

Appendix B Health Risk Assessment

Appendix

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August 2021 | Health Risk Assessment

4416 AZUSA CANYON ROAD

City of Irwindale

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1. Introduction

Rexford Industrial Realty proposes to develop the 5.89-acre project site with a stand-alone concrete tilt-up warehouse, office, and manufacturing facility at 4416 Azusa Canyon Road (proposed project). The site's development would involve demolition of the existing Pepsi Bottling Group building on-site, which ceased operation on December 5, 2020.

There are air quality sensitive receptors within 1,000 feet of the project, including a single-family residence approximately 550 feet north on East Cypress Street and a mobile home park approximately 700 feet to the southwest. Additionally, Manzanita Elementary School is approximately 1,075 feet to the southeast of the project site. Operation of the proposed project would generate diesel particulate matter (DPM, a toxic air contaminant) emissions due to trucking- and warehouse-related activity in proximity to these nearby sensitive receptors. As recommended under the guidelines of "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act" prepared by the Office of the Attorney General of California, an operational health risk assessment (HRA) was conducted to evaluate potential health risk impacts from project-related truck trips and other project-related sources of DPM to the nearby surrounding sensitive receptors (OAG 2021). Guidance from the California Environmental Protection Agency (CalEPA), Office of Environmental Health Hazard Assessment (OEHHA), California Air Pollution Control Officers Association (CAPCOA), and the South Coast Air Quality Management District (South Coast AQMD) was used to complete the HRA.

Air dispersion modeling was conducted using the AERMOD atmospheric dispersion model (Lakes AERMOD View, version 10.0.1). The health risk calculations were performed using California Air Resources Board's (CARB) Hot Spots Analysis and Reporting Program, version 2 (HARP2), Risk Assessment Standalone Tool (CARB 2021a). HARP2 includes the current OEHHA toxicity factor database to calculate cancer risks and noncancer health hazards for various receptor types.

This HRA considers the health impact to sensitive receptors from diesel trucks and diesel-fueled off-road equipment (i.e., forklifts and yard trucks). Health impacts were based on conservative (i.e., health protective) assumptions. The United States Environmental Protection Agency (USEPA 2005) and OEHHA (2015) note that conservative assumptions used in a risk assessment are intended to ensure that the estimated risks do not underestimate the actual risks. Therefore, the estimated risks do not necessarily represent actual risks experienced by populations near a site. The use of conservative assumptions tends to produce upper-bound estimates of risk and usually overestimate exposure and thus risk.

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

- It was assumed that maximum exposed children and adults stood outside at the site for 24 hours per day, 350 days per year. In reality, California residents typically spend, on average, 2 hours per day outdoors at their residences (USEPA 2011). This would result in lower estimated risk values.

1. Introduction

- The calculated risk for infants from third trimester to age 2 years is multiplied by a factor of 10 and for children from 2 to 16 years is multiplied by a factor of 3 to account for early life exposure and uncertainty in child versus adult exposure impacts (OEHHA 2015).

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

- It was assumed that elementary school students stood outside for 250 days per year for 7 years—ages 4 to 10 years, in transitional kindergarten to grade 5 at Manzanita Elementary School. In reality, students are exposed to outdoor pollutant concentration levels for part of the day and to reduced indoor pollutant concentrations for the remaining hours.
- The calculated risk for children from ages 2 to 16 years is multiplied by a factor of 3 to account for early life exposure and uncertainty in child versus adult exposure impacts (OEHHA 2015).

2. Project Description

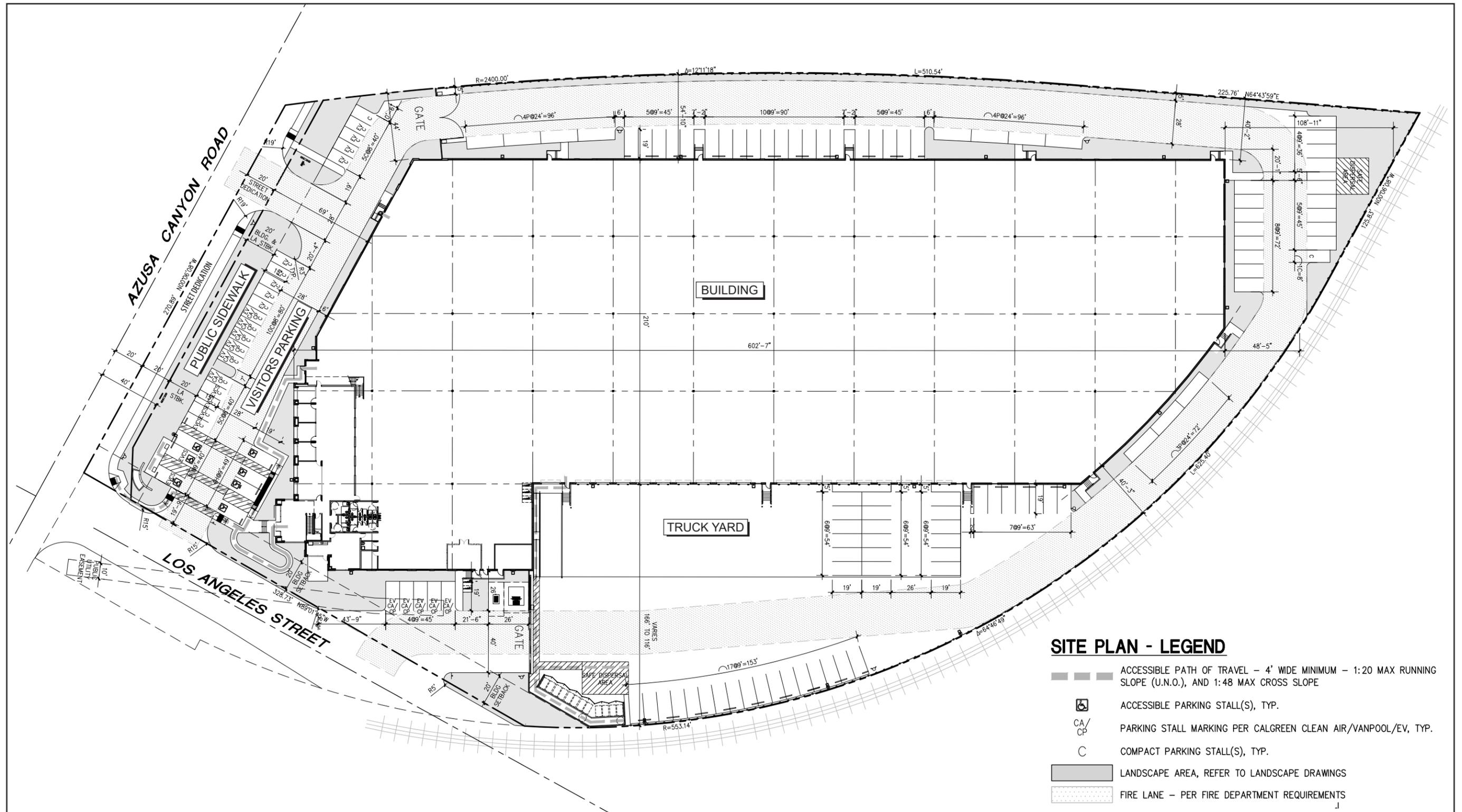
The proposed project involves the operation of a new warehouse and manufacturing facility on a currently developed site. The warehouse and manufacturing businesses (prospective tenants are unknown at this time) would operate out of a proposed 129,830-square-foot building comprising 17,000 square feet of manufacturing space, 103,670 square feet of warehousing space, and 9,160 square feet of ancillary office space to support the industrial and warehousing tenant(s). The proposed project would also include 18 dock-door positions in a secured truck court area on the southeastern side of the site. Other project components include vehicular and pedestrian access and circulation improvements; asphalt parking areas; utility and infrastructure improvements; and various hardscape and landscape improvements. Opening year is projected to be 2022. The proposed operating hours of the potential business(es) that may occupy the building is 24 hours per day, seven days a week. Although specific end users have not been established at this time, the project applicant has specified that cold storage uses would not be allowed at the warehouse. Therefore, no transport refrigeration units were evaluated in this assessment.

The conceptual site plan for the proposed project is shown in Figure 1, *Conceptual Site Plan*.

2. Project Description

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Figure 1 - Conceptual Site Plan



2. Project Description

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3. Existing Setting

3.1 SITE LOCATION

The project site is in the southeastern portion of the City of Irwindale in Los Angeles County. The city is approximately 20 miles east of downtown Los Angeles, with neighboring cities of West Covina, Baldwin Park, Vincent, Azusa, Duarte, El Monte, North El Monte, and Monrovia. The project site is at the northeastern corner of the Azusa Canyon Road/Los Angeles Street intersection—it is bounded by Big Dalton Wash to the north, Los Angeles County Metro railroad to the south, Los Angeles Street to the south, a railroad spur to the east, and Azusa Canyon Road to the west.

3.2 SURROUNDING USES

The project site is immediately surrounded by business and industrial uses to the north, east, and south. The Olive Pit mining quarry and City Public Works yard are west of Azusa Canyon Road. Residential areas are within a 1,000-foot radius to the northeast, southeast, and south of the project site. Additional residences (mobile home park) are approximately 700 feet to the southwest. There is a single-family residence approximately 530 feet to the north on East Cypress Street, and the Manzanita Elementary School is approximately 1,075 feet southeast of the site. The proposed development site and the surrounding area are shown in Figure 2, *Site Location*.

3.3 DISADVANTAGED COMMUNITIES / ENVIRONMENTAL JUSTICE AREAS

In 2016, the California Legislature passed Senate Bill 1000 (SB 1000), Planning for Healthy Communities Act, to incorporate environmental justice into the local land use planning process. SB 1000's definition of a disadvantaged community includes areas that:

- Are disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation;
- And have concentrations of people with low income, high unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment.

The California Communities Environmental Health Screening Tool (CalEnviroScreen or CES) was developed by OEHHA on behalf of CalEPA. CES is a method for identifying communities that are disproportionately burdened by pollution and/or have disproportionately vulnerable populations in those communities.

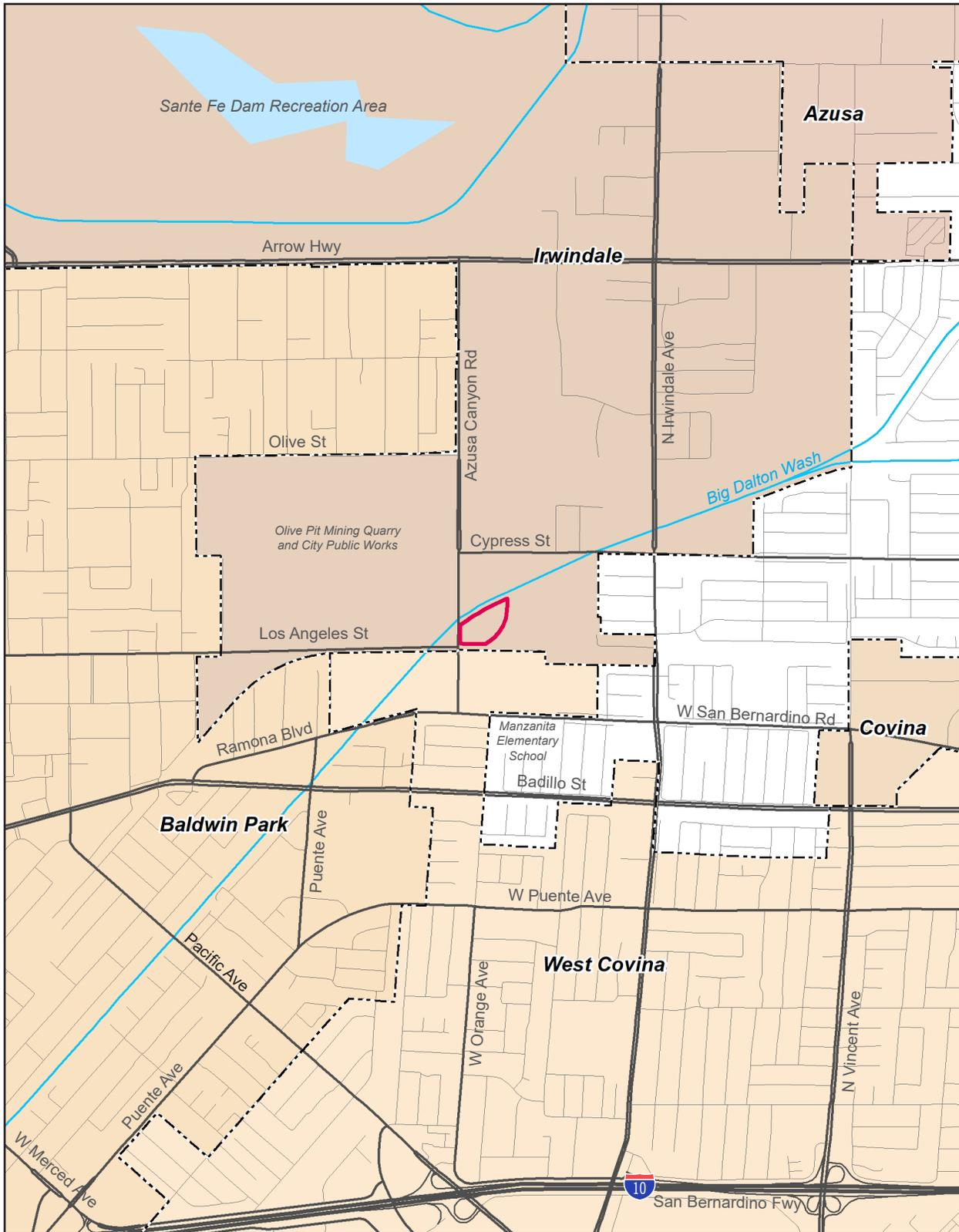
CES generates a composite score that assesses disproportionate impacts on California communities. It uses 21 indicators across four categories—pollution exposure, environmental effects, sensitive populations, and

3. Existing Setting

socioeconomic factors. These categories are summed into two primary metrics—pollution burden and population characteristics—which CES multiplies to arrive at the CES composite score. Pollution burden represents the potential exposures to pollutants and the adverse environmental conditions caused by pollution. Population characteristics represent biological traits, health status, or community characteristics that can result in increased vulnerability to pollution. The results for each census tract are measured against every other census tract in California. The outcome is a scale that sorts census tracts from the least impacted to the most impacted as a ranked percentile. Disadvantaged communities are defined as those scoring in the top 25 percent using CES (OEHHA 2018). As shown in Figure 3, *Disadvantaged Communities*, the project site is within a disadvantaged community.

Figure 3, *Pollution Burden*, shows the pollution burden for the project site and vicinity relative to California. The pollution burden map identifies communities that are exposed to pollution from human activities, such as air pollution (ozone, PM_{2.5}, DPM), water pollution (drinking water contaminants), and hazardous materials (pesticide use, children’s lead exposure, toxic releases), and traffic density. This metric represents the potential exposures to pollutants and the adverse environmental conditions caused by pollution. As shown in Figure 4, the project site is in a census tract that ranks in the 80th to 90th percentile (85th percentile) for pollution burden.

Figure 2 - Site Location



Project Boundary City Boundary

Note: Unincorporated county areas are shown in white.

Source: ESRI, 2021

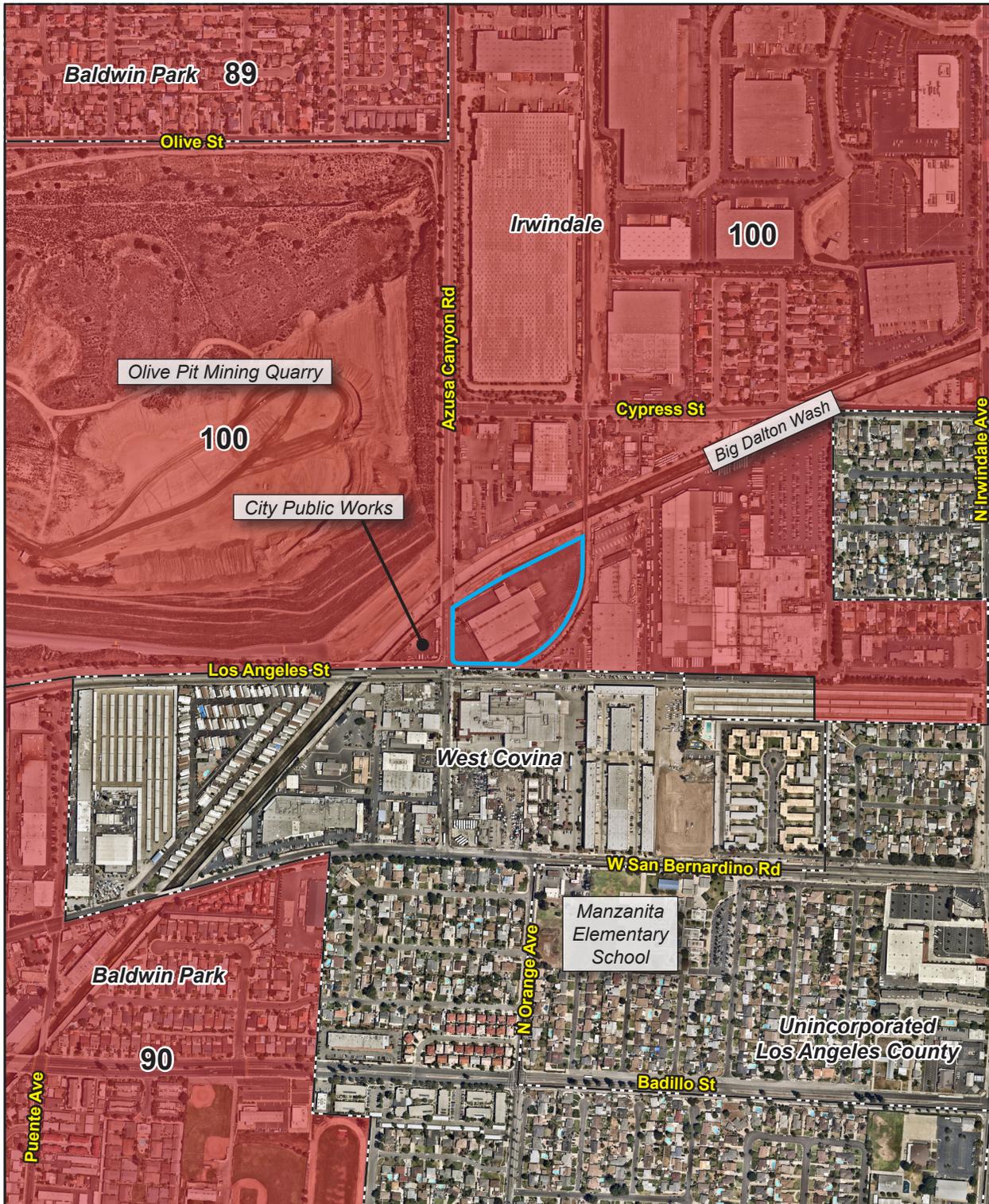
0 2,000
Scale (Feet)



3. Existing Setting

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Figure 3 - Disadvantaged Communities



— Project Boundary
- - - City Boundary

Disadvantaged Community Percentile
89, 90, 100 Disadvantaged Communities

0 750
Scale (Feet)



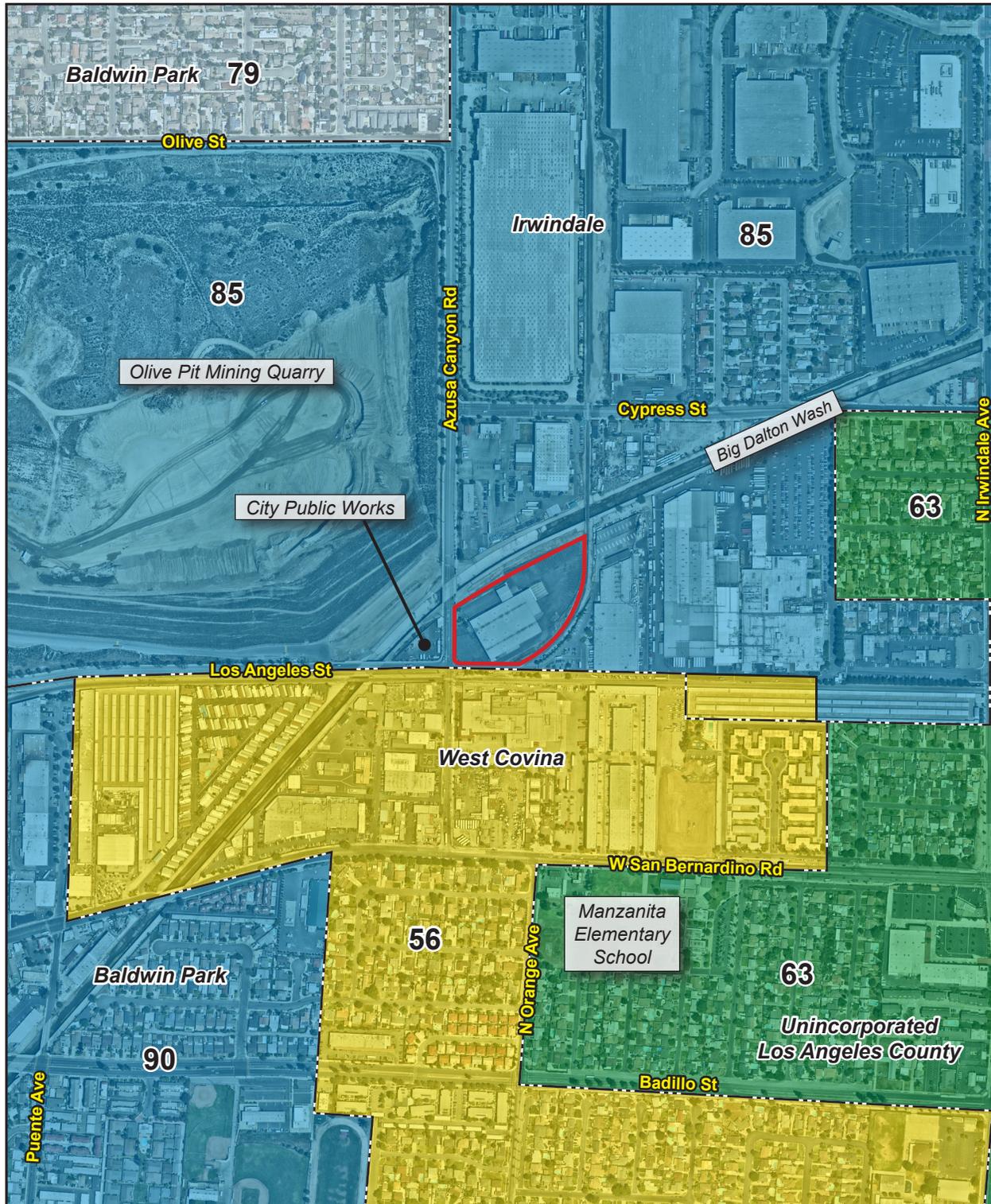
Source: CalEnviroScreen, 2021

PlaceWorks

3. Existing Setting

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Figure 4 - Pollution Burden



— Project Boundary

- - - City Boundary

Pollution Burden Percentile

85, 90	> 80 - 90	63	> 60 - 70
79	> 70 - 80	56	> 50 - 60

0 750
Scale (Feet)



Source: CalEnviroScreen, 2021

3. Existing Setting

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4. Emissions Inventory

Operational emission sources evaluated in the HRA include the diesel trucks traveling on-site over the ingress and egress driveways and idling at truck loading areas as well as the emissions from diesel trucks traveling to and from the site along surface streets (Azusa Canyon Road and Los Angeles Street). The evaluated truck volumes and truck fleet mix were prepared by Urban Crossroads and incorporated into the air quality and greenhouse gas emissions evaluation of the proposed project (Urban Crossroads 2021). According to the traffic analysis, the project would generate 28 one-way trips per day for 2-axle and 3-axle trucks and 37 one-way trips per day for 4+axle trucks (Urban Crossroads 2021). The emission rate calculations are provided in Appendix A.

Localized (on-site) truck running and idling emissions were calculated for the HRA. CARB has developed the EMFAC2021 emission factor model to account for the emission standards representative of the California fleet (CARB 2021b). Idling emission rates for trucks idling within the building loading areas were determined using an idling time of 30 minutes per truck. The PM₁₀ emission factor for diesel-fueled vehicles was used as the surrogate for DPM (CARB 2021b).

Emissions from forklifts and yard trucks were determined for the air quality and greenhouse gas emissions evaluation (PlaceWorks 2021). The proposed project modeling accounted for 10 diesel-powered yard trucks and 5 diesel-powered forklifts operating 7 hours per unit per day.¹ Forklift and yard truck emissions were calculated as annual average emissions in tons per year using the latest version of California Emissions Estimation Model, CalEEMod version 2020.4 (CAPCOA 2021).

Emission-rate calculations were based on EMFAC2021 and OFFROAD2017 emissions data for the project buildout year (2022). Using only the emission factors for the year 2022 is conservative because emissions are predicted to decline over time with implementation of CARB's Diesel Risk Reduction Plan and increasing emissions requirements for engines (CARB 2000). For instance, CARB estimates DPM emissions in 2035 will be less than half those in 2010 (CARB 2021c).

¹ Based on information provided by the project applicant. It is assumed the proposed uses would be in operation 24 hours per day and 7 days a week. However, while forklifts and yard trucks would be available and on standby for use during operating hours, it is not anticipated that these pieces of equipment would operate continuously throughout the entirety of the 24-hour/7-day operating hours. Thus, the equipment operating hours of 7 hours per day per unit represent the total cumulative hours each piece of off-road equipment would be in use per day.

4. Emissions Inventory

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5. Air Dispersion Modeling

Air dispersion modeling was performed using the AERMOD atmospheric dispersion model (Lakes AERMOD View, version 10.0.1). The model is a steady-state Gaussian plume model and is approved by South Coast AQMD for estimating ground-level impacts from point and fugitive sources in simple and complex terrain. The on-site emissions from truck travel, truck idling, forklifts, and yard trucks were modeled as polyarea sources. The off-site truck travel emissions were modeled as adjacent volume sources. The off-site truck route includes surface streets (Azusa Canyon Road and Los Angeles Street). A 10-meter by 10-meter receptor grid was used for receptors within approximately 1,000 feet of the proposed site. Additional receptors were modeled at the northern boundary of the Manzanita Elementary School site, approximately 1,075 feet from the project site.

The model requires additional input parameters, including local meteorology and terrain. AERMOD-ready meteorological (met) data was obtained from South Coast AQMD for the nearest representative met station with the five latest available years of record (Azusa 2012–2016) to represent local weather conditions and prevailing winds. The prevailing wind direction at the Azusa met station is to the east-northeast, and the wind rose is provided in Appendix B.

The modeling also considered the spatial distribution and elevation of each emitting source in relation to the sensitive receptors. Digital elevation model data for the project site and surrounding area were obtained and included in the model runs to account for complex terrain. An emissions release height of 4.15 meters was used as representative of the stack exhaust height for off-road equipment and diesel truck traffic, and an initial vertical dispersion parameter of 1.93 meters was used, per CARB guidance (CARB 2000). In evaluating yard equipment (i.e., yard trucks and forklifts), the variable emissions module was utilized in AERMOD to account for the evaluated activity hours of 7 hours per day, 7 days per week.

A unit emission rate of 1 gram per second was used for all emission sources to obtain normalized pollutant concentrations per unit emission rate, which are necessary for input into the risk assessment model (HARP2). The AERMOD model output for the emission sources is in Appendix B.

5. Air Dispersion Modeling

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6. Risk Methodology

6.1 CARCINOGENIC CHEMICAL RISK

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

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

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

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

where:

Dose_{AIR}	=	dose by inhalation ($\text{mg}/\text{kg}/\text{day}$), per age group
C_{air}	=	concentration of contaminant in air ($\mu\text{g}/\text{m}^3$)
EF	=	exposure frequency (number of days/365 days)
BR/BW	=	daily breathing rate normalized to body weight ($\text{L}/\text{kg}/\text{day}$)
A	=	inhalation absorption factor (default = 1)
CF	=	conversion factor (1×10^{-6} , μg to mg , L to m^3)

The inhalation absorption factor (A) is a unitless factor that is only used if the cancer potency factor included a correction for absorption across the lung. The default value of 1 was used for this assessment. For residential receptors, the exposure frequency (EF) of 0.96 is used to represent 350 days per year to allow for a two-week period away from home each year (OEHHA 2015). This timeline is considered appropriate for potential

6. Risk Methodology

workplace exposures established by OEHHA. The daily breathing rates (BR/BW), exposure duration (ED), age sensitivity factors (ASF), and fraction of time at home (FAH) for the various age groups follow:

<u>Age Groups</u>	<u>BR/BW (L/kg-day)</u>	<u>ED</u>	<u>ASF</u>	<u>FAH</u>
Third trimester	361	0.25	10	1
0–2 age group	1,090	2	10	1
2–9 age group	861	7	3	1
2–16 age group	745	14	3	1
16–30 age group	335	14	1	0.73
16–70 age group	290	54	1	0.73

To represent the unique characteristics of student populations, the assessment employed the USEPA’s guidance to develop viable dose estimates based on reasonable maximum exposure, defined as the “highest exposure that is reasonably expected to occur” for a given receptor population. Lifetime risk values for the elementary student population were adjusted to account for an exposure of 250 days per year for 7 years (transitional kindergarten through 5th grade). In addition, the calculated risk for students is multiplied by an ASF-weighting factor of 3 (for children ages 2 to 16) to account for early life sensitivity to pollutant exposures (OEHHA 2015).

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

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

where:

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

The health risk calculations were performed using CARB’s HARP2 Risk Assessment Standalone Tool (version 21081). HARP2 includes the current OEHHA toxicity factor database to calculate cancer risks and noncancer health hazards for various receptor types. The final step converts the cancer risk in scientific notation to a whole number that expresses the cancer risk in “chances per million” by multiplying the cancer risk by a factor of 1x10⁶ (i.e., 1 million).

Incremental cancer risk (expressed in chances per million) was calculated for the maximum exposed individual resident (MEIR) and the maximum exposed student receptor at Manzanita Elementary School. The assessment was based on reasonable maximum exposure, defined as the “highest exposure that is reasonably expected to occur” for a given receptor population. Per default exposure parameters, it was assumed that the MEIR spent

6. Risk Methodology

24 hours/day, 7 days/week, 350 days/year outside their residence. Similarly, the evaluated elementary school students were also assumed to spend 8 hours/day, 5 days/week, 250 days/year outside.

The calculated HARP2 output results are provided in Appendix C.

6.2 NONCARCINOGENIC HAZARDS

An evaluation was also conducted of the potential noncancer effects of chronic DPM exposure. Adverse health effects are evaluated by comparing the annual ground-level concentration of DPM from project operation with the appropriate reference exposure limit (REL). Examples of noncancer adverse health effects are asthma, chronic obstructive pulmonary disease, and local effects from chemical exposure to specific organs such as the eyes, kidneys, and reproductive system.

The hazard index approach was used to quantify noncarcinogenic impacts. The hazard index assumes that chronic subthreshold exposures adversely affect a specific organ or organ system (toxicological endpoint). For DPM, the target organ determined by OEHHA is the respiratory system. To calculate the hazard index, the DPM concentration is divided by the DPM's chronic REL. A hazard index of 1 or lower means air toxics are unlikely to cause adverse noncancer health effects, such as asthma, over a lifetime of exposure.

The calculated HARP2 output results are provided in Appendix C.

6.3 CUMULATIVE THRESHOLDS

The South Coast AQMD published a report on how to address cumulative impacts from air pollution: "White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution" (South Coast AQMD 2003), which states:

...the South Coast AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR [i.e., air quality and greenhouse gas emissions]. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is $HI > 1.0$ while the cumulative (facility-wide) is $HI > 3.0$. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the South Coast AQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant. (p. D-3)

Therefore, the project would not result in cumulative impacts if the operation of the project would not exceed the project-specific significance thresholds.

6. Risk Methodology

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7. Results and Conclusions

7.1 HEALTH RISK RESULTS

Table 1 presents the results summary for the proposed project at the MEIR and Manzanita Elementary School. As shown in Figure 5, *Project Site and Receptor Locations*, the HRA predicted the MEIR location to be the single-family residence on the south side of East Cypress Street, approximately 550 feet north of the project site. The results in Table 1 indicate that the maximum incremental cancer risk at the MEIR is 1.4 per million, which is below the significance threshold of 10 per million. Similarly, the incremental cancer risk for the maximum exposed student receptor is 0.08 per million, which is well below the 10 in a million significance threshold. For noncarcinogenic effects, the chronic hazard indices identified for the respiratory system totaled well below the significance threshold of 1.0 for the MEIR and the maximum exposed student receptor.

Table 1 HRA Results

Receptor	Cancer Risk (per million)	Noncancer Risk Chronic Hazard Index
Maximum Exposed Individual Resident (MEIR)	1.4	<0.001
Manzanita Elementary School – Student	0.04	<0.001
South Coast AQMD Threshold	10	1.0
Exceeds Threshold?	No	No

Source: Appendix C.

Note: Cancer risk calculated using 2015 OEHHA Guidance Manual.

MEIR cancer risks are calculated for the 30-yr residential scenario. Manzanita Elementary School cancer risk calculated for 7-year student scenario (ages 4 to 10).

Therefore, the proposed project would not expose off-site sensitive receptors to substantial concentrations of air pollutant emissions during project operation, and impacts would be *less than significant*.

7.2 CUMULATIVE ANALYSIS

As described in Section 6.3, the project-specific and cumulative significance thresholds are the same because the background risk in the South Coast Air Basin (SoCAB) is already high; therefore, the threshold is based on the potential for a project to cumulatively contribute to elevated levels of risk in the SoCAB (South Coast AQMD 2003). Therefore, the project would not result in cumulative impacts since operation of the project would not exceed the project-specific significance thresholds.

AIR QUALITY TRENDS

The National Association of Industrial and Office Properties (NAIOP) prepared a white paper that describes air quality trends in the SoCAB (NAIOP 2019). To summarize that report, air quality over the period from

7. Results and Conclusions

1980 to 2018 has drastically improved and will continue to improve for the air basin, with emerging technologies being unveiled on a yearly basis as well as South Coast AQMD rule development, implementation programs, and air quality management plans. The NAIOP concludes that rigorous individualized review under CEQA on a project-by-project basis is the correct policy to enforce to ensure public health.

Overall cancer risk throughout the SoCAB has been on a declining trend since 1990. In April 2021, the South Coast AQMD “Multiple Air Toxics Exposure Study in the South Coast Air Basin (Basin),” MATES V, showed that the average cancer risk in the air basin of 454 per million had decreased by 54 percent since 2012 (South Coast AQMD 2021). The countywide, population-weighted cancer risk for Los Angeles County was determined as 497 per million (South Coast AQMD 2021). Additionally, CARB estimates DPM emissions in 2035 will be less than half those in 2010 (CARB 2020).

ENVIRONMENTAL JUSTICE CONCERNS

According to the recommendation of the Office of the Attorney General of California, the operational HRA was conducted to evaluate potential health risk impacts from project-related truck trips and other project-related sources of DPM to the nearby surrounding sensitive receptors. The HRA is an example best practice under the guidelines of the “Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act” (OAG 2021). As discussed above, the project would not result in cumulative impacts to the nearby residents because operation of the project would not exceed the project-specific significance thresholds.

OTHER WAREHOUSE PROJECTS

For informational purposes, a review was conducted of recent and nearby warehouse projects under the City’s cumulative project list. The following new large warehouse projects in the vicinity of the project site were reviewed to determine if potential impacts would affect the sensitive receptors evaluated for the proposed project.

- Irwindale Industrial Center Project at 5010 Azusa Canyon Road; approximately 234,000 SF of speculative industrial buildings; Initial Study Mitigated Negative Declaration dated September 2019; 0.60 mile north of the project site.
- 5175 Vincent Avenue Project; approximately 545,735 SF of speculative warehouse; Draft EIR dated February 2021; 0.86 mile northeast of the project site.
- 13131 Los Angeles Street Industrial Project; approximately 528,710 SF of speculative industrial/warehouse; Draft EIR dated April 2020; 2.4 miles east of the project site.

Applicants for all three warehouse projects conducted HRAs to determine the localized health risks to nearby residents. For the 5010 Azusa Canyon Road project, the incremental cancer risk at the MEIR west of the project site was determined at 0.3 in a million. For the 5175 Vincent Avenue project, the incremental cancer risk at the MEIR within 75 feet of the project was 3.7 in a million. For the 13131 Los Angeles Street project, the incremental cancer risk at the MEIR 660 feet to the east was 2.7 in a million. When the MEIR risks are

7. Results and Conclusions

combined with the proposed project MEIR risk, and not accounting for the spatial distance between the site locations and the locations of the different MEIRs, the total residential cancer risk for the proposed project and the three nearby warehouse projects totals 8.1 in a million. Though this value is still below South Coast AQMD's significance threshold of 10 in a million, it should be noted that the actual combined risk from these projects at any one receptor location would be much less because pollutant concentrations substantially decrease with distance from the pollution source.

7. Results and Conclusions

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Figure 5 - Project Site and Receptor Locations



- Project Boundary
- Receptors - Residential
- Receptors - Manzanita Elementary School
- ✱ Maximum Exposed Receptor (MER) - Residential
- ◆ Maximum Exposed Receptor (MER) - Manzanita Elementary School
- City Boundary
- ↔ Truck Route

0 550
Scale (Feet)



Source: CalEnviroScreen, 2021

7. Results and Conclusions

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8. References

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Appendix A. Emissions Inventory

Appendix

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**Health Risk Assessment, Emissions Inventory
Diesel Trucks, Forklifts, and Yard Trucks
4416 Azusa Canyon Road, Irwindale**

Operation: Industrial Warehousing

Year:	2022	Buildout
-------	------	----------

	hours	days	weeks	
Temporal Profile:	24	7	52	Site Operation
	7	7	52	Yard Equipment Operation

Truck Activity: ⁽¹⁾	65	one-way	33	round-trips
2 and 3-Axle Trucks	28	trips per day	14	trucks per day
4+-Axle Trucks	37	trips per day	19	trucks per day
On-site Ingress/Egress Travel Length			306	m
Off-site Travel Length			749.3	m
Idling Duration			30	min
Truck Bays			18	

Running Emissions:	Veh Category	Emission Factor (g/mi) ⁽²⁾	Emission Factor (g/mi) ⁽³⁾	On-site Running g/s	Off-site Running g/s
2 and 3-axle trucks	MHDT	0.05560	0.02867	1.71E-06	2.16E-06
4+-axle trucks	HHDT	0.04619	0.01827	1.93E-06	1.87E-06
TOTAL				3.64E-06	4.03E-06

Idling Emissions:	Veh Category	Emission Factor ⁽⁴⁾ g/hr	Idling Emissions g/s	Idling Emissions g/s/bay
2 and 3-axle trucks	MHDT	0.11946	9.68E-06	
4+-axle trucks	HHDT	0.01833	2.02E-06	
TOTAL			1.17E-05	6.50E-07

Yard DPM Emissions: ⁽¹⁾	lbs/day	Yard Emissions g/s
Yard Truck Emissions	0.083	4.34E-04
Forklift Emissions	0.276	1.45E-03
Total		1.89E-03

(1) Truck activity, forklift and yard truck emissions from IS/MND Air Quality Appendix, PlaceWorks, August 2021. Exhaust PM10 emissions used as surrogate for diesel particulate matter (DPM), per South Coast AQMD guidance.

(2) PM10 running emission factors (g/mi) for diesel-fueled trucks obtained from CARB (EMFAC2021) for analysis years 2022 (5 mph).

(3) PM10 running emission factors (g/mi) for diesel-fueled trucks obtained from CARB (EMFAC2021) for analysis years 2022 (30 mph).

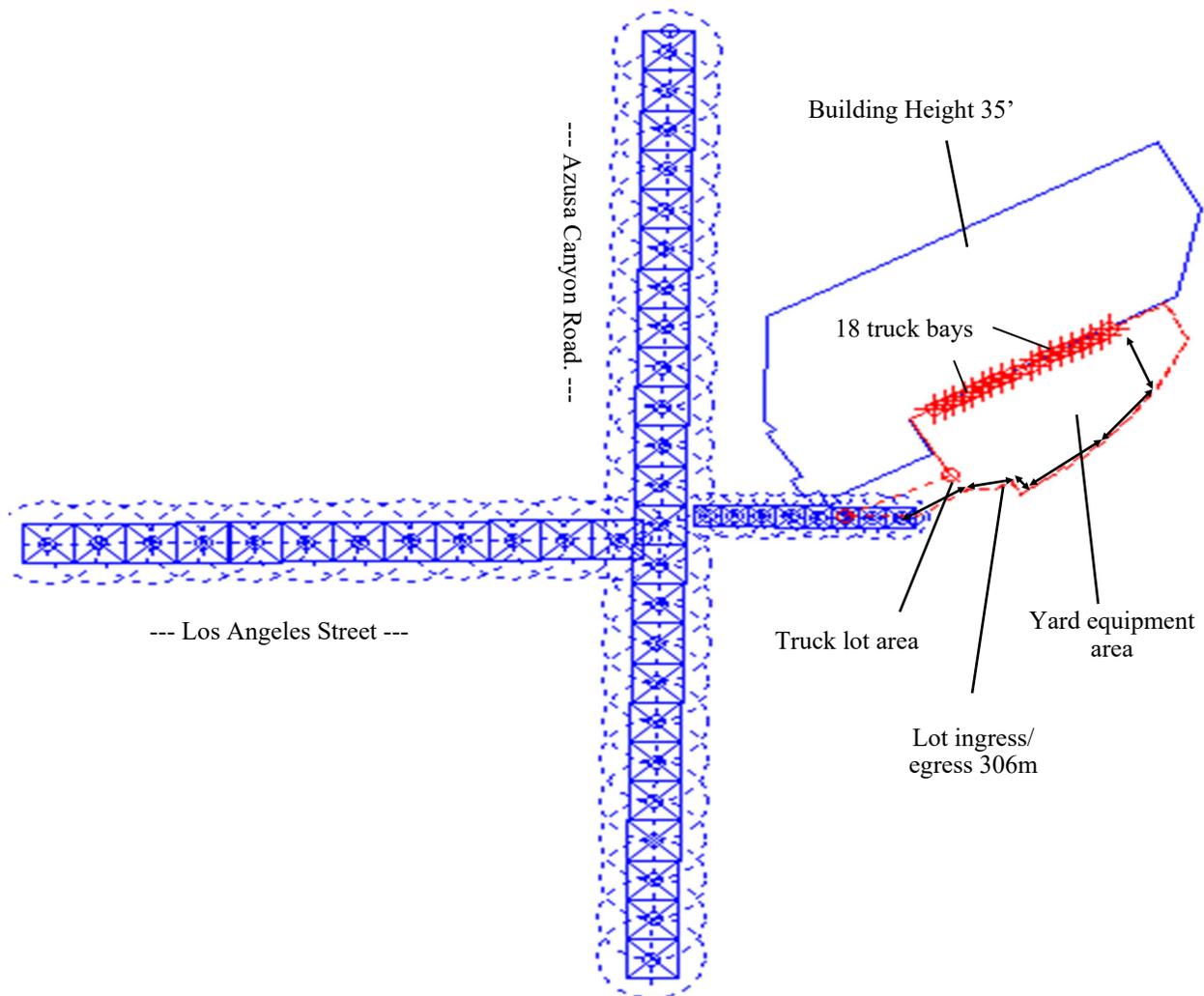
(4) PM10 idling emission factors (g/day) for diesel-fueled trucks obtained from CARB (EMFAC2021) for analysis years 2022.

4416 Azusa Canyon Road Project
 Irwindale, CA 91706
 Operation 24 hours per day, 7 days per week



Trucking Operations

Heavy-Heavy Duty Trucks: 19 trucks per day
 Medium-Heavy Duty Trucks: 14 trucks per day
 Additional: 5 forklifts and 10 yard trucks operating 7 hours per day, 7 days per week



- Release height of 4.15 m and initial vertical dimension (δy) of 1.93 m is based upon California Air Resources Board’s “Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles” (2000).
- The following point source specifications were used to model truck idling at loading bays: stack temp 366 K, stack velocity 51.7 m/s, stack diameter 4 in, stack height 4.15 m (CARB, Risk Characterization Scenarios, Appendix VII for idling diesel trucks, 2000).

Appendix B. Air Dispersion Model Output

Appendix

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Control Pathway

AERMOD

Dispersion Options

Titles HRA for 4416 Azusa Canyon Road	
Dispersion Options <input checked="" type="checkbox"/> Regulatory Default <input type="checkbox"/> Non-Default Options	Dispersion Coefficient Urban Population: Name (Optional): Roughness Length:
	Output Type <input checked="" type="checkbox"/> Concentration <input type="checkbox"/> Total Deposition (Dry & Wet) <input type="checkbox"/> Dry Deposition <input type="checkbox"/> Wet Deposition
	Plume Depletion <input type="checkbox"/> Dry Removal <input type="checkbox"/> Wet Removal
	Output Warnings <input type="checkbox"/> No Output Warnings <input type="checkbox"/> Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type Averaging Time Options Hours <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 6 <input type="checkbox"/> 8 <input type="checkbox"/> 12 <input type="checkbox"/> 24 <input type="checkbox"/> Month <input checked="" type="checkbox"/> Period <input type="checkbox"/> Annual	Exponential Decay Half-life of 4 hrs will be used
Flagpole Receptors <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Default Height = 0.00 m	Terrain Height Options <input type="checkbox"/> Flat <input checked="" type="checkbox"/> Elevated SO: Meters RE: Meters TG: Meters

Optional Files



Re-Start File



Init File



Multi-Year Analyses



Event Input File



Error Listing File

Detailed Error Listing File

Filename: 4416 AZUSA CANYON ROAD.err

Source Pathway - Source Inputs

AERMOD

Point Sources

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional) [m]	Release Height [m]	Emission Rate [g/s]	Gas Exit Temp. [K]	Gas Exit Velocity [m/s]	Stack Inside Diameter [m]
POINT	STCK1	413103.15 Truck Idling	3772882.16	128.22	4.15	1.00000	366.00	51.60	0.10
POINT	STCK2	413106.50 Truck Idling	3772884.39	128.22	4.15	1.00000	366.00	51.60	0.10
POINT	STCK3	413109.64 Truck Idling	3772886.37	128.22	4.15	1.00000	366.00	51.60	0.10
POINT	STCK4	413116.49 Truck Idling	3772890.22	128.22	4.15	1.00000	366.00	51.60	0.10
POINT	STCK5	413120.10 Truck Idling	3772892.63	128.21	4.15	1.00000	366.00	51.60	0.10
POINT	STCK6	413113.08 Truck Idling	3772888.36	128.22	4.15	1.00000	366.00	51.60	0.10
POINT	STCK7	413123.46 Truck Idling	3772894.31	128.20	4.15	1.00000	366.00	51.60	0.10
POINT	STCK8	413147.50 Truck Idling	3772908.74	128.11	4.15	1.00000	366.00	51.60	0.10
POINT	STCK9	413140.37 Truck Idling	3772904.80	128.14	4.15	1.00000	366.00	51.60	0.10
POINT	STCK10	413127.03 Truck Idling	3772896.35	128.19	4.15	1.00000	366.00	51.60	0.10
POINT	STCK11	413158.08 Truck Idling	3772914.85	128.08	4.15	1.00000	366.00	51.60	0.10
POINT	STCK12	413164.52 Truck Idling	3772918.89	128.07	4.15	1.00000	366.00	51.60	0.10

Source Pathway - Source Inputs

AERMOD

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Gas Exit Temp. [K]	Gas Exit Velocity [m/s]	Stack Inside Diameter [m]
POINT	STCK13	413137.09 Truck Idling	3772902.53	128.15	4.15	1.00000	366.00	51.60	0.10
POINT	STCK14	413130.69 Truck Idling	3772898.31	128.18	4.15	1.00000	366.00	51.60	0.10
POINT	STCK15	413154.96 Truck Idling	3772912.48	128.09	4.15	1.00000	366.00	51.60	0.10
POINT	STCK16	413161.70 Truck Idling	3772916.64	128.07	4.15	1.00000	366.00	51.60	0.10
POINT	STCK17	413144.08 Truck Idling	3772906.58	128.13	4.15	1.00000	366.00	51.60	0.10
POINT	STCK18	413151.34 Truck Idling	3772910.65	128.10	4.15	1.00000	366.00	51.60	0.10

Source Pathway - Source Inputs

AERMOD

Polygon Area Sources

Source Type: AREA POLY

Source: PAREA1 (On-Site Truck Travel)

Base Elevation (Optional)	Release Height [m]	Emission Rate [g/ (s-m ²)]	Initial Vertical Dim. [m]	Number of Vertices (or sides)	X Coordinate for Vertices [m]	Y Coordinate for Vertices [m]
127.79	4.15	0.00023	1.93	13	413071.38	3772832.96
		0.00023			413108.59	3772851.71
		0.00023			413094.68	3772877.56
		0.00023			413185.29	3772931.24
		0.00023			413192.96	3772913.91
		0.00023			413182.45	3772893.75
		0.00023			413169.95	3772874.43
		0.00023			413156.03	3772860.80
		0.00023			413133.88	3772842.62
		0.00023			413130.18	3772848.58
		0.00023			413124.79	3772845.46
		0.00023			413115.13	3772845.46
		0.00023			413097.23	3772832.67

Source Pathway - Source Inputs

AERMOD

Source Type: AREA POLY

Source: PAREA2 (Equipment Area)

Base Elevation (Optional)	Release Height [m]	Emission Rate [g/ (s-m ²)]	Initial Vertical Dim. [m]	Number of Vertices (or sides)	X Coordinate for Vertices [m]	Y Coordinate for Vertices [m]
128.01	4.15	0.00024	1.93	12	413108.31	3772851.99
		0.00024			413094.68	3772877.56
		0.00024			413185.29	3772931.53
		0.00024			413192.96	3772914.20
		0.00024			413182.73	3772893.46
		0.00024			413171.37	3772877.56
		0.00024			413158.02	3772862.78
		0.00024			413139.27	3772847.16
		0.00024			413133.31	3772843.18
		0.00024			413129.33	3772848.58
		0.00024			413125.07	3772845.17
		0.00024			413114.84	3772845.46

Source Pathway - Source Inputs

AERMOD

Line Volume Sources

Source Type: LINE VOLUME

Source: SLINE2 (Driveway to LA Street)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
9.75	0.11000		413096.09	3772831.84	127.65	4.15
			413014.01	3772832.70	127.48	4.15

Source Type: LINE VOLUME

Source: SLINE3 (Los Angeles Street)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
18.29	0.30000		413000.37	3772821.81	127.33	4.15
			412778.00	3772819.58	126.35	4.15

Source Type: LINE VOLUME

Source: SLINE4 (Azusa Canyon Road)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
18.29	0.59000		413009.34	3773057.15	128.26	4.15
			413003.09	3772612.41	124.88	4.15

Source Pathway - Source Inputs

AERMOD

Volume Sources Generated from Line Sources

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m]	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE2	L0001199	413091.21	3772831.89	127.71	4.15	0.01375	9.75		4.54	1.93
	L0001200	413081.46	3772831.99	127.74	4.15	0.01375	9.75		4.54	1.93
	L0001201	413071.71	3772832.09	127.78	4.15	0.01375	9.75		4.54	1.93
	L0001202	413061.95	3772832.19	127.76	4.15	0.01375	9.75		4.54	1.93
	L0001203	413052.20	3772832.30	127.70	4.15	0.01375	9.75		4.54	1.93
	L0001204	413042.45	3772832.40	127.64	4.15	0.01375	9.75		4.54	1.93
	L0001205	413032.70	3772832.50	127.58	4.15	0.01375	9.75		4.54	1.93
	L0001206	413022.94	3772832.60	127.52	4.15	0.01375	9.75		4.54	1.93

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m]	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE3	L0001207	412991.23	3772821.72	127.10	4.15	0.02500	18.29		8.51	1.93
	L0001208	412972.94	3772821.53	127.08	4.15	0.02500	18.29		8.51	1.93
	L0001209	412954.66	3772821.35	127.04	4.15	0.02500	18.29		8.51	1.93
	L0001210	412936.37	3772821.17	126.99	4.15	0.02500	18.29		8.51	1.93
	L0001211	412918.08	3772820.98	127.00	4.15	0.02500	18.29		8.51	1.93
	L0001212	412899.80	3772820.80	124.58	4.15	0.02500	18.29		8.51	1.93
	L0001213	412881.51	3772820.62	123.48	4.15	0.02500	18.29		8.51	1.93
	L0001214	412863.22	3772820.44	125.22	4.15	0.02500	18.29		8.51	1.93
	L0001215	412844.93	3772820.25	125.99	4.15	0.02500	18.29		8.51	1.93
	L0001216	412826.65	3772820.07	126.38	4.15	0.02500	18.29		8.51	1.93
	L0001217	412808.36	3772819.89	126.45	4.15	0.02500	18.29		8.51	1.93
	L0001218	412790.07	3772819.70	126.29	4.15	0.02500	18.29		8.51	1.93

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m]	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE4	L0001219	413009.21	3773048.01	128.27	4.15	0.02458	18.29		8.51	1.93
	L0001220	413008.95	3773029.72	128.29	4.15	0.02458	18.29		8.51	1.93
	L0001221	413008.70	3773011.44	128.32	4.15	0.02458	18.29		8.51	1.93
	L0001222	413008.44	3772993.15	128.36	4.15	0.02458	18.29		8.51	1.93
	L0001223	413008.18	3772974.86	127.45	4.15	0.02458	18.29		8.51	1.93
	L0001224	413007.93	3772956.58	125.37	4.15	0.02458	18.29		8.51	1.93
	L0001225	413007.67	3772938.29	125.88	4.15	0.02458	18.29		8.51	1.93
	L0001226	413007.41	3772920.00	127.11	4.15	0.02458	18.29		8.51	1.93
	L0001227	413007.16	3772901.72	127.53	4.15	0.02458	18.29		8.51	1.93
	L0001228	413006.90	3772883.43	127.73	4.15	0.02458	18.29		8.51	1.93
	L0001229	413006.64	3772865.15	127.57	4.15	0.02458	18.29		8.51	1.93
	L0001230	413006.38	3772846.86	127.49	4.15	0.02458	18.29		8.51	1.93
	L0001231	413006.13	3772828.57	127.44	4.15	0.02458	18.29		8.51	1.93
	L0001232	413005.87	3772810.29	127.04	4.15	0.02458	18.29		8.51	1.93
	L0001233	413005.61	3772792.00	126.60	4.15	0.02458	18.29		8.51	1.93
	L0001234	413005.36	3772773.72	126.08	4.15	0.02458	18.29		8.51	1.93
	L0001235	413005.10	3772755.43	125.78	4.15	0.02458	18.29		8.51	1.93
	L0001236	413004.84	3772737.14	125.59	4.15	0.02458	18.29		8.51	1.93
	L0001237	413004.59	3772718.86	125.44	4.15	0.02458	18.29		8.51	1.93
	L0001238	413004.33	3772700.57	125.31	4.15	0.02458	18.29		8.51	1.93
	L0001239	413004.07	3772682.28	125.22	4.15	0.02458	18.29		8.51	1.93
	L0001240	413003.81	3772664.00	125.14	4.15	0.02458	18.29		8.51	1.93
	L0001241	413003.56	3772645.71	125.06	4.15	0.02458	18.29		8.51	1.93
	L0001242	413003.30	3772627.43	124.94	4.15	0.02458	18.29		8.51	1.93

Source Pathway - Source Inputs

AERMOD

Source Pathway

AERMOD

Building Downwash Information

Source ID: <u>STCK1</u>						
Heights [m] (10 to 360 deg)						
10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67
Widths [m] (10 to 360 deg)						
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17
Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59
Along Flow [m] (10 to 360 deg)						
10-60 deg	-50.65	-54.95	-58.57	-61.06	-61.70	-60.66
70-120 deg	-59.25	-60.03	-59.63	-65.93	-70.55	-73.02
130-180 deg	-73.28	-71.31	-67.61	-89.23	-108.15	-123.77
190-240 deg	-135.63	-143.38	-146.76	-145.69	-140.19	-130.43
250-300 deg	-120.65	-109.25	-94.54	-76.95	-62.92	-48.38
310-360 deg	-32.38	-15.38	-20.59	-29.29	-37.63	-44.82
Across Flow [m] (10 to 360 deg)						
10-60 deg	-5.51	3.81	12.32	20.45	27.96	23.51
70-120 deg	29.97	35.26	39.47	42.49	44.22	44.10
130-180 deg	42.31	39.24	34.88	30.70	24.61	17.45
190-240 deg	5.51	-3.81	-12.32	-20.45	-27.96	-23.51
250-300 deg	-29.97	-35.26	-39.48	-42.49	-44.22	-44.10
310-360 deg	-42.31	-39.24	-34.88	-30.70	-24.61	-17.45

Source ID: <u>STCK2</u>						
Heights [m] (10 to 360 deg)						
10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67

Source Pathway

AERMOD

70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67
Widths [m] (10 to 360 deg)						
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17
Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59
Along Flow [m] (10 to 360 deg)						
10-60 deg	-53.43	-58.19	-62.17	-64.92	-65.70	-64.68
70-120 deg	-63.16	-63.72	-62.98	-68.84	-72.93	-74.81
130-180 deg	-74.41	-71.75	-67.36	-88.29	-106.53	-121.54
190-240 deg	-132.86	-140.14	-143.16	-141.83	-136.19	-126.41
250-300 deg	-116.74	-105.57	-91.19	-74.04	-60.54	-46.60
310-360 deg	-31.24	-14.94	-20.84	-30.24	-39.24	-47.05
Across Flow [m] (10 to 360 deg)						
10-60 deg	-2.60	6.20	14.11	21.58	28.41	23.26
70-120 deg	29.02	33.65	37.24	39.71	40.97	40.49
130-180 deg	38.45	35.24	30.87	26.79	20.92	14.10
190-240 deg	2.60	-6.20	-14.11	-21.58	-28.41	-23.26
250-300 deg	-29.02	-33.65	-37.25	-39.71	-40.97	-40.49
310-360 deg	-38.45	-35.24	-30.87	-26.79	-20.92	-14.10

Source ID: STCK3

Heights [m] (10 to 360 deg)

10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67

Source Pathway

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Widths [m] (10 to 360 deg)							
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20	
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33	
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17	
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20	
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33	
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17	
Lengths [m] (10 to 360 deg)							
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10	
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41	
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59	
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10	
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41	
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59	
Along Flow [m] (10 to 360 deg)							
10-60 deg	-55.93	-61.12	-65.46	-68.46	-69.38	-68.39	
70-120 deg	-66.79	-67.15	-66.12	-71.59	-75.21	-76.54	
130-180 deg	-75.55	-72.26	-67.21	-87.50	-105.13	-119.56	
190-240 deg	-130.36	-137.20	-139.87	-138.29	-132.51	-122.71	
250-300 deg	-113.11	-102.13	-88.05	-71.29	-58.26	-44.87	
310-360 deg	-30.11	-14.44	-20.99	-31.02	-40.64	-49.03	
Across Flow [m] (10 to 360 deg)							
10-60 deg	0.15	8.47	15.84	22.72	28.91	23.11	
70-120 deg	28.24	32.24	35.26	37.22	38.04	37.21	
130-180 deg	34.92	31.57	27.16	23.16	17.49	10.96	
190-240 deg	-0.15	-8.47	-15.84	-22.72	-28.91	-23.11	
250-300 deg	-28.24	-32.24	-35.27	-37.22	-38.04	-37.21	
310-360 deg	-34.92	-31.57	-27.16	-23.16	-17.49	-10.96	

Source ID: STCK4							
Heights [m] (10 to 360 deg)							
10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67	10.67
Widths [m] (10 to 360 deg)							
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20	
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33	
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17	
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20	

Source Pathway

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250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17
Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59
Along Flow [m] (10 to 360 deg)						
10-60 deg	-60.91	-67.08	-72.22	-75.81	-77.10	-76.25
70-120 deg	-74.54	-74.57	-72.97	-77.67	-80.33	-80.55
130-180 deg	-78.32	-73.71	-67.30	-86.22	-102.52	-115.71
190-240 deg	-125.38	-131.24	-133.11	-130.94	-124.79	-114.85
250-300 deg	-105.35	-94.72	-81.20	-65.22	-53.14	-40.86
310-360 deg	-27.34	-12.98	-20.90	-32.30	-43.25	-52.88
Across Flow [m] (10 to 360 deg)						
10-60 deg	6.23	13.59	19.84	25.49	30.36	23.20
70-120 deg	26.96	29.64	31.41	32.24	32.08	30.45
130-180 deg	27.56	23.84	19.30	15.41	10.07	4.11
190-240 deg	-6.23	-13.59	-19.84	-25.49	-30.36	-23.20
250-300 deg	-26.96	-29.64	-31.42	-32.24	-32.08	-30.45
310-360 deg	-27.56	-23.84	-19.30	-15.41	-10.07	-4.11

Source ID:	STCK5					
Heights [m] (10 to 360 deg)						
10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67
Widths [m] (10 to 360 deg)						
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17
Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41

Source Pathway

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130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59
Along Flow [m] (10 to 360 deg)						
10-60 deg	-63.91	-70.58	-76.11	-79.98	-81.42	-80.58
70-120 deg	-78.76	-78.54	-76.58	-80.81	-82.90	-82.47
130-180 deg	-79.53	-74.18	-67.02	-85.19	-100.78	-113.30
190-240 deg	-122.38	-127.74	-129.22	-126.77	-120.48	-110.52
250-300 deg	-101.14	-90.74	-77.59	-62.08	-50.58	-38.94
310-360 deg	-26.12	-12.51	-21.18	-33.33	-44.99	-55.29
Across Flow [m] (10 to 360 deg)						
10-60 deg	9.36	16.16	21.76	26.71	30.84	22.92
70-120 deg	25.93	27.89	29.00	29.24	28.58	26.56
130-180 deg	23.40	19.53	14.97	11.19	6.10	0.50
190-240 deg	-9.36	-16.16	-21.76	-26.71	-30.84	-22.92
250-300 deg	-25.93	-27.89	-29.00	-29.24	-28.58	-26.56
310-360 deg	-23.40	-19.53	-14.97	-11.19	-6.10	-0.50

Source ID: STCK6						
Heights [m] (10 to 360 deg)						
10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67
Widths [m] (10 to 360 deg)						
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17
Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59

Source Pathway

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Along Flow [m] (10 to 360 deg)						
10-60 deg	-58.48	-64.17	-68.90	-72.19	-73.30	-72.36
70-120 deg	-70.70	-70.89	-69.56	-74.63	-77.76	-78.52
130-180 deg	-76.90	-72.94	-67.21	-86.81	-103.76	-117.57
190-240 deg	-127.80	-134.15	-136.43	-134.56	-128.60	-118.73
250-300 deg	-109.19	-98.40	-84.61	-68.25	-55.71	-42.88
310-360 deg	-28.75	-13.75	-20.99	-31.72	-42.01	-51.02
Across Flow [m] (10 to 360 deg)						
10-60 deg	3.19	11.02	17.82	24.07	29.60	23.11
70-120 deg	27.54	30.88	33.27	34.66	34.99	33.76
130-180 deg	31.18	27.65	23.18	19.25	13.75	7.52
190-240 deg	-3.19	-11.02	-17.82	-24.07	-29.60	-23.11
250-300 deg	-27.54	-30.88	-33.28	-34.66	-34.99	-33.76
310-360 deg	-31.18	-27.65	-23.18	-19.25	-13.75	-7.52

Source ID: <u>STCK7</u>						
Heights [m] (10 to 360 deg)						
10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67
Widths [m] (10 to 360 deg)						
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17
Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59
Along Flow [m] (10 to 360 deg)						
10-60 deg	-66.14	-73.31	-79.24	-83.42	-85.07	-84.33
70-120 deg	-82.49	-82.14	-79.94	-83.82	-85.48	-84.54
130-180 deg	-81.03	-75.06	-67.25	-84.76	-99.71	-111.62
190-240 deg	-120.14	-125.01	-126.09	-123.33	-116.82	-106.77

Source Pathway

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250-300 deg	-97.41	-87.14	-74.23	-59.06	-47.99	-36.87
310-360 deg	-24.63	-11.64	-20.95	-33.76	-46.06	-56.97
Across Flow [m] (10 to 360 deg)						
10-60 deg	12.38	18.74	23.83	28.20	31.71	23.15
70-120 deg	25.50	26.82	27.32	27.00	25.85	23.42
130-180 deg	19.95	15.88	11.22	7.46	2.50	-2.86
190-240 deg	-12.38	-18.74	-23.83	-28.20	-31.71	-23.15
250-300 deg	-25.50	-26.82	-27.32	-27.00	-25.85	-23.42
310-360 deg	-19.95	-15.88	-11.22	-7.46	-2.50	2.86

Source ID: STCK8						
Heights [m] (10 to 360 deg)						
10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67
Widths [m] (10 to 360 deg)						
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17
Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59
Along Flow [m] (10 to 360 deg)						
10-60 deg	-84.53	-95.09	-103.76	-109.93	-112.76	-112.36
70-120 deg	-110.02	-108.32	-103.98	-104.99	-103.13	-98.14
130-180 deg	-90.17	-79.45	-66.77	-79.43	-89.67	-97.19
190-240 deg	-101.76	-103.23	-101.57	-96.82	-89.13	-78.73
250-300 deg	-69.88	-60.96	-50.19	-37.89	-30.34	-23.27
310-360 deg	-15.49	-7.24	-21.43	-39.10	-56.10	-71.40
Across Flow [m] (10 to 360 deg)						
10-60 deg	33.55	36.40	37.44	37.34	36.11	22.67
70-120 deg	20.17	16.79	12.89	8.61	4.07	-1.10

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130-180 deg	-6.56	-11.82	-16.81	-20.07	-23.68	-26.90
190-240 deg	-33.55	-36.40	-37.44	-37.34	-36.11	-22.67
250-300 deg	-20.17	-16.79	-12.89	-8.61	-4.07	1.10
310-360 deg	6.56	11.82	16.81	20.07	23.68	26.90

Source ID: STCK9						
Heights [m] (10 to 360 deg)						
10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67
Widths [m] (10 to 360 deg)						
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17
Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59
Along Flow [m] (10 to 360 deg)						
10-60 deg	-79.41	-88.95	-96.78	-102.33	-104.77	-104.22
70-120 deg	-101.97	-100.62	-96.85	-98.65	-97.78	-93.94
130-180 deg	-87.24	-77.89	-66.62	-80.69	-92.31	-101.13
190-240 deg	-106.87	-109.37	-108.55	-104.42	-97.13	-86.88
250-300 deg	-77.93	-68.67	-57.32	-44.23	-35.69	-27.47
310-360 deg	-18.42	-8.80	-21.58	-37.83	-53.46	-67.46
Across Flow [m] (10 to 360 deg)						
10-60 deg	27.21	31.05	33.23	34.41	34.54	22.52
70-120 deg	21.43	19.43	16.83	13.73	10.21	5.88
130-180 deg	1.05	-3.82	-8.67	-12.02	-15.98	-19.76
190-240 deg	-27.21	-31.05	-33.23	-34.41	-34.54	-22.52
250-300 deg	-21.43	-19.43	-16.83	-13.73	-10.21	-5.88
310-360 deg	-1.05	3.82	8.67	12.02	15.98	19.77

Source Pathway

AERMOD

Source ID: <u>STCK10</u>						
Heights [m] (10 to 360 deg)						
10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67
Widths [m] (10 to 360 deg)						
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17
Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59
Along Flow [m] (10 to 360 deg)						
10-60 deg	-68.77	-76.45	-82.79	-87.28	-89.12	-88.44
70-120 deg	-86.54	-86.01	-83.51	-86.98	-88.14	-86.61
130-180 deg	-82.45	-75.79	-67.26	-84.07	-98.32	-109.58
190-240 deg	-117.51	-121.87	-122.53	-119.47	-112.78	-102.66
250-300 deg	-93.35	-83.27	-70.66	-55.90	-45.34	-34.80
310-360 deg	-23.20	-10.90	-20.93	-34.45	-47.45	-59.01
Across Flow [m] (10 to 360 deg)						
10-60 deg	15.54	21.40	25.91	29.62	32.44	23.16
70-120 deg	24.81	25.43	25.28	24.37	22.71	19.87
130-180 deg	16.09	11.83	7.11	3.41	-1.37	-6.43
190-240 deg	-15.54	-21.40	-25.91	-29.62	-32.44	-23.16
250-300 deg	-24.81	-25.43	-25.28	-24.37	-22.71	-19.87
310-360 deg	-16.09	-11.83	-7.11	-3.41	1.37	6.43

Source ID: <u>STCK11</u>						
Heights [m] (10 to 360 deg)						
10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67

Source Pathway

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190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67
Widths [m] (10 to 360 deg)						
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17
Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59
Along Flow [m] (10 to 360 deg)						
10-60 deg	-92.38	-104.45	-114.34	-121.41	-124.79	-124.58
70-120 deg	-122.05	-119.80	-114.56	-114.35	-110.99	-104.25
130-180 deg	-94.35	-81.58	-66.77	-77.30	-85.49	-91.08
190-240 deg	-93.90	-93.87	-90.99	-85.34	-77.10	-66.52
250-300 deg	-57.85	-49.48	-39.61	-28.54	-22.49	-17.16
310-360 deg	-11.31	-5.12	-21.43	-41.22	-60.28	-77.51
Across Flow [m] (10 to 360 deg)						
10-60 deg	42.91	44.25	43.55	41.52	38.23	22.67
70-120 deg	18.04	12.61	6.78	0.76	-5.29	-11.68
130-180 deg	-18.04	-23.85	-29.03	-32.10	-35.16	-37.47
190-240 deg	-42.91	-44.25	-43.55	-41.52	-38.23	-22.67
250-300 deg	-18.04	-12.61	-6.78	-0.76	5.29	11.68
310-360 deg	18.04	23.85	29.03	32.10	35.16	37.48

Source ID: STCK12

Heights [m] (10 to 360 deg)

10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67
Widths [m] (10 to 360 deg)						
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20

Source Pathway

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70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17
Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59
Along Flow [m] (10 to 360 deg)						
10-60 deg	-97.48	-110.45	-121.06	-128.65	-132.33	-132.18
70-120 deg	-129.48	-126.85	-121.00	-119.99	-115.66	-107.81
130-180 deg	-96.68	-82.62	-66.49	-75.71	-82.63	-87.04
190-240 deg	-88.81	-87.87	-84.27	-78.11	-69.57	-58.92
250-300 deg	-50.42	-42.44	-33.17	-22.89	-17.82	-13.60
310-360 deg	-8.97	-4.07	-21.71	-42.81	-63.14	-81.55
Across Flow [m] (10 to 360 deg)						
10-60 deg	48.55	48.92	47.10	43.85	39.27	22.39
70-120 deg	16.45	9.74	2.74	-4.34	-11.29	-18.40
130-180 deg	-25.27	-31.38	-36.63	-39.53	-42.21	-43.91
190-240 deg	-48.55	-48.92	-47.10	-43.85	-39.27	-22.39
250-300 deg	-16.45	-9.74	-2.74	4.34	11.29	18.40
310-360 deg	25.27	31.38	36.63	39.53	42.21	43.92

Source ID: STCK13

Heights [m] (10 to 360 deg)

10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67

Widths [m] (10 to 360 deg)

10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17

Source Pathway

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Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59
Along Flow [m] (10 to 360 deg)						
10-60 deg	-76.61	-85.70	-93.18	-98.48	-100.80	-100.24
70-120 deg	-98.11	-96.99	-93.57	-95.82	-95.48	-92.23
130-180 deg	-86.19	-77.52	-66.94	-81.70	-93.98	-103.40
190-240 deg	-109.68	-112.63	-112.15	-108.27	-101.10	-90.85
250-300 deg	-81.79	-72.29	-60.60	-47.07	-38.00	-29.18
310-360 deg	-19.47	-9.17	-21.26	-36.82	-51.79	-65.19
Across Flow [m] (10 to 360 deg)						
10-60 deg	24.38	28.74	31.53	33.36	34.17	22.84
70-120 deg	22.44	21.09	19.10	16.54	13.47	9.49
130-180 deg	4.89	0.15	-4.69	-8.16	-12.35	-16.49
190-240 deg	-24.38	-28.74	-31.53	-33.36	-34.17	-22.84
250-300 deg	-22.44	-21.09	-19.10	-16.54	-13.47	-9.49
310-360 deg	-4.89	-0.15	4.69	8.16	12.35	16.49

Source ID: <u>STCK14</u>						
Heights [m] (10 to 360 deg)						
10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67
Widths [m] (10 to 360 deg)						
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17
Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10

Source Pathway

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250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59
Along Flow [m] (10 to 360 deg)						
10-60 deg	-71.34	-79.54	-86.32	-91.14	-93.18	-92.59
70-120 deg	-90.65	-89.96	-87.17	-90.25	-90.90	-88.80
130-180 deg	-84.00	-76.64	-67.40	-83.48	-97.02	-107.62
190-240 deg	-114.95	-118.78	-119.01	-115.62	-108.71	-98.51
250-300 deg	-89.24	-79.33	-67.00	-52.64	-42.57	-32.61
310-360 deg	-21.66	-10.05	-20.80	-35.04	-48.75	-60.97
Across Flow [m] (10 to 360 deg)						
10-60 deg	18.81	24.17	28.10	31.17	33.29	23.30
70-120 deg	24.22	24.14	23.32	21.80	19.62	16.34
130-180 deg	12.24	7.77	2.96	-0.70	-5.32	-10.08
190-240 deg	-18.81	-24.17	-28.10	-31.17	-33.29	-23.30
250-300 deg	-24.22	-24.14	-23.32	-21.80	-19.62	-16.34
310-360 deg	-12.24	-7.77	-2.96	0.70	5.32	10.09

Source ID:	STCK15					
Heights [m] (10 to 360 deg)						
10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67
Widths [m] (10 to 360 deg)						
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17
Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59
Along Flow [m] (10 to 360 deg)						
10-60 deg	-89.51	-101.16	-110.73	-117.59	-120.88	-120.69
70-120 deg	-118.30	-116.32	-111.44	-111.69	-108.86	-102.73

Source Pathway

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130-180 deg	-93.48	-81.39	-67.26	-78.46	-87.28	-93.45
190-240 deg	-96.78	-97.17	-94.60	-89.16	-81.01	-70.40
250-300 deg	-61.59	-52.97	-42.73	-31.20	-24.61	-18.68
310-360 deg	-12.18	-5.31	-20.94	-40.06	-58.49	-75.14
Across Flow [m] (10 to 360 deg)						
10-60 deg	40.25	42.13	42.03	40.65	38.04	23.16
70-120 deg	19.20	14.40	9.15	3.63	-2.00	-8.06
130-180 deg	-14.22	-19.93	-25.15	-28.36	-31.68	-34.36
190-240 deg	-40.25	-42.13	-42.03	-40.65	-38.04	-23.16
250-300 deg	-19.20	-14.40	-9.15	-3.63	2.00	8.06
310-360 deg	14.22	19.93	25.15	28.36	31.68	34.36

Source ID: STCK16						
Heights [m] (10 to 360 deg)						
10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67
Widths [m] (10 to 360 deg)						
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17
Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59
Along Flow [m] (10 to 360 deg)						
10-60 deg	-94.78	-107.37	-117.70	-125.11	-128.72	-128.61
70-120 deg	-126.06	-123.68	-118.18	-117.60	-113.78	-106.49
130-180 deg	-95.97	-82.53	-67.03	-76.86	-84.36	-89.29
190-240 deg	-91.51	-90.95	-87.63	-81.64	-73.17	-62.49
250-300 deg	-53.83	-45.61	-35.99	-25.28	-19.70	-14.92
310-360 deg	-9.69	-4.16	-21.17	-41.66	-61.41	-79.30

Source Pathway

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Across Flow [m] (10 to 360 deg)						
10-60 deg	46.16	47.04	45.79	43.14	39.18	22.93
70-120 deg	17.60	11.47	4.99	-1.63	-8.21	-15.04
130-180 deg	-21.73	-27.77	-33.06	-36.11	-39.04	-41.09
190-240 deg	-46.16	-47.04	-45.79	-43.14	-39.18	-22.93
250-300 deg	-17.60	-11.47	-4.99	1.63	8.21	15.04
310-360 deg	21.73	27.77	33.06	36.11	39.04	41.10

Source ID: STCK17						
Heights [m] (10 to 360 deg)						
10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67
Widths [m] (10 to 360 deg)						
10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17
Lengths [m] (10 to 360 deg)						
10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59
Along Flow [m] (10 to 360 deg)						
10-60 deg	-81.81	-91.89	-100.18	-106.08	-108.75	-108.32
70-120 deg	-106.06	-104.58	-100.56	-102.00	-100.66	-96.26
130-180 deg	-88.94	-78.91	-66.93	-80.29	-91.20	-99.35
190-240 deg	-104.48	-106.43	-105.15	-100.67	-93.14	-82.77
250-300 deg	-73.83	-64.70	-53.61	-40.89	-32.81	-25.15
310-360 deg	-16.72	-7.78	-21.27	-38.24	-54.57	-69.24
Across Flow [m] (10 to 360 deg)						
10-60 deg	30.56	33.92	35.56	36.11	35.57	22.83
70-120 deg	21.03	18.32	15.05	11.33	7.27	2.49
130-180 deg	-2.70	-7.81	-12.77	-16.12	-19.94	-23.47
190-240 deg	-30.56	-33.92	-35.56	-36.11	-35.57	-22.83

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250-300 deg	-21.03	-18.32	-15.05	-11.33	-7.27	-2.49
310-360 deg	2.70	7.81	12.77	16.12	19.94	23.48

Source ID: STCK18

Heights [m] (10 to 360 deg)

10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	10.67	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	10.67	10.67	10.67	10.67

Widths [m] (10 to 360 deg)

10-60 deg	142.89	133.47	121.41	105.66	86.69	88.20
70-120 deg	118.52	145.77	168.59	186.29	198.32	205.33
130-180 deg	206.75	201.89	191.10	179.90	169.28	154.17
190-240 deg	142.89	133.47	121.41	105.66	86.69	88.20
250-300 deg	118.52	145.77	168.59	186.29	198.32	205.33
310-360 deg	206.75	201.89	191.10	179.90	169.28	154.17

Lengths [m] (10 to 360 deg)

10-60 deg	186.29	198.32	205.33	206.75	201.89	191.10
70-120 deg	179.90	169.28	154.17	142.89	133.47	121.41
130-180 deg	105.66	86.69	88.20	118.52	145.77	168.59
190-240 deg	186.29	198.32	205.33	206.75	201.89	191.10
250-300 deg	179.90	169.28	154.17	142.89	133.47	121.41
310-360 deg	105.66	86.69	88.20	118.52	145.77	168.59

Along Flow [m] (10 to 360 deg)

10-60 deg	-87.08	-98.20	-107.33	-113.86	-116.93	-116.64
70-120 deg	-114.28	-112.44	-107.82	-108.44	-106.09	-100.51
130-180 deg	-91.88	-80.46	-67.03	-78.94	-88.46	-95.28
190-240 deg	-99.21	-100.12	-97.99	-92.89	-84.96	-74.45
250-300 deg	-65.62	-56.85	-46.35	-34.44	-27.38	-20.90
310-360 deg	-13.77	-6.23	-21.16	-39.58	-57.31	-73.31

Across Flow [m] (10 to 360 deg)

10-60 deg	37.00	39.35	39.81	39.05	37.11	22.94
70-120 deg	19.68	15.57	10.98	6.07	0.96	-4.67
130-180 deg	-10.49	-15.99	-21.10	-24.33	-27.79	-30.74
190-240 deg	-37.00	-39.35	-39.81	-39.05	-37.11	-22.94
250-300 deg	-19.68	-15.57	-10.98	-6.07	-0.96	4.67
310-360 deg	10.49	15.99	21.10	24.33	27.79	30.74

Source Pathway

AERMOD

Emission Rate Units for Output

For Concentration

Unit Factor: 1E6
Emission Unit Label: GRAMS/SEC
Concentration Unit Label: MICROGRAMS/M**3

Source Groups

Source Group ID: YardEqu	List of Sources in Group (Source Range or Single Sources)
	PAREA2
Source Group ID: On-SiteT	List of Sources in Group (Source Range or Single Sources)
	PAREA1
Source Group ID: Off-Site	List of Sources in Group (Source Range or Single Sources)
	SLINE2 SLINE3 SLINE4
Source Group ID: Idling	List of Sources in Group (Source Range or Single Sources)
	STCK1 STCK2 STCK3 STCK4 STCK5 STCK6 STCK7 STCK8 STCK9 STCK10 STCK11 STCK12 STCK13 STCK14 STCK15 STCK16 STCK17 STCK18
Source Group ID: ALL	List of Sources in Group (Source Range or Single Sources)
	All Sources Included

Source Pathway

AERMOD

Variable Emissions

Hourly Emission Rate Variation

Scenario: YardOperation

Source ID:	PAREA2						
1 to 6		0.00	0.00	0.00	0.00	0.00	0.00
7 to 12		0.00	0.00	1.00	1.00	1.00	1.00
13 to 18		1.00	1.00	1.00	0.00	0.00	0.00
19 to 24		0.00	0.00	0.00	0.00	0.00	0.00

Meteorology Pathway

AERMOD

Met Input Data

Surface Met Data

Filename: AZUS_V9_ADJUVAZUS_v9.SFC
Format Type: Default AERMET format

Profile Met Data

Filename: AZUS_V9_ADJUVAZUS_v9.PFL
Format Type: Default AERMET format

Wind Speed



Wind Speeds are Vector Mean (Not Scalar Means)

Wind Direction

Rotation Adjustment [deg]:

Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 182.00 [m]

Meteorological Station Data

Stations	Station No.	Year	X Coordinate [m]	Y Coordinate [m]	Station Name
Surface		2012			Azusa
Upper Air		2012			
On-Site		2012			

Data Period

Data Period to Process

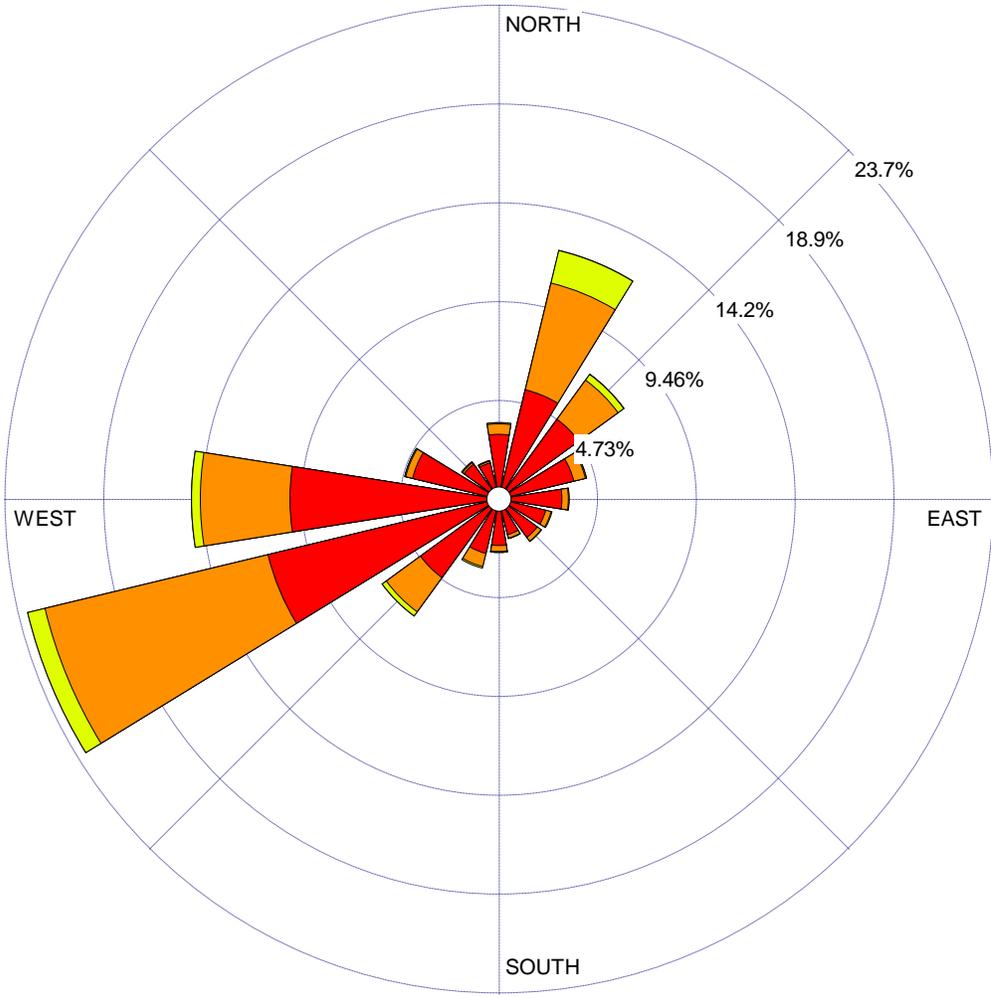
Start Date: 1/1/2012 Start Hour: 1 End Date: 12/31/2016 End Hour: 24

Wind Speed Categories

Stability Category	Wind Speed [m/s]	Stability Category	Wind Speed [m/s]
A	1.54	D	8.23
B	3.09	E	10.8
C	5.14	F	No Upper Bound

WIND ROSE PLOT:
Station #3179

DISPLAY:
Wind Speed
Direction (blowing from)



WIND SPEED (m/s)

- >= 11.10
- 8.80 - 11.10
- 5.70 - 8.80
- 3.60 - 5.70
- 2.10 - 3.60
- 0.40 - 2.10

Calms: 0.17%

COMMENTS:	DATA PERIOD:	COMPANY NAME:	
	Start Date: 1/1/2012 - 00:00 End Date: 12/31/2016 - 23:59	South Coast Air Quality Management District	
	CALM WINDS:	MODELER:	
	0.17%	Melissa Sheffer	
AVG. WIND SPEED:	TOTAL COUNT:	DATE:	PROJECT NO.:
1.70 m/s	42845 hrs.	5/25/2017	

413385.84	3773361.42	73.96495	413397.29	3773361.42	73.28098
413408.74	3773361.42	72.69794	413420.19	3773361.42	72.21399
413431.64	3773361.42	71.72898	413385.84	3773371.49	71.00858
413397.29	3773371.49	70.36684	413408.74	3773371.49	69.76588
413420.19	3773371.49	69.41825	413431.64	3773371.49	68.97805

*** AERMOD - VERSION 21112 *** *** HRA for 4416 Azusa Canyon Road ***
 *** AERMET - VERSION 16216 *** ***

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*** MODELOPTs: RegDFault CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: IDLING ***
 INCLUDING SOURCE(S): STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
 STCK6 , STCK7 , STCK8 , STCK9 , STCK10 , STCK11 , STCK12 , STCK13 ,
 STCK14 , STCK15 , STCK16 , STCK17 , STCK18 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
413385.84	3773381.56	68.09703	413397.29	3773381.56	67.42719
413408.74	3773381.56	66.77191	413420.19	3773381.56	66.43557
413431.64	3773381.56	66.04207	413385.84	3773391.63	64.64487
413397.29	3773391.63	64.13845	413408.74	3773391.63	63.59636
413420.19	3773391.63	63.11132	413431.64	3773391.63	62.57587
413385.84	3773401.70	61.25159	413397.29	3773401.70	60.84755
413408.74	3773401.70	60.39615	413420.19	3773401.70	59.84668
413431.64	3773401.70	59.34490	413416.45	3772548.02	108.96495
413435.76	3772548.02	104.56445	413416.45	3772557.84	112.28909
413435.76	3772557.84	107.92577	413416.45	3772567.66	115.76755
413435.76	3772567.66	111.43558	413416.45	3772577.48	119.44278
413435.76	3772577.48	115.15940	413416.45	3772587.30	123.34436
413435.76	3772587.30	118.93413	413416.45	3772597.12	127.51076
413435.76	3772597.12	122.88363	413416.45	3772606.94	131.87840
413435.76	3772606.94	127.06766	413416.45	3772616.76	136.53459
413435.76	3772616.76	131.73201	413416.45	3772626.58	141.51362
413435.76	3772626.58	136.60248	413416.45	3772636.40	146.81779
413435.76	3772636.40	141.82937	413416.45	3772646.22	152.51064
413435.76	3772646.22	147.36684	413416.45	3772656.04	158.68267
413435.76	3772656.04	153.33212	413416.45	3772665.86	165.29823
413435.76	3772665.86	159.61891	413416.45	3772675.68	172.34913
413435.76	3772675.68	166.56776	413416.45	3772685.50	179.72987
413435.76	3772685.50	173.68541	413416.45	3772695.32	187.53390
413435.76	3772695.32	181.28575	413416.45	3772705.14	196.17341
413435.76	3772705.14	189.48502	413416.45	3772714.96	205.33067
413435.76	3772714.96	197.75810	413416.45	3772724.78	214.76868
413435.76	3772724.78	206.60759	413416.45	3772734.60	225.60968
413435.76	3772734.60	216.53327	413416.45	3772744.42	237.37301
413435.76	3772744.42	227.72583	412985.25	3772512.70	250.42826
413000.04	3772512.70	250.61236	413014.83	3772512.70	250.64174

413029.62	3772512.70	246.74991	413044.41	3772512.70	240.82527		
413059.20	3772512.70	233.56453	413073.99	3772512.70	225.45683		
413088.78	3772512.70	216.92603	413103.57	3772512.70	209.83578		
413118.36	3772512.70	201.02327	412985.25	3772521.02	259.91380		
413000.04	3772521.02	260.31652	413014.83	3772521.02	260.55223		
413029.62	3772521.02	258.36282	413044.41	3772521.02	252.65890		
413059.20	3772521.02	244.93616	413073.99	3772521.02	235.63210		
413088.78	3772521.02	225.92822	413103.57	3772521.02	218.64205		
413118.36	3772521.02	208.93812	412985.25	3772529.34	270.96251		
413000.04	3772529.34	272.15950	413014.83	3772529.34	270.82685		
*** AERMOD - VERSION 21112 ***		*** HRA for 4416 Azusa Canyon Road				***	08/09/21
*** AERMET - VERSION 16216 ***		***				***	09:06:47
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*** MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: IDLING ***
 INCLUDING SOURCE(S): STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
 STCK6 , STCK7 , STCK8 , STCK9 , STCK10 , STCK11 , STCK12 , STCK13 ,
 STCK14 , STCK15 , STCK16 , STCK17 , STCK18 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
413029.62	3772529.34	269.11599	413044.41	3772529.34	262.75838
413059.20	3772529.34	254.71514	413073.99	3772529.34	245.58909
413088.78	3772529.34	235.69604	413103.57	3772529.34	227.29647
413118.36	3772529.34	217.37763	412723.75	3772703.89	161.35927
412733.75	3772703.89	167.90059	412743.75	3772703.89	172.36938
412723.75	3772713.89	163.69601	412733.75	3772713.89	170.49379
412743.75	3772713.89	176.00254	412753.75	3772713.89	181.44901
412723.75	3772723.89	166.09605	412733.75	3772723.89	172.67530
412743.75	3772723.89	179.23169	412753.75	3772723.89	185.56467
412763.75	3772723.89	192.22839	412723.75	3772733.89	168.65603
412733.75	3772733.89	175.76580	412743.75	3772733.89	183.01914
412753.75	3772733.89	189.95079	412763.75	3772733.89	196.73924
412773.75	3772733.89	203.87514	412723.75	3772743.89	170.74918
412733.75	3772743.89	178.09296	412743.75	3772743.89	185.66180
412753.75	3772743.89	194.15106	412763.75	3772743.89	201.71561
412773.75	3772743.89	208.67481	412783.75	3772743.89	216.68541
412723.75	3772753.89	172.84592	412733.75	3772753.89	180.25599
412743.75	3772753.89	187.87427	412753.75	3772753.89	195.63466
412763.75	3772753.89	204.42395	412773.75	3772753.89	213.08897
412783.75	3772753.89	221.18652	412793.75	3772753.89	228.57035
412723.75	3772763.89	175.10480	412733.75	3772763.89	181.90019
412743.75	3772763.89	189.99908	412753.75	3772763.89	198.33845
412763.75	3772763.89	205.72967	412773.75	3772763.89	215.25485
412783.75	3772763.89	225.13723	412793.75	3772763.89	233.95787
412723.75	3772773.89	176.36055	412733.75	3772773.89	184.03488

412743.75	3772773.89	191.87139	412753.75	3772773.89	199.73938
412763.75	3772773.89	208.22198	412773.75	3772773.89	217.56332
412783.75	3772773.89	227.02250	412793.75	3772773.89	237.09399
412803.75	3772773.89	247.20286	412813.75	3772773.89	256.40264
412723.75	3772783.89	177.27403	412733.75	3772783.89	185.36045
412743.75	3772783.89	193.29256	412753.75	3772783.89	201.17471
412763.75	3772783.89	209.97563	412773.75	3772783.89	219.20109
412783.75	3772783.89	228.69100	412793.75	3772783.89	238.67720
412803.75	3772783.89	249.49416	412813.75	3772783.89	260.12156
412723.75	3772793.89	179.02282	412733.75	3772793.89	186.93328
412743.75	3772793.89	194.70844	412753.75	3772793.89	203.23707
412763.75	3772793.89	212.11733	412773.75	3772793.89	220.67432
412783.75	3772793.89	230.42445	412793.75	3772793.89	240.72875
412803.75	3772793.89	251.40642	412813.75	3772793.89	262.55952
412713.75	3772803.89	172.50831	412723.75	3772803.89	180.13047

*** AERMOD - VERSION 21112 *** *** HRA for 4416 Azusa Canyon Road
 *** AERMET - VERSION 16216 *** ***

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 *** 09:06:47
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: IDLING ***
 INCLUDING SOURCE(S): STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
 STCK6 , STCK7 , STCK8 , STCK9 , STCK10 , STCK11 , STCK12 , STCK13 ,
 STCK14 , STCK15 , STCK16 , STCK17 , STCK18 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
412733.75	3772803.89	187.92561	412743.75	3772803.89	196.19203
412753.75	3772803.89	204.68553	412763.75	3772803.89	213.31804
412773.75	3772803.89	222.96989	412783.75	3772803.89	232.89718
412793.75	3772803.89	243.68232	412803.75	3772803.89	253.97242
412813.75	3772803.89	265.35571	412713.75	3772813.89	172.88715
412723.75	3772813.89	180.28458	412733.75	3772813.89	187.96528
412743.75	3772813.89	196.28399	412753.75	3772813.89	204.88942
412763.75	3772813.89	214.19261	412773.75	3772813.89	223.74523
412783.75	3772813.89	233.52382	412793.75	3772813.89	244.27597
412803.75	3772813.89	255.45773	412813.75	3772813.89	267.24134
413337.74	3772505.92	115.27331	413366.05	3772505.76	107.82136
413390.43	3772506.36	102.26067	413426.03	3772501.18	93.30421
413255.11	3773190.00	177.62946 MEIR	412845.65	3772517.02	174.97515
412860.44	3772517.02	185.03040	412875.23	3772517.02	196.28430
412890.02	3772517.02	206.70593	412904.81	3772517.02	217.15447
412919.60	3772517.02	227.67992	412934.39	3772517.02	237.01469
412949.18	3772517.02	243.95195	412963.97	3772517.02	249.86251
412978.76	3772517.02	254.56358	412845.65	3772525.34	178.92567
412860.44	3772525.34	189.91181	412875.23	3772525.34	200.20744
412890.02	3772525.34	212.21650	412904.81	3772525.34	222.95444
412919.60	3772525.34	234.10821	412934.39	3772525.34	245.15105
412949.18	3772525.34	253.34005	412963.97	3772525.34	259.33304
412978.76	3772525.34	263.58924	412845.65	3772533.66	182.92959
412860.44	3772533.66	193.67402	412875.23	3772533.66	205.54084
412890.02	3772533.66	217.69950	412904.81	3772533.66	229.55727
412919.60	3772533.66	240.64042	412934.39	3772533.66	253.06762
412949.18	3772533.66	262.06652	412963.97	3772533.66	269.65247
412978.76	3772533.66	274.59134	413242.12	3772517.03	150.22902
413259.93	3772516.53	144.26174	413279.23	3772515.44	137.21295
413310.78	3772511.61	125.44517	413297.64	3772512.87	130.16063
413227.57	3772517.61	155.90987 Student MER			

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 *** AERMET - VERSION 16216 ***

*** HRA for 4416 Azusa Canyon Road

*** 08/09/21
 *** 09:06:47
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ON-SITET ***
 INCLUDING SOURCE(S): PAREAL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
413385.84	3773220.44	5.32848	413397.29	3773220.44	5.41978
413408.74	3773220.44	5.49866	413420.19	3773220.44	5.56494
413431.64	3773220.44	5.61930	413385.84	3773230.51	4.97015
413397.29	3773230.51	5.06305	413408.74	3773230.51	5.14517
413420.19	3773230.51	5.21571	413431.64	3773230.51	5.27565
413385.84	3773240.58	4.64098	413397.29	3773240.58	4.73429
413408.74	3773240.58	4.81767	413420.19	3773240.58	4.89117
413431.64	3773240.58	4.95475	413385.84	3773250.65	4.33793
413397.29	3773250.65	4.43023	413408.74	3773250.65	4.51431
413420.19	3773250.65	4.58906	413431.64	3773250.65	4.65544
413385.84	3773260.72	4.05864	413397.29	3773260.72	4.14947
413408.74	3773260.72	4.23284	413420.19	3773260.72	4.30835
413431.64	3773260.72	4.37617	413385.84	3773270.79	3.80122
413397.29	3773270.79	3.88986	413408.74	3773270.79	3.97215
413420.19	3773270.79	4.04725	413431.64	3773270.79	4.11575
413385.84	3773280.86	3.56407	413397.29	3773280.86	3.65004
413408.74	3773280.86	3.73061	413420.19	3773280.86	3.80475
413431.64	3773280.86	3.87311	413385.84	3773290.93	3.34560
413397.29	3773290.93	3.42854	413408.74	3773290.93	3.50684
413420.19	3773290.93	3.57967	413431.64	3773290.93	3.64735
413385.84	3773301.00	3.14423	413397.29	3773301.00	3.22375
413408.74	3773301.00	3.29940	413420.19	3773301.00	3.37057
413431.64	3773301.00	3.43742	413385.84	3773311.07	2.95827
413397.29	3773311.07	3.03426	413408.74	3773311.07	3.10725
413420.19	3773311.07	3.17642	413431.64	3773311.07	3.24193
413385.84	3773321.14	2.78653	413397.29	3773321.14	2.85903
413408.74	3773321.14	2.92905	413420.19	3773321.14	2.99612
413431.64	3773321.14	3.06001	413385.84	3773331.21	2.62747
413397.29	3773331.21	2.69646	413408.74	3773331.21	2.76360
413420.19	3773331.21	2.82851	413431.64	3773331.21	2.89060
413385.84	3773341.28	2.48027	413397.29	3773341.28	2.54595
413408.74	3773341.28	2.61010	413420.19	3773341.28	2.67264
413431.64	3773341.28	2.73302	413385.84	3773351.35	2.34428
413397.29	3773351.35	2.40661	413408.74	3773351.35	2.46789
413420.19	3773351.35	2.52793	413431.64	3773351.35	2.58619
413385.84	3773361.42	2.21868	413397.29	3773361.42	2.27761
413408.74	3773361.42	2.33586	413420.19	3773361.42	2.39321

413000.04	3772521.02	10.85474	413014.83	3772521.02	10.90507
413029.62	3772521.02	10.90799	413044.41	3772521.02	10.85135
413059.20	3772521.02	10.73257	413073.99	3772521.02	10.55529
413088.78	3772521.02	10.32083	413103.57	3772521.02	10.03404
413118.36	3772521.02	9.69823	412985.25	3772529.34	11.13321
413000.04	3772529.34	11.25374	413014.83	3772529.34	11.31996

*** AERMOD - VERSION 21112 *** *** HRA for 4416 Azusa Canyon Road *** 08/09/21
 *** AERMET - VERSION 16216 *** *** *** 09:06:47
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*** MODELOPTs: RegDFault CONC ELEV URBAN ADJ_U*

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

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
413029.62	3772529.34	11.33350	413044.41	3772529.34	11.28407
413059.20	3772529.34	11.16850	413073.99	3772529.34	10.98951
413088.78	3772529.34	10.74799	413103.57	3772529.34	10.44867
413118.36	3772529.34	10.09635	412723.75	3772703.89	6.07046
412733.75	3772703.89	6.34976	412743.75	3772703.89	6.62799
412723.75	3772713.89	6.02690	412733.75	3772713.89	6.30771
412743.75	3772713.89	6.59299	412753.75	3772713.89	6.89317
412723.75	3772723.89	5.97544	412733.75	3772723.89	6.25576
412743.75	3772723.89	6.54703	412753.75	3772723.89	6.85743
412763.75	3772723.89	7.18806	412723.75	3772733.89	5.91757
412733.75	3772733.89	6.19645	412743.75	3772733.89	6.49235
412753.75	3772733.89	6.80994	412763.75	3772733.89	7.14867
412773.75	3772733.89	7.50842	412723.75	3772743.89	5.85422
412733.75	3772743.89	6.13127	412743.75	3772743.89	6.42777
412753.75	3772743.89	6.74683	412763.75	3772743.89	7.08782
412773.75	3772743.89	7.45123	412783.75	3772743.89	7.84257
412723.75	3772753.89	5.78620	412733.75	3772753.89	6.06039
412743.75	3772753.89	6.35418	412753.75	3772753.89	6.67019
412763.75	3772753.89	7.00901	412773.75	3772753.89	7.37357
412783.75	3772753.89	7.76680	412793.75	3772753.89	8.17662
412723.75	3772763.89	5.71248	412733.75	3772763.89	5.98323
412743.75	3772763.89	6.27325	412753.75	3772763.89	6.58517
412763.75	3772763.89	6.92133	412773.75	3772763.89	7.28493
412783.75	3772763.89	7.67761	412793.75	3772763.89	8.09629
412723.75	3772773.89	5.63232	412733.75	3772773.89	5.89914
412743.75	3772773.89	6.18493	412753.75	3772773.89	6.49243
412763.75	3772773.89	6.82442	412773.75	3772773.89	7.18438
412783.75	3772773.89	7.57396	412793.75	3772773.89	7.99410
412803.75	3772773.89	8.44913	412813.75	3772773.89	8.93549
412723.75	3772783.89	5.54610	412733.75	3772783.89	5.80844
412743.75	3772783.89	6.08963	412753.75	3772783.89	6.39197

412763.75	3772783.89	6.71883	412773.75	3772783.89	7.07295
412783.75	3772783.89	7.45675	412793.75	3772783.89	7.87242
412803.75	3772783.89	8.32413	412813.75	3772783.89	8.81062
412723.75	3772793.89	5.45588	412733.75	3772793.89	5.71302
412743.75	3772793.89	5.98871	412753.75	3772793.89	6.28554
412763.75	3772793.89	6.60630	412773.75	3772793.89	6.95354
412783.75	3772793.89	7.33013	412793.75	3772793.89	7.73960
412803.75	3772793.89	8.18580	412813.75	3772793.89	8.66925
412713.75	3772803.89	5.12647	412723.75	3772803.89	5.36067

413000.04	3772521.02	0.11258	413014.83	3772521.02	0.11295
413029.62	3772521.02	0.11267	413044.41	3772521.02	0.11175
413059.20	3772521.02	0.11023	413073.99	3772521.02	0.10814
413088.78	3772521.02	0.10556	413103.57	3772521.02	0.10258
413118.36	3772521.02	0.09932	412985.25	3772529.34	0.11717
413000.04	3772529.34	0.11838	413014.83	3772529.34	0.11895

*** AERMOD - VERSION 21112 *** *** HRA for 4416 Azusa Canyon Road *** 08/09/21
 *** AERMET - VERSION 16216 *** *** *** 09:06:47
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*** MODELOPTs: RegDFault CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: YARDEQU ***
 INCLUDING SOURCE(S): PAREA2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
413029.62	3772529.34	0.11883	413044.41	3772529.34	0.11800
413059.20	3772529.34	0.11651	413073.99	3772529.34	0.11438
413088.78	3772529.34	0.11171	413103.57	3772529.34	0.10860
413118.36	3772529.34	0.10516	412723.75	3772703.89	0.09442
412733.75	3772703.89	0.09875	412743.75	3772703.89	0.10343
412723.75	3772713.89	0.09700	412733.75	3772713.89	0.10151
412743.75	3772713.89	0.10640	412753.75	3772713.89	0.11163
412723.75	3772723.89	0.09964	412733.75	3772723.89	0.10436
412743.75	3772723.89	0.10945	412753.75	3772723.89	0.11490
412763.75	3772723.89	0.12076	412723.75	3772733.89	0.10236
412733.75	3772733.89	0.10729	412743.75	3772733.89	0.11259
412753.75	3772733.89	0.11827	412763.75	3772733.89	0.12438
412773.75	3772733.89	0.13098	412723.75	3772743.89	0.10514
412733.75	3772743.89	0.11028	412743.75	3772743.89	0.11580
412753.75	3772743.89	0.12173	412763.75	3772743.89	0.12813
412773.75	3772743.89	0.13504	412783.75	3772743.89	0.14249
412723.75	3772753.89	0.10797	412733.75	3772753.89	0.11333
412743.75	3772753.89	0.11910	412753.75	3772753.89	0.12531
412763.75	3772753.89	0.13201	412773.75	3772753.89	0.13925
412783.75	3772753.89	0.14707	412793.75	3772753.89	0.15559
412723.75	3772763.89	0.11084	412733.75	3772763.89	0.11644
412743.75	3772763.89	0.12246	412753.75	3772763.89	0.12896
412763.75	3772763.89	0.13598	412773.75	3772763.89	0.14355
412783.75	3772763.89	0.15174	412793.75	3772763.89	0.16068
412723.75	3772773.89	0.11377	412733.75	3772773.89	0.11960
412743.75	3772773.89	0.12589	412753.75	3772773.89	0.13268
412763.75	3772773.89	0.14001	412773.75	3772773.89	0.14793
412783.75	3772773.89	0.15654	412793.75	3772773.89	0.16588
412803.75	3772773.89	0.17607	412813.75	3772773.89	0.18722
412723.75	3772783.89	0.11673	412733.75	3772783.89	0.12280
412743.75	3772783.89	0.12937	412753.75	3772783.89	0.13645

412763.75	3772783.89	0.14411	412773.75	3772783.89	0.15242
412783.75	3772783.89	0.16142	412793.75	3772783.89	0.17122
412803.75	3772783.89	0.18192	412813.75	3772783.89	0.19364
412723.75	3772793.89	0.11971	412733.75	3772793.89	0.12603
412743.75	3772793.89	0.13286	412753.75	3772793.89	0.14025
412763.75	3772793.89	0.14825	412773.75	3772793.89	0.15692
412783.75	3772793.89	0.16635	412793.75	3772793.89	0.17663
412803.75	3772793.89	0.18784	412813.75	3772793.89	0.20015
412713.75	3772803.89	0.11663	412723.75	3772803.89	0.12271

*** AERMOD - VERSION 21112 *** *** HRA for 4416 Azusa Canyon Road
 *** AERMET - VERSION 16216 *** ***

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: YARDEQU ***
 INCLUDING SOURCE(S): PAREA2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC		X-COORD (M)	Y-COORD (M)	CONC
412733.75	3772803.89	0.12927		412743.75	3772803.89	0.13637
412753.75	3772803.89	0.14407		412763.75	3772803.89	0.15241
412773.75	3772803.89	0.16147		412783.75	3772803.89	0.17133
412793.75	3772803.89	0.18207		412803.75	3772803.89	0.19383
412813.75	3772803.89	0.20673		412713.75	3772813.89	0.11940
412723.75	3772813.89	0.12571		412733.75	3772813.89	0.13252
412743.75	3772813.89	0.13990		412753.75	3772813.89	0.14790
412763.75	3772813.89	0.15658		412773.75	3772813.89	0.16602
412783.75	3772813.89	0.17631		412793.75	3772813.89	0.18755
412803.75	3772813.89	0.19986		412813.75	3772813.89	0.21338
413337.74	3772505.92	0.06746		413366.05	3772505.76	0.06811
413390.43	3772506.36	0.06919		413426.03	3772501.18	0.06773
413255.11	3773190.00	0.75467	MEIR	412845.65	3772517.02	0.08319
412860.44	3772517.02	0.08662		412875.23	3772517.02	0.09002
412890.02	3772517.02	0.09336		412904.81	3772517.02	0.09657
412919.60	3772517.02	0.09960		412934.39	3772517.02	0.10237
412949.18	3772517.02	0.10482		412963.97	3772517.02	0.10689
412978.76	3772517.02	0.10851		412845.65	3772525.34	0.08586
412860.44	3772525.34	0.08955		412875.23	3772525.34	0.09322
412890.02	3772525.34	0.09684		412904.81	3772525.34	0.10035
412919.60	3772525.34	0.10369		412934.39	3772525.34	0.10677
412949.18	3772525.34	0.10953		412963.97	3772525.34	0.11190
412978.76	3772525.34	0.11379		412845.65	3772533.66	0.08864
412860.44	3772533.66	0.09260		412875.23	3772533.66	0.09656
412890.02	3772533.66	0.10048		412904.81	3772533.66	0.10432
412919.60	3772533.66	0.10798		412934.39	3772533.66	0.11141
412949.18	3772533.66	0.11452		412963.97	3772533.66	0.11720
412978.76	3772533.66	0.11941		413242.12	3772517.03	0.07471
413259.93	3772516.53	0.07327		413279.23	3772515.44	0.07199
413310.78	3772511.61	0.06985		413297.64	3772512.87	0.07045
413227.57	3772517.61	0.07640	Student MER			

*** AERMOD - VERSION 21112 *** *** HRA for 4416 Azusa Canyon Road
 *** AERMET - VERSION 16216 *** ***

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: OFF-SITE ***
 INCLUDING SOURCE(S): L0001199 , L0001200 , L0001201 , L0001202 , L0001203 ,
 L0001204 , L0001205 , L0001206 , L0001207 , L0001208 , L0001209 , L0001210 , L0001211 ,
 L0001212 , L0001213 , L0001214 , L0001215 , L0001216 , L0001217 , L0001218 , L0001219 ,
 L0001220 , L0001221 , L0001222 , L0001223 , L0001224 , L0001225 , L0001226 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
413385.84	3773220.44	3.86038	413397.29	3773220.44	3.76406
413408.74	3773220.44	3.67266	413420.19	3773220.44	3.58393
413431.64	3773220.44	3.49790	413385.84	3773230.51	3.76370
413397.29	3773230.51	3.67494	413408.74	3773230.51	3.59092
413420.19	3773230.51	3.50664	413431.64	3773230.51	3.42227
413385.84	3773240.58	3.67221	413397.29	3773240.58	3.58808
413408.74	3773240.58	3.50849	413420.19	3773240.58	3.42823
413431.64	3773240.58	3.35022	413385.84	3773250.65	3.58300
413397.29	3773250.65	3.50312	413408.74	3773250.65	3.42519
413420.19	3773250.65	3.34903	413431.64	3773250.65	3.27492
413385.84	3773260.72	3.49596	413397.29	3773260.72	3.42019
413408.74	3773260.72	3.34609	413420.19	3773260.72	3.27354
413431.64	3773260.72	3.20289	413385.84	3773270.79	3.41110
413397.29	3773270.79	3.33922	413408.74	3773270.79	3.26882
413420.19	3773270.79	3.19958	413431.64	3773270.79	3.13215
413385.84	3773280.86	3.32988	413397.29	3773280.86	3.26031
413408.74	3773280.86	3.19334	413420.19	3773280.86	3.12726
413431.64	3773280.86	3.06475	413385.84	3773290.93	3.24945
413397.29	3773290.93	3.18347	413408.74	3773290.93	3.11973
413420.19	3773290.93	3.05829	413431.64	3773290.93	2.99821
413385.84	3773301.00	3.17141	413397.29	3773301.00	3.10980
413408.74	3773301.00	3.04916	413420.19	3773301.00	2.99018
413431.64	3773301.00	2.93317	413385.84	3773311.07	3.09574
413397.29	3773311.07	3.03682	413408.74	3773311.07	2.97959
413420.19	3773311.07	2.92276	413431.64	3773311.07	2.86825
413385.84	3773321.14	3.02169	413397.29	3773321.14	2.96588
413408.74	3773321.14	2.91160	413420.19	3773321.14	2.85777
413431.64	3773321.14	2.80501	413385.84	3773331.21	2.94911
413397.29	3773331.21	2.89626	413408.74	3773331.21	2.84442
413420.19	3773331.21	2.79348	413431.64	3773331.21	2.74338
413385.84	3773341.28	2.87473	413397.29	3773341.28	2.82483
413408.74	3773341.28	2.77572	413420.19	3773341.28	2.72781
413431.64	3773341.28	2.68065	413385.84	3773351.35	2.80606
413397.29	3773351.35	2.75864	413408.74	3773351.35	2.71214

413420.19	3773351.35	2.66682	413431.64	3773351.35	2.62215
413385.84	3773361.42	2.74031	413397.29	3773361.42	2.69506
413408.74	3773361.42	2.65056	413420.19	3773361.42	2.60752
413431.64	3773361.42	2.56504	413385.84	3773371.49	2.67660
413397.29	3773371.49	2.63327	413408.74	3773371.49	2.59087
413420.19	3773371.49	2.54987	413431.64	3773371.49	2.50948

*** AERMOD - VERSION 21112 *** *** HRA for 4416 Azusa Canyon Road ***
 *** AERMET - VERSION 16216 *** ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: OFF-SITE ***

INCLUDING SOURCE(S): L0001199 , L0001200 , L0001201 , L0001202 , L0001203 ,

L0001204 , L0001205 , L0001206 , L0001207 , L0001208 , L0001209 , L0001210 , L0001211 ,

L0001212 , L0001213 , L0001214 , L0001215 , L0001216 , L0001217 , L0001218 , L0001219 ,

L0001220 , L0001221 , L0001222 , L0001223 , L0001224 , L0001225 , L0001226 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
413385.84	3773381.56	2.60937	413397.29	3773381.56	2.56227
413408.74	3773381.56	2.51947	413420.19	3773381.56	2.49115
413431.64	3773381.56	2.45456	413385.84	3773391.63	2.52054
413397.29	3773391.63	2.47986	413408.74	3773391.63	2.44145
413420.19	3773391.63	2.41120	413431.64	3773391.63	2.37608
413385.84	3773401.70	2.41847	413397.29	3773401.70	2.38524
413408.74	3773401.70	2.35218	413420.19	3773401.70	2.31934
413431.64	3773401.70	2.28701	413416.45	3772548.02	4.05636
413435.76	3772548.02	3.84284	413416.45	3772557.84	4.13043
413435.76	3772557.84	3.90916	413416.45	3772567.66	4.20498
413435.76	3772567.66	3.97578	413416.45	3772577.48	4.27993
413435.76	3772577.48	4.04260	413416.45	3772587.30	4.35516
413435.76	3772587.30	4.10957	413416.45	3772597.12	4.43053
413435.76	3772597.12	4.17658	413416.45	3772606.94	4.50594
413435.76	3772606.94	4.24353	413416.45	3772616.76	4.58123
413435.76	3772616.76	4.31028	413416.45	3772626.58	4.65625
413435.76	3772626.58	4.37669	413416.45	3772636.40	4.73083
413435.76	3772636.40	4.44259	413416.45	3772646.22	4.80479
413435.76	3772646.22	4.50788	413416.45	3772656.04	4.87791
413435.76	3772656.04	4.57243	413416.45	3772665.86	4.95008
413435.76	3772665.86	4.63603	413416.45	3772675.68	5.02109
413435.76	3772675.68	4.69851	413416.45	3772685.50	5.09075
413435.76	3772685.50	4.75972	413416.45	3772695.32	5.15879
413435.76	3772695.32	4.81948	413416.45	3772705.14	5.22497
413435.76	3772705.14	4.87767	413416.45	3772714.96	5.28906
413435.76	3772714.96	4.93415	413416.45	3772724.78	5.35083
413435.76	3772724.78	4.98851	413416.45	3772734.60	5.41001
413435.76	3772734.60	5.04051	413416.45	3772744.42	5.46619

412763.75	3772763.89	25.73743	412773.75	3772763.89	28.61343
412783.75	3772763.89	31.61586	412793.75	3772763.89	34.52547
412723.75	3772773.89	17.77897	412733.75	3772773.89	19.80247
412743.75	3772773.89	22.24348	412753.75	3772773.89	25.16808
412763.75	3772773.89	28.61546	412773.75	3772773.89	32.51994
412783.75	3772773.89	36.66733	412793.75	3772773.89	40.71142
412803.75	3772773.89	44.36975	412813.75	3772773.89	47.40258
412723.75	3772783.89	18.52600	412733.75	3772783.89	20.87049
412743.75	3772783.89	23.82044	412753.75	3772783.89	27.55275
412763.75	3772783.89	32.23862	412773.75	3772783.89	37.88394
412783.75	3772783.89	44.08545	412793.75	3772783.89	50.06086
412803.75	3772783.89	55.17658	412813.75	3772783.89	59.16059
412723.75	3772793.89	19.18999	412733.75	3772793.89	21.86679
412743.75	3772793.89	25.39580	412753.75	3772793.89	30.17664
412763.75	3772793.89	36.76299	412773.75	3772793.89	45.63416
412783.75	3772793.89	56.16573	412793.75	3772793.89	65.92014
412803.75	3772793.89	73.39755	412813.75	3772793.89	78.90240
412713.75	3772803.89	17.44805	412723.75	3772803.89	19.71453

*** AERMOD - VERSION 21112 *** *** HRA for 4416 Azusa Canyon Road
 *** AERMET - VERSION 16216 *** ***

*** 08/09/21
 *** 09:06:47
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: OFF-SITE ***
 INCLUDING SOURCE(S): L0001199 , L0001200 , L0001201 , L0001202 , L0001203 ,
 L0001204 , L0001205 , L0001206 , L0001207 , L0001208 , L0001209 , L0001210 , L0001211 ,
 L0001212 , L0001213 , L0001214 , L0001215 , L0001216 , L0001217 , L0001218 , L0001219 ,
 L0001220 , L0001221 , L0001222 , L0001223 , L0001224 , L0001225 , L0001226 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC		X-COORD (M)	Y-COORD (M)	CONC
412733.75	3772803.89	22.68619		412743.75	3772803.89	26.77382
412753.75	3772803.89	32.71638		412763.75	3772803.89	41.94892
412773.75	3772803.89	56.96518		412783.75	3772803.89	44.49720
412793.75	3772803.89	60.64838		412803.75	3772803.89	72.82443
412813.75	3772803.89	80.37019		412713.75	3772813.89	17.65383
412723.75	3772813.89	20.02268		412733.75	3772813.89	23.18165
412743.75	3772813.89	27.64125		412753.75	3772813.89	34.46187
412763.75	3772813.89	46.18782		412773.75	3772813.89	36.49938
412783.75	3772813.89	49.55192		412793.75	3772813.89	38.83711
412803.75	3772813.89	53.47494		412813.75	3772813.89	61.84636
413337.74	3772505.92	4.63738		413366.05	3772505.76	4.28506
413390.43	3772506.36	4.01649		413426.03	3772501.18	3.62243
413255.11	3773190.00	5.78080	MEIR	412845.65	3772517.02	9.13822
412860.44	3772517.02	9.51698		412875.23	3772517.02	9.91220
412890.02	3772517.02	10.31521		412904.81	3772517.02	10.71951
412919.60	3772517.02	11.12201		412934.39	3772517.02	11.51058
412949.18	3772517.02	11.86049		412963.97	3772517.02	12.15024
412978.76	3772517.02	12.35722		412845.65	3772525.34	9.51808
412860.44	3772525.34	9.93551		412875.23	3772525.34	10.37420
412890.02	3772525.34	10.82689		412904.81	3772525.34	11.28771
412919.60	3772525.34	11.75444		412934.39	3772525.34	12.21325
412949.18	3772525.34	12.63646		412963.97	3772525.34	12.99652
412978.76	3772525.34	13.25970		412845.65	3772533.66	9.91744
412860.44	3772533.66	10.37723		412875.23	3772533.66	10.86358
412890.02	3772533.66	11.37276		412904.81	3772533.66	11.90002
412919.60	3772533.66	12.44302		412934.39	3772533.66	12.98779
412949.18	3772533.66	13.50389		412963.97	3772533.66	13.95631
412978.76	3772533.66	14.29668		413242.12	3772517.03	6.37309
413259.93	3772516.53	6.01533		413279.23	3772515.44	5.64811
413310.78	3772511.61	5.08394		413297.64	3772512.87	5.30359
413227.57	3772517.61	6.69073	Student MER			

*** AERMOD - VERSION 21112 *** HRA for 4416 Azusa Canyon Road
 *** AERMET - VERSION 16216 ***

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*** MODELOPTs: RegDFault CONC ELEV URBAN ADJ_U*

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

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

GROUP ID	AVERAGE CONC			RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
IDLING	1ST HIGHEST VALUE IS	274.59134	AT (	412978.76,	3772533.66,	124.08,	124.08,	0.00)	DC
	2ND HIGHEST VALUE IS	272.15950	AT (	413000.04,	3772529.34,	124.08,	124.08,	0.00)	DC
	3RD HIGHEST VALUE IS	270.96251	AT (	412985.25,	3772529.34,	124.03,	124.03,	0.00)	DC
	4TH HIGHEST VALUE IS	270.82685	AT (	413014.83,	3772529.34,	124.12,	124.12,	0.00)	DC
	5TH HIGHEST VALUE IS	269.65247	AT (	412963.97,	3772533.66,	124.02,	124.02,	0.00)	DC
	6TH HIGHEST VALUE IS	269.11599	AT (	413029.62,	3772529.34,	124.29,	124.29,	0.00)	DC
	7TH HIGHEST VALUE IS	267.24134	AT (	412813.75,	3772813.89,	126.56,	126.56,	0.00)	DC
	8TH HIGHEST VALUE IS	265.35571	AT (	412813.75,	3772803.89,	126.72,	126.72,	0.00)	DC
	9TH HIGHEST VALUE IS	263.58924	AT (	412978.76,	3772525.34,	123.94,	123.94,	0.00)	DC
	10TH HIGHEST VALUE IS	262.75838	AT (	413044.41,	3772529.34,	124.43,	124.43,	0.00)	DC
ON-SITET	1ST HIGHEST VALUE IS	11.77791	AT (	413416.45,	3772744.42,	127.77,	127.77,	0.00)	DC
	2ND HIGHEST VALUE IS	11.33350	AT (	413029.62,	3772529.34,	124.29,	124.29,	0.00)	DC
	3RD HIGHEST VALUE IS	11.31996	AT (	413014.83,	3772529.34,	124.12,	124.12,	0.00)	DC
	4TH HIGHEST VALUE IS	11.28407	AT (	413044.41,	3772529.34,	124.43,	124.43,	0.00)	DC
	5TH HIGHEST VALUE IS	11.26371	AT (	412978.76,	3772533.66,	124.08,	124.08,	0.00)	DC
	6TH HIGHEST VALUE IS	11.25374	AT (	413000.04,	3772529.34,	124.08,	124.08,	0.00)	DC
	7TH HIGHEST VALUE IS	11.16850	AT (	413059.20,	3772529.34,	124.51,	124.51,	0.00)	DC
	8TH HIGHEST VALUE IS	11.13321	AT (	412985.25,	3772529.34,	124.03,	124.03,	0.00)	DC
	9TH HIGHEST VALUE IS	11.06237	AT (	412963.97,	3772533.66,	124.02,	124.02,	0.00)	DC
	10TH HIGHEST VALUE IS	11.05950	AT (	413435.76,	3772744.42,	127.80,	127.80,	0.00)	DC
MER Location										
YARDEQU	1ST HIGHEST VALUE IS	0.75467	AT (	413255.11,	3773190.00,	130.13,	130.13,	0.00)	DC
	2ND HIGHEST VALUE IS	0.68788	AT (	413416.45,	3772744.42,	127.77,	127.77,	0.00)	DC
	3RD HIGHEST VALUE IS	0.63752	AT (	413435.76,	3772744.42,	127.80,	127.80,	0.00)	DC
	4TH HIGHEST VALUE IS	0.62108	AT (	413416.45,	3772734.60,	127.57,	127.57,	0.00)	DC
	5TH HIGHEST VALUE IS	0.60369	AT (	413385.84,	3773220.44,	131.05,	131.05,	0.00)	DC
	6TH HIGHEST VALUE IS	0.59862	AT (	413397.29,	3773220.44,	130.99,	130.99,	0.00)	DC
	7TH HIGHEST VALUE IS	0.59247	AT (	413408.74,	3773220.44,	130.95,	130.95,	0.00)	DC
	8TH HIGHEST VALUE IS	0.58529	AT (	413420.19,	3773220.44,	130.94,	130.94,	0.00)	DC
	9TH HIGHEST VALUE IS	0.57967	AT (	413435.76,	3772734.60,	127.55,	127.55,	0.00)	DC
	10TH HIGHEST VALUE IS	0.57730	AT (	413431.64,	3773220.44,	130.94,	130.94,	0.00)	DC
OFF-SITE	1ST HIGHEST VALUE IS	80.37019	AT (	412813.75,	3772803.89,	126.72,	126.72,	0.00)	DC
	2ND HIGHEST VALUE IS	78.90240	AT (	412813.75,	3772793.89,	126.47,	126.47,	0.00)	DC
	3RD HIGHEST VALUE IS	73.39755	AT (412803.75,	3772793.89,	126.64,	126.64,	0.00)	DC	

Appendix C. HARP2 Risk Calculations

Appendix

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Table C1
MER Concentration Worksheet
Input into HARP2

Source No.	Source	Contaminant	Weight Fraction	Emission Rates ¹ Annual Avg	AERMOD Output ² Annual Avg	Annual Average MER Concentration
(a)	(b)	(c)	(d)	(g/s) (e)	($\mu\text{g}/\text{m}^3$) (f)	($\mu\text{g}/\text{m}^3$) (g)
Residential MER						
1	Trucks (on-site running)	DPM	1.0E+00	3.64E-06	4.650	1.69E-05
2	Trucks (off-site running)	DPM	1.0E+00	4.03E-06	5.780	2.33E-05
3	Truck Idling	DPM	1.0E+00	6.50E-07	177.6	1.15E-04
4	Yard Emissions	DPM	1.0E+00	1.89E-03	0.755	1.42E-03
Note: Maximum Exposed Receptor (MER) UTM: 413255.11, 3773190.0						For Cancer/Chronic Calculation

¹ Emission Rates, per source, from Source Emissions Inventories (Appendix A).

² AERMOD Output (Appendix B) at the maximum exposed receptor (MER) are based on unit emission rates for emission sources (1 g/s per source).

*HARP - HRACalc v21081 8/10/2021 9:31:14 AM - Cancer Risk - Input File: C:\!HarpOutput\IRW03\30yrResHRAIn

INDEX	POLID	POLABBREV	CONC	RISK_SUM	SCENARIO
1	9901	DieselExhPM	1.69E-05	1.46E-08	30YrCancerDerived_InhSoilDermMMilk_FAH16to70
2	9901	DieselExhPM	2.33E-05	2.02E-08	30YrCancerDerived_InhSoilDermMMilk_FAH16to70
3	9901	DieselExhPM	0.000115	9.95E-08	30YrCancerDerived_InhSoilDermMMilk_FAH16to70
4	9901	DieselExhPM	0.00142	1.23E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70
		SUM		1.36E-06	

*HARP - HRACalc v21081 8/10/2021 9:31:14 AM - Chronic Risk - Input File: C:\!HarpOutput\IRW03\30yrResHRAInput.hra

INDEX	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE	RESP	SKIN	EYE	BONE/TEE	ENDO	BLOOD
1	9901	DieselExhPM	1.69E-05	NonCancerChronicDerived_I	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.38E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	9901	DieselExhPM	2.33E-05	NonCancerChronicDerived_I	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	9901	DieselExhPM	0.000115	NonCancerChronicDerived_I	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.30E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	9901	DieselExhPM	0.00142	NonCancerChronicDerived_I	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.84E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SUM					0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.15E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table C2
MER Concentration Worksheet
Input into HARP2

Source No.	Source	Contaminant	Weight Fraction	Emission Rates ¹ Annual Avg	AERMOD Output ² Annual Avg	Annual Average MER Concentration
(a)	(b)	(c)	(d)	(g/s) (e)	($\mu\text{g}/\text{m}^3$) (f)	($\mu\text{g}/\text{m}^3$) (g)
Student MER						
1	Trucks (on-site running)	DPM	1.0E+00	3.64E-06	6.400	2.33E-05
2	Trucks (off-site running)	DPM	1.0E+00	4.03E-06	6.690	2.70E-05
3	Truck Idling	DPM	1.0E+00	6.50E-07	155.9	1.01E-04
4	Yard Emissions	DPM	1.0E+00	1.89E-03	0.080	1.51E-04
Note: Maximum Exposed Receptor (MER) UTM: 413227.57, 3772517.61						For Cancer/Chronic Calculation

¹ Emission Rates, per source, from Source Emissions Inventories (Appendix A).

² AERMOD Output (Appendix B) at the maximum exposed receptor (MER) are based on unit emission rates for emission sources (1 g/s per source).

*HARP - HRACalc v21081 8/10/2021 10:22:05 AM - Cancer Risk - Input File: C:\!HarpOutput\IRW03\Stu

INDEX	POLID	POLABBREV	CONC	RISK_SUM	SCENARIO	DETAILS
1	9901	DieselExhPM	2.33E-05	3.19E-09	7YrCancerDerived_InhSoilDerm	*
2	9901	DieselExhPM	2.70E-05	3.70E-09	7YrCancerDerived_InhSoilDerm	*
3	9901	DieselExhPM	0.000101	1.38E-08	7YrCancerDerived_InhSoilDerm	*
4	9901	DieselExhPM	0.000151	2.07E-08	7YrCancerDerived_InhSoilDerm	*
		SUM		4.14E-08		

*HARP - HRACalc v21081 8/10/2021 10:22:05 AM - Chronic Risk - Input File: C:\HarpOutput\IRW03\StudentHRAInput.hra

INDEX	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE	RESP	SKIN	EYE	BONE/TEE	ENDO	BLOOD
1	9901	DieselExhPM	2.33E-05	NonCancerChronicDerived_	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	9901	DieselExhPM	2.70E-05	NonCancerChronicDerived_	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.40E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	9901	DieselExhPM	0.000101	NonCancerChronicDerived_	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.02E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	9901	DieselExhPM	0.000151	NonCancerChronicDerived_	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.02E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
				SUM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.05E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00