Air Quality Assessment for the Lower Curtis Park Expansion

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1.0 EXISTING AIR QUALITY

1.1 Project Description

The City of Mission Viejo proposes to import approximately 760,000 cubic yards of dirt from freeway improvements that are currently underway by the California Department of Transportation (Caltrans) to Interstate 5 (I-5). The I-5 freeway improvement project extends from El Toro Road on the north to the San Joaquin Hills Toll Road (SR-73) on the south. Excess dirt from the freeway improvement project would be hauled by trucks to the 42.9-gross acre Lower Curtis Park site that is located approximately three miles east of I-5 (Exhibit 1). The imported dirt would be graded into a pad that could be used for recreational use in the future (Exhibit 2).

The existing 42.9-gross acre vacant site would require approximately 177,600 cubic yards of cut and remedial grading to prepare a pad site and provide access roads to the site to allow the approximately 760,000 cubic yards of dirt to be imported to the site. The 177,600 cubic yards of remedial cut would remain on the site and be incorporated into the grading for the future building pad. The 760,000 cubic yards of dirt would be hauled to the site over a period of three (3) years starting in the first quarter of 2020 and ending in 2022.

1.2 Existing Sensitive Receptors

Land uses that are considered sensitive receptors for air quality impacts include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Residences lie to the west of the project site on the opposite side of Olympiad Road. The athletic fields at the existing Curtis Park site are also considered sensitive.

1.3 Local, State, and Federal Air Quality Agencies

The proposed project is located in the South Coast Air Basin (SCAB). The SCAB is comprised of parts of Los Angeles, Riverside and San Bernardino counties and all of Orange County. The basin is bounded on the west by the Pacific Ocean and surrounded on the other sides by mountains. To the north lie the San Gabriel Mountains, to the north and east the San Bernardino Mountains, to the southeast the San Jacinto Mountains and to the south the Santa Ana Mountains. The basin forms a low plain and the mountains channel and confine airflow, which trap air pollutants.

Exhibit 1 - Vicinity Map

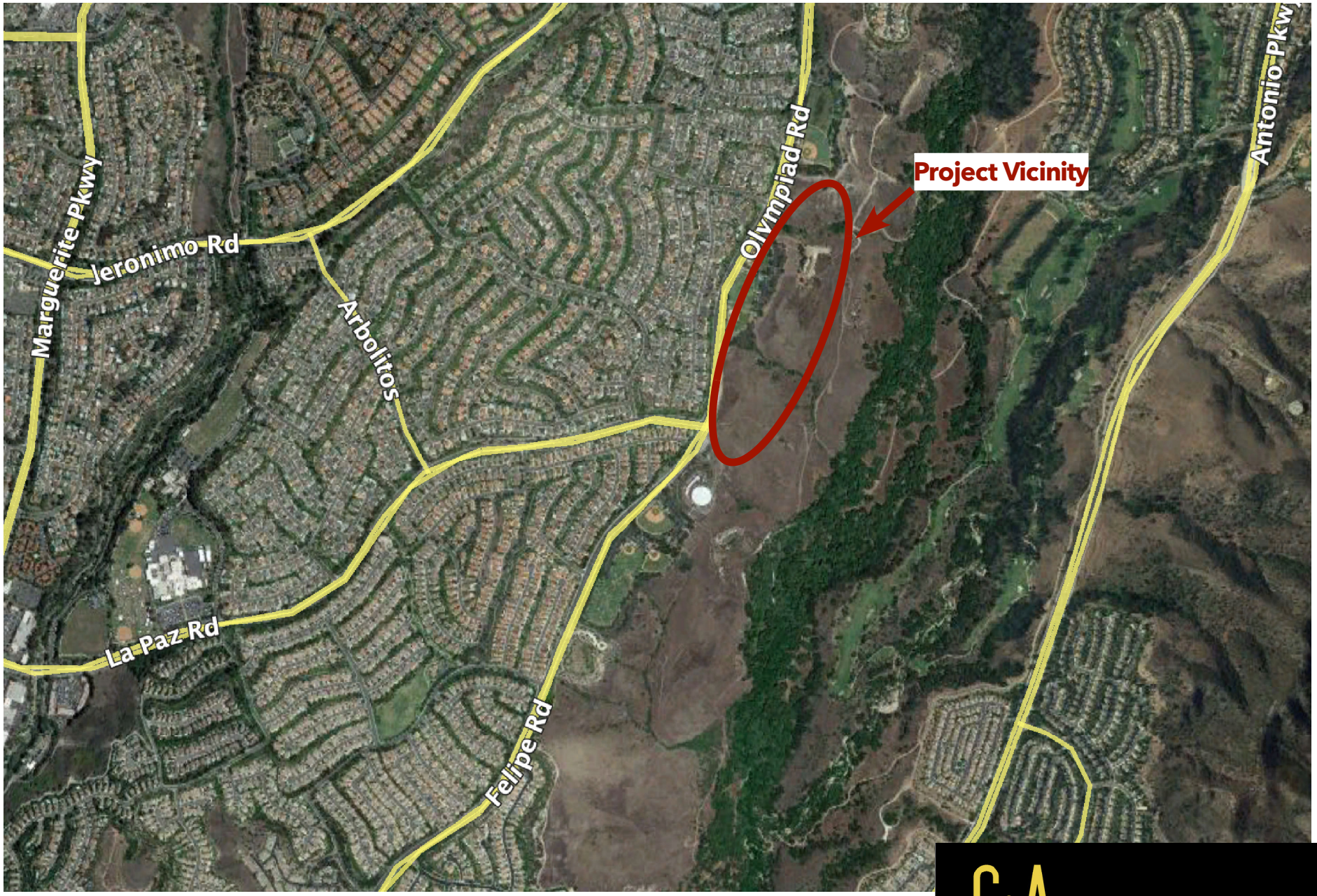

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Exhibit 2 - Grading Plan

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The primary agencies responsible for regulations to improve air quality in the SCAB are the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). The Southern California Association of Governments (SCAG) is an important partner to the SCAQMD, as it is the designated metropolitan planning authority for the area and produces estimates of anticipated future growth and vehicular travel in the basin that are used for air quality planning. The SCAQMD sets and enforces regulations for non-vehicular sources of air pollution in the basin.

The U.S. Environmental Protection Agency (U.S. EPA) is the primary federal agency for regulating air quality. The EPA implements the provisions of the Federal Clean Air Act (FCAA). This Act establishes national ambient air quality standards (NAAQS) that are applicable nationwide. The EPA designates areas with pollutant concentrations that do not meet the NAAQS as non-attainment areas for each criteria pollutant. States are required by the FCAA to prepare State Implementation Plans (SIP) for designated non-attainment areas. The SIP is required to demonstrate how the areas will attain the NAAQS by the prescribed deadlines and what measures will be required to attain the standards. The EPA also oversees implementation of the prescribed measures. Areas that achieve the NAAQS after a non-attainment designation are redesignated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the NAAQS.

The California Clean Air Act (CCAA) required all air pollution control districts in the state to prepare plans to reduce pollutant concentrations exceeding the CAAQS and ultimately achieve the CAAQS. The districts are required to review and revise these plans every three years. The SCAQMD satisfies this requirement through the publication of an Air Quality Management Plan (AQMP). The AQMP is developed by SCAQMD and SCAG in coordination with local governments and the private sector. The AQMP is incorporated into the SIP by CARB to satisfy the FCAA requirements discussed above. The AQMP is discussed further in Section 1.6.

The SCAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the Basin. The SCAQMD implements control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment.

1.4 Criteria Pollutants, Health Effects, and Standards

Under the Federal Clean Air Act (FCAA), the U.S. EPA has established National Ambient Air Quality Standards (NAAQS) for six major pollutants; ozone (O_3), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. These six air pollutants are often referred to as the criteria pollutants. The NAAQS are two tiered: primary, to protect public health, and secondary, to prevent degradation to the environment (i.e., impairment of visibility, damage to vegetation and property).

Under the California Clean Air Act (CCAA), the California Air Resources Board has established California Ambient Air Quality Standards (CAAQS) to protect the health and welfare of Californians. State standards have been established for the six criteria pollutants as well as four additional pollutants; visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. Exhibit 3 presents the state and national ambient air quality standards.

1.5 Attainment Designations

Based on monitored air pollutant concentrations, the U.S. EPA and CARB designate areas relative to their status in attaining the NAAQS and CAAQS respectively. Table 1 lists the current non-attainment designations for the SCAB. For the Federal standards, the required attainment date is also shown.

Table 1 Designations of Criteria Pollutants for the SCAB

Standard	Concentration	Classification	Latest Attainment Year
2008 8-hour Ozone	75 ppb	Extreme	2031
2012 Annual PM2.5	12 ug/m3	Moderate Serious	2021 2025
2006 24-hour PM2.5	35 ug/m3	Serious	2019
1997 8-hour Ozone	80 ppb	Extreme	2023
1979 1-hour Ozone	120 ppb	Extreme	2022

Source: Table ES-1, "Executive Summary, Draft Final Air Quality Management Plan," SCAQMD.

Table 1 shows that the U.S. EPA has designated SCAB as Extreme Non-attainment for ozone, Moderate Non-attainment for $PM_{2.5}$, and attainment/maintenance for CO and NO_2. The SCAB is designated as in attainment of the Federal SO_2 and lead NAAQS as well as the state CO, NO_2, SO_2, lead, hydrogen sulfide, and vinyl chloride CAAQS.

Exhibit 3 - Ambient Air Quality Standards

Ambient Air Quality Standards

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

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1.6 Air Quality Management Plan (AQMP)

As discussed above, the CAA requires plans to demonstrate attainment of the NAAQS for which an area is designated as nonattainment. Further, the CCAA requires SCAQMD to revise its plan to reduce pollutant concentrations exceeding the CAAQS every three years. In the SCAB, SCAQMD and SCAG, in coordination with local governments and the private sector, develop the Air Quality Management Plan (AQMP) for the air basin to satisfy these requirements. The AQMP is the most important air management document for the basin because it provides the blueprint for meeting state and federal ambient air quality standards.

On March 3, 2017, the 2016 AQMP was adopted by the SCAQMD Governing Board. The primary task of the 2016 AQMP is to bring the basin into attainment. The document states that to have any reasonable expectation of meeting the 2023 ozone deadline, the scope and pace of continued air quality improvement must greatly intensify.

In response to court decisions, some elements included in the 2016 AQMP required updates. CARB staff prepared the *2018 Updates to the California State Implementation Plan* (2018 SIP Update) to update SIP elements for nonattainment areas throughout the State as needed. CARB adopted the 2018 SIP Update on October 25, 2018.

1.7 Climate

The climate in and around the project area, as with all of Southern California, is controlled largely by the strength and position of the subtropical high-pressure cell over the Pacific Ocean. It maintains moderate temperatures and comfortable humidity, and limits precipitation to a few storms during the winter "wet" season. Temperatures are normally mild, excepting the summer months, which commonly bring substantially higher temperatures. In all portions of the basin, temperatures well above 100 degrees F. have been recorded in recent years. The annual average temperature in the basin is approximately 62 degrees Fahrenheit.

Winds in the project area are usually driven by the dominant land/sea breeze circulation system. Regional wind patterns are dominated by daytime onshore sea breezes. At night, the wind generally slows and reverses direction traveling towards the sea. Wind direction will be altered by local canyons, with wind tending to flow parallel to the canyons. During the transition period from one wind pattern to the other, the dominant wind direction rotates into the south and causes a minor wind direction maximum from the south. The frequency of calm winds (less than 2 miles per hour) is less than 10 percent. Therefore, there is little stagnation in the project vicinity, especially during busy daytime traffic hours.

Southern California frequently has temperature inversions, which inhibit the dispersion of pollutants. Inversions may be either ground based or elevated. Ground based inversions, sometimes referred to as radiation inversions, are most severe during clear, cold, early winter mornings. Under conditions of a ground-based inversion, very little mixing or turbulence occurs, and high concentrations of primary pollutants may occur local to major roadways.

Elevated inversions can be generated by a variety of meteorological phenomena. Elevated inversions act as a lid or upper boundary and restrict vertical mixing. Below the elevated inversion, dispersion is not restricted. Mixing heights for elevated inversions are lower in the summer and more persistent. This low summer inversion puts a lid over the South Coast Air Basin (SCAB) and is responsible for the high levels of ozone observed during summer months in the air basin.

1.8 Monitored Air Quality

Air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. Estimates for the SCAB have been made for existing emissions ("Final 2016 Air Quality Management Plan", March 2017). The data indicate that on-road (e.g., automobiles, busses and trucks) and off-road (e.g., trains, ships, and construction equipment) mobile sources are the major source of current emissions in the SCAB. Mobile sources account for approximately 58% of VOC emissions, 88% of NOx emissions, 35% of direct PM2.5 emissions, 44% of SOx emissions, and 95% of CO emissions. Area sources (e.g., architectural coatings, residential water heaters, and consumer products) account for approximately 37% of VOC emissions and 42% of direct $PM_{2.5}$ emissions. Point sources (e.g., chemical manufacturing, petroleum production, and electric utilities) account for approximately 50% of SOx emissions. Entrained road dust account for approximately 13% of direct PM2.5 emissions.

The SCAQMD has divided the SCAB into 38 air-monitoring areas with a designated ambient air monitoring station in most areas. The project is in the Saddleback Valley Source-Receptor Area (SRA) 19. The Mission Viejo monitoring station is the representative facility for SRA 19. The data collected at this station is considered representative of the air quality experienced in the vicinity of the project. The air pollutants measured at the Mission Viejo station include ozone, PM2.5, and PM10. The air quality data monitored from 2016 to 2018 are presented in Table 2. The air quality data monitored were obtained from the CARB air quality data website (www.arb.ca.gov/adam/).

Table 2 Air Quality Levels Measured at the Mission Viejo Station

Pollutant	California Standard	National Standard	Year	Max. Level	Days State Standard Exceeded	Days National Standard Exceeded
Ozone 1 Hour Average	0.09 ppm	None	2018	0.121	2	0
			2017	0.103	3	0
			2016	0.122	5	0
Ozone 8 Hour Average	0.070 ppm	0.070 ppm	2018	0.088	10	9
			2017	0.083	27	25
			2016	0.093	13	13
Fine Particulates $PM_{2.5}$ (24 Hour)	None	35 µg/m^3	2018	38.9	n/a	1
			2017	19.5	n/a	0
			2016	24.7	n/a	0
Fine Particulates $PM_{2.5}$ (Annual)	13 µg/m^3	12 µg/m^3	2018	n/a	n/a	n/a
			2017	n/a	n/a	n/a
			2016	7.3	0	0
Respirable Particulates PM_{10} 24 Hour Average	50 µg/m^3	150 µg/m^3	2018	55.6	1	0
			2017	58.2	1	0
			2016	59.3	1	0
Respirable Particulates PM_{10} AAM	20 µg/m^3	35 µg/m^3	2018	18.8	0	0
			2017	18.8	0	0
			2016	21.0	0	Exceeded

n/a – data not available
* Insufficient data available to determine the value
Source: CARB Air Quality Data Statistics web site www.arb.ca.gov/adam/ accessed 9/25/19

The Mission Viejo monitoring data presented in Table 2 show that air quality levels in the project area are generally good. The area only has a few exceedances of the ozone, and rare exceedances of the PM2.5 and PM10 standards.

1.9 Existing Emissions

No air emissions are currently generated on the site.

2.0 POTENTIAL AIR QUALITY IMPACTS

Air quality impacts are usually divided into short term and long term. Short-term impacts are usually the result of construction activities. Long-term impacts are associated with the operation of the proposed project. At this time no long-term operations are proposed. The site would be graded and left for future park development. Additional environmental studies would be necessary when plans for the park are developed.

2.1 Thresholds of Significance

2.1.1 Regional Air Quality

In its "1993 CEQA Air Quality Handbook", the SCAQMD has established significance thresholds to assess the impact of project related air pollutant emissions. Table 3 presents these significance thresholds. There are separate thresholds for short-term construction and long-term operational emissions. Only short-term construction thresholds are applicable to this project. A project with daily emission rates below these thresholds is considered to have a less than significant effect on air quality. It is up to the individual lead agencies to determine if the SCAQMD thresholds are appropriate for their projects.

Table 3 SCAQMD Regional Pollutant Emission Thresholds of Significance

	Pollutant Emissions (lbs./day)					
	CO	ROG	NOx	PM10	PM2.5	SOx
Construction	*550*	*75*	*100*	*150*	*55*	*150*

2.1.2 Localized Significance Thresholds

As part of the SCAQMD's environmental justice program, attention was focused on localized effects of air quality. In accordance with Governing Board direction, SCAQMD staff developed localized significance threshold (LST) methodology and mass rate look-up tables by Source Receptor Area (SRA) that can be used to determine whether or not a project may generate significant adverse localized air quality impacts. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area. The LST methodology is described in "Final Localized Significance Threshold Methodology" updated in 2009 by the SCAQMD and is available at the SCAQMD website (http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds).

The LST mass rate look-up tables provided by the SCAQMD allow one to determine if the daily emissions for proposed construction or operational activities could result in significant localized air quality impacts. If the calculated on-site emissions for the proposed construction or operational activities are below the LST emission levels found on the LST mass rate look-up tables and no potentially significant impacts are found to be associated with other

environmental issues, then the proposed construction or operation activity is not significant for local air quality.

The LST mass rate look-up tables are applicable to the following pollutants only: oxides of nitrogen (NO_x), carbon monoxide (CO), particulate matter less than 10 microns in aerodynamic diameter (PM_{10}), and particulate matter less than 2.5 microns ($PM_{2.5}$). LSTs are derived based on the location of the activity (i.e., the source/receptor area); the emission rates of NO_x, CO, $PM_{2.5}$ and PM_{10}; and the distance to the nearest exposed individual.

The LST methodology presents mass emission rates for each SRA, project sizes of 1, 2, and 5 acres, and nearest receptor distances of 25, 50, 100, 200, and 500 meters. For project sizes between the values given, or with receptors at distances between the given receptors, the methodology uses linear interpolation to determine the thresholds. If receptors are within 25 meters of the site, the methodology document says that the threshold for the 25-meter distance should be used. The threshold levels varying depending on the size of the project and the distance to the receptor. Therefore, threshold levels need to be calculated on a project-by-project basis.

The project is located in Source Receptor Area (SRA) 19. The nearest residence west of the project about 125 feet from the nearest work area of the project. Athletic fields, which are also considered to be sensitive receptors, will be adjacent to construction areas. Table 4 summarizes the LSTs for construction. The thresholds listed in Table 4 are based on a 5-acre site. The project site is larger than 5 acres, but usually the equipment will only work in one area at a time. Using a 5 acre area is a worst case assumption since it concentrates all of the emissions sources in a 5 acre area. A project with daily emission rates below the thresholds during construction is considered to have a less than significant effect on local air quality.

Table 4 Localized Significance Thresholds at the Nearest Receptors

Description	Localized Significance Threshold (lbs./day)			
	NOx	CO	PM10	PM2.5
Construction Activities				
At nearest residence	193	1,960	25	10
At nearest edge of athletic fields	197	1,804	12	8

2.2 Construction Emissions

Three phases of construction are proposed. Site preparation will take place for approximately 2 weeks. Importing of soil and grading will take place in three phases. A final grading will then be conducted that will last two weeks. Emissions for each phase of construction are presented along with the potential regional and local impacts.

2.2.1 Regional Construction Impacts

Emissions during the phases of construction were calculated using the latest version of the California Emissions Estimator Model (CalEEMod version 2016.3.2). CalEEMod is a computer program developed by the SCAQMD in conjunction with the California Air Resources Board (CARB). The model calculates emissions for construction of various projects. For on-road vehicular emissions, the CalEEMod model utilizes the latest emission rates that have also been developed by CARB.

CalEEMod was used to model the following phases; site preparation, importing soil/grading, and final grading. The appropriate number of acres, duration of each construction phase, the construction equipment, and other key elements of the project were input into the CalEEMod to generate the estimate of emissions. Haul truck emissions are included in the analysis. No mitigation is assumed for this analysis, except that watering the site will be required per SCAQMD rules. CalEEMod printouts are included in the Appendix.

The SCAQMD regional thresholds are presented in terms of pounds of emissions per day. Therefore, the highest daily construction emissions are of most concern. These emissions are presented below and represent a worst-case scenario. No mitigation is included in the emission projections. The projected emissions are compared to the Significance Thresholds described in Section 2.1.2. The CalEEMod printouts are included in the Appendix.

Table 5 Peak Construction Emissions for Each Phase

Activity	Pollutant Emissions (Pounds Per Day)					
	ROG	NOx	CO	SOx	PM10	PM2.5
Site Preparation	3.2	17.7	17.3	0.0	10.4	5.4
Grading	4.1	62.6	25.3	0.1	83.9	22.2
Final Grading	3.3	21.7	19.1	0.1	5.7	2.8
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Phase Exceed Threshold?	*No*	*No*	*No*	*No*	*No*	*No*

As can be seen in Table 5 none of the pollutants will exceed the regional thresholds. Therefore, there will be no regional air quality impacts.

2.2.2 Localized Construction Air Impacts

The on-site construction emissions were calculated utilizing CalEEMod. The emissions presented in Table 6 are those that would be emitted from construction activity on the project site. The total construction emissions are compared to the Localized Significance Thresholds (LSTs) described in Section 2.1.2. Worksheets showing the emission calculations are presented in the appendix.

Table 6 On-Site Emissions By Construction Activity

Activity	Daily Emissions (lbs./day) NOx	CO	PM10	PM2.5
Site Preparation	17.7	16.7	10.2	5.3
Grading	16.8	16.1	3.8	2.4
Final Grading	21.6	18.3	5.5	2.7
For Nearest Residences				
LST Thresholds	193	1,960	25	10
Exceed Threshold?	*No*	*No*	*No*	*No*
For Athletic Fields				
LST Thresholds	197	1,804	12	8
Exceed Threshold?	*No*	*No*	*No*	*No*

None of the emissions exceed the LST thresholds. Therefore, nearby residences and the athletic fields will not be adversely affected during construction. Local air quality impacts during construction will be less than significant.

2.2.3 Air Quality Along Haul Routes

During dirt hauling operations there will be approximately 300 truck trips per day along the planned haul routes. The pollutant concentrations generated by these trucks is considered in this section. The U.S. Environmental Protection Agency's pollutant dispersion model CAL3QHCR was used to estimate pollutant concentrations at sensitive receptors in the vicinity of the project. Specifically, the CAL3QHCR release 13196 was used. The model automatically calculates the highest 1-hour, 24-hour, and annual concentrations. The haul trucks have the most potential to affect the concentration of particulates, namely PM10 and PM2.5. The haul trucks on a per mile basis emit roughly 10 times more particulate emissions than do the average vehicle. For comparison, the emissions of carbon monoxide (CO), another pollutant of concern along roadways, are about half as much for diesel trucks as they are for the average vehicle. (The high temperatures of diesel engine trucks results in lower emissions of CO.)

One year of weather data, prepared by the South Coast Air Quality Management District, specifically for dispersion modeling (http://www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data) was used. This data file represents actual measured weather conditions at the nearest station, in this case the El Toro station. Emission factors were obtained from the California Air Resources Board online EMFAC2017 program, and used to model average fleet emissions and heavy duty diesel truck emissions for this project. A study year of 2020 was used.

Two critical roadways were modeled. The first is Oso Parkway between Marguerite Parkway and Felipe Road. This roadway has the highest traffic volume (i.e., 40,000 vehicles per day) of

any of the haul routes, and has the potential for the highest pollutant concentrations. Felipe Road was also modeled from Oso Parkway to the project site. Felipe Road was selected since it has the lowest traffic volume at 15,000 vehicles per day, and would show the greatest percent increase in emissions due to haul traffic. Both of these roadway links are lined with residences. Eight (8) receptor locations were modeled (Exhibit 4). Four receptors were located at residences lining Oso Parkway and the other four were along Felipe Road. All receptors represent residential areas close to the haul routes except Receptor 7 which is in a park area close to Felipe Road.

The haul routes were modeled for 2020 with and without haul trucks. The resultant concentrations are shown in Table 7. The concentrations are in terms of micrograms per cubic meter (µg/m3). The National Ambient Air Quality Standards for respirable particulate matter (PM10) is 150 µg/m3 for 24-hours. For fine particulate matter, PM2.5, the 24-hour standard is 35 µg/m3, and for an annual average the standard is 12.0 µg/m3. PM2.5 represents smaller particulate matter than PM10 and can travel further into our lungs, which is more hazardous to health. Therefore, the PM2.5 standards are more restrictive than the PM10 standards.

Exhibit 4 - Modeled Receptors

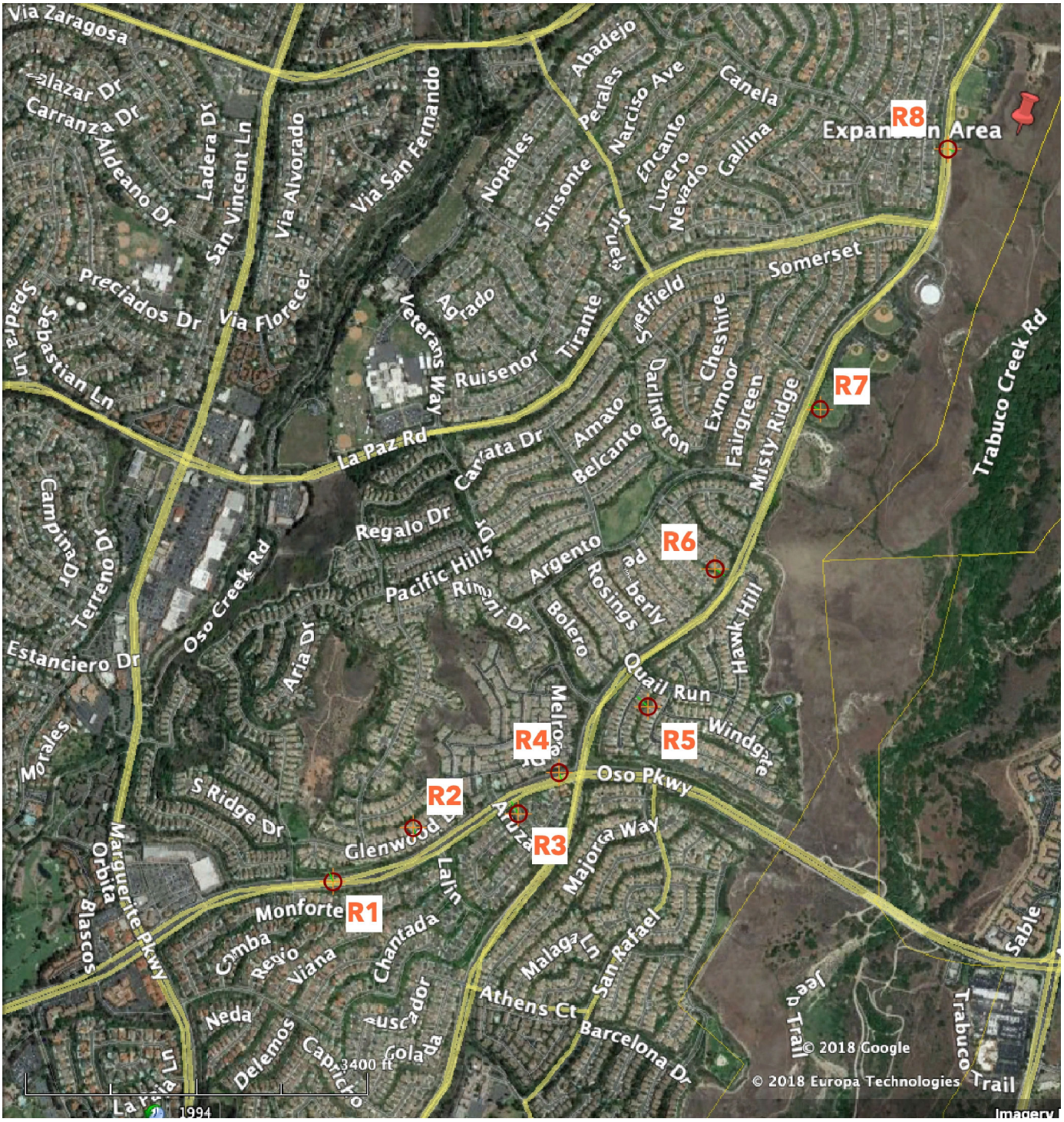

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Table 7 Particulate Concentrations Along Haul Routes (µg/m3)

	No Haul Trucks	With Haul Trucks	Change
PM10 24-Hour Standard			
Receptor 1	0.148	0.158	0.010
Receptor 2	0.138	0.150	0.012
Receptor 3	0.118	0.125	0.007
Receptor 4	0.140	0.151	0.011
Receptor 5	0.040	0.048	0.008
Receptor 6	0.046	0.057	0.011
Receptor 7	0.040	0.050	0.010
Receptor 8	0.054	0.066	0.012
National Standard	150		
PM 2.5 24-Hour Standard			
Receptor 1	0.139	0.147	0.008
Receptor 2	0.129	0.140	0.011
Receptor 3	0.110	0.117	0.007
Receptor 4	0.131	0.141	0.010
Receptor 5	0.038	0.045	0.007
Receptor 6	0.043	0.053	0.010
Receptor 7	0.038	0.047	0.009
Receptor 8	0.050	0.062	0.012
National Standard	35		
PM2.5 Annual Standard			
Receptor 1	0.062	0.067	0.005
Receptor 2	0.063	0.067	0.004
Receptor 3	0.047	0.050	0.003
Receptor 4	0.063	0.069	0.006
Receptor 5	0.017	0.020	0.003
Receptor 6	0.019	0.022	0.003
Receptor 7	0.019	0.023	0.004
Receptor 8	0.021	0.024	0.003
National Standard	12.0		

The data in Table 7 shows that for PM10 and PM2.5 the haul trucks only add roughly 0.01 µg/m3 to the local concentrations. This is inconsequential when compared to the 24-hour standards of 150 and 35 µg/m3 for PM10 and PM2.5, respectively. Similarly, the average annual increase for PM2.5 of 0.004 µg/m3 is also insignificant. It is also important to note that the concentrations along both roadway links are very low in comparison to the Ambient Air Quality Standards, and that the haul trucks pose absolutely no potential to cause any exceedances of those standards. Therefore, the haul trucks will have a less than significant impact on air quality along the haul routes.

2.2.4 Diesel Particulate Matter Emissions During Construction

In 1998, the California Air Resources Board (ARB) identified particulate matter from diesel-fueled engines (Diesel Particulate Matter or DPM) as a Toxic Air Contaminant (TAC). It is assumed that the majority of the heavy construction equipment utilized during construction would be diesel fueled and emit DPM.

Impacts from toxic substances are related to cumulative exposure and are assessed over a 70-year period. Cancer risk is expressed as the maximum number of new cases of cancer projected to occur in a population of one million people due to exposure to the cancer-causing substance over a 70-year lifetime (California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Guide to Health Risk Assessment.) Grading for the project, when the peak diesel exhaust emissions would occur, is expected to be spread out over 2 years. However, the total construction time will be about 274 days, and broken down as follows; 10 days for site preparation, 100 days for import/grading of 300,000 cy, 100 days for second import/grading of 300,000, 54 days for third import/grading of 160,000 cy, and 10 days for final grading. Because of the relatively short duration of construction compared to a 70-year lifespan, diesel emissions resulting from the construction of the project are not expected to result in a significant impact.

2.3 Compliance with Air Quality Planning

The following section deals with the major air planning requirements for this project. Specifically, consistency of the project with the AQMP is addressed. As discussed below, consistency with the AQMP is a requirement of the California Environmental Quality Act (CEQA).

An air quality assessment must discuss any inconsistencies between the proposed project and applicable General Plans and regional plans (California Environmental Quality Act (CEQA) guidelines (Section 15125)). Regional plans that apply to the proposed project include the South Coast Air Quality Management Plan (AQMP). In this regard, this section will discuss any inconsistencies between the proposed project and the AQMP.

The purpose of the consistency discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the project would interfere with the region's ability to comply with Federal and State air quality standards. If the decision-

maker determines that the project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD's CEQA Handbook states "New or amended GP Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required. A proposed project should be considered to be consistent with the plan if it furthers one or more policies and does not obstruct other policies. The Handbook identifies two key indicators of consistency:

(1) Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.

(2) Whether the project will exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

Criterion 1 - Increase in the Frequency or Severity of Violations?
Based on the air quality modeling analysis contained in this report, neither regional nor local air impacts will occur. The analysis indicates that total construction emissions will not exceed regional thresholds set by the SCAQMD. Similarly, the LST analysis indicates that no significant local air quality impacts will result. Because the project is not projected to impact the air quality, the project is found to be consistent with the AQMP for the first criterion.

Criterion 2 - Exceed Assumptions in the AQMP?
Consistency with the AQMP assumptions is determined by performing an analysis of the project with the assumptions in the AQMP. Thus, the emphasis of this criterion is to ensure that the analyses conducted for the project are based on the same forecasts as the AQMP. The Regional Comprehensive Plan and Guide (RCP&G) consist of three sections: Core Chapters, Ancillary Chapters, and Bridge Chapters. The Growth Management, Regional Mobility, Air Quality, Water Quality, and Hazardous Waste Management chapters constitute the Core Chapters of the document. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA.

Since the SCAG forecasts are not detailed, the test for consistency of this project is not specific. The AQMP assumptions are based upon projections from local general plans. Projects that are consistent with the local general plan are consistent with the AQMP assumptions. The project does not require a General Plan amendment and is consistent with other regional plans. Therefore, the second criterion is met for consistency with the AQMP.

3.0 MITIGATION MEASURES

No air quality impacts have been identified, and therefore, mitigation measures will not be required.

4.0 UNAVOIDABLE SIGNIFICANT IMPACTS

There will not be any significant impacts.

APPENDIX

Curtis Park Expansion

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	42.90	Acre	42.90	1,868,724.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Modified to match data from City

Off-road Equipment - No painting

Off-road Equipment - No demolition necessary

Off-road Equipment - Based on data provided by City.

Off-road Equipment - Data provided by City.

Off-road Equipment - Paving will not occur

Off-road Equipment - Data provided by City.

Trips and VMT - Estimate of haul length

Grading - Based on site acreage.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	50.00	0.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	75.00	254.00
tblConstructionPhase	NumDays	55.00	0.00
tblConstructionPhase	NumDays	55.00	0.00
tblConstructionPhase	NumDays	75.00	10.00
tblConstructionPhase	PhaseEndDate	3/10/2020	12/31/2019
tblConstructionPhase	PhaseEndDate	4/21/2020	1/15/2020
tblConstructionPhase	PhaseEndDate	8/4/2020	1/5/2021
tblConstructionPhase	PhaseEndDate	2/2/2021	11/17/2020
tblConstructionPhase	PhaseEndDate	4/20/2021	2/2/2021
tblConstructionPhase	PhaseEndDate	11/17/2020	1/19/2021
tblConstructionPhase	PhaseStartDate	3/11/2020	1/2/2020
tblConstructionPhase	PhaseStartDate	4/22/2020	1/16/2020
tblConstructionPhase	PhaseStartDate	8/5/2020	1/6/2021
tblGrading	AcresOfGrading	635.00	42.90
tblGrading	AcresOfGrading	25.00	42.90
tblGrading	AcresOfGrading	0.00	42.90
tblGrading	MaterialImported	0.00	760,000.00
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Off-Highway Tractors
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Off-Highway Tractors
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
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tblOffRoadEquipment	PhaseName		Site Preparation
tblTripsAndVMT	HaulingTripLength	20.00	3.80
tblTripsAndVMT	HaulingTripNumber	0.00	95,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.3687	81.0876	26.1871	0.1320	22.8170	1.4279	24.1714	10.4753	1.3166	11.7213	0.0000	13,715.7463	13,715.7463	2.5116	0.0000	13,778.5369

2021	7.4216	107.9666	44.4335	0.1837	97.4699	1.3348	100.1008	26.9529	1.2280	29.3759	0.0000	18,736.4547	18,736.4547	4.0501	0.0000	18,837.7078
Maximum	**7.4216**	**107.9666**	**44.4335**	**0.1837**	**97.4699**	**1.4279**	**100.1008**	**26.9529**	**1.3166**	**29.3759**	**0.0000**	**18,736.4547**	**18,736.4547**	**4.0501**	**0.0000**	**18,837.7078**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.3687	65.6609	26.1871	0.1320	9.0214	1.4279	10.3757	4.1179	1.3166	5.3639	0.0000	13,715.7463	13,715.7463	2.5116	0.0000	13,778.5369
2021	7.4216	84.3012	44.4335	0.1837	87.0321	1.3348	89.6630	22.5717	1.2280	24.9947	0.0000	18,736.4547	18,736.4547	4.0501	0.0000	18,837.7078
Maximum	**7.4216**	**84.3012**	**44.4335**	**0.1837**	**87.0321**	**1.4279**	**89.6630**	**22.5717**	**1.3166**	**24.9947**	**0.0000**	**18,736.4547**	**18,736.4547**	**4.0501**	**0.0000**	**18,837.7078**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**20.68**	**0.00**	**0.00**	**20.15**	**0.00**	**19.50**	**28.69**	**0.00**	**26.13**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0967	4.0000e-005	4.3900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.3900e-003	9.3900e-003	2.0000e-005		0.0100
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.5040	8.0646	18.4803	0.0696	5.9717	0.0565	6.0281	1.5978	0.0527	1.6505		7,089.0588	7,089.0588	0.3536		7,097.8985

Total	**1.6007**	**8.0646**	**18.4847**	**0.0696**	**5.9717**	**0.0565**	**6.0282**	**1.5978**	**0.0527**	**1.6505**		**7,089.0682**	**7,089.0682**	**0.3536**	**0.0000**	**7,097.9085**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0967	4.0000e-005	4.3900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.3900e-003	9.3900e-003	2.0000e-005		0.0100
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.5040	8.0646	18.4803	0.0696	5.9717	0.0565	6.0281	1.5978	0.0527	1.6505		7,089.0588	7,089.0588	0.3536		7,097.8985
Total	**1.6007**	**8.0646**	**18.4847**	**0.0696**	**5.9717**	**0.0565**	**6.0282**	**1.5978**	**0.0527**	**1.6505**		**7,089.0682**	**7,089.0682**	**0.3536**	**0.0000**	**7,097.9085**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	12/31/2019	5	0	
2	Site Preparation	Site Preparation	1/2/2020	1/15/2020	5	10	
3	Grading	Grading	1/16/2020	1/5/2021	5	254	
4	Paving	Paving	11/18/2020	11/17/2020	5	0	
5	Final Grading	Grading	1/6/2021	1/19/2021	5	10	
6	Architectural Coating	Architectural Coating	2/3/2021	2/2/2021	5	0	

Acres of Grading (Site Preparation Phase): 42.9

Acres of Grading (Grading Phase): 42.9

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Off-Highway Trucks	2	8.00	402	0.38
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Off-Highway Tractors	1	8.00	124	0.44
Final Grading	Scrapers	1	8.00	367	0.48
Final Grading	Rubber Tired Dozers	1	8.00	247	0.40
Final Grading	Off-Highway Trucks	2	8.00	402	0.38
Final Grading	Scrapers	0	8.00	367	0.48
Final Grading	Scrapers	0	8.00	367	0.48
Final Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Off-Highway Tractors	1	8.00	124	0.44
Grading	Off-Highway Trucks	2	8.00	402	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Final Grading	10	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	95,000.00	14.70	6.90	3.80	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	157.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					22.6158	0.0000	22.6158	10.4219	0.0000	10.4219			0.0000			0.0000
Off-Road	3.1423	33.0845	16.6601	0.0463		1.3529	1.3529		1.2446	1.2446		4,482.3807	4,482.3807	1.4497		4,518.6230
Total	**3.1423**	**33.0845**	**16.6601**	**0.0463**	**22.6158**	**1.3529**	**23.9687**	**10.4219**	**1.2446**	**11.6666**		**4,482.3807**	**4,482.3807**	**1.4497**		**4,518.6230**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0888	0.0599	0.6626	1.9300e-003	0.2012	1.5300e-003	0.2027	0.0534	1.4100e-003	0.0548		192.6657	192.6657	5.5300e-003		192.8038
Total	**0.0888**	**0.0599**	**0.6626**	**1.9300e-003**	**0.2012**	**1.5300e-003**	**0.2027**	**0.0534**	**1.4100e-003**	**0.0548**		**192.6657**	**192.6657**	**5.5300e-003**		**192.8038**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.8202	0.0000	8.8202	4.0646	0.0000	4.0646			0.0000			0.0000
Off-Road	3.1423	17.6578	16.6601	0.0463		1.3529	1.3529		1.2446	1.2446	0.0000	4,482.3807	4,482.3807	1.4497		4,518.6230
Total	**3.1423**	**17.6578**	**16.6601**	**0.0463**	**8.8202**	**1.3529**	**10.1730**	**4.0646**	**1.2446**	**5.3092**	**0.0000**	**4,482.3807**	**4,482.3807**	**1.4497**		**4,518.6230**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0888	0.0599	0.6626	1.9300e-003	0.2012	1.5300e-003	0.2027	0.0534	1.4100e-003	0.0548		192.6657	192.6657	5.5300e-003		192.8038
Total	**0.0888**	**0.0599**	**0.6626**	**1.9300e-003**	**0.2012**	**1.5300e-003**	**0.2027**	**0.0534**	**1.4100e-003**	**0.0548**		**192.6657**	**192.6657**	**5.5300e-003**		**192.8038**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5396	0.0000	6.5396	3.3808	0.0000	3.3808			0.0000			0.0000
Off-Road	3.1296	32.9514	16.6115	0.0462		1.3463	1.3463		1.2386	1.2386		4,472.6594	4,472.6594	1.4466		4,508.8231
Total	**3.1296**	**32.9514**	**16.6115**	**0.0462**	**6.5396**	**1.3463**	**7.8859**	**3.3808**	**1.2386**	**4.6194**		**4,472.6594**	**4,472.6594**	**1.4466**		**4,508.8231**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1404	48.0696	8.8394	0.0836	1.2594	0.0798	1.3392	0.3454	0.0764	0.4218		9,029.0139	9,029.0139	1.0589		9,055.4873
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0987	0.0666	0.7362	2.1500e-003	0.2236	1.7000e-003	0.2253	0.0593	1.5600e-003	0.0609		214.0730	214.0730	6.1400e-003		214.2265
Total	**1.2391**	**48.1362**	**9.5755**	**0.0858**	**1.4830**	**0.0815**	**1.5645**	**0.4047**	**0.0779**	**0.4826**		**9,243.0868**	**9,243.0868**	**1.0651**		**9,269.7138**

Mitigated Construction On-Site

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

Category	lb/day										lb/day					
Fugitive Dust					2.5504	0.0000	2.5504	1.3185	0.0000	1.3185			0.0000			0.0000
Off-Road	3.1296	17.5246	16.6115	0.0462		1.3463	1.3463		1.2386	1.2386	0.0000	4,472.6594	4,472.6594	1.4466		4,508.8231
Total	**3.1296**	**17.5246**	**16.6115**	**0.0462**	**2.5504**	**1.3463**	**3.8968**	**1.3185**	**1.2386**	**2.5572**	**0.0000**	**4,472.6594**	**4,472.6594**	**1.4466**		**4,508.8231**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1404	48.0696	8.8394	0.0836	1.2594	0.0798	1.3392	0.3454	0.0764	0.4218		9,029.0139	9,029.0139	1.0589		9,055.4873
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0987	0.0666	0.7362	2.1500e-003	0.2236	1.7000e-003	0.2253	0.0593	1.5600e-003	0.0609		214.0730	214.0730	6.1400e-003		214.2265
Total	**1.2391**	**48.1362**	**9.5755**	**0.0858**	**1.4830**	**0.0815**	**1.5645**	**0.4047**	**0.0779**	**0.4826**		**9,243.0868**	**9,243.0868**	**1.0651**		**9,269.7138**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5396	0.0000	6.5396	3.3808	0.0000	3.3808			0.0000			0.0000
Off-Road	2.9478	29.8530	16.0643	0.0462		1.2238	1.2238		1.1259	1.1259		4,471.4428	4,471.4428	1.4462		4,507.5967
Total	**2.9478**	**29.8530**	**16.0643**	**0.0462**	**6.5396**	**1.2238**	**7.7633**	**3.3808**	**1.1259**	**4.5067**		**4,471.4428**	**4,471.4428**	**1.4462**		**4,507.5967**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0803	45.8007	8.5710	0.0827	79.8557	0.0708	79.9264	19.6372	0.0677	19.7049		8,936.2483	8,936.2483	1.0188		8,961.7177
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724
Total	**1.1725**	**45.8607**	**9.2481**	**0.0848**	**80.0792**	**0.0724**	**80.1516**	**19.6965**	**0.0692**	**19.7657**		**9,143.3818**	**9,143.3818**	**1.0243**		**9,168.9901**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5504	0.0000	2.5504	1.3185	0.0000	1.3185			0.0000			0.0000
Off-Road	2.9478	16.7670	16.0643	0.0462		1.2238	1.2238		1.1259	1.1259	0.0000	4,471.4428	4,471.4428	1.4462		4,507.5967
Total	**2.9478**	**16.7670**	**16.0643**	**0.0462**	**2.5504**	**1.2238**	**3.7742**	**1.3185**	**1.1259**	**2.4444**	**0.0000**	**4,471.4428**	**4,471.4428**	**1.4462**		**4,507.5967**

Mitigated Construction Off-Site

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

Category	lb/day										lb/day					
Hauling	1.0803	45.8007	8.5710	0.0827	79.8557	0.0708	79.9264	19.6372	0.0677	19.7049		8,936.2483	8,936.2483	1.0188		8,961.7177
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0922	0.0599	0.6771	2.0800e-003	0.2236	1.6500e-003	0.2252	0.0593	1.5200e-003	0.0608		207.1336	207.1336	5.5500e-003		207.2724
Total	**1.1725**	**45.8607**	**9.2481**	**0.0848**	**80.0792**	**0.0724**	**80.1516**	**19.6965**	**0.0692**	**19.7657**		**9,143.3818**	**9,143.3818**	**1.0243**		**9,168.9901**

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

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

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

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

3.6 Final Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					10.5716	0.0000	10.5716	3.8015	0.0000	3.8015			0.0000			0.0000
Off-Road	3.1860	32.1780	18.2748	0.0502		1.3327	1.3327		1.2261	1.2261		4,862.7131	4,862.7131	1.5727		4,902.0306
Total	**3.1860**	**32.1780**	**18.2748**	**0.0502**	**10.5716**	**1.3327**	**11.9043**	**3.8015**	**1.2261**	**5.0276**		**4,862.7131**	**4,862.7131**	**1.5727**		**4,902.0306**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1153	0.0749	0.8464	2.6000e-003	0.2794	2.0600e-003	0.2815	0.0741	1.8900e-003	0.0760		258.9170	258.9170	6.9400e-003		259.0904
Total	**0.1153**	**0.0749**	**0.8464**	**2.6000e-003**	**0.2794**	**2.0600e-003**	**0.2815**	**0.0741**	**1.8900e-003**	**0.0760**		**258.9170**	**258.9170**	**6.9400e-003**		**259.0904**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1229	0.0000	4.1229	1.4826	0.0000	1.4826			0.0000			0.0000
Off-Road	3.1860	21.5987	18.2748	0.0502		1.3327	1.3327		1.2261	1.2261	0.0000	4,862.7131	4,862.7131	1.5727		4,902.0306

Total	**3.1860**	**21.5987**	**18.2748**	**0.0502**	**4.1229**	**1.3327**	**5.4557**	**1.4826**	**1.2261**	**2.7087**	**0.0000**	**4,862.7131**	**4,862.7131**	**1.5727**		**4,902.0306**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1153	0.0749	0.8464	2.6000e-003	0.2794	2.0600e-003	0.2815	0.0741	1.8900e-003	0.0760		258.9170	258.9170	6.9400e-003		259.0904
Total	**0.1153**	**0.0749**	**0.8464**	**2.6000e-003**	**0.2794**	**2.0600e-003**	**0.2815**	**0.0741**	**1.8900e-003**	**0.0760**		**258.9170**	**258.9170**	**6.9400e-003**		**259.0904**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.5040	8.0646	18.4803	0.0696	5.9717	0.0565	6.0281	1.5978	0.0527	1.6505		7,089.0588	7,089.0588	0.3536		7,097.8985
Unmitigated	1.5040	8.0646	18.4803	0.0696	5.9717	0.0565	6.0281	1.5978	0.0527	1.6505		7,089.0588	7,089.0588	0.3536		7,097.8985

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	81.08	975.98	718.15	863,067	863,067
Total	81.08	975.98	718.15	863,067	863,067

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH

City Park	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0967	4.0000e-005	4.3900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.3900e-003	9.3900e-003	2.0000e-005		0.0100
Unmitigated	0.0967	4.0000e-005	4.3900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.3900e-003	9.3900e-003	2.0000e-005		0.0100

6.2 Area by SubCategory

Unmitigated

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

SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0963					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.1000e-004	4.0000e-005	4.3900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.3900e-003	9.3900e-003	2.0000e-005		0.0100
Total	**0.0967**	**4.0000e-005**	**4.3900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**9.3900e-003**	**9.3900e-003**	**2.0000e-005**		**0.0100**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0963					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.1000e-004	4.0000e-005	4.3900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		9.3900e-003	9.3900e-003	2.0000e-005		0.0100
Total	**0.0967**	**4.0000e-005**	**4.3900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**9.3900e-003**	**9.3900e-003**	**2.0000e-005**		**0.0100**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

NOTE: EMISSIONS FACTORS MULTIPLIED BY 100, CONCENTRATIONS MUST BE DIVIDED BY 100.

CAL3QHCR (Dated: 13196)

DATE : 11/20/19 PAGE: 1
TIME : 11:57:46

JOB: LOWER CURTIS PARK NO HAUL PM10 RUN: LINK NETWORK FOR PROJECT

==========
General Information
==========

Run start date: 01/01/81 Julian: 1
end date: 12/31/81 Julian: 365

A Tier 2 approach was used for input data preparation.

The MODE flag has been set to p for calculating PM averages.

Ambient background concentrations are excluded from the averages below.

Site & Meteorological Constants

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM ATIM = 60.

Met. Sfc. Sta. Id & Yr = 53128 81
Upper Air Sta. Id & Yr = 91919 81

Urban mixing heights were processed.

In 1981, Julian day 1 is a Thursday.

The patterns from the input file
have been assigned as follows:

Pattern # 1 is assigned to Monday.
Pattern # 1 is assigned to Tuesday.
Pattern # 1 is assigned to Wednesday.
Pattern # 1 is assigned to Thursday.
Pattern # 1 is assigned to Friday.
Pattern # 1 is assigned to Saturday.
Pattern # 1 is assigned to Sunday.

Link Data Constants - (Variable data in *.LNK file)

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	H (FT)	W (FT)	NLANES
1. L1 OSO	-3.0	7.0	4321.0	1683.0	4637.	69.	AG	0.0	105.0	
2. L2 FELIPE1	4321.0	1683.0	6021.0	4031.0	2899.	36.	AG	0.0	70.0	
3. L3 FELIPE2	6021.0	4031.0	6891.0	6065.0	2212.	23.	AG	0.0	70.0	
4. L4 FELIPE3	6891.0	6065.0	7832.0	7125.0	1417.	42.	AG	0.0	70.0	
5. L5 FELIPE4	7832.0	7125.0	8493.0	9347.0	2318.	17.	AG	0.0	70.0	

JOB: LOWER CURTIS PARK NO HAUL PM10 RUN: LINK NETWORK FOR PROJECT

Receptor Data

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1	1860.0	619.0	6.0
2. REC 2	2663.0	1150.0	6.0
3. REC 3	3704.0	1294.0	6.0
4. REC 4	4111.0	1702.0	6.0
5. REC 5	4993.0	2356.0	6.0
6. REC 6	5662.0	3723.0	6.0
7. REC 7	6702.0	5308.0	6.0
8. REC 8	7972.0	7892.0	6.0

Model Results

Remarks : In search of the wind direction corresponding to the maximum concentration, only the first direction, of the directions with the same maximum concentrations, is indicated as the maximum.

MAXIMUM HOURLY CONCENTRATIONS WITH ANY AMBIENT BACKGROUND CONCENTRATIONS (BKG) ADDED
(MICROGRAMS/M**3)

	REC0001	REC0002	REC0003	REC0004	REC0005	REC0006	REC0007	REC0008
MAX+BKG	33.8696	32.8225	26.2278	36.3369	17.0790	10.7101	12.3848	12.3290
- BKG	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MAX	33.8696	32.8225	26.2278	36.3369	17.0790	10.7101	12.3848	12.3290
WIND DIR	51	233	42	234	237	203	219	33
JULIAN	192	364	323	69	122	142	92	350
HOUR	8	10	19	9	10	19	19	19

THE HIGHEST CONCENTRATION OF 36.3369 UG/M**3 OCCURRED AT RECEPTOR REC0004.

JOB: LOWER CURTIS PARK NO HAUL PM10 RUN: LINK NETWORK FOR PROJECT

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Output Section
==========

NOTES PERTAINING TO THE REPORT

1. THE HIGHEST AVERAGE IN EACH OF THE FIRST TWO COLUMNS OF EACH TABLE BELOW ARE SUFFIXED BY AN ASTERISK (*). FOR PM OUTPUT, THERE IS ONLY ONE COLUMN AND ASTERISK FOR THE ANNUAL AVERAGE/PERIOD OF CONCERN TABLE.

2. THE NUMBERS IN PARENTHESES ARE THE JULIAN DAY AND ENDING HOUR FOR THE PRECEDING AVERAGE.

3. THE NUMBER OF CALM HOURS USED IN PRODUCING EACH AVERAGE ARE PREFIXED BY A C.

PRIMARY AND SECONDARY AVERAGES.

SIX HIGHEST 24-HOUR END-TO-END AVERAGE CONCENTRATIONS IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr	Highest			Second Highest			Third Highest			Fourth Highest			Fifth Highest			Sixth Highest		
	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm
No.																		
1	14.8415*	(3,24)	C 6	14.4705*	(2,24)	C 6	14.2034	(42,24)	C 5	14.0428	(328,24)	C 5	14.0217	(342,24)	C 7	13.8573	(80,24)	C 6
2	13.8394	(365,24)	C 4	13.3349	(133,24)	C 5	13.2257	(121,24)	C 3	12.8942	(230,24)	C 5	12.8763	(115,24)	C 5	12.7653	(100,24)	C 5
3	11.8021	(3,24)	C 6	11.3045	(2,24)	C 6	11.1302	(328,24)	C 5	11.0110	(42,24)	C 5	10.8736	(80,24)	C 6	10.7522	(354,24)	C10
4	14.0174	(133,24)	C 5	13.7510	(121,24)	C 3	13.7081	(365,24)	C 4	13.6933	(88,24)	C 5	13.6031	(230,24)	C 5	13.4038	(109,24)	C 5
5	4.0287	(110,24)	C 4	3.8801	(328,24)	C 5	3.6990	(146,24)	C 6	3.5922	(150,24)	C 6	3.5699	(284,24)	C 3	3.5477	(300,24)	C 8
6	4.5769	(109,24)	C 5	4.4092	(230,24)	C 5	4.3080	(365,24)	C 4	4.1354	(121,24)	C 3	4.1190	(360,24)	C 6	4.0894	(113,24)	C 3
7	4.0259	(328,24)	C 5	3.9079	(300,24)	C 8	3.8640	(153,24)	C 4	3.7546	(57,24)	C 3	3.7050	(2,24)	C 6	3.6932	(146,24)	C 6
8	5.3542	(230,24)	C 5	5.1722	(109,24)	C 5	4.9812	(58,24)	C 5	4.8979	(113,24)	C 3	4.7606	(357,24)	C 3	4.6972	(115,24)	C 5

THE HIGHEST ANNUAL AVERAGE CONCENTRATIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Receptor Number	Maximum Conc	Ending Day Hr	Calm
1	6.6712	(365,24)	C1711
2	6.6975	(365,24)	C1711
3	5.0364	(365,24)	C1711
4	6.7896*	(365,24)	C1711
5	1.7899	(365,24)	C1711
6	2.0336	(365,24)	C1711
7	2.0061	(365,24)	C1711
8	2.2856	(365,24)	C1711

LINK CONTRIBUTION TABLES

MAXIMUM 24-HOUR AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
1	14.8415	(3,24)	0.00	14.8415	14.7281	0.0355	0.0366	0.0192	0.0220
2	13.8394	(365,24)	0.00	13.8394	13.7760	0.0541	0.0052	0.0020	0.0021
3	11.8021	(3,24)	0.00	11.8021	11.3339	0.3749	0.0588	0.0183	0.0162
4	14.0174	(133,24)	0.00	14.0174	13.9457	0.0718	0.0000	0.0000	0.0000
5	4.0287	(110,24)	0.00	4.0287	1.1657	2.7969	0.0437	0.0116	0.0108
6	4.5769	(109,24)	0.00	4.5769	0.0509	4.4602	0.0552	0.0060	0.0045
7	4.0259	(328,24)	0.00	4.0259	0.0017	0.0005	3.8862	0.1196	0.0178
8	5.3542	(230,24)	0.00	5.3542	0.0091	0.0177	0.0451	0.3076	4.9748

SECOND HIGHEST 24-HOUR AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
1	14.4705	(2,24)	0.00	14.4705	14.3949	0.0477	0.0174	0.0055	0.0050
2	13.3349	(133,24)	0.00	13.3349	13.3348	0.0001	0.0000	0.0000	0.0000
3	11.3045	(2,24)	0.00	11.3045	11.0806	0.2025	0.0137	0.0038	0.0038
4	13.7510	(121,24)	0.00	13.7510	13.6434	0.1076	0.0000	0.0000	0.0000
5	3.8801	(328,24)	0.00	3.8801	0.2929	3.5640	0.0163	0.0038	0.0031
6	4.4092	(230,24)	0.00	4.4092	0.0271	4.3821	0.0000	0.0000	0.0000
7	3.9079	(300,24)	0.00	3.9079	0.0762	0.0337	3.7592	0.0263	0.0125
8	5.1722	(109,24)	0.00	5.1722	0.0262	0.0313	0.0717	0.4204	4.6226

MAXIMUM ANNUAL AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
1	6.6712	(365,24)	0.00	6.6712	6.6341	0.0219	0.0080	0.0034	0.0037
2	6.6975	(365,24)	0.00	6.6975	6.6416	0.0377	0.0103	0.0039	0.0040
3	5.0364	(365,24)	0.00	5.0364	4.9226	0.0968	0.0104	0.0033	0.0033
4	6.7896	(365,24)	0.00	6.7896	6.4319	0.3383	0.0124	0.0036	0.0034
5	1.7899	(365,24)	0.00	1.7899	0.2632	1.5057	0.0143	0.0035	0.0032
6	2.0336	(365,24)	0.00	2.0336	0.0957	1.8179	0.1068	0.0077	0.0055
7	2.0061	(365,24)	0.00	2.0061	0.0465	0.0537	1.8588	0.0351	0.0121

JOB: LOWER CURTIS PARK NO HAUL PM10 RUN: LINK NETWORK FOR PROJECT

LINK CONTRIBUTION TABLES

MAXIMUM ANNUAL AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
8	2.2856	(365,24)	0.00	2.2856	0.0238	0.0129	0.0298	0.1078	2.1114

CALM DURATION FREQUENCY

Hours of Consecutive Calm Winds	Frequency of Occurrence	(Julian day/hour ending) of Significant Occurrences
1	749	(1, 3)(1,20)(1,22)(2,10)(2,12)(2,21)(3,20)(4, 2)(4, 9)(4,17)
		(4,21)(5, 7)(5,11)(6, 1)(6,23)(7, 7)(7,19)(8, 3)(8, 8)(8,12)
		(9, 8)(9,18)(10,18)(12, 8)(13, 1)(13, 3)(13, 6)(13,12)(13,15)(13,19)
		(14, 6)(14,13)(15, 6)(15,11)(16,19)(16,22)(17,12)(21,16)(22,20)(22,24)
		(23, 2)(24, 3)(25,13)(26, 7)(26, 9)(26,15)(26,22)(26,24)(27,17)(28, 5)
		(28, 8)(28,14)(28,21)(29,24)(30, 8)(30,11)(30,22)(31, 5)(31,19)(32, 7)
		(32,10)(32,13)(33,20)(34,12)(34,21)(37, 8)(37,18)(37,21)(38, 6)(38, 8)
		(39, 9)(39,17)(40, 1)(40, 4)(40, 7)(40,24)(41, 4)(41, 9)(41,21)(42, 6)
		(42,10)(42,22)(43, 8)(43,11)(43,22)(43,24)(44, 5)(45, 9)(45,21)(46, 3)
		(46, 7)(46,11)(47, 8)(47,18)(47,21)(48, 4)(48, 7)(48,22)(48,24)(49, 2)
		(49, 5)(49,11)(49,18)(49,22)(49,24)(50, 5)(50,11)(50,23)(51, 5)(51, 9)
		(51,11)(51,15)(52,10)(52,16)(52,21)(53, 1)(53, 3)(53, 9)(53,18)(53,23)
		(54, 5)(54, 8)(54,23)(55, 1)(56, 2)(56, 5)(56, 8)(57,17)(57,21)(57,24)
		(58,19)(58,21)(59, 8)(60,21)(61, 3)(61,17)(61,23)(62,13)(62,22)(63, 4)
		(65,20)(65,23)(66, 7)(66,12)(66,19)(67, 1)(67,10)(67,18)(68, 5)(68,10)
		(68,12)(68,22)(69, 8)(69,13)(69,21)(70,10)(71, 7)(71,10)(71,18)(71,23)
		(72, 2)(72, 7)(73, 1)(73, 3)(73, 5)(73, 8)(73,11)(73,17)(73,23)(74,20)
		(75, 4)(75,12)(75,20)(76,11)(76,19)(78, 2)(80, 8)(80,20)(80,23)(81, 2)
		(81,10)(82,10)(83, 5)(83, 7)(83,23)(84, 9)(84,20)(84,22)(85, 1)(85,24)
		(86, 6)(87, 2)(87,20)(88, 3)(88,20)(88,24)(89, 3)(89, 5)(90, 6)(90,11)
		(91, 6)(92, 2)(93, 3)(93, 6)(93,19)(93,21)(93,23)(94, 3)(94,10)(95, 7)
		(95,10)(95,13)(95,24)(96, 5)(98, 1)(98, 4)(98, 8)(98,21)(99, 6)(99, 8)
		(100, 7)(100,16)(101, 3)(101, 6)(101, 8)(102,23)(103, 3)(103, 5)(103, 8)(103,12)
		(103,21)(103,24)(104, 2)(104, 4)(104,11)(106, 5)(106, 9)(107, 3)(107,11)(108, 5)
		(108,20)(108,23)(109, 3)(109, 6)(109,16)(110,24)(111, 3)(111, 9)(111,12)(111,18)
		(111,21)(112, 7)(113, 4)(113, 9)(113,22)(114, 3)(115,12)(116,19)(117, 6)(117,19)
		(118, 2)(119,11)(120, 4)(120, 8)(120,19)(120,22)(121,13)(121,21)(121,24)(122,14)
		(123,19)(124, 8)(124,23)(125, 1)(125, 5)(125,21)(126, 7)(126,20)(127, 3)(127,10)
		(128, 2)(128,19)(128,23)(129, 3)(130, 6)(130,12)(130,19)(130,22)(133,17)(133,22)
		(133,24)(134,13)(135, 2)(136,24)(137,24)(138, 3)(140, 3)(140,23)(141, 6)(141, 9)
		(141,21)(141,23)(142, 8)(142,20)(142,24)(144, 1)(144, 8)(144,11)(145, 9)(145,21)
		(146, 2)(146,19)(146,22)(147,18)(147,22)(148, 6)(149, 1)(149, 6)(149,20)(149,22)
		(150, 5)(152, 6)(152,18)(152,21)(153, 2)(153,22)(154, 7)(154,18)(155, 3)(155, 5)
		(155, 8)(155,18)(156, 6)(156,22)(157,12)(158, 2)(158, 4)(158, 7)(160, 4)(160, 8)
		(160,10)(161, 7)(162,19)(163, 4)(163, 6)(163,19)(164, 3)(164, 7)(164,10)(165, 2)
		(165, 5)(165, 8)(166, 1)(166,22)(166,24)(168, 2)(168, 7)(168,22)(169, 9)(170, 3)
		(171,20)(172, 1)(172, 5)(172,11)(172,22)(173, 1)(174, 7)(174,19)(175,20)(176, 4)
		(176,21)(177, 8)(177,11)(177,20)(177,23)(178, 2)(178, 6)(179, 1)(179, 5)(179, 9)
		(179,15)(180, 1)(181, 1)(181, 5)(181, 9)(182, 9)(182,23)(183, 5)(184, 6)(185, 4)
		(185, 6)(187, 6)(188, 1)(188, 5)(189, 7)(189,22)(190, 2)(190,21)(191, 7)(192,20)
		(192,24)(193,22)(194, 2)(195,19)(196, 8)(196,14)(196,20)(197, 5)(197, 7)(197,20)
		(197,23)(199, 1)(199, 3)(199,10)(200, 2)(200, 6)(200, 9)(200,21)(201, 1)(202, 1)
		(202, 4)(202, 6)(202, 8)(203, 4)(203, 8)(204, 3)(206, 1)(206, 5)(206,24)(207,10)
		(208, 3)(208,24)(209, 3)(209, 9)(209,22)(210, 5)(210,19)(210,21)(211, 1)(211, 5)
		(211,21)(211,24)(212, 4)(212, 8)(212,10)(213, 1)(213, 5)(214, 4)(214, 8)(214,20)
		(214,23)(215,19)(215,22)(215,24)(216, 3)(216,10)(216,22)(217, 2)(217, 8)(217,10)

		(217,24)(218, 9)(218,21)(219,10)(221, 5)(221,24)(222, 3)(222, 5)(222, 9)(223, 1)
		(223, 4)(224, 3)(224, 6)(225,20)(225,22)(225,24)(226, 2)(226, 6)(226, 9)(227, 4)
		(228, 8)(228,18)(229,24)(230, 4)(230,19)(231, 5)(231, 7)(231,20)(232, 1)(232, 9)
		(232,21)(233, 2)(233, 4)(233, 9)(233,19)(234,10)(234,23)(235, 2)(235, 6)(235, 8)
		(235,10)(235,21)(237, 8)(237,10)(237,18)(237,21)(237,24)(238, 8)(239, 7)(240,10)
		(241,21)(241,24)(243, 8)(244, 1)(244, 3)(244, 7)(244,10)(244,13)(244,21)(244,24)
		(245,11)(245,20)(245,24)(246, 9)(246,20)(247, 6)(248, 8)(248,21)(249, 8)(252, 4)
		(254, 3)(254, 5)(255, 3)(255, 6)(255, 9)(255,20)(256,21)(257, 6)(257,10)(258,19)
		(258,22)(260,19)(260,21)(260,24)(261, 2)(261, 9)(262, 2)(262, 6)(264, 2)(264, 5)
		(264,10)(266,10)(266,19)(266,24)(267, 4)(267, 7)(267, 9)(268, 2)(268, 4)(268,20)
		(269, 3)(269, 6)(269, 8)(269,17)(269,20)(270, 1)(270,19)(270,21)(270,24)(272,24)
		(273,10)(274,18)(274,20)(275, 3)(275,19)(276,18)(276,20)(276,23)(277,10)(279, 8)
		(279,18)(280, 1)(280,19)(281, 4)(281,10)(281,19)(281,24)(282,20)(282,23)(283, 4)
		(283,18)(284, 6)(286, 2)(286, 5)(287, 5)(287, 8)(288, 5)(288,21)(289, 4)(289,11)
		(291,10)(291,22)(293, 3)(293, 5)(294, 9)(294,24)(295, 6)(295,19)(296,24)(298, 4)
		(299, 1)(299, 4)(299, 8)(300, 2)(300,11)(302,20)(303, 7)(305, 9)(306,18)(308,15)
		(309,13)(309,18)(310, 8)(310,11)(310,23)(311, 1)(313, 1)(313,18)(313,20)(313,22)
		(315, 7)(315,13)(316, 6)(316,18)(317, 7)(317,13)(317,18)(318, 5)(318, 7)(318, 9)
		(319, 1)(319, 9)(319,20)(319,22)(320, 3)(320, 6)(320, 8)(320,18)(320,23)(322, 7)
		(323,12)(323,18)(323,20)(324,15)(324,17)(325, 5)(325,19)(326, 5)(326, 7)(326,12)
		(326,18)(327,12)(327,18)(328,21)(328,24)(329, 8)(329,10)(330, 4)(332, 7)(332,17)
		(333, 2)(333, 8)(333,10)(333,17)(334,18)(335, 5)(335,19)(336, 8)(336,20)(337, 5)
		(337, 9)(338, 1)(338, 9)(339, 7)(339,16)(339,18)(339,20)(340, 5)(340,10)(340,18)
		(341,11)(342, 8)(342,24)(343, 7)(343,23)(344, 5)(344, 9)(345, 4)(345,12)(345,14)
		(345,21)(346, 8)(347,11)(348, 2)(348, 5)(348,10)(348,19)(349, 8)(349,16)(349,18)
		(349,24)(350, 8)(351,11)(351,13)(351,20)(352, 4)(352,11)(352,15)(352,19)(353,11)
		(353,18)(354, 9)(354,13)(354,18)(354,22)(354,24)(355,21)(355,23)(356, 5)(356, 7)
		(356,10)(357,23)(358, 2)(358, 8)(358,18)(359, 9)(359,12)(359,23)(360, 1)(360, 5)
		(360,13)(361, 3)(361,11)(363,24)(364,18)(364,20)(364,23)(365, 3)(365, 7)
2	210	(2, 5)(3, 1)(3, 4)(3, 7)(6, 4)(8,23)(10,22)(11, 3)(11, 7)(11,15)
		(12, 6)(14, 4)(15, 9)(17, 9)(17,21)(20,14)(22, 7)(25, 7)(25,10)(26, 4)
		(26,12)(27, 7)(28,24)(29, 5)(29,19)(31,10)(32, 5)(32,21)(33, 1)(35,23)
		(36, 5)(36, 8)(37, 6)(43, 1)(45,19)(46,23)(47, 2)(50, 8)(55, 4)(55,22)
		(62, 5)(63, 9)(68, 3)(69, 3)(69,24)(70, 3)(74, 5)(76, 3)(77,13)(82,20)
		(84, 7)(85, 7)(86, 3)(88,17)(89,17)(89,21)(94, 6)(94,24)(95, 5)(99, 4)
		(102, 5)(102,11)(106,12)(109,23)(114,21)(117, 1)(117,24)(127, 1)(129, 6)(130, 3)
		(131, 3)(133, 7)(134,20)(141, 2)(143, 6)(145, 1)(145, 6)(148, 1)(149, 9)(150, 3)
		(151,12)(152, 4)(152, 9)(153,14)(155,11)(158,11)(158,24)(159, 5)(159,11)(161,13)
		(162, 3)(164, 1)(170, 1)(171, 1)(171,10)(172, 9)(173,21)(179,20)(180,23)(181,21)
		(182, 1)(184, 4)(186, 2)(187, 2)(187,22)(191, 2)(192, 2)(196, 2)(198, 9)(198,21)
		(201,10)(208,11)(210, 8)(210,12)(219,23)(223,22)(228,23)(232, 4)(234, 5)(236, 2)
		(236,21)(238,23)(239,10)(239,21)(241, 4)(243, 3)(246, 3)(247, 2)(250,23)(251, 5)
		(251,21)(253,21)(254,22)(255, 1)(256, 5)(257, 2)(257,23)(258, 6)(258,12)(260, 9)
		(262,10)(262,20)(263, 4)(263, 9)(265, 8)(268, 7)(278,21)(279, 1)(280, 7)(283, 2)
		(283,23)(284,24)(285,24)(286,19)(286,23)(287,23)(288,24)(290,20)(293, 8)(293,23)
		(294, 5)(294,12)(295, 3)(295,11)(295,23)(296,19)(298, 7)(302, 6)(303, 2)(309, 7)
		(310,19)(311,21)(312, 2)(312,18)(314,20)(318, 2)(320,11)(320,21)(321, 2)(327, 4)
		(327, 7)(328, 1)(328, 7)(332,20)(334,22)(335, 8)(337,15)(337,23)(338,18)(339, 2)
		(340, 1)(340,21)(342,16)(344,24)(346,15)(347,23)(348, 8)(350,13)(354, 6)(355, 5)
		(356,22)(357,13)(359, 4)(359,20)(362, 2)(362,11)(362,22)(363, 8)(363,22)(365,10)
		(
3	74	(9, 4)(9,12)(10, 7)(11,12)(12,13)(15, 4)(15,24)(18, 1)(22,11)(23,11)
		(24,12)(30, 4)(42, 1)(58, 5)(65,13)(90,22)(94,20)(100, 4)(106, 1)(110, 7)
		(114,10)(135,10)(139,21)(140,21)(142, 3)(146, 6)(150,21)(151, 9)(151,23)(155, 1)
		(169, 6)(171, 6)(173, 5)(175,10)(180, 6)(183,24)(194,10)(198, 4)(205, 6)(206,22)
		(207, 6)(211, 9)(215, 5)(215,11)(221,11)(227,23)(228, 4)(234, 1)(239, 4)(243,22)
		(248, 1)(254,12)(255,24)(263,22)(267,21)(269,12)(276, 1)(277, 5)(278, 4)(296,11)
		(299,21)(314, 4)(317,22)(321, 8)(338,22)(342, 3)(344,20)(346, 2)(350,24)(352,24)
		(353,22)(360,24)(362, 8)(363, 2)
4	36	(4, 7)(8, 1)(10,12)(13,24)(14,11)(21,22)(33,11)(39, 4)(81, 7)(91, 4)

```
                                ( 99,24)(102, 2)(105, 8)(115, 8)(122,24)(137, 5)(157, 8)(161, 4)(224,12)(231, 1)
                                (240,22)(245, 6)(249, 4)(250, 7)(252,22)(256,12)(261,23)(266, 8)(296, 5)(319, 7)
                                (322, 3)(326,24)(334, 4)(337, 1)(347, 5)(354, 3)
     5            16             ( 12,23)( 18,11)( 20,10)( 22, 4)( 23,24)( 25,22)( 67, 8)( 80, 3)(112, 4)(124, 5)
                                (176, 2)(227, 1)(250, 2)(253, 7)(313, 8)(324,24)
     6             7             ( 14,24)( 17, 5)( 21,10)( 77, 7)( 90, 4)(195, 6)(300, 9)
     7             1             ( 16,13)
     8             1             ( 19,13)
     9             2             ( 20, 4)( 21, 3)
    10             1             ( 19, 4)
    11             1             ( 12, 3)

Program terminated normally
```

NOTE: EMISSIONS FACTORS MULTIPLIED BY 100, CONCENTRATIONS MUST BE DIVIDED BY 100.

CAL3QHCR (Dated: 13196)

DATE : 11/20/19 PAGE: 1
TIME : 14:01:45

JOB: LOWER CURTIS PARK WITH HAUL PM10 RUN: LINK NETWORK FOR PROJECT

==========
General Information
==========

Run start date: 01/01/81 Julian: 1
end date: 12/31/81 Julian: 365

A Tier 2 approach was used for input data preparation.

The MODE flag has been set to p for calculating PM averages.

Ambient background concentrations are excluded from the averages below.

Site & Meteorological Constants

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM ATIM = 60.

Met. Sfc. Sta. Id & Yr = 53128 81
Upper Air Sta. Id & Yr = 91919 81

Urban mixing heights were processed.

In 1981, Julian day 1 is a Thursday.

The patterns from the input file
have been assigned as follows:

Pattern # 1 is assigned to Monday.
Pattern # 1 is assigned to Tuesday.
Pattern # 1 is assigned to Wednesday.
Pattern # 1 is assigned to Thursday.
Pattern # 1 is assigned to Friday.
Pattern # 1 is assigned to Saturday.
Pattern # 1 is assigned to Sunday.

Link Data Constants - (Variable data in *.LNK file)

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	H (FT)	W (FT)	NLANES
1. L1 OSO	-3.0	7.0	4321.0	1683.0	4637.	69.	AG	0.0	105.0	
2. L2 FELIPE1	4321.0	1683.0	6021.0	4031.0	2899.	36.	AG	0.0	70.0	
3. L3 FELIPE2	6021.0	4031.0	6891.0	6065.0	2212.	23.	AG	0.0	70.0	
4. L4 FELIPE3	6891.0	6065.0	7832.0	7125.0	1417.	42.	AG	0.0	70.0	
5. L5 FELIPE4	7832.0	7125.0	8493.0	9347.0	2318.	17.	AG	0.0	70.0	

JOB: LOWER CURTIS PARK WITH HAUL PM10 RUN: LINK NETWORK FOR PROJECT

Receptor Data

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1	1860.0	619.0	6.0
2. REC 2	2663.0	1150.0	6.0
3. REC 3	3704.0	1294.0	6.0
4. REC 4	4111.0	1702.0	6.0
5. REC 5	4993.0	2356.0	6.0
6. REC 6	5662.0	3723.0	6.0
7. REC 7	6702.0	5308.0	6.0
8. REC 8	7972.0	7892.0	6.0

Model Results

Remarks : In search of the wind direction corresponding to the maximum concentration, only the first direction, of the directions with the same maximum concentrations, is indicated as the maximum.

MAXIMUM HOURLY CONCENTRATIONS WITH ANY AMBIENT BACKGROUND CONCENTRATIONS (BKG) ADDED
(MICROGRAMS/M**3)

	REC0001	REC0002	REC0003	REC0004	REC0005	REC0006	REC0007	REC0008
MAX+BKG	39.1572	40.1473	31.5714	44.4369	23.3518	16.4304	18.6528	18.4377
- BKG	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MAX	39.1572	40.1473	31.5714	44.4369	23.3518	16.4304	18.6528	18.4377
WIND DIR	265	233	263	235	237	198	217	179
JULIAN	134	364	153	149	122	134	364	66
HOUR	10	10	12	13	10	14	12	10

THE HIGHEST CONCENTRATION OF 44.4369 UG/M**3 OCCURRED AT RECEPTOR REC0004.

JOB: LOWER CURTIS PARK WITH HAUL PM10 RUN: LINK NETWORK FOR PROJECT

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Output Section
==========

NOTES PERTAINING TO THE REPORT

1. THE HIGHEST AVERAGE IN EACH OF THE FIRST TWO COLUMNS OF EACH TABLE BELOW ARE SUFFIXED BY AN ASTERISK (*). FOR PM OUTPUT, THERE IS ONLY ONE COLUMN AND ASTERISK FOR THE ANNUAL AVERAGE/PERIOD OF CONCERN TABLE.

2. THE NUMBERS IN PARENTHESES ARE THE JULIAN DAY AND ENDING HOUR FOR THE PRECEDING AVERAGE.

3. THE NUMBER OF CALM HOURS USED IN PRODUCING EACH AVERAGE ARE PREFIXED BY A C.

PRIMARY AND SECONDARY AVERAGES.

SIX HIGHEST 24-HOUR END-TO-END AVERAGE CONCENTRATIONS IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr	Highest			Second Highest			Third Highest			Fourth Highest			Fifth Highest			Sixth Highest		
No.	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm
1	15.7942*	(3,24)	C 6	15.4672*	(328,24)	C 5	15.4380	(42,24)	C 5	15.3246	(2,24)	C 6	15.2973	(342,24)	C 7	15.1319	(80,24)	C 6
2	15.0371	(365,24)	C 4	14.3836	(133,24)	C 5	14.2887	(121,24)	C 3	14.0507	(230,24)	C 5	13.9576	(88,24)	C 5	13.9302	(115,24)	C 5
3	12.5342	(3,24)	C 6	12.2318	(328,24)	C 5	11.9762	(42,24)	C 5	11.9627	(2,24)	C 6	11.8725	(80,24)	C 6	11.7829	(354,24)	C10
4	15.1539	(133,24)	C 5	14.9929	(365,24)	C 4	14.9848	(88,24)	C 5	14.8780	(121,24)	C 3	14.8146	(230,24)	C 5	14.6311	(109,24)	C 5
5	4.7694	(328,24)	C 5	4.5866	(110,24)	C 4	4.5750	(146,24)	C 6	4.4754	(150,24)	C 6	4.4295	(149,24)	C 6	4.3070	(363,24)	C 7
6	5.6542	(109,24)	C 5	5.4043	(230,24)	C 5	5.0552	(113,24)	C 3	5.0447	(121,24)	C 3	4.9701	(365,24)	C 4	4.9286	(58,24)	C 5
7	5.0019	(328,24)	C 5	4.7362	(149,24)	C 6	4.7153	(153,24)	C 4	4.6981	(300,24)	C 8	4.6949	(363,24)	C 7	4.6925	(146,24)	C 6
8	6.6175	(230,24)	C 5	6.3991	(109,24)	C 5	6.0921	(113,24)	C 3	6.0212	(58,24)	C 5	5.7664	(61,24)	C 3	5.5797	(115,24)	C 5

THE HIGHEST ANNUAL AVERAGE CONCENTRATIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Receptor Number	Maximum Conc	Ending Day Hr	Calm
1	7.1593	(365,24)	C1711
2	7.2492	(365,24)	C1711
3	5.4077	(365,24)	C1711
4	7.3929*	(365,24)	C1711
5	2.1488	(365,24)	C1711
6	2.3432	(365,24)	C1711
7	2.4607	(365,24)	C1711
8	2.6114	(365,24)	C1711

LINK CONTRIBUTION TABLES

MAXIMUM 24-HOUR AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
1	15.7942	(3,24)	0.00	15.7942	15.6809	0.0355	0.0366	0.0192	0.0220
2	15.0371	(365,24)	0.00	15.0371	14.9738	0.0541	0.0052	0.0020	0.0021
3	12.5342	(3,24)	0.00	12.5342	12.0659	0.3749	0.0588	0.0183	0.0162
4	15.1539	(133,24)	0.00	15.1539	15.0821	0.0718	0.0000	0.0000	0.0000
5	4.7694	(328,24)	0.00	4.7694	0.3008	4.4391	0.0209	0.0048	0.0039
6	5.6542	(109,24)	0.00	5.6542	0.0516	5.5369	0.0552	0.0060	0.0045
7	5.0019	(328,24)	0.00	5.0019	0.0018	0.0005	4.8116	0.1638	0.0242
8	6.6175	(230,24)	0.00	6.6175	0.0095	0.0194	0.0498	0.3566	6.1822

SECOND HIGHEST 24-HOUR AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
1	15.4672	(328,24)	0.00	15.4672	15.4600	0.0017	0.0022	0.0014	0.0019
2	14.3836	(133,24)	0.00	14.3836	14.3835	0.0001	0.0000	0.0000	0.0000
3	12.2318	(328,24)	0.00	12.2318	12.1953	0.0256	0.0064	0.0023	0.0023
4	14.9929	(365,24)	0.00	14.9929	14.5144	0.4688	0.0064	0.0018	0.0015
5	4.5866	(110,24)	0.00	4.5866	1.2265	3.2940	0.0437	0.0116	0.0108
6	5.4043	(230,24)	0.00	5.4043	0.0285	5.3758	0.0000	0.0000	0.0000
7	4.7362	(149,24)	0.00	4.7362	0.2344	0.3247	4.1770	0.0000	0.0000
8	6.3991	(109,24)	0.00	6.3991	0.0264	0.0347	0.0817	0.5560	5.7003

MAXIMUM ANNUAL AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
1	7.1593	(365,24)	0.00	7.1593	7.1219	0.0221	0.0081	0.0034	0.0038
2	7.2492	(365,24)	0.00	7.2492	7.1927	0.0381	0.0104	0.0039	0.0040
3	5.4077	(365,24)	0.00	5.4077	5.2929	0.0977	0.0105	0.0034	0.0033
4	7.3929	(365,24)	0.00	7.3929	7.0279	0.3453	0.0126	0.0036	0.0034
5	2.1488	(365,24)	0.00	2.1488	0.2952	1.8322	0.0145	0.0036	0.0033
6	2.3432	(365,24)	0.00	2.3432	0.1062	2.1155	0.1081	0.0078	0.0056
7	2.4607	(365,24)	0.00	2.4607	0.0513	0.0681	2.2929	0.0360	0.0124

JOB: LOWER CURTIS PARK WITH HAUL PM10 RUN: LINK NETWORK FOR PROJECT

LINK CONTRIBUTION TABLES

MAXIMUM ANNUAL AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
8	2.6114	(365,24)	0.00	2.6114	0.0262	0.0162	0.0377	0.1352	2.3961

CALM DURATION FREQUENCY

Hours of Consecutive Calm Winds	Frequency of Occurrence	(Julian day/hour ending) of Significant Occurrences
1	749	(1, 3)(1,20)(1,22)(2,10)(2,12)(2,21)(3,20)(4, 2)(4, 9)(4,17)
		(4,21)(5, 7)(5,11)(6, 1)(6,23)(7, 7)(7,19)(8, 3)(8, 8)(8,12)
		(9, 8)(9,18)(10,18)(12, 8)(13, 1)(13, 3)(13, 6)(13,12)(13,15)(13,19)
		(14, 6)(14,13)(15, 6)(15,11)(16,19)(16,22)(17,12)(21,16)(22,20)(22,24)
		(23, 2)(24, 3)(25,13)(26, 7)(26, 9)(26,15)(26,22)(26,24)(27,17)(28, 5)
		(28, 8)(28,14)(28,21)(29,24)(30, 8)(30,11)(30,22)(31, 5)(31,19)(32, 7)
		(32,10)(32,13)(33,20)(34,12)(34,21)(37, 8)(37,18)(37,21)(38, 6)(38, 8)
		(39, 9)(39,17)(40, 1)(40, 4)(40, 7)(40,24)(41, 4)(41, 9)(41,21)(42, 6)
		(42,10)(42,22)(43, 8)(43,11)(43,22)(43,24)(44, 5)(45, 9)(45,21)(46, 3)
		(46, 7)(46,11)(47, 8)(47,18)(47,21)(48, 4)(48, 7)(48,22)(48,24)(49, 2)
		(49, 5)(49,11)(49,18)(49,22)(49,24)(50, 5)(50,11)(50,23)(51, 5)(51, 9)
		(51,11)(51,15)(52,10)(52,16)(52,21)(53, 1)(53, 3)(53, 9)(53,18)(53,23)
		(54, 5)(54, 8)(54,23)(55, 1)(56, 2)(56, 5)(56, 8)(57,17)(57,21)(57,24)
		(58,19)(58,21)(59, 8)(60,21)(61, 3)(61,17)(61,23)(62,13)(62,22)(63, 4)
		(65,20)(65,23)(66, 7)(66,12)(66,19)(67, 1)(67,10)(67,18)(68, 5)(68,10)
		(68,12)(68,22)(69, 8)(69,13)(69,21)(70,10)(71, 7)(71,10)(71,18)(71,23)
		(72, 2)(72, 7)(73, 1)(73, 3)(73, 5)(73, 8)(73,11)(73,17)(73,23)(74,20)
		(75, 4)(75,12)(75,20)(76,11)(76,19)(78, 2)(80, 8)(80,20)(80,23)(81, 2)
		(81,10)(82,10)(83, 5)(83, 7)(83,23)(84, 9)(84,20)(84,22)(85, 1)(85,24)
		(86, 6)(87, 2)(87,20)(88, 3)(88,20)(88,24)(89, 3)(89, 5)(90, 6)(90,11)
		(91, 6)(92, 2)(93, 3)(93, 6)(93,19)(93,21)(93,23)(94, 3)(94,10)(95, 7)
		(95,10)(95,13)(95,24)(96, 5)(98, 1)(98, 4)(98, 8)(98,21)(99, 6)(99, 8)
		(100, 7)(100,16)(101, 3)(101, 6)(101, 8)(102,23)(103, 3)(103, 5)(103, 8)(103,12)
		(103,21)(103,24)(104, 2)(104, 4)(104,11)(106, 5)(106, 9)(107, 3)(107,11)(108, 5)
		(108,20)(108,23)(109, 3)(109, 6)(109,16)(110,24)(111, 3)(111, 9)(111,12)(111,18)
		(111,21)(112, 7)(113, 4)(113, 9)(113,22)(114, 3)(115,12)(116,19)(117, 6)(117,19)
		(118, 2)(119,11)(120, 4)(120, 8)(120,19)(120,22)(121,13)(121,21)(121,24)(122,14)
		(123,19)(124, 8)(124,23)(125, 1)(125, 5)(125,21)(126, 7)(126,20)(127, 3)(127,10)
		(128, 2)(128,19)(128,23)(129, 3)(130, 6)(130,12)(130,19)(130,22)(133,17)(133,22)
		(133,24)(134,13)(135, 2)(136,24)(137,24)(138, 3)(140, 3)(140,23)(141, 6)(141, 9)
		(141,21)(141,23)(142, 8)(142,20)(142,24)(144, 1)(144, 8)(144,11)(145, 9)(145,21)
		(146, 2)(146,19)(146,22)(147,18)(147,22)(148, 6)(149, 1)(149, 6)(149,20)(149,22)
		(150, 5)(152, 6)(152,18)(152,21)(153, 2)(153,22)(154, 7)(154,18)(155, 3)(155, 5)
		(155, 8)(155,18)(156, 6)(156,22)(157,12)(158, 2)(158, 4)(158, 7)(160, 4)(160, 8)
		(160,10)(161, 7)(162,19)(163, 4)(163, 6)(163,19)(164, 3)(164, 7)(164,10)(165, 2)
		(165, 5)(165, 8)(166, 1)(166,22)(166,24)(168, 2)(168, 7)(168,22)(169, 9)(170, 3)
		(171,20)(172, 1)(172, 5)(172,11)(172,22)(173, 1)(174, 7)(174,19)(175,20)(176, 4)
		(176,21)(177, 8)(177,11)(177,20)(177,23)(178, 2)(178, 6)(179, 1)(179, 5)(179, 9)
		(179,15)(180, 1)(181, 1)(181, 5)(181, 9)(182, 9)(182,23)(183, 5)(184, 6)(185, 4)
		(185, 6)(187, 6)(188, 1)(188, 5)(189, 7)(189,22)(190, 2)(190,21)(191, 7)(192,20)
		(192,24)(193,22)(194, 2)(195,19)(196, 8)(196,14)(196,20)(197, 5)(197, 7)(197,20)
		(197,23)(199, 1)(199, 3)(199,10)(200, 2)(200, 6)(200, 9)(200,21)(201, 1)(202, 1)
		(202, 4)(202, 6)(202, 8)(203, 4)(203, 8)(204, 3)(206, 1)(206, 5)(206,24)(207,10)
		(208, 3)(208,24)(209, 3)(209, 9)(209,22)(210, 5)(210,19)(210,21)(211, 1)(211, 5)
		(211,21)(211,24)(212, 4)(212, 8)(212,10)(213, 1)(213, 5)(214, 4)(214, 8)(214,20)
		(214,23)(215,19)(215,22)(215,24)(216, 3)(216,10)(216,22)(217, 2)(217, 8)(217,10)

		(217,24)(218, 9)(218,21)(219,10)(221, 5)(221,24)(222, 3)(222, 5)(222, 9)(223, 1)
		(223, 4)(224, 3)(224, 6)(225,20)(225,22)(225,24)(226, 2)(226, 6)(226, 9)(227, 4)
		(228, 8)(228,18)(229,24)(230, 4)(230,19)(231, 5)(231, 7)(231,20)(232, 1)(232, 9)
		(232,21)(233, 2)(233, 4)(233, 9)(233,19)(234,10)(234,23)(235, 2)(235, 6)(235, 8)
		(235,10)(235,21)(237, 8)(237,10)(237,18)(237,21)(237,24)(238, 8)(239, 7)(240,10)
		(241,21)(241,24)(243, 8)(244, 1)(244, 3)(244, 7)(244,10)(244,13)(244,21)(244,24)
		(245,11)(245,20)(245,24)(246, 9)(246,20)(247, 6)(248, 8)(248,21)(249, 8)(252, 4)
		(254, 3)(254, 5)(255, 3)(255, 6)(255, 9)(255,20)(256,21)(257, 6)(257,10)(258,19)
		(258,22)(260,19)(260,21)(260,24)(261, 2)(261, 9)(262, 2)(262, 6)(264, 2)(264, 5)
		(264,10)(266,10)(266,19)(266,24)(267, 4)(267, 7)(267, 9)(268, 2)(268, 4)(268,20)
		(269, 3)(269, 6)(269, 8)(269,17)(269,20)(270, 1)(270,19)(270,21)(270,24)(272,24)
		(273,10)(274,18)(274,20)(275, 3)(275,19)(276,18)(276,20)(276,23)(277,10)(279, 8)
		(279,18)(280, 1)(280,19)(281, 4)(281,10)(281,19)(281,24)(282,20)(282,23)(283, 4)
		(283,18)(284, 6)(286, 2)(286, 5)(287, 5)(287, 8)(288, 5)(288,21)(289, 4)(289,11)
		(291,10)(291,22)(293, 3)(293, 5)(294, 9)(294,24)(295, 6)(295,19)(296,24)(298, 4)
		(299, 1)(299, 4)(299, 8)(300, 2)(300,11)(302,20)(303, 7)(305, 9)(306,18)(308,15)
		(309,13)(309,18)(310, 8)(310,11)(310,23)(311, 1)(313, 1)(313,18)(313,20)(313,22)
		(315, 7)(315,13)(316, 6)(316,18)(317, 7)(317,13)(317,18)(318, 5)(318, 7)(318, 9)
		(319, 1)(319, 9)(319,20)(319,22)(320, 3)(320, 6)(320, 8)(320,18)(320,23)(322, 7)
		(323,12)(323,18)(323,20)(324,15)(324,17)(325, 5)(325,19)(326, 5)(326, 7)(326,12)
		(326,18)(327,12)(327,18)(328,21)(328,24)(329, 8)(329,10)(330, 4)(332, 7)(332,17)
		(333, 2)(333, 8)(333,10)(333,17)(334,18)(335, 5)(335,19)(336, 8)(336,20)(337, 5)
		(337, 9)(338, 1)(338, 9)(339, 7)(339,16)(339,18)(339,20)(340, 5)(340,10)(340,18)
		(341,11)(342, 8)(342,24)(343, 7)(343,23)(344, 5)(344, 9)(345, 4)(345,12)(345,14)
		(345,21)(346, 8)(347,11)(348, 2)(348, 5)(348,10)(348,19)(349, 8)(349,16)(349,18)
		(349,24)(350, 8)(351,11)(351,13)(351,20)(352, 4)(352,11)(352,15)(352,19)(353,11)
		(353,18)(354, 9)(354,13)(354,18)(354,22)(354,24)(355,21)(355,23)(356, 5)(356, 7)
		(356,10)(357,23)(358, 2)(358, 8)(358,18)(359, 9)(359,12)(359,23)(360, 1)(360, 5)
		(360,13)(361, 3)(361,11)(363,24)(364,18)(364,20)(364,23)(365, 3)(365, 7)
2	210	(2, 5)(3, 1)(3, 4)(3, 7)(6, 4)(8,23)(10,22)(11, 3)(11, 7)(11,15)
		(12, 6)(14, 4)(15, 9)(17, 9)(17,21)(20,14)(22, 7)(25, 7)(25,10)(26, 4)
		(26,12)(27, 7)(28,24)(29, 5)(29,19)(31,10)(32, 5)(32,21)(33, 1)(35,23)
		(36, 5)(36, 8)(37, 6)(43, 1)(45,19)(46,23)(47, 2)(50, 8)(55, 4)(55,22)
		(62, 5)(63, 9)(68, 3)(69, 3)(69,24)(70, 3)(74, 5)(76, 3)(77,13)(82,20)
		(84, 7)(85, 7)(86, 3)(88,17)(89,17)(89,21)(94, 6)(94,24)(95, 5)(99, 4)
		(102, 5)(102,11)(106,12)(109,23)(114,21)(117, 1)(117,24)(127, 1)(129, 6)(130, 3)
		(131, 3)(133, 7)(134,20)(141, 2)(143, 6)(145, 1)(145, 6)(148, 1)(149, 9)(150, 3)
		(151,12)(152, 4)(152, 9)(153,14)(155,11)(158,11)(158,24)(159, 5)(159,11)(161,13)
		(162, 3)(164, 1)(170, 1)(171, 1)(171,10)(172, 9)(173,21)(179,20)(180,23)(181,21)
		(182, 1)(184, 4)(186, 2)(187, 2)(187,22)(191, 2)(192, 2)(196, 2)(198, 9)(198,21)
		(201,10)(208,11)(210, 8)(210,12)(219,23)(223,22)(228,23)(232, 4)(234, 5)(236, 2)
		(236,21)(238,23)(239,10)(239,21)(241, 4)(243, 3)(246, 3)(247, 2)(250,23)(251, 5)
		(251,21)(253,21)(254,22)(255, 1)(256, 5)(257, 2)(257,23)(258, 6)(258,12)(260, 9)
		(262,10)(262,20)(263, 4)(263, 9)(265, 8)(268, 7)(278,21)(279, 1)(280, 7)(283, 2)
		(283,23)(284,24)(285,24)(286,19)(286,23)(287,23)(288,24)(290,20)(293, 8)(293,23)
		(294, 5)(294,12)(295, 3)(295,11)(295,23)(296,19)(298, 7)(302, 6)(303, 2)(309, 7)
		(310,19)(311,21)(312, 2)(312,18)(314,20)(318, 2)(320,11)(320,21)(321, 2)(327, 4)
		(327, 7)(328, 1)(328, 7)(332,20)(334,22)(335, 8)(337,15)(337,23)(338,18)(339, 2)
		(340, 1)(340,21)(342,16)(344,24)(346,15)(347,23)(348, 8)(350,13)(354, 6)(355, 5)
		(356,22)(357,13)(359, 4)(359,20)(362, 2)(362,11)(362,22)(363, 8)(363,22)(365,10)
		(
3	74	(9, 4)(9,12)(10, 7)(11,12)(12,13)(15, 4)(15,24)(18, 1)(22,11)(23,11)
		(24,12)(30, 4)(42, 1)(58, 5)(65,13)(90,22)(94,20)(100, 4)(106, 1)(110, 7)
		(114,10)(135,10)(139,21)(140,21)(142, 3)(146, 6)(150,21)(151, 9)(151,23)(155, 1)
		(169, 6)(171, 6)(173, 5)(175,10)(180, 6)(183,24)(194,10)(198, 4)(205, 6)(206,22)
		(207, 6)(211, 9)(215, 5)(215,11)(221,11)(227,23)(228, 4)(234, 1)(239, 4)(243,22)
		(248, 1)(254,12)(255,24)(263,22)(267,21)(269,12)(276, 1)(277, 5)(278, 4)(296,11)
		(299,21)(314, 4)(317,22)(321, 8)(338,22)(342, 3)(344,20)(346, 2)(350,24)(352,24)
		(353,22)(360,24)(362, 8)(363, 2)
4	36	(4, 7)(8, 1)(10,12)(13,24)(14,11)(21,22)(33,11)(39, 4)(81, 7)(91, 4)

```
                                ( 99,24)(102, 2)(105, 8)(115, 8)(122,24)(137, 5)(157, 8)(161, 4)(224,12)(231, 1)
                                (240,22)(245, 6)(249, 4)(250, 7)(252,22)(256,12)(261,23)(266, 8)(296, 5)(319, 7)
                                (322, 3)(326,24)(334, 4)(337, 1)(347, 5)(354, 3)
     5            16             ( 12,23)( 18,11)( 20,10)( 22, 4)( 23,24)( 25,22)( 67, 8)( 80, 3)(112, 4)(124, 5)
                                (176, 2)(227, 1)(250, 2)(253, 7)(313, 8)(324,24)
     6             7             ( 14,24)( 17, 5)( 21,10)( 77, 7)( 90, 4)(195, 6)(300, 9)
     7             1             ( 16,13)
     8             1             ( 19,13)
     9             2             ( 20, 4)( 21, 3)
    10             1             ( 19, 4)
    11             1             ( 12, 3)

Program terminated normally
```

NOTE: EMISSIONS FACTORS MULTIPLIED BY 100, CONCENTRATIONS MUST BE DIVIDED BY 100.

CAL3QHCR (Dated: 13196)

DATE : 11/20/19 PAGE: 1
TIME : 14:35:54

JOB: LOWER CURTIS PARK NO HAUL PM2.5 RUN: LINK NETWORK FOR PROJECT

==========
General Information
==========

Run start date: 01/01/81 Julian: 1
end date: 12/31/81 Julian: 365

A Tier 2 approach was used for input data preparation.

The MODE flag has been set to p for calculating PM averages.

Ambient background concentrations are excluded from the averages below.

Site & Meteorological Constants

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM ATIM = 60.

Met. Sfc. Sta. Id & Yr = 53128 81
Upper Air Sta. Id & Yr = 91919 81

Urban mixing heights were processed.

In 1981, Julian day 1 is a Thursday.

The patterns from the input file
have been assigned as follows:

Pattern # 1 is assigned to Monday.
Pattern # 1 is assigned to Tuesday.
Pattern # 1 is assigned to Wednesday.
Pattern # 1 is assigned to Thursday.
Pattern # 1 is assigned to Friday.
Pattern # 1 is assigned to Saturday.
Pattern # 1 is assigned to Sunday.

Link Data Constants - (Variable data in *.LNK file)

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	H (FT)	W (FT)	NLANES
1. L1 OSO	-3.0	7.0	4321.0	1683.0	4637.	69.	AG	0.0	105.0	
2. L2 FELIPE1	4321.0	1683.0	6021.0	4031.0	2899.	36.	AG	0.0	70.0	
3. L3 FELIPE2	6021.0	4031.0	6891.0	6065.0	2212.	23.	AG	0.0	70.0	
4. L4 FELIPE3	6891.0	6065.0	7832.0	7125.0	1417.	42.	AG	0.0	70.0	
5. L5 FELIPE4	7832.0	7125.0	8493.0	9347.0	2318.	17.	AG	0.0	70.0	

JOB: LOWER CURTIS PARK NO HAUL PM2.5 RUN: LINK NETWORK FOR PROJECT

Receptor Data

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1	1860.0	619.0	6.0
2. REC 2	2663.0	1150.0	6.0
3. REC 3	3704.0	1294.0	6.0
4. REC 4	4111.0	1702.0	6.0
5. REC 5	4993.0	2356.0	6.0
6. REC 6	5662.0	3723.0	6.0
7. REC 7	6702.0	5308.0	6.0
8. REC 8	7972.0	7892.0	6.0

Model Results

Remarks : In search of the wind direction corresponding to the maximum concentration, only the first direction, of the directions with the same maximum concentrations, is indicated as the maximum.

MAXIMUM HOURLY CONCENTRATIONS WITH ANY AMBIENT BACKGROUND CONCENTRATIONS (BKG) ADDED
(MICROGRAMS/M**3)

	REC0001	REC0002	REC0003	REC0004	REC0005	REC0006	REC0007	REC0008
MAX+BKG	31.6116	30.6344	24.4793	33.9145	15.9404	9.9961	11.5591	11.5071
- BKG	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MAX	31.6116	30.6344	24.4793	33.9145	15.9404	9.9961	11.5591	11.5071
WIND DIR	51	233	42	234	237	203	219	33
JULIAN	192	364	323	69	122	142	92	350
HOUR	8	10	19	9	10	19	19	19

THE HIGHEST CONCENTRATION OF 33.9145 UG/M**3 OCCURRED AT RECEPTOR REC0004.

JOB: LOWER CURTIS PARK NO HAUL PM2.5 RUN: LINK NETWORK FOR PROJECT

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Output Section
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NOTES PERTAINING TO THE REPORT

1. THE HIGHEST AVERAGE IN EACH OF THE FIRST TWO COLUMNS OF EACH TABLE BELOW ARE SUFFIXED BY AN ASTERISK (*). FOR PM OUTPUT, THERE IS ONLY ONE COLUMN AND ASTERISK FOR THE ANNUAL AVERAGE/PERIOD OF CONCERN TABLE.

2. THE NUMBERS IN PARENTHESES ARE THE JULIAN DAY AND ENDING HOUR FOR THE PRECEDING AVERAGE.

3. THE NUMBER OF CALM HOURS USED IN PRODUCING EACH AVERAGE ARE PREFIXED BY A C.

PRIMARY AND SECONDARY AVERAGES.

SIX HIGHEST 24-HOUR END-TO-END AVERAGE CONCENTRATIONS IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr	Highest			Second Highest			Third Highest			Fourth Highest			Fifth Highest			Sixth Highest		
	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm
No.																		
1	13.8520*	(3,24)	C 6	13.5058*	(2,24)	C 6	13.2565	(42,24)	C 5	13.1067	(328,24)	C 5	13.0869	(342,24)	C 7	12.9335	(80,24)	C 6
2	12.9168	(365,24)	C 4	12.4459	(133,24)	C 5	12.3439	(121,24)	C 3	12.0346	(230,24)	C 5	12.0179	(115,24)	C 5	11.9143	(100,24)	C 5
3	11.0153	(3,24)	C 6	10.5509	(2,24)	C 6	10.3882	(328,24)	C 5	10.2769	(42,24)	C 5	10.1487	(80,24)	C 6	10.0354	(354,24)	C10
4	13.0830	(133,24)	C 5	12.8342	(121,24)	C 3	12.7943	(365,24)	C 4	12.7804	(88,24)	C 5	12.6963	(230,24)	C 5	12.5102	(109,24)	C 5
5	3.7601	(110,24)	C 4	3.6214	(328,24)	C 5	3.4524	(146,24)	C 6	3.3527	(150,24)	C 6	3.3319	(284,24)	C 3	3.3112	(300,24)	C 8
6	4.2717	(109,24)	C 5	4.1153	(230,24)	C 5	4.0208	(365,24)	C 4	3.8597	(121,24)	C 3	3.8444	(360,24)	C 6	3.8168	(113,24)	C 3
7	3.7575	(328,24)	C 5	3.6473	(300,24)	C 8	3.6064	(153,24)	C 4	3.5043	(57,24)	C 3	3.4580	(2,24)	C 6	3.4470	(146,24)	C 6
8	4.9973	(230,24)	C 5	4.8273	(109,24)	C 5	4.6491	(58,24)	C 5	4.5714	(113,24)	C 3	4.4432	(357,24)	C 3	4.3840	(115,24)	C 5

THE HIGHEST ANNUAL AVERAGE CONCENTRATIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Receptor Number	Maximum Conc	Ending Day Hr	Calm
1	6.2265	(365,24)	C1711
2	6.2510	(365,24)	C1711
3	4.7007	(365,24)	C1711
4	6.3369*	(365,24)	C1711
5	1.6706	(365,24)	C1711
6	1.8981	(365,24)	C1711
7	1.8724	(365,24)	C1711
8	2.1332	(365,24)	C1711

LINK CONTRIBUTION TABLES

MAXIMUM 24-HOUR AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
1	13.8520	(3,24)	0.00	13.8520	13.7462	0.0331	0.0342	0.0180	0.0206
2	12.9168	(365,24)	0.00	12.9168	12.8576	0.0505	0.0049	0.0019	0.0019
3	11.0153	(3,24)	0.00	11.0153	10.5783	0.3499	0.0549	0.0170	0.0151
4	13.0830	(133,24)	0.00	13.0830	13.0159	0.0670	0.0000	0.0000	0.0000
5	3.7601	(110,24)	0.00	3.7601	1.0879	2.6105	0.0408	0.0109	0.0101
6	4.2717	(109,24)	0.00	4.2717	0.0475	4.1629	0.0515	0.0056	0.0042
7	3.7575	(328,24)	0.00	3.7575	0.0016	0.0005	3.6271	0.1116	0.0166
8	4.9973	(230,24)	0.00	4.9973	0.0085	0.0165	0.0421	0.2871	4.6431

SECOND HIGHEST 24-HOUR AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
1	13.5058	(2,24)	0.00	13.5058	13.4352	0.0446	0.0162	0.0052	0.0046
2	12.4459	(133,24)	0.00	12.4459	12.4458	0.0001	0.0000	0.0000	0.0000
3	10.5509	(2,24)	0.00	10.5509	10.3419	0.1890	0.0128	0.0036	0.0036
4	12.8342	(121,24)	0.00	12.8342	12.7338	0.1004	0.0000	0.0000	0.0000
5	3.6214	(328,24)	0.00	3.6214	0.2734	3.3264	0.0152	0.0035	0.0029
6	4.1153	(230,24)	0.00	4.1153	0.0253	4.0900	0.0000	0.0000	0.0000
7	3.6473	(300,24)	0.00	3.6473	0.0711	0.0315	3.5086	0.0245	0.0116
8	4.8273	(109,24)	0.00	4.8273	0.0245	0.0292	0.0669	0.3924	4.3144

MAXIMUM ANNUAL AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
1	6.2265	(365,24)	0.00	6.2265	6.1919	0.0205	0.0075	0.0032	0.0035
2	6.2510	(365,24)	0.00	6.2510	6.1988	0.0352	0.0096	0.0036	0.0038
3	4.7007	(365,24)	0.00	4.7007	4.5944	0.0904	0.0097	0.0031	0.0030
4	6.3369	(365,24)	0.00	6.3369	6.0031	0.3158	0.0116	0.0034	0.0032
5	1.6706	(365,24)	0.00	1.6706	0.2457	1.4053	0.0133	0.0033	0.0030
6	1.8981	(365,24)	0.00	1.8981	0.0894	1.6967	0.0997	0.0072	0.0052
7	1.8724	(365,24)	0.00	1.8724	0.0434	0.0501	1.7349	0.0327	0.0113

JOB: LOWER CURTIS PARK NO HAUL PM2.5 RUN: LINK NETWORK FOR PROJECT

LINK CONTRIBUTION TABLES

MAXIMUM ANNUAL AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
8	2.1332	(365,24)	0.00	2.1332	0.0222	0.0120	0.0278	0.1006	1.9707

CALM DURATION FREQUENCY

Hours of Consecutive Calm Winds	Frequency of Occurrence	(Julian day/hour ending) of Significant Occurrences
1	749	(1, 3)(1,20)(1,22)(2,10)(2,12)(2,21)(3,20)(4, 2)(4, 9)(4,17)
		(4,21)(5, 7)(5,11)(6, 1)(6,23)(7, 7)(7,19)(8, 3)(8, 8)(8,12)
		(9, 8)(9,18)(10,18)(12, 8)(13, 1)(13, 3)(13, 6)(13,12)(13,15)(13,19)
		(14, 6)(14,13)(15, 6)(15,11)(16,19)(16,22)(17,12)(21,16)(22,20)(22,24)
		(23, 2)(24, 3)(25,13)(26, 7)(26, 9)(26,15)(26,22)(26,24)(27,17)(28, 5)
		(28, 8)(28,14)(28,21)(29,24)(30, 8)(30,11)(30,22)(31, 5)(31,19)(32, 7)
		(32,10)(32,13)(33,20)(34,12)(34,21)(37, 8)(37,18)(37,21)(38, 6)(38, 8)
		(39, 9)(39,17)(40, 1)(40, 4)(40, 7)(40,24)(41, 4)(41, 9)(41,21)(42, 6)
		(42,10)(42,22)(43, 8)(43,11)(43,22)(43,24)(44, 5)(45, 9)(45,21)(46, 3)
		(46, 7)(46,11)(47, 8)(47,18)(47,21)(48, 4)(48, 7)(48,22)(48,24)(49, 2)
		(49, 5)(49,11)(49,18)(49,22)(49,24)(50, 5)(50,11)(50,23)(51, 5)(51, 9)
		(51,11)(51,15)(52,10)(52,16)(52,21)(53, 1)(53, 3)(53, 9)(53,18)(53,23)
		(54, 5)(54, 8)(54,23)(55, 1)(56, 2)(56, 5)(56, 8)(57,17)(57,21)(57,24)
		(58,19)(58,21)(59, 8)(60,21)(61, 3)(61,17)(61,23)(62,13)(62,22)(63, 4)
		(65,20)(65,23)(66, 7)(66,12)(66,19)(67, 1)(67,10)(67,18)(68, 5)(68,10)
		(68,12)(68,22)(69, 8)(69,13)(69,21)(70,10)(71, 7)(71,10)(71,18)(71,23)
		(72, 2)(72, 7)(73, 1)(73, 3)(73, 5)(73, 8)(73,11)(73,17)(73,23)(74,20)
		(75, 4)(75,12)(75,20)(76,11)(76,19)(78, 2)(80, 8)(80,20)(80,23)(81, 2)
		(81,10)(82,10)(83, 5)(83, 7)(83,23)(84, 9)(84,20)(84,22)(85, 1)(85,24)
		(86, 6)(87, 2)(87,20)(88, 3)(88,20)(88,24)(89, 3)(89, 5)(90, 6)(90,11)
		(91, 6)(92, 2)(93, 3)(93, 6)(93,19)(93,21)(93,23)(94, 3)(94,10)(95, 7)
		(95,10)(95,13)(95,24)(96, 5)(98, 1)(98, 4)(98, 8)(98,21)(99, 6)(99, 8)
		(100, 7)(100,16)(101, 3)(101, 6)(101, 8)(102,23)(103, 3)(103, 5)(103, 8)(103,12)
		(103,21)(103,24)(104, 2)(104, 4)(104,11)(106, 5)(106, 9)(107, 3)(107,11)(108, 5)
		(108,20)(108,23)(109, 3)(109, 6)(109,16)(110,24)(111, 3)(111, 9)(111,12)(111,18)
		(111,21)(112, 7)(113, 4)(113, 9)(113,22)(114, 3)(115,12)(116,19)(117, 6)(117,19)
		(118, 2)(119,11)(120, 4)(120, 8)(120,19)(120,22)(121,13)(121,21)(121,24)(122,14)
		(123,19)(124, 8)(124,23)(125, 1)(125, 5)(125,21)(126, 7)(126,20)(127, 3)(127,10)
		(128, 2)(128,19)(128,23)(129, 3)(130, 6)(130,12)(130,19)(130,22)(133,17)(133,22)
		(133,24)(134,13)(135, 2)(136,24)(137,24)(138, 3)(140, 3)(140,23)(141, 6)(141, 9)
		(141,21)(141,23)(142, 8)(142,20)(142,24)(144, 1)(144, 8)(144,11)(145, 9)(145,21)
		(146, 2)(146,19)(146,22)(147,18)(147,22)(148, 6)(149, 1)(149, 6)(149,20)(149,22)
		(150, 5)(152, 6)(152,18)(152,21)(153, 2)(153,22)(154, 7)(154,18)(155, 3)(155, 5)
		(155, 8)(155,18)(156, 6)(156,22)(157,12)(158, 2)(158, 4)(158, 7)(160, 4)(160, 8)
		(160,10)(161, 7)(162,19)(163, 4)(163, 6)(163,19)(164, 3)(164, 7)(164,10)(165, 2)
		(165, 5)(165, 8)(166, 1)(166,22)(166,24)(168, 2)(168, 7)(168,22)(169, 9)(170, 3)
		(171,20)(172, 1)(172, 5)(172,11)(172,22)(173, 1)(174, 7)(174,19)(175,20)(176, 4)
		(176,21)(177, 8)(177,11)(177,20)(177,23)(178, 2)(178, 6)(179, 1)(179, 5)(179, 9)
		(179,15)(180, 1)(181, 1)(181, 5)(181, 9)(182, 9)(182,23)(183, 5)(184, 6)(185, 4)
		(185, 6)(187, 6)(188, 1)(188, 5)(189, 7)(189,22)(190, 2)(190,21)(191, 7)(192,20)
		(192,24)(193,22)(194, 2)(195,19)(196, 8)(196,14)(196,20)(197, 5)(197, 7)(197,20)
		(197,23)(199, 1)(199, 3)(199,10)(200, 2)(200, 6)(200, 9)(200,21)(201, 1)(202, 1)
		(202, 4)(202, 6)(202, 8)(203, 4)(203, 8)(204, 3)(206, 1)(206, 5)(206,24)(207,10)
		(208, 3)(208,24)(209, 3)(209, 9)(209,22)(210, 5)(210,19)(210,21)(211, 1)(211, 5)
		(211,21)(211,24)(212, 4)(212, 8)(212,10)(213, 1)(213, 5)(214, 4)(214, 8)(214,20)
		(214,23)(215,19)(215,22)(215,24)(216, 3)(216,10)(216,22)(217, 2)(217, 8)(217,10)

		(217,24)(218, 9)(218,21)(219,10)(221, 5)(221,24)(222, 3)(222, 5)(222, 9)(223, 1)
		(223, 4)(224, 3)(224, 6)(225,20)(225,22)(225,24)(226, 2)(226, 6)(226, 9)(227, 4)
		(228, 8)(228,18)(229,24)(230, 4)(230,19)(231, 5)(231, 7)(231,20)(232, 1)(232, 9)
		(232,21)(233, 2)(233, 4)(233, 9)(233,19)(234,10)(234,23)(235, 2)(235, 6)(235, 8)
		(235,10)(235,21)(237, 8)(237,10)(237,18)(237,21)(237,24)(238, 8)(239, 7)(240,10)
		(241,21)(241,24)(243, 8)(244, 1)(244, 3)(244, 7)(244,10)(244,13)(244,21)(244,24)
		(245,11)(245,20)(245,24)(246, 9)(246,20)(247, 6)(248, 8)(248,21)(249, 8)(252, 4)
		(254, 3)(254, 5)(255, 3)(255, 6)(255, 9)(255,20)(256,21)(257, 6)(257,10)(258,19)
		(258,22)(260,19)(260,21)(260,24)(261, 2)(261, 9)(262, 2)(262, 6)(264, 2)(264, 5)
		(264,10)(266,10)(266,19)(266,24)(267, 4)(267, 7)(267, 9)(268, 2)(268, 4)(268,20)
		(269, 3)(269, 6)(269, 8)(269,17)(269,20)(270, 1)(270,19)(270,21)(270,24)(272,24)
		(273,10)(274,18)(274,20)(275, 3)(275,19)(276,18)(276,20)(276,23)(277,10)(279, 8)
		(279,18)(280, 1)(280,19)(281, 4)(281,10)(281,19)(281,24)(282,20)(282,23)(283, 4)
		(283,18)(284, 6)(286, 2)(286, 5)(287, 5)(287, 8)(288, 5)(288,21)(289, 4)(289,11)
		(291,10)(291,22)(293, 3)(293, 5)(294, 9)(294,24)(295, 6)(295,19)(296,24)(298, 4)
		(299, 1)(299, 4)(299, 8)(300, 2)(300,11)(302,20)(303, 7)(305, 9)(306,18)(308,15)
		(309,13)(309,18)(310, 8)(310,11)(310,23)(311, 1)(313, 1)(313,18)(313,20)(313,22)
		(315, 7)(315,13)(316, 6)(316,18)(317, 7)(317,13)(317,18)(318, 5)(318, 7)(318, 9)
		(319, 1)(319, 9)(319,20)(319,22)(320, 3)(320, 6)(320, 8)(320,18)(320,23)(322, 7)
		(323,12)(323,18)(323,20)(324,15)(324,17)(325, 5)(325,19)(326, 5)(326, 7)(326,12)
		(326,18)(327,12)(327,18)(328,21)(328,24)(329, 8)(329,10)(330, 4)(332, 7)(332,17)
		(333, 2)(333, 8)(333,10)(333,17)(334,18)(335, 5)(335,19)(336, 8)(336,20)(337, 5)
		(337, 9)(338, 1)(338, 9)(339, 7)(339,16)(339,18)(339,20)(340, 5)(340,10)(340,18)
		(341,11)(342, 8)(342,24)(343, 7)(343,23)(344, 5)(344, 9)(345, 4)(345,12)(345,14)
		(345,21)(346, 8)(347,11)(348, 2)(348, 5)(348,10)(348,19)(349, 8)(349,16)(349,18)
		(349,24)(350, 8)(351,11)(351,13)(351,20)(352, 4)(352,11)(352,15)(352,19)(353,11)
		(353,18)(354, 9)(354,13)(354,18)(354,22)(354,24)(355,21)(355,23)(356, 5)(356, 7)
		(356,10)(357,23)(358, 2)(358, 8)(358,18)(359, 9)(359,12)(359,23)(360, 1)(360, 5)
		(360,13)(361, 3)(361,11)(363,24)(364,18)(364,20)(364,23)(365, 3)(365, 7)
2	210	(2, 5)(3, 1)(3, 4)(3, 7)(6, 4)(8,23)(10,22)(11, 3)(11, 7)(11,15)
		(12, 6)(14, 4)(15, 9)(17, 9)(17,21)(20,14)(22, 7)(25, 7)(25,10)(26, 4)
		(26,12)(27, 7)(28,24)(29, 5)(29,19)(31,10)(32, 5)(32,21)(33, 1)(35,23)
		(36, 5)(36, 8)(37, 6)(43, 1)(45,19)(46,23)(47, 2)(50, 8)(55, 4)(55,22)
		(62, 5)(63, 9)(68, 3)(69, 3)(69,24)(70, 3)(74, 5)(76, 3)(77,13)(82,20)
		(84, 7)(85, 7)(86, 3)(88,17)(89,17)(89,21)(94, 6)(94,24)(95, 5)(99, 4)
		(102, 5)(102,11)(106,12)(109,23)(114,21)(117, 1)(117,24)(127, 1)(129, 6)(130, 3)
		(131, 3)(133, 7)(134,20)(141, 2)(143, 6)(145, 1)(145, 6)(148, 1)(149, 9)(150, 3)
		(151,12)(152, 4)(152, 9)(153,14)(155,11)(158,11)(158,24)(159, 5)(159,11)(161,13)
		(162, 3)(164, 1)(170, 1)(171, 1)(171,10)(172, 9)(173,21)(179,20)(180,23)(181,21)
		(182, 1)(184, 4)(186, 2)(187, 2)(187,22)(191, 2)(192, 2)(196, 2)(198, 9)(198,21)
		(201,10)(208,11)(210, 8)(210,12)(219,23)(223,22)(228,23)(232, 4)(234, 5)(236, 2)
		(236,21)(238,23)(239,10)(239,21)(241, 4)(243, 3)(246, 3)(247, 2)(250,23)(251, 5)
		(251,21)(253,21)(254,22)(255, 1)(256, 5)(257, 2)(257,23)(258, 6)(258,12)(260, 9)
		(262,10)(262,20)(263, 4)(263, 9)(265, 8)(268, 7)(278,21)(279, 1)(280, 7)(283, 2)
		(283,23)(284,24)(285,24)(286,19)(286,23)(287,23)(288,24)(290,20)(293, 8)(293,23)
		(294, 5)(294,12)(295, 3)(295,11)(295,23)(296,19)(298, 7)(302, 6)(303, 2)(309, 7)
		(310,19)(311,21)(312, 2)(312,18)(314,20)(318, 2)(320,11)(320,21)(321, 2)(327, 4)
		(327, 7)(328, 1)(328, 7)(332,20)(334,22)(335, 8)(337,15)(337,23)(338,18)(339, 2)
		(340, 1)(340,21)(342,16)(344,24)(346,15)(347,23)(348, 8)(350,13)(354, 6)(355, 5)
		(356,22)(357,13)(359, 4)(359,20)(362, 2)(362,11)(362,22)(363, 8)(363,22)(365,10)
		(
3	74	(9, 4)(9,12)(10, 7)(11,12)(12,13)(15, 4)(15,24)(18, 1)(22,11)(23,11)
		(24,12)(30, 4)(42, 1)(58, 5)(65,13)(90,22)(94,20)(100, 4)(106, 1)(110, 7)
		(114,10)(135,10)(139,21)(140,21)(142, 3)(146, 6)(150,21)(151, 9)(151,23)(155, 1)
		(169, 6)(171, 6)(173, 5)(175,10)(180, 6)(183,24)(194,10)(198, 4)(205, 6)(206,22)
		(207, 6)(211, 9)(215, 5)(215,11)(221,11)(227,23)(228, 4)(234, 1)(239, 4)(243,22)
		(248, 1)(254,12)(255,24)(263,22)(267,21)(269,12)(276, 1)(277, 5)(278, 4)(296,11)
		(299,21)(314, 4)(317,22)(321, 8)(338,22)(342, 3)(344,20)(346, 2)(350,24)(352,24)
		(353,22)(360,24)(362, 8)(363, 2)
4	36	(4, 7)(8, 1)(10,12)(13,24)(14,11)(21,22)(33,11)(39, 4)(81, 7)(91, 4)

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                                ( 99,24)(102, 2)(105, 8)(115, 8)(122,24)(137, 5)(157, 8)(161, 4)(224,12)(231, 1)
                                (240,22)(245, 6)(249, 4)(250, 7)(252,22)(256,12)(261,23)(266, 8)(296, 5)(319, 7)
                                (322, 3)(326,24)(334, 4)(337, 1)(347, 5)(354, 3)
     5            16             ( 12,23)( 18,11)( 20,10)( 22, 4)( 23,24)( 25,22)( 67, 8)( 80, 3)(112, 4)(124, 5)
                                (176, 2)(227, 1)(250, 2)(253, 7)(313, 8)(324,24)
     6             7             ( 14,24)( 17, 5)( 21,10)( 77, 7)( 90, 4)(195, 6)(300, 9)
     7             1             ( 16,13)
     8             1             ( 19,13)
     9             2             ( 20, 4)( 21, 3)
    10             1             ( 19, 4)
    11             1             ( 12, 3)

Program terminated normally
```

NOTE: EMISSIONS FACTORS MULTIPLIED BY 100, CONCENTRATIONS MUST BE DIVIDED BY 100.

CAL3QHCR (Dated: 13196)

DATE : 11/20/19 PAGE: 1
TIME : 14:39:04

JOB: LOWER CURTIS PARK WITH HAUL PM2.5 RUN: LINK NETWORK FOR PROJECT

==========
General Information
==========

Run start date: 01/01/81 Julian: 1
end date: 12/31/81 Julian: 365

A Tier 2 approach was used for input data preparation.

The MODE flag has been set to p for calculating PM averages.

Ambient background concentrations are excluded from the averages below.

Site & Meteorological Constants

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM ATIM = 60.

Met. Sfc. Sta. Id & Yr = 53128 81
Upper Air Sta. Id & Yr = 91919 81

Urban mixing heights were processed.

In 1981, Julian day 1 is a Thursday.

The patterns from the input file
have been assigned as follows:

Pattern # 1 is assigned to Monday.
Pattern # 1 is assigned to Tuesday.
Pattern # 1 is assigned to Wednesday.
Pattern # 1 is assigned to Thursday.
Pattern # 1 is assigned to Friday.
Pattern # 1 is assigned to Saturday.
Pattern # 1 is assigned to Sunday.

Link Data Constants - (Variable data in *.LNK file)

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	H (FT)	W (FT)	NLANES
1. L1 OSO	-3.0	7.0	4321.0	1683.0	4637.	69.	AG	0.0	105.0	
2. L2 FELIPE1	4321.0	1683.0	6021.0	4031.0	2899.	36.	AG	0.0	70.0	
3. L3 FELIPE2	6021.0	4031.0	6891.0	6065.0	2212.	23.	AG	0.0	70.0	
4. L4 FELIPE3	6891.0	6065.0	7832.0	7125.0	1417.	42.	AG	0.0	70.0	
5. L5 FELIPE4	7832.0	7125.0	8493.0	9347.0	2318.	17.	AG	0.0	70.0	

Receptor Data

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1	1860.0	619.0	6.0
2. REC 2	2663.0	1150.0	6.0
3. REC 3	3704.0	1294.0	6.0
4. REC 4	4111.0	1702.0	6.0
5. REC 5	4993.0	2356.0	6.0
6. REC 6	5662.0	3723.0	6.0
7. REC 7	6702.0	5308.0	6.0
8. REC 8	7972.0	7892.0	6.0

Model Results

Remarks : In search of the wind direction corresponding to the maximum concentration, only the first direction, of the directions with the same maximum concentrations, is indicated as the maximum.

MAXIMUM HOURLY CONCENTRATIONS WITH ANY AMBIENT BACKGROUND CONCENTRATIONS (BKG) ADDED
(MICROGRAMS/M**3)

	REC0001	REC0002	REC0003	REC0004	REC0005	REC0006	REC0007	REC0008
MAX+BKG	36.2566	37.1735	29.2328	41.1453	21.7838	15.4461	17.5080	17.3369
- BKG	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MAX	36.2566	37.1735	29.2328	41.1453	21.7838	15.4461	17.5080	17.3369
WIND DIR	265	233	263	235	237	198	217	179
JULIAN	134	364	153	149	122	134	364	66
HOUR	10	10	12	13	10	14	12	10

THE HIGHEST CONCENTRATION OF 41.1453 UG/M**3 OCCURRED AT RECEPTOR REC0004.

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Output Section
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NOTES PERTAINING TO THE REPORT

1. THE HIGHEST AVERAGE IN EACH OF THE FIRST TWO COLUMNS OF EACH TABLE BELOW ARE SUFFIXED BY AN ASTERISK (*). FOR PM OUTPUT, THERE IS ONLY ONE COLUMN AND ASTERISK FOR THE ANNUAL AVERAGE/PERIOD OF CONCERN TABLE.

2. THE NUMBERS IN PARENTHESES ARE THE JULIAN DAY AND ENDING HOUR FOR THE PRECEDING AVERAGE.

3. THE NUMBER OF CALM HOURS USED IN PRODUCING EACH AVERAGE ARE PREFIXED BY A C.

PRIMARY AND SECONDARY AVERAGES.

SIX HIGHEST 24-HOUR END-TO-END AVERAGE CONCENTRATIONS IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr	Highest			Second Highest			Third Highest			Fourth Highest			Fifth Highest			Sixth Highest		
		Ending			Ending			Ending			Ending			Ending			Ending	
No.	Conc	Day Hr	Calm	Conc	Day Hr	Calm	Conc	Day Hr	Calm	Conc	Day Hr	Calm	Conc	Day Hr	Calm	Conc	Day Hr	Calm
1	14.7026*	(3,24)	C 6	14.3782*	(328,24)	C 5	14.3587	(42,24)	C 5	14.2683	(2,24)	C 6	14.2272	(342,24)	C 7	14.0713	(80,24)	C 6
2	13.9860	(365,24)	C 4	13.3821	(133,24)	C 5	13.2930	(121,24)	C 3	13.0670	(230,24)	C 5	12.9775	(88,24)	C 5	12.9587	(115,24)	C 5
3	11.6688	(3,24)	C 6	11.3717	(328,24)	C 5	11.1386	(42,24)	C 5	11.1385	(2,24)	C 6	11.0405	(80,24)	C 6	10.9556	(354,24)	C10
4	14.0975	(133,24)	C 5	13.9412	(365,24)	C 4	13.9334	(88,24)	C 5	13.8404	(121,24)	C 3	13.7778	(230,24)	C 5	13.6059	(109,24)	C 5
5	4.4681	(328,24)	C 5	4.2880	(110,24)	C 4	4.2825	(146,24)	C 6	4.1927	(150,24)	C 6	4.1400	(149,24)	C 6	4.0308	(363,24)	C 7
6	5.2979	(109,24)	C 5	5.0631	(230,24)	C 5	4.7367	(113,24)	C 3	4.7255	(121,24)	C 3	4.6476	(365,24)	C 4	4.6162	(58,24)	C 5
7	4.6873	(328,24)	C 5	4.4408	(149,24)	C 6	4.4173	(153,24)	C 4	4.4008	(363,24)	C 7	4.4001	(300,24)	C 8	4.3985	(146,24)	C 6
8	6.2007	(230,24)	C 5	5.9962	(109,24)	C 5	5.7090	(113,24)	C 3	5.6399	(58,24)	C 5	5.4039	(61,24)	C 3	5.2247	(115,24)	C 5

THE HIGHEST ANNUAL AVERAGE CONCENTRATIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Receptor Number	Maximum Conc	Ending Day Hr	Calm
1	6.6622	(365,24)	C1711
2	6.7436	(365,24)	C1711
3	5.0322	(365,24)	C1711
4	6.8759*	(365,24)	C1711
5	2.0106	(365,24)	C1711
6	2.1924	(365,24)	C1711
7	2.3051	(365,24)	C1711
8	2.4435	(365,24)	C1711

LINK CONTRIBUTION TABLES

MAXIMUM 24-HOUR AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
1	14.7026	(3,24)	0.00	14.7026	14.5968	0.0331	0.0342	0.0180	0.0206
2	13.9860	(365,24)	0.00	13.9860	13.9269	0.0505	0.0049	0.0019	0.0019
3	11.6688	(3,24)	0.00	11.6688	11.2318	0.3499	0.0549	0.0170	0.0151
4	14.0975	(133,24)	0.00	14.0975	14.0305	0.0670	0.0000	0.0000	0.0000
5	4.4681	(328,24)	0.00	4.4681	0.2804	4.1600	0.0196	0.0045	0.0036
6	5.2979	(109,24)	0.00	5.2979	0.0481	5.1885	0.0515	0.0056	0.0042
7	4.6873	(328,24)	0.00	4.6873	0.0016	0.0005	4.5086	0.1538	0.0227
8	6.2007	(230,24)	0.00	6.2007	0.0088	0.0181	0.0466	0.3338	5.7934

SECOND HIGHEST 24-HOUR AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
1	14.3782	(328,24)	0.00	14.3782	14.3715	0.0016	0.0020	0.0013	0.0018
2	13.3821	(133,24)	0.00	13.3821	13.3820	0.0001	0.0000	0.0000	0.0000
3	11.3717	(328,24)	0.00	11.3717	11.3376	0.0239	0.0060	0.0021	0.0021
4	13.9412	(365,24)	0.00	13.9412	13.4946	0.4375	0.0060	0.0017	0.0014
5	4.2880	(110,24)	0.00	4.2880	1.1423	3.0840	0.0408	0.0109	0.0101
6	5.0631	(230,24)	0.00	5.0631	0.0266	5.0366	0.0000	0.0000	0.0000
7	4.4408	(149,24)	0.00	4.4408	0.2179	0.3042	3.9187	0.0000	0.0000
8	5.9962	(109,24)	0.00	5.9962	0.0246	0.0325	0.0764	0.5216	5.3411

MAXIMUM ANNUAL AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
1	6.6622	(365,24)	0.00	6.6622	6.6273	0.0207	0.0076	0.0032	0.0035
2	6.7436	(365,24)	0.00	6.7435	6.6908	0.0356	0.0097	0.0037	0.0038
3	5.0322	(365,24)	0.00	5.0322	4.9250	0.0912	0.0098	0.0031	0.0031
4	6.8759	(365,24)	0.00	6.8759	6.5352	0.3225	0.0117	0.0034	0.0032
5	2.0106	(365,24)	0.00	2.0106	0.2742	1.7164	0.0136	0.0034	0.0031
6	2.1924	(365,24)	0.00	2.1924	0.0987	1.9802	0.1010	0.0073	0.0052
7	2.3051	(365,24)	0.00	2.3051	0.0477	0.0638	2.1484	0.0337	0.0115

JOB: LOWER CURTIS PARK WITH HAUL PM2.5 RUN: LINK NETWORK FOR PROJECT

LINK CONTRIBUTION TABLES

MAXIMUM ANNUAL AVERAGED LINK CONTRIBUTIONS
IN MICROGRAMS/M**3
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5
8	2.4435	(365,24)	0.00	2.4435	0.0244	0.0152	0.0353	0.1267	2.2419

CALM DURATION FREQUENCY

Hours of Consecutive Calm Winds	Frequency of Occurrence	(Julian day/hour ending) of Significant Occurrences
1	749	(1, 3)(1,20)(1,22)(2,10)(2,12)(2,21)(3,20)(4, 2)(4, 9)(4,17)
		(4,21)(5, 7)(5,11)(6, 1)(6,23)(7, 7)(7,19)(8, 3)(8, 8)(8,12)
		(9, 8)(9,18)(10,18)(12, 8)(13, 1)(13, 3)(13, 6)(13,12)(13,15)(13,19)
		(14, 6)(14,13)(15, 6)(15,11)(16,19)(16,22)(17,12)(21,16)(22,20)(22,24)
		(23, 2)(24, 3)(25,13)(26, 7)(26, 9)(26,15)(26,22)(26,24)(27,17)(28, 5)
		(28, 8)(28,14)(28,21)(29,24)(30, 8)(30,11)(30,22)(31, 5)(31,19)(32, 7)
		(32,10)(32,13)(33,20)(34,12)(34,21)(37, 8)(37,18)(37,21)(38, 6)(38, 8)
		(39, 9)(39,17)(40, 1)(40, 4)(40, 7)(40,24)(41, 4)(41, 9)(41,21)(42, 6)
		(42,10)(42,22)(43, 8)(43,11)(43,22)(43,24)(44, 5)(45, 9)(45,21)(46, 3)
		(46, 7)(46,11)(47, 8)(47,18)(47,21)(48, 4)(48, 7)(48,22)(48,24)(49, 2)
		(49, 5)(49,11)(49,18)(49,22)(49,24)(50, 5)(50,11)(50,23)(51, 5)(51, 9)
		(51,11)(51,15)(52,10)(52,16)(52,21)(53, 1)(53, 3)(53, 9)(53,18)(53,23)
		(54, 5)(54, 8)(54,23)(55, 1)(56, 2)(56, 5)(56, 8)(57,17)(57,21)(57,24)
		(58,19)(58,21)(59, 8)(60,21)(61, 3)(61,17)(61,23)(62,13)(62,22)(63, 4)
		(65,20)(65,23)(66, 7)(66,12)(66,19)(67, 1)(67,10)(67,18)(68, 5)(68,10)
		(68,12)(68,22)(69, 8)(69,13)(69,21)(70,10)(71, 7)(71,10)(71,18)(71,23)
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		(81,10)(82,10)(83, 5)(83, 7)(83,23)(84, 9)(84,20)(84,22)(85, 1)(85,24)
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		(91, 6)(92, 2)(93, 3)(93, 6)(93,19)(93,21)(93,23)(94, 3)(94,10)(95, 7)
		(95,10)(95,13)(95,24)(96, 5)(98, 1)(98, 4)(98, 8)(98,21)(99, 6)(99, 8)
		(100, 7)(100,16)(101, 3)(101, 6)(101, 8)(102,23)(103, 3)(103, 5)(103, 8)(103,12)
		(103,21)(103,24)(104, 2)(104, 4)(104,11)(106, 5)(106, 9)(107, 3)(107,11)(108, 5)
		(108,20)(108,23)(109, 3)(109, 6)(109,16)(110,24)(111, 3)(111, 9)(111,12)(111,18)
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		(176,21)(177, 8)(177,11)(177,20)(177,23)(178, 2)(178, 6)(179, 1)(179, 5)(179, 9)
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		(214,23)(215,19)(215,22)(215,24)(216, 3)(216,10)(216,22)(217, 2)(217, 8)(217,10)

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     6             7             ( 14,24)( 17, 5)( 21,10)( 77, 7)( 90, 4)(195, 6)(300, 9)
     7             1             ( 16,13)
     8             1             ( 19,13)
     9             2             ( 20, 4)( 21, 3)
    10             1             ( 19, 4)
    11             1             ( 12, 3)

Program terminated normally
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