd Trimester	0 < 2 years	**Total**
2023	0.25	0.33	**0.58**
2024		1.00	**1.00**
2025		0.33	**0.33**
Exposure Duration	0.25	1.67	**1.92**

[1] Inhalation rate taken as the 95th percentile breathing rates (OEHHA, 2015).

[2] Construction durations determined for each year to adjust receptor exposures to the exposure durations for each construction year (see App A - Construction Emissions).

[3] Chronic Hazards for DPM using the chronic reference exposure level (REL) for the Respiratory Toxicological Endpoint.

Table C3
Off-Site Student MER Concentrations for Construction Risk Calculations

Contaminant	Source		Model Output [1] ($\mu g/m^3$)	Emission Rates [2] (g/s)	MER Conc. ($\mu g/m^3$)	Total MER Conc. Annual Average ($\mu g/m^3$)
(a)	(b)		(c)	(d)	(e)	(f)
Paddison Elementary School Student						
DPM	2023	On-Site	0.16	2.81E-02	4.61E-03	4.67E-03
		Truck Route	0.63	9.57E-05	6.07E-05	
	2024	On-Site	0.16	3.52E-02	5.77E-03	5.81E-03
		Truck Route	0.63	6.58E-05	4.17E-05	
	2025	On-Site	0.16	3.33E-02	5.45E-03	5.50E-03
		Truck Route	0.63	6.74E-05	4.28E-05	
Total DPM concentrations used for Cancer Risk and Chronic Hazard calculations						
Paddison Elementary School Student - Mitigated Run: Tier 4 Engines for eq. >= 50 HP (All Building Structures) - MM AQ-1						
DPM	2023	On-Site	0.16	1.31E-02	2.14E-03	2.20E-03
		Truck Route	0.63	9.57E-05	6.07E-05	
	2024	On-Site	0.16	4.47E-03	7.33E-04	7.75E-04
		Truck Route	0.63	6.58E-05	4.17E-05	
	2025	On-Site	0.16	7.22E-03	1.18E-03	1.23E-03
		Truck Route	0.63	6.74E-05	4.28E-05	
Total DPM concentrations used for Cancer Risk and Chronic Hazard calculations						

Maximum Exposed Receptor (MER) UTM coordinates: 400690.99E, 3753697.57N

[1] Model Output (Appendix C) at the MER based on unit emission rates for sources (1 g/s).

[2] Emission Rates from Emission Rate Calculations (Appendix A - Construction Emissions).

Note: The maximum exposed receptor location is the location associated with the maximum AERMOD predicted DPM concentrations from the on-site emission source because the calculated on-site emission rates are approximately 3 orders of magnitude higher than the calculated off-site emission rates [see column (d)]. Therefore, the maximum concentrations associated with the on-site emission sources produce the highest overall ground-level maximum exposed receptor concentrations and, consequently, highest calculated health risks.

Table C4
Quantification of Health Risks for Off-Site Student Construction Emissions

Source		MER Conc. ($\mu g/m^3$)	Weight Fraction	Contaminant	URF $(\mu g/m^3)^{-1}$	CPF $(mg/kg/day)^{-1}$	Dose (by age bin) 2<16 years (mg/kg-day)	Carcinogenic Risks (by age bin) 2<16 years per million	**Total Cancer Risk** per million	**Chronic Hazards [3]** Chronic REL ($\mu g/m^3$)	RESP
(a)		(b)	(c)	(d)	(e)	(f)	(j)	(p)	(r)	(s)	(t)
Paddison Elementary School Student											
2023	Onsite & Hauling Emissions	4.67E-03	1.00E+00	DPM	3.0E-04	1.1E+00	1.20E-06	3.15E-02	3.15E-02	5.0E+00	9.35E-04
2024	Onsite & Hauling Emissions	5.81E-03	1.00E+00				1.49E-06	6.70E-02	6.70E-02		1.16E-03
2025	Onsite & Hauling Emissions	5.50E-03	1.00E+00				1.41E-06	2.11E-02	2.11E-02		1.10E-03
								Total	**0.1**		**0.003**
Paddison Elementary School Student - Mitigated Run: Tier 4 Engines for eq. >= 50 HP (All Building Structures) - MM AQ-1											
2023	Onsite & Hauling Emissions	2.20E-03	1.00E+00	DPM	3.0E-04	1.1E+00	5.65E-07	1.49E-02	1.49E-02	5.0E+00	4.41E-04
2024	Onsite & Hauling Emissions	7.75E-04	1.00E+00				1.99E-07	8.94E-03	8.94E-03		1.55E-04
2025	Onsite & Hauling Emissions	1.23E-03	1.00E+00				3.15E-07	4.72E-03	4.72E-03		2.45E-04
								Total	**0.03**		**0.001**

Maximum Exposed Receptor (MER) UTM coordinates: 438641.31E, 3707243.33N

	OEHHA age bin [2]	2 < 16 years
	exposure year(s)	2023-2025
Dose Exposure Factors:	exposure frequency (days/year) [3]	180
	8-hour inhalation rate (L/kg-day) [4]	520
	inhalation absorption factor	1
	conversion factor (mg/µg; m^3/L)	1.0E-06
Risk Calculation Factors:	age sensitivity factor	3
	averaging time (years)	70
	per million	1.0E+06

	exposure durations (year)[5]	
onstruction Year	2 < 16 years	Total
2023	0.58	0.58
2024	1.00	1.00
2025	0.33	0.33
xposure Duration	1.92	**1.92**

[1] Chronic Hazards for DPM using the chronic reference exposure level (REL) for the Respiratory Toxicological Endpoint.

[2] Paddison Elementary School includes grade levels from kindergarten to the 5th grade.

3 Office of Environmental Heaht Hazard Assessment. 2004, February. Guidance for School Site Risk Assessment Pursuant to Health and Safety Code Section 901(f): Guidance for Assessing Exposures and Health Risks at Existing and Proposed School Sites.

[4] Inhalation rate taken as the 8-hour 95th percentile breathing rates, Moderate Activity (OEHHA, 2015).

[5] Construction durations determined for each year to adjust receptor exposures to the exposure durations for each construction year (see App A - Construction Emissions).