APPENDIX D
System Modification Requests

WAIVER REQUEST

Central San Bernardino Mountains Air Monitoring Station
AQS Site Code 06-071-0005

Background

The Central San Bernardino Mountains air monitoring station (AMS) has been operational since October 1973. This site is located adjacent to Lake Gregory in the City of Crestline within San Bernardino County Regional Parks property. The surrounding area is mixed-use residential and recreational and is characterized by heavy tree coverage. Despite the proximity of trees to the monitoring equipment, the site remains a critical ozone (O_3), $PM_{2.5}$ (non-FEM), and PM_{10} monitoring location with a long history as the O_3 Design Value (DV) site for the region.

The South Coast Air Quality Management District (South Coast AQMD) requests a waiver from the 10-meter minimum distance requirement from trees as stipulated in 40 CFR Part 58, Appendix E. Figure 1 and the aerial views (Figure 7 & 8) demonstrate that the Central San Bernardino Mountains AMS is representative of the monitoring area due to the fact that the monitoring area is mountainous and forested.

Figure 1 Central San Bernardino Mountains AMS Satellite View.

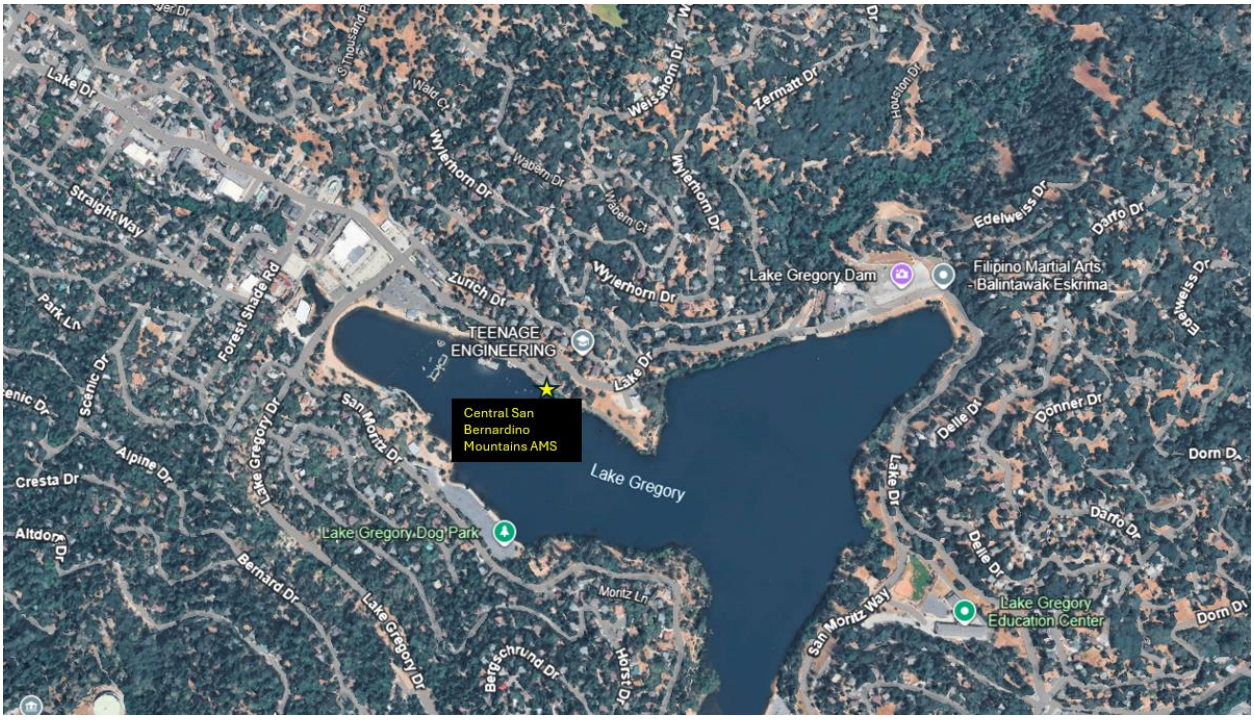

Figure 2 Central San Bernardino Mountains AMS Street Map.

Figure 3 Area surrounding the monitoring site -gaseous inlet probe.

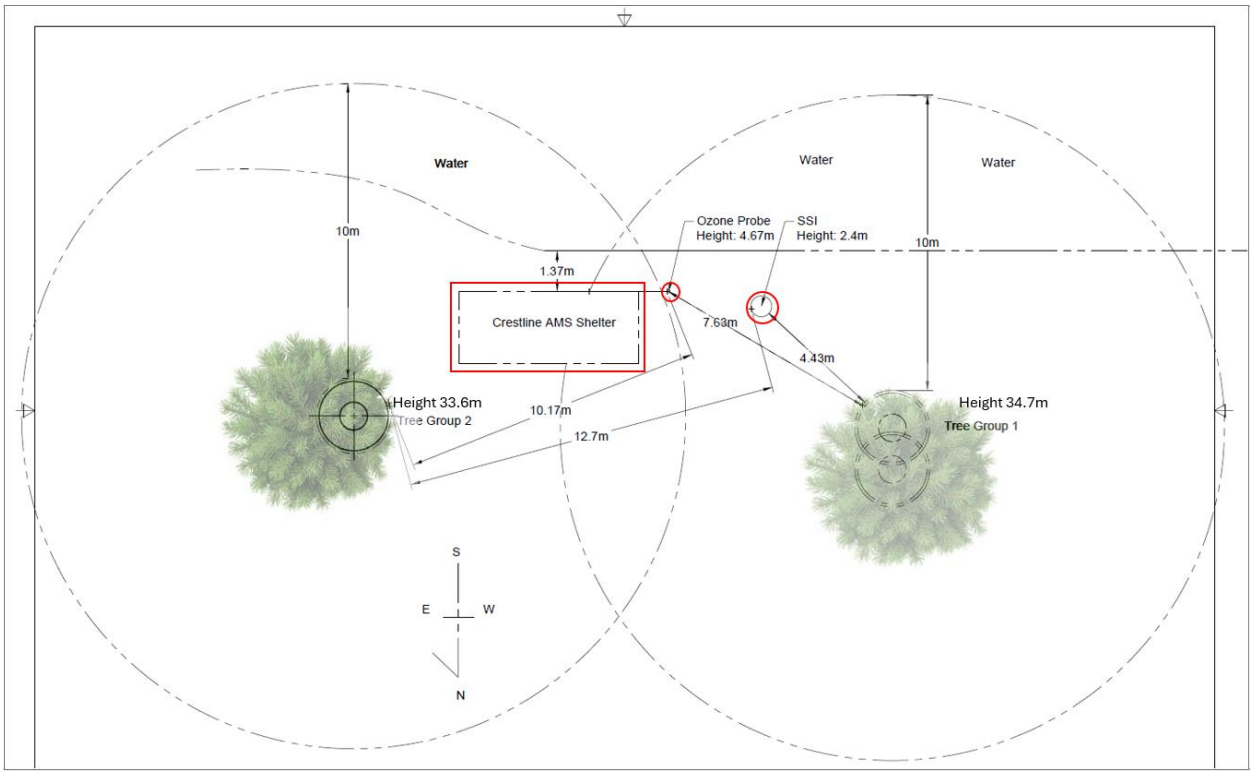

Figure 4 Area surrounding the PM10 Hi-Vol sampler.

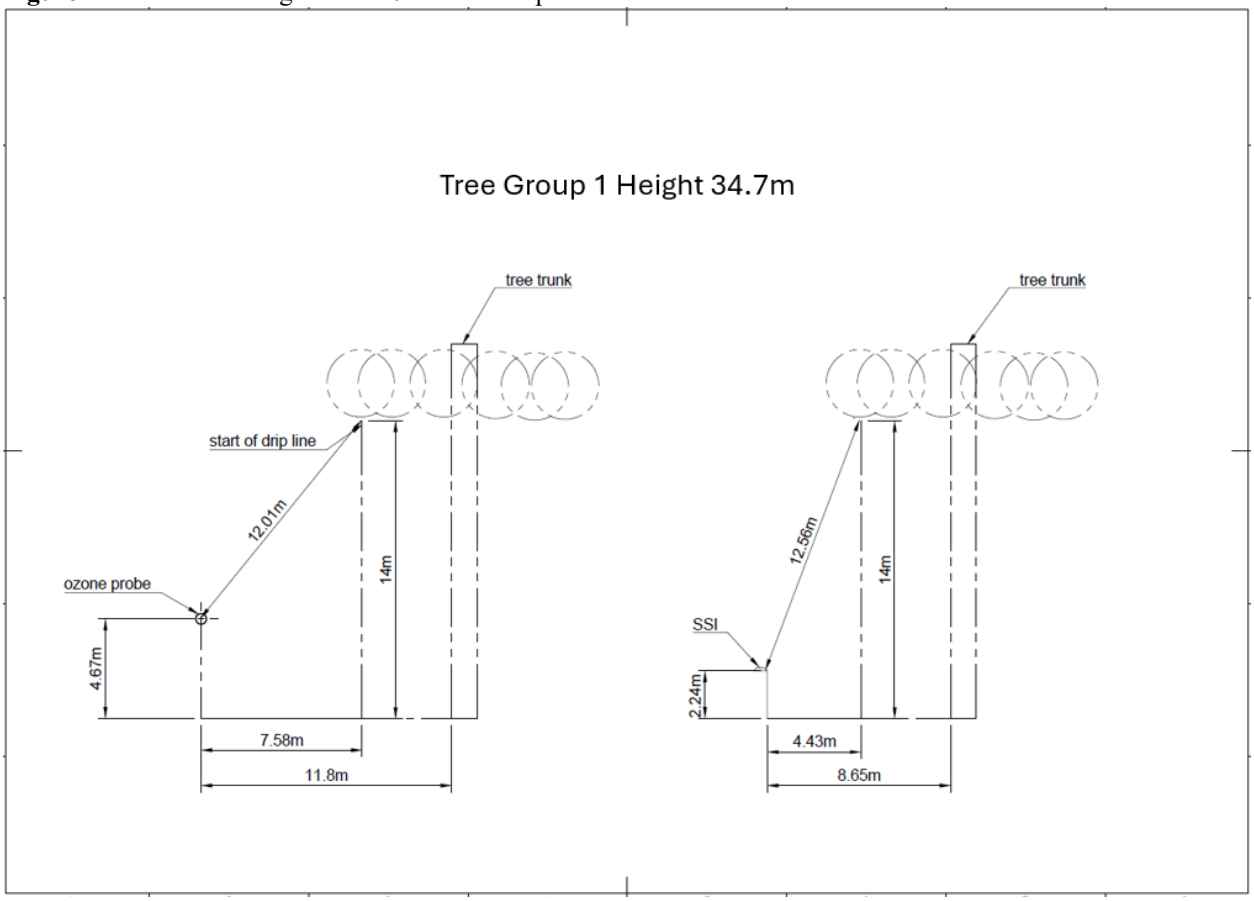

Figure 5 PM10 SSI Hi-Vol sampler horizontal and vertical distance between probe and drip line.

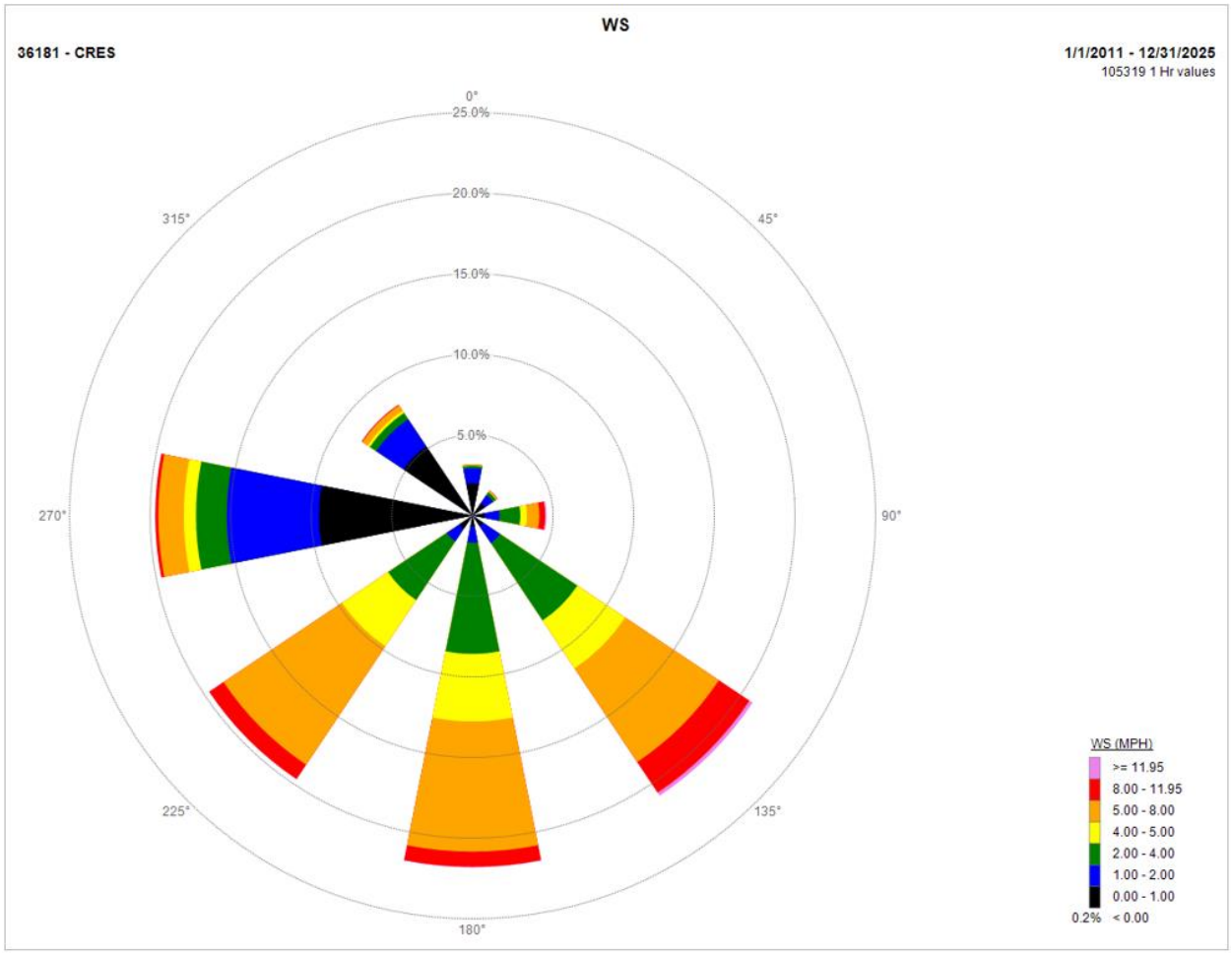

Figure 6 Wind Rose from January 2011 to December 2025 illustrates consistency in predominant wind direction and speed over the last 15 years.

Justification for Waiver Request

Regulatory Basis for Waiver

According to 40 CFR Part 58, Appendix E, a waiver may be granted for existing sites if either of the following conditions are met:

1. The site is as representative of the monitoring area as it would be if the siting criteria were met (Section 4.1.1).
2. The probe cannot reasonably be relocated to meet siting criteria due to physical constraints (Section 4.1.2).

This waiver request satisfies both conditions:

- **Representativeness:** The arial views (Figure 7 & 8) confirm that the Central San Bernardino Mountains AMS is representative of the monitoring area since the monitoring area is mountainous and forested. The site is considered a Neighborhood scale which represents air quality conditions throughout some relatively uniform land use areas with dimensions in the 0.5-to-4.0-kilometer range (40 CFR Appendix-D-to-Part-58(a)(3)).
- **Physical Constraints:** The inability to relocate the monitoring site to a location where trees are not within 10 meters and/or present an obstruction is due to the surrounding dense forest area, as well as the proximity of roadways and other obstructions that further compromise siting criteria. Additionally, the site is located on San Bernardino County land,

where it has operated under a no-cost lease since 1973. The expected cost to relocate the site is prohibitive and would disrupt historical data continuity that is invaluable for long-term trend analysis.

Representativeness and Data Continuity Considerations

Appendix E acknowledges that long-established monitoring locations may remain representative even when physical surroundings evolve over time. The station has served as one of the highest-concentration locations for ozone in the basin and as the ozone design-value (DV) site for over four decades, providing critical data continuity required for long-term trend analysis. The Crestline station provides a long-term record of PM_{10} measurements in a mountainous, forested environment, providing critical data continuity required for long-term trend analysis.

Appendix E, Section 1.1 emphasizes that monitoring stations must serve their intended data purpose. Because Crestline station has long served as the design-value indicator location and continues to reflect peak exposure patterns, relocation would diminish the station's ability to fulfill that monitoring objective.

Consistent with Appendix D Section 1(c) and Appendix E Sections 1.1, 4.1.1, and 4.3, the value of maintaining a continuous record at a historically high site strengthens representativeness. Although long-term trend value alone is not sufficient basis for a waiver (4.3), EPA guidance acknowledges that disruption of such records can undermine analysis of progress toward NAAQS attainment and interpretation of control-strategy effectiveness. Maintaining continuity at this location ensures comparability of DV calculations and supports the statutory objectives of trend evaluation, exposure assessment, and SIP performance tracking.

Physical Constraints and Feasibility Considerations

Appendix E Section 4.1.2 provides that relocation is not required when siting modifications are not reasonable, technically feasible, or are limited by land-use constraints. The Central San Bernardino Mountains AMS sits within a densely forested area where tree coverage is continuous across the surrounding landscape. Alternative areas located beyond the 10-meter obstruction distance also contain similar vegetation patterns or would require construction of infrastructure in sensitive terrain and public-access areas. In addition, any new sites would require electrical installation, site permitting, foundation or shelter placement, and long lead-time coordination with San Bernardino County, resulting in substantial cost and operational disruption.

The site currently operates under a no-cost lease held since 1973. Relocating the station would introduce new recurring land-use expenses and site development capital expenditures. Although cost alone is not sufficient justification under Appendix D Section 1(a), U.S. EPA guidance notes that cost feasibility (Appendix E Section 4.3), when combined with demonstrated representativeness, supports granting waivers where relocation does not materially improve siting compliance.

The waiver request considers the following conditions:

- Per Appendix D Section 1(a)(5), relocation feasibility must consider capital cost, recurring lease obligations, permitting requirements, and installation timelines relative to the incremental improvement gained. In this case, there is no alternative area that eliminates vegetation impacts without extensive disturbance and cost.

- Although the presence of trees within 10 meters is not ideal per Appendix E Section 2, the site continues to capture peak ozone exposures consistent with the intended monitoring objective (population exposure and DV representativeness).
- Maintaining alignment with historical DV reporting supports the continuity expectations described in Appendix D Section 1(c), particularly for evaluating emission-reduction progress.

Loss of continuity at one of the basin's highest ozone concentration locations would compromise interpretability of historical DV trends and regression analyses used in SIP development and attainment demonstration modeling. Therefore, maintaining the existing site—with waiver approval under Appendix E Sections 4.1.1 and 4.1.2—preserves both scientific value and regulatory continuity.

Central San Bernardino Mountains AMS Data Evaluation

Pollutant Trends and Design Value Status

The Central San Bernardino AMS has served as the DV site, or the second highest site for O_3, providing critical data for NAAQS compliance

Central San Bernardino Mountains AMS	
Year	O_3 8-Hour DV (ppb)
2020	109
2021	110
2022	109
2023	106
2024	107
5 Yr. DV Avg.	108

The Central San Bernardino AMS has served as a long-term PM_{10} data representative of particulate matter concentrations within a mountainous, forested mountains.

Central San Bernardino Mountains AMS	
Year	PM10 24-Hour DV ($\mu g/m^3$)
2021	27
2022	26
2023	28
2024	35
2025	26
5 Yr. DV Avg.	28.4

Conclusion and Waiver Request

Key Findings Supporting the Waiver

1. Central San Bernardino Mountains AMS remains representative of the monitoring area, meeting 40 CFR Part 58, Appendix E, Section 4.1.1.
2. Physical constraints prevent probe relocation, as the site is in a dense forested area, and there are no feasible alternative locations that meet siting criteria per 40 CFR Part 58, Appendix E, Section 4.1.2.

3. The site provides a long-term record of PM_{10} data supporting air quality trends evaluation and trend analysis.
4. Central San Bernardino Mountains AMS has been the region's DV site for O_3, making its continued operation critical for regulatory and scientific purposes.
5. The cost-benefit analysis supports maintaining the site at its current location, given that it operates on a no-cost lease from San Bernardino County and relocation would be cost-prohibitive.

Request for Waiver

South Coast AQMD formally requests a waiver from the 10-meter tree distance and obstruction requirements for the Central San Bernardino Mountains AMS, allowing continued monitoring of O_3 and PM_{10}.

Per 40 CFR Part 58, Appendix E, Section 4.3, this waiver will be subject to renewal every five years and documented in the Annual Monitoring Network Plan as required under 40 CFR Part 58.10.

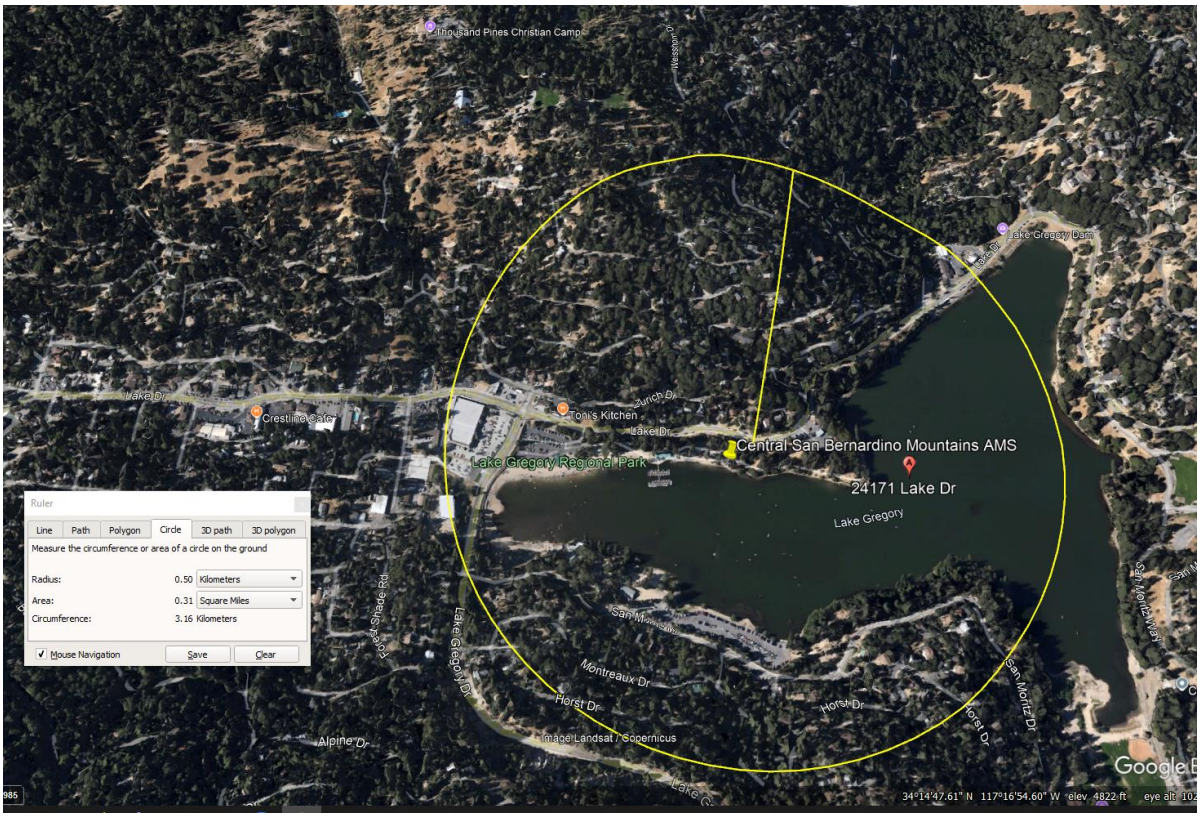

Figure 7. Indicates that area within 500 meters of current site is mountainous and forested.

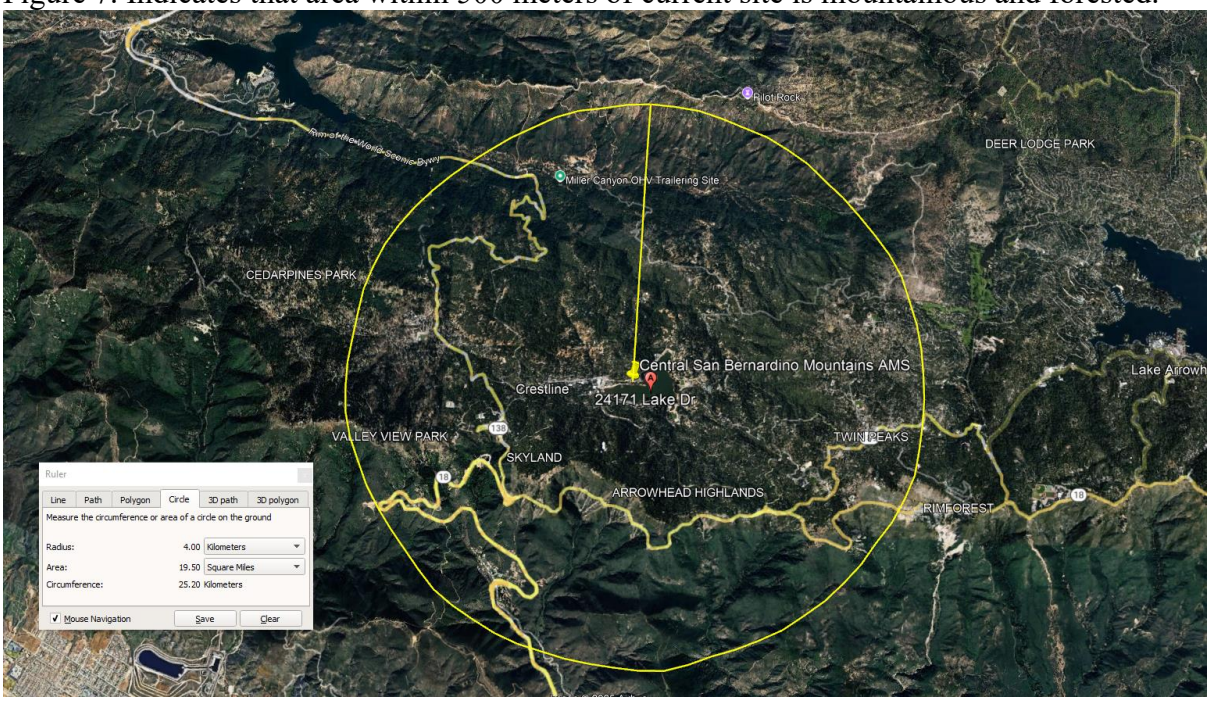

Figure 8. Indicates that area within 4.0 kilometers of current site is mountainous and forested.

SYSTEM MODIFICATION REQUEST

Long Beach (Hudson) Air Monitoring Station
AQS Site Code 06-037-4006

Background

The Hudson Air Monitoring Station (AMS), located at 2505 Webster Avenue in Long Beach, is situated between a residential neighborhood and an industrialized area containing refineries, recycling facilities, and transportation hubs. Originally, the site was established to support air quality monitoring related to the Southern California International Gateway (SCIG) project, assessing potential exposure from the proposed BNSF railway project. The site subsequently became a fixed monitoring location for the Multiple Air Toxics Exposure Studies (MATES) IV and V.

Initially intended as a temporary site for baseline air quality data, Hudson AMS had evolved into a permanent monitoring station for criteria pollutants. However, the site does not meet State and Local Air Monitoring Stations (SLAMS) siting criteria due to its proximity to various pollutant sources, including a high-traffic maintenance yard and an underground petroleum pipeline access vault.

South Coast AQMD is requesting approval under 40 CFR Part 58.14(c) to discontinue PM_{10} monitoring at Hudson AMS. The agency intends to repurpose the site for port/refinery-oriented monitoring studies, including programs under California State Assembly Bill AB 617 and Rule 1180.

Site Performance and Regional Comparisons

In 2024, The Anaheim AMS recorded the 24-hour PM_{10} DV concentration of 120 µg/m³ in the Los Angeles-Long Beach-Santa Ana MSA (CBSA 31080). By comparison, the Hudson AMS 24-hour DV PM_{10} concentration was 115, rounded up to 120 µg/m³.

Between 2020 and 2024, no PM_{10} standard exceedances were observed at the Hudson AMS. South Coast AQMD also continues to exceed the minimum monitoring requirements for both pollutants, as detailed in Tables 1 and 2.

The minimum monitoring requirements for PM_{10} are still exceeded by the South Coast AQMD network, as shown in the following table:

Table 1 Minimum Monitoring Requirements for PM_{10}
(Note: Refer to section 4.6 and Table D-4 of Appendix D of 40 CFR Part 58)

MSA	Counties	Population & Census Year	Daily DV [ug/m3]	DV Site (Name, AQS ID)	Required Monitors	Active Monitors	Additional Monitors Needed
31080	Los Angeles Orange	12,927,614 2024	120 2022-2024	Anaheim 060590007	4-8 Med. Conc.	7	0

Local Micro Sources – Vehicle/Roadway Impacts

Hudson AMS is adjacent to the Donald K. Allen Building Maintenance Facility, which supports construction and maintenance operations. This facility houses heavy-duty (HD) vehicles, including dump trucks, flatbeds, and front loaders, which contribute to PM_{10}, carbon monoxide (CO), and nitrogen dioxide (NO2) emissions. The station's proximity to an active parking lot further influences air quality measurement.

Figure 3 Hudson AMS and driveway proximity, Donald K. Allen Maintenance Facility

Non-Compliance with U.S. EPA Siting Requirements

Webster Avenue, where the AMS is located, is estimated to have an Annual Average Daily Traffic (AADT) volume of 0-5000 vehicles. Based on U.S. EPA distance-to-roadway requirements:

Pollutant	Distance required Neighborhood Scale*	Actual Distance	Scale
PM_{10}	> 10 meters	6.5 meters	Required for all scales

* Hudson AMS parameters incorrectly listed as Urban Scale in AQS

These conditions indicate that the Hudson AMS is not in compliance with required siting criteria and may produce biased pollutant readings.

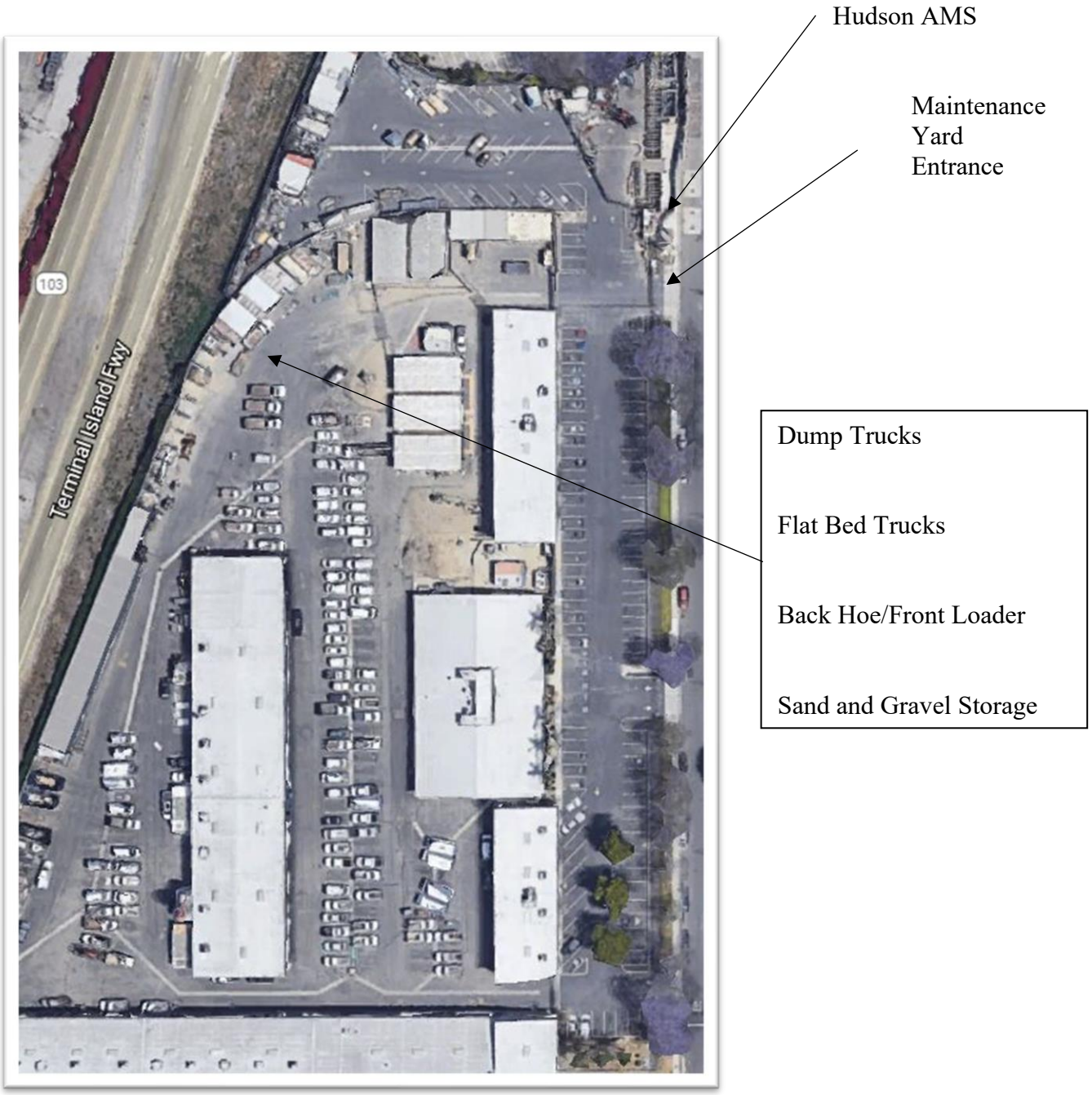

Figure 4 Satellite View, LBUSD Maintenance Yard

Proximity to Underground Petroleum Pipeline

An underground petroleum pipeline, operated by Tesoro Refining and Marketing Co., runs adjacent to the Hudson AMS. The pipeline has two access vaults, which are not airtight and allow emissions to escape into the surrounding air. These vaults are located less than 10 meters from the station's inlet probe, further impacting measurement reliability.

Figure 3 Tesoro Do No Dig Post.

Figure 4 Tesoro Do Not Dig Post with Hudson Station in background.

Figure 5 Hudson AMS from Street

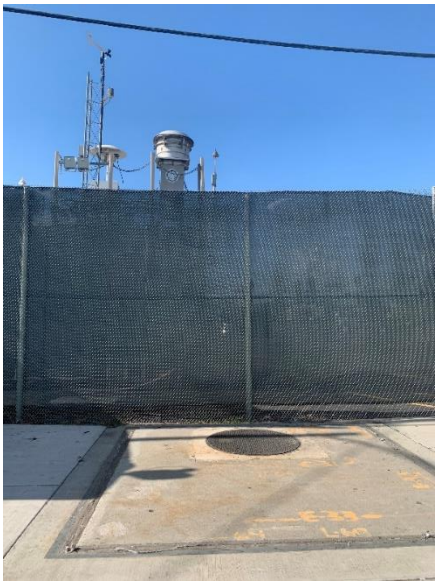

Figure 6 Manhole cover and inlet probe.

Figure 7 Street vault with manhole covers.

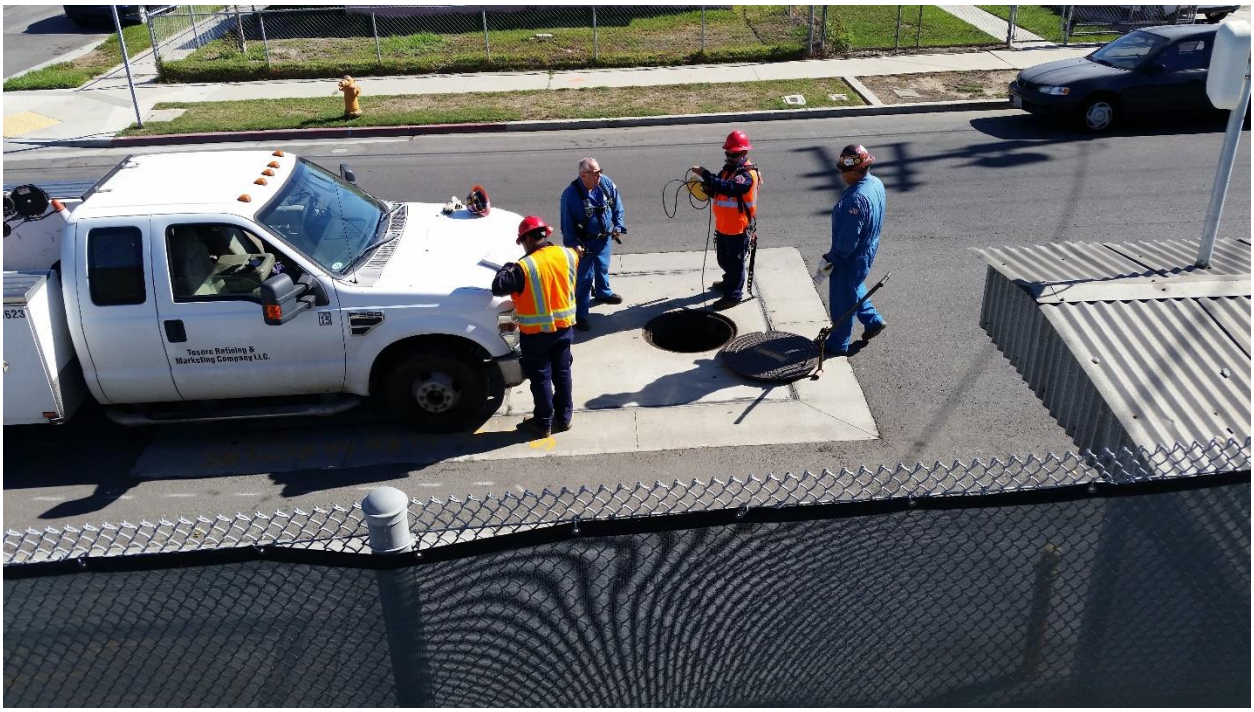

Figure 8 Tesoro Refining and Marketing Co

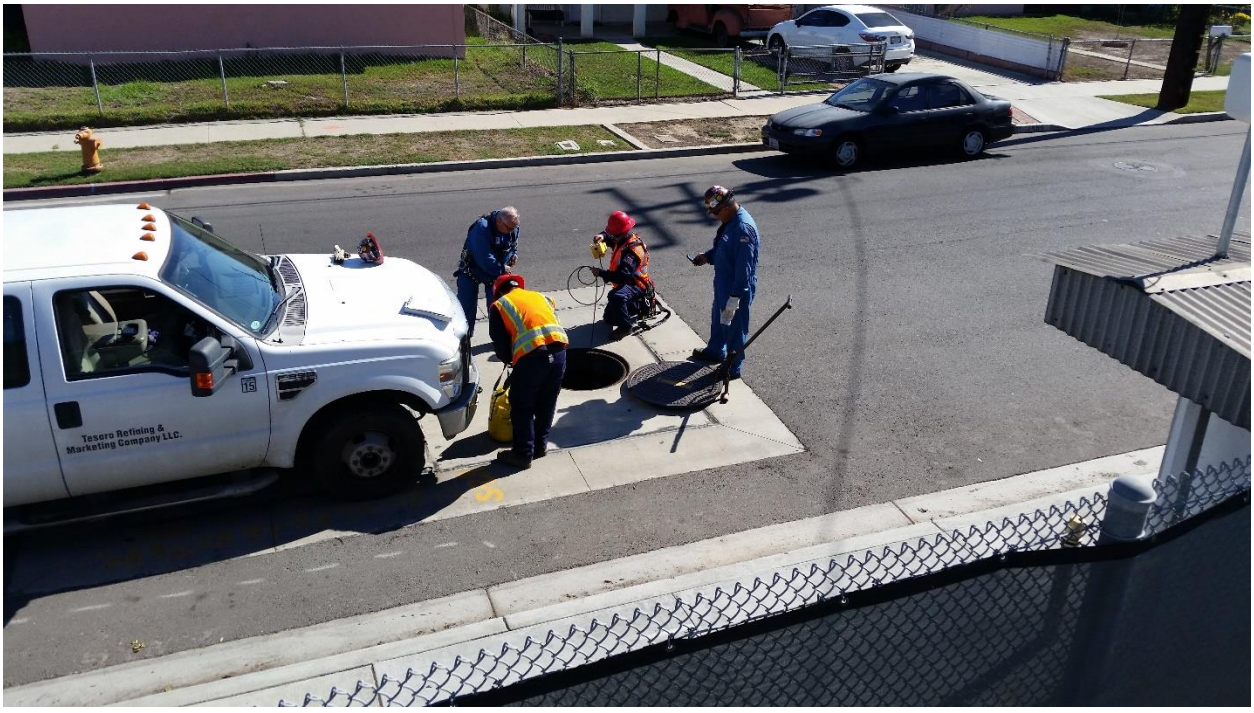

Figure 9 Tesoro Refining and Marketing Co Testing Operations

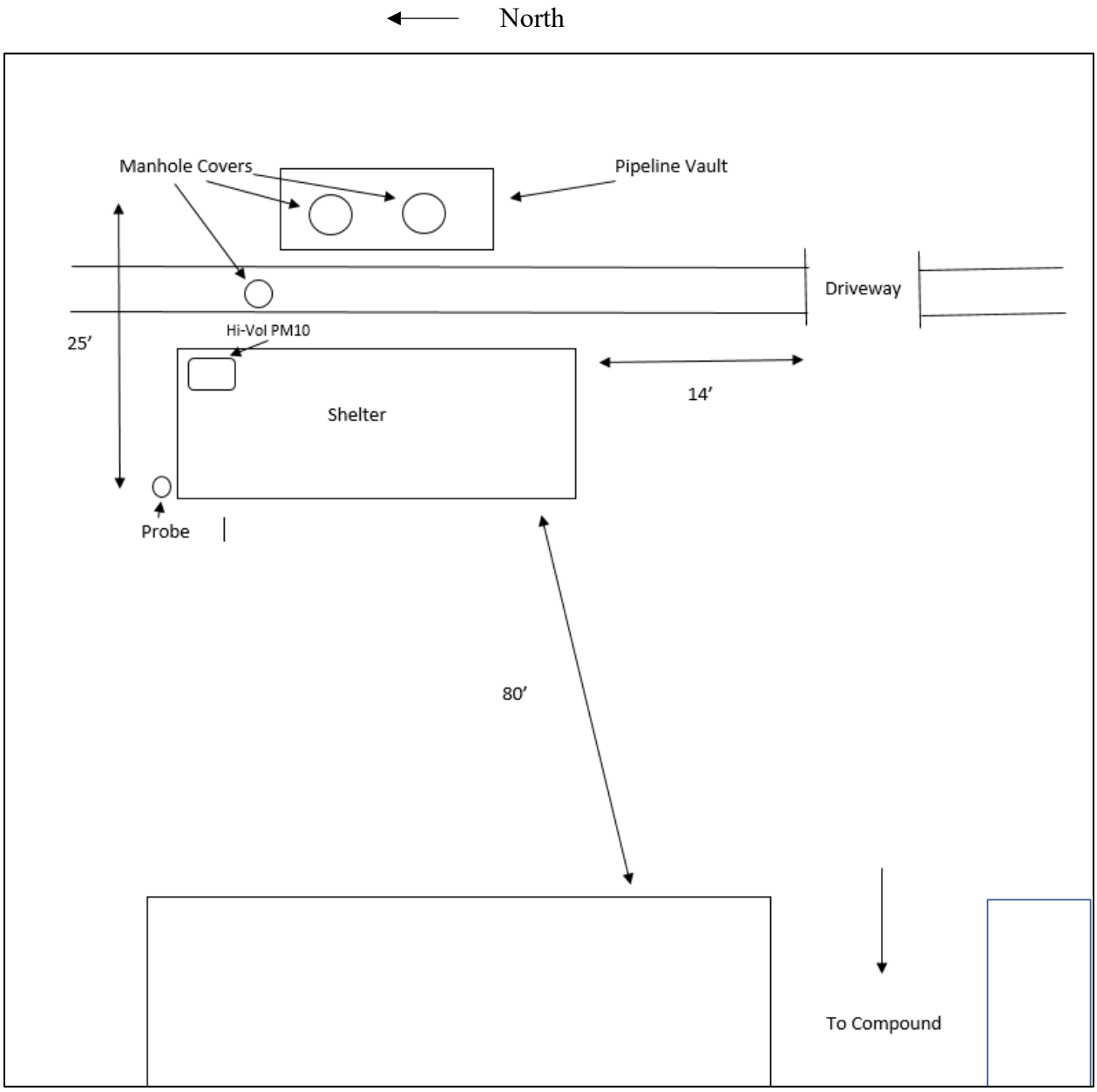

Figure 10 Plot - Hudson AMS

Wind rose data from 2024 shows the predominant wind speed and direction between sources of pollutants and the Hudson AMS.

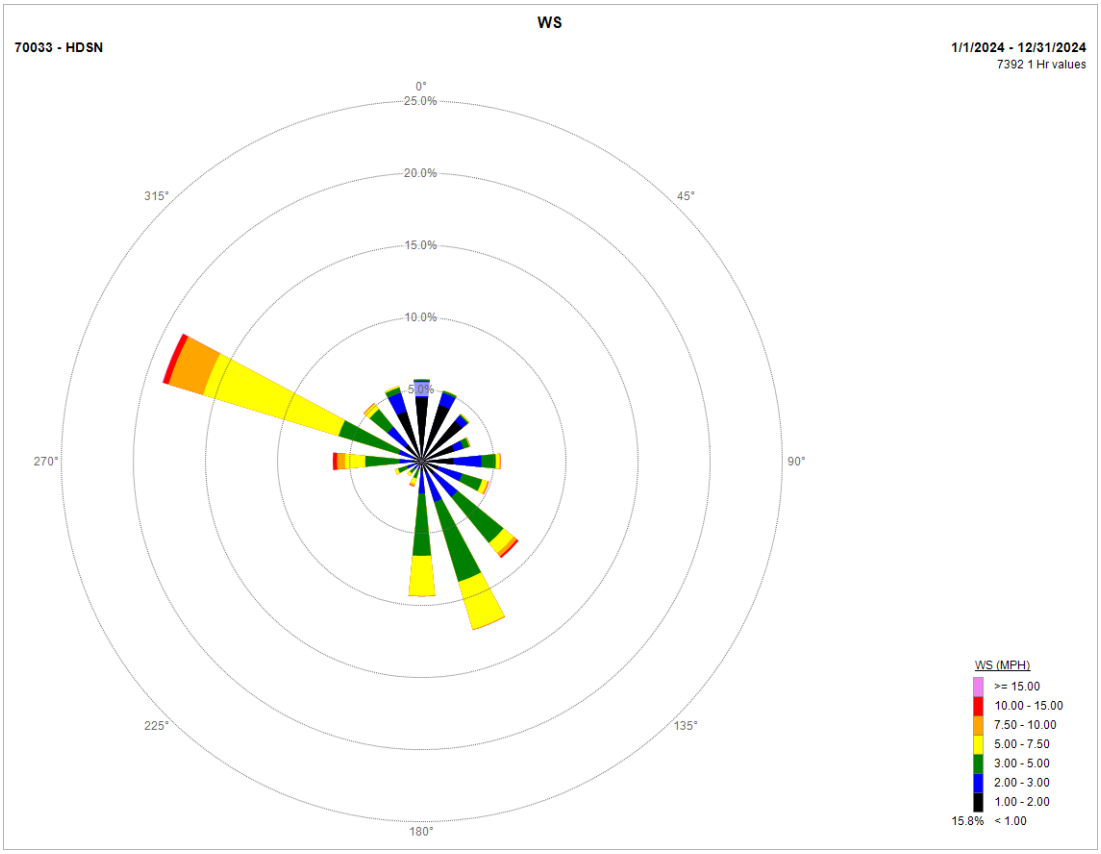

Figure 11 Hudson AMS Wind Rose – 2024

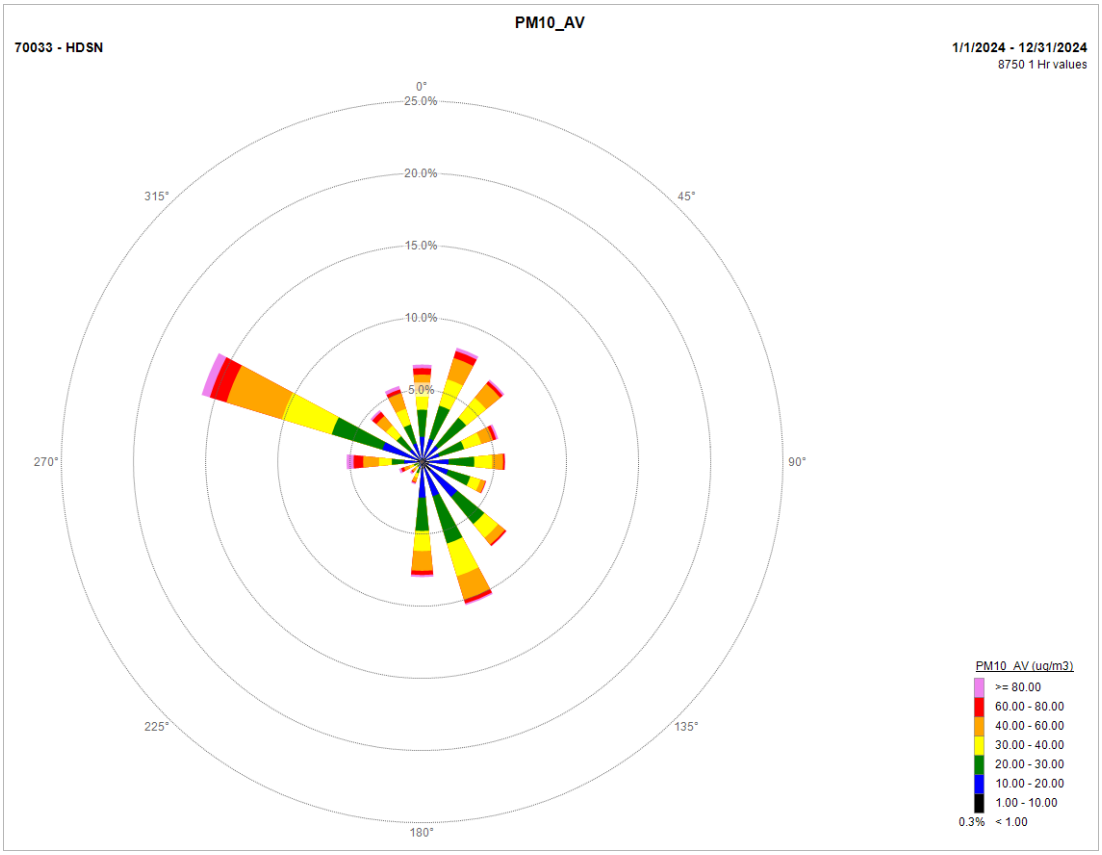

Figure 12 Hudson AMS Pollution Rose for PM10 - 2024

PM10 Monitoring Discontinuation Justification

South Coast AQMD has conducted a five-year PM_{10} trend analysis in compliance with 40 CFR Part 58.14(c)(1). The results indicate no exceedances of the PM_{10} National Ambient Air Quality Standard (NAAQS) however Hudson does not pass the Students T test utilizing the maximum 24 hour averages:

Hudson AMS			
Year	PM_{10} 24-Hour Maximum µg/m³	DV Report Observed Exceedances	DV Report Estimated Exceedances
2020	61	0	0
2021	N/A*	0	0
2022	128	0	0
2023	148	0	0
2024	115	0	0
5 Yr. Avg.	113		
40 CFR Part 58.14 (c)1 Metric	149		
80% of 150 NAAQS	120		
Test	FAIL		

*Data unavailable

PM_{10} FRM Los Angeles/Orange Counties Maximum Concentration vs Hudson

Year	South Coast Maximum 24 Hr.PM_{10} Concentration µg/m³	Hudson Maximum 24 Hr. PM_{10} Concentration µg/m³
2020	295	61
2021	121	N/A*
2022	128	128
2023	148	148
2024	187	115

*Data unavailable

System Modification Request Justification

South Coast AQMD is formally requesting U.S. EPA approval to discontinue PM_{10} monitoring at the Hudson AMS. This request is supported by the following:

- Non-Design Value Site: The Hudson PM_{10} monitor is not the designated DV site during 2024 for the Los Angeles–Long Beach–Anaheim Metropolitan Statistical Area (MSA). Therefore, its data are not critical for determining compliance with the PM_{10} National Ambient Air Quality Standards (NAAQS).
- No Contingency Measure Reliance: The most recent U.S. EPA-approved PM_{10} maintenance plan for the South Coast Air Basin does not rely on data from Hudson AMS for contingency measures or regulatory commitments. Discontinuing monitoring at this location will not affect the region's ability to maintain attainment or to implement necessary control strategies if air quality degrades.
- Historical Data Record: Hudson AMS has consistently recorded PM_{10} concentrations below the 24-hour NAAQS, with no exceedances observed from 2020 to 2024. However, due to unavailable PM_{10} data for the 2022 calendar year, Hudson AMS does not meet the full five-year data completeness requirement under 40 CFR Part 58.14(c)(3), and therefore does not technically qualify for discontinuation under that provision.
- Failure to Meet EPA Siting Criteria: Importantly, the Hudson AMS does not meet the U.S. EPA siting requirements specified in Appendix E of 40 CFR Part 58. The monitor's proximity to a heavy-duty vehicle maintenance facility, an active parking lot, and an underground petroleum pipeline vault results in localized PM_{10} impacts that bias ambient measurements. These siting deficiencies compromise the ability of Hudson AMS to accurately characterize neighborhood-scale air quality and undermine network data integrity.

Given these factors, South Coast AQMD respectfully requests U.S. EPA approval to discontinue PM_{10} monitoring at Hudson AMS under case-by-case consideration, as allowed by 40 CFR Part 58.14. Discontinuing monitoring at Hudson will maintain compliance with air monitoring requirements, strengthen network representativeness, and support the agency's goal of providing high-quality, unbiased ambient air data.

Summary

South Coast AQMD respectfully requests U.S. EPA approval to discontinue PM_{10} monitoring at the Hudson Air Monitoring Station (AMS).

Although Hudson AMS satisfies many of the technical considerations outlined in 40 CFR Part 58.14(c)(3), including not recording any PM_{10} NAAQS exceedances between 2020 and 2024 and operating within an MSA covered by an approved maintenance plan, it does not fully qualify under 58.14(c)(3) due to unavailable PM_{10} data for the 2022 calendar year, which prevents completion of the required five-year trend analysis.

Accordingly, South Coast AQMD respectfully requests that U.S. EPA evaluate this request under case-by-case authority pursuant to 40 CFR Part 58.14, based on the following considerations:

- Hudson AMS does not meet EPA siting criteria, with pollutant concentrations influenced by adjacent localized sources such as heavy-duty vehicle operations and petroleum infrastructure, resulting in biased and unrepresentative data.
- Hudson AMS is not the designated DV site and is not relied upon for contingency measures or regulatory attainment demonstrations under the applicable PM_{10} maintenance plan.
- The discontinuation will not affect compliance with minimum monitoring requirements, and the South Coast Air Basin will continue to be adequately represented by the remaining PM_{10} network.

Discontinuing PM_{10} monitoring at Hudson AMS will strengthen the South Coast AQMD ambient monitoring network's quality and representativeness, while allowing the site to be repurposed for critical specialized studies focused on port and refinery emissions under Assembly Bill 617 and Rule 1180.

Approval of this request is consistent with the goals of 40 CFR Part 58.14 and is strongly supported by both technical network considerations and the need to address siting noncompliance.

SYSTEM MODIFICATION REQUEST

Palm Springs 590 E Racquet Club Avenue Monitoring Site
AQS Site Codes 06-065-5002

The monitoring site located at 590 E. Racquet Club Road has been in operation since April 1971. The site was originally located at the Palm Springs Fire Department Station 3 at 590 E. Racquet Club Road, Palm Springs, CA 92262. The station was initially established to monitor ozone (O_3) and coarse particulate matter (PM_{10}) to characterize ambient air quality in the Palm Springs and Coachella Valley region.

In 2025, the City of Palm Springs notified South Coast AQMD that Fire Station 3 would undergo facility renovations and could no longer accommodate the air monitoring station. Due to this loss of site access, monitoring operations at 590 E. Racquet Club Road officially discontinued on March 31, 2026.

The City of Palm Springs proposed several alternative locations; however, none satisfied the siting criteria specified in 40 CFR Part 58, Appendix E. In response, South Coast AQMD coordinated with the Center of Spiritual Living and identified a suitable replacement location at 2100 E. Racquet Club Road, Palm Springs, CA 92262, as depicted in Figure 1. The proposed probe coordinates are 33.852547, -116.522458. The new site is situated approximately 1.01 miles east of the former Fire Station 3 monitoring location, as shown in Figure 2.

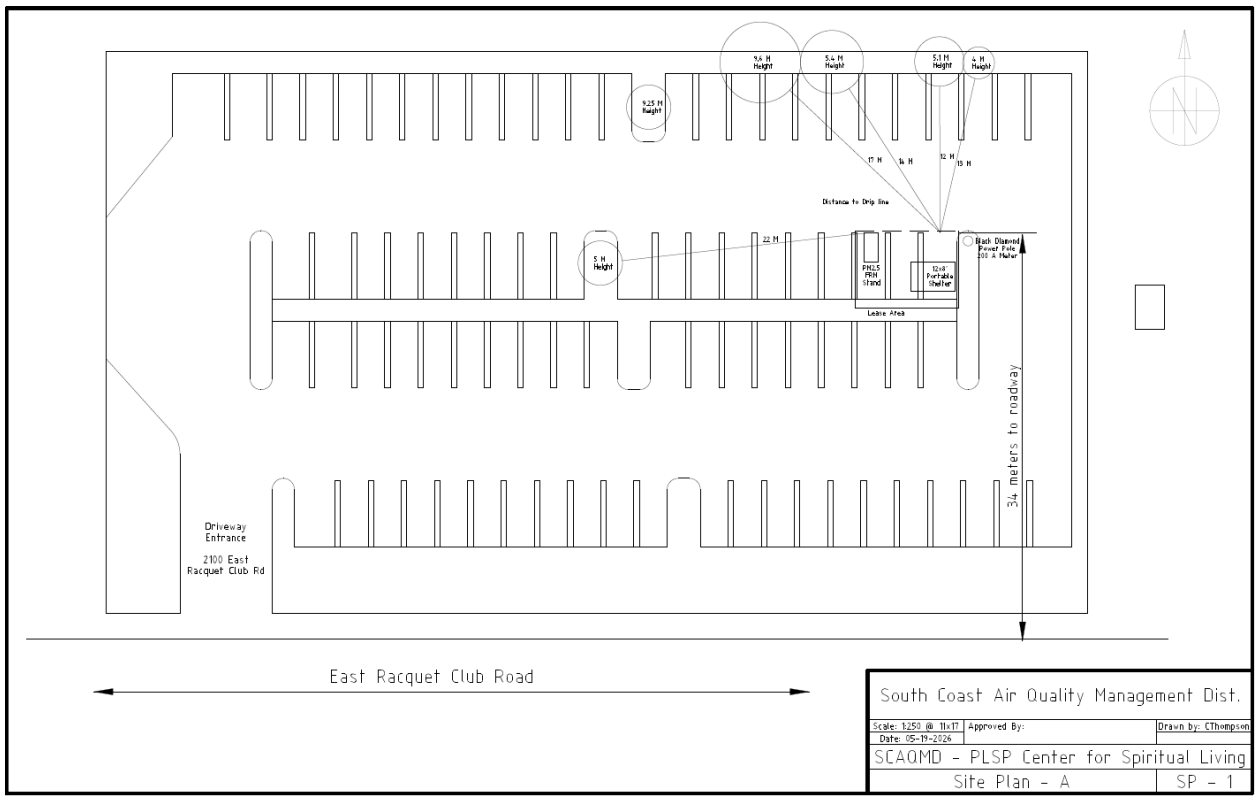

Figure 1 Palm Springs Center of Spiritual Living Monitoring Site Location

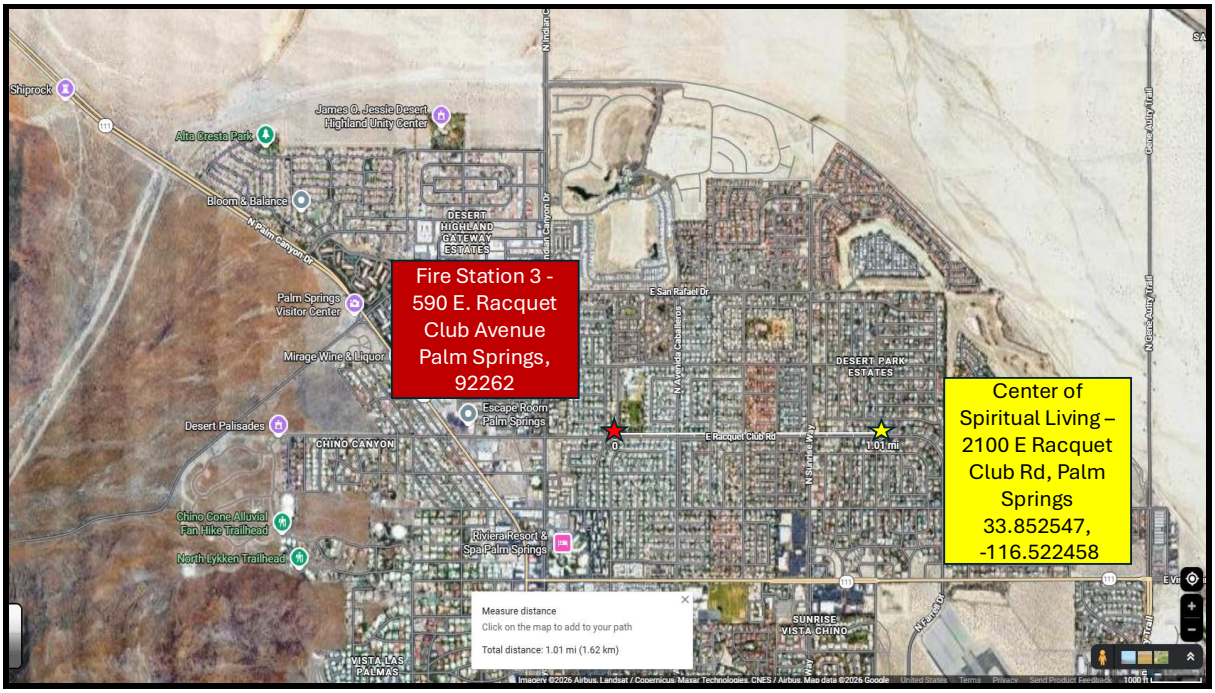

Figure 2 Distance Fire Station 3 and Center of Spiritual Living Monitoring Sites

The Center of Spiritual Living monitoring site is located within a secured parking lot space measuring approximately 28 feet by 18 feet. The enclosure is secured with perimeter fencing and accommodates a 12-foot by 8-foot criteria pollutant monitoring trailer and associated particulate monitoring equipment. A dedicated 200-amp electrical service meter has been installed to provide sufficient power for continuous operation of monitoring instruments. A detailed site drawing is available in Figure 3.

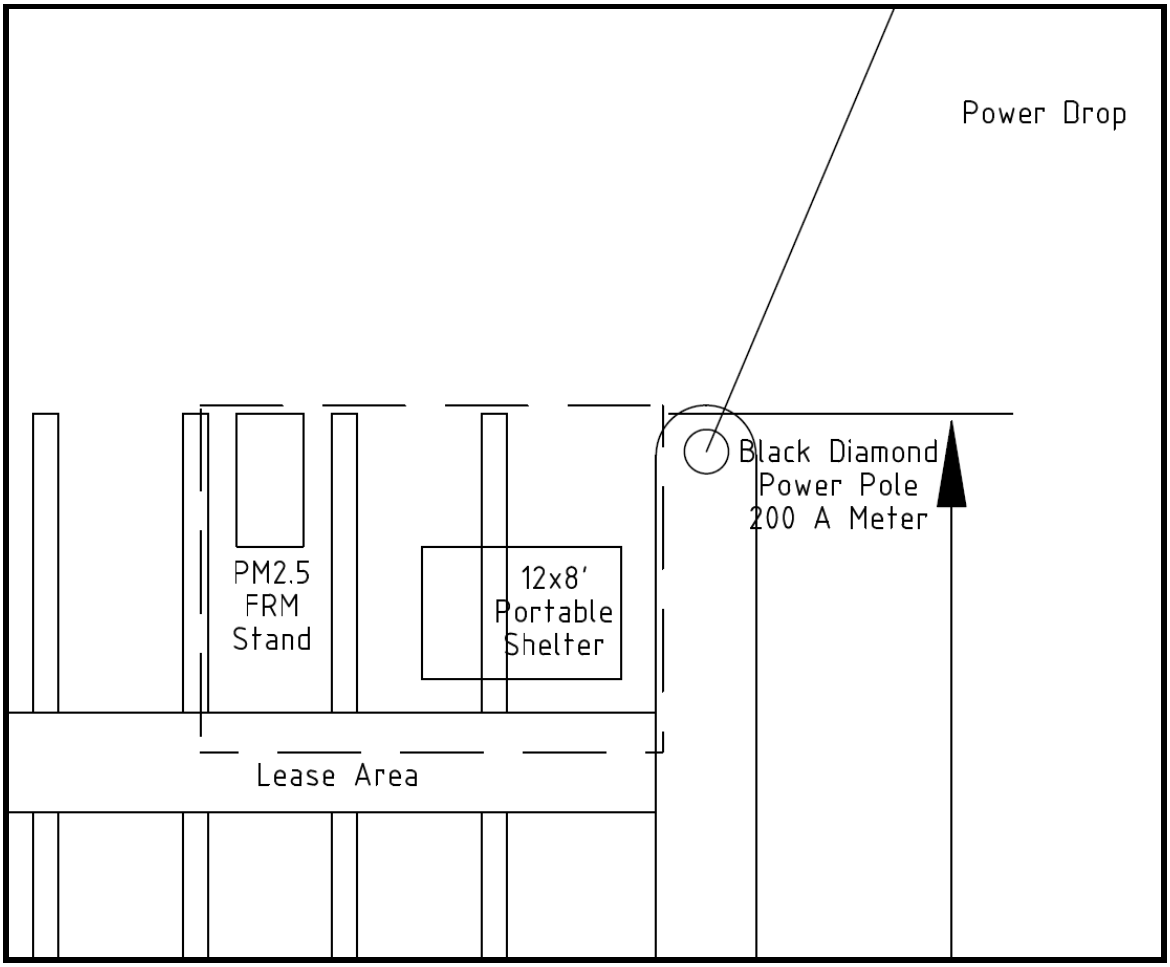

Figure 3 Center for Spiritual Living Monitoring Site Detail

The site details for the air monitoring location at Center for Spiritual Living aligns with 40 CFR 58, Appendix E siting requirements, as outlined in Table 1. Comprehensive site information is provided within the South Coast AQMD 2026 Annual Network Plan.

Table 1 Center of Spiritual Living Selected Site Information

Pollutants – O_3, NO_2, PM_{10}, $PM_{2.5}$	Scale of Representativeness	Measured Value	Meets Minimum Requirements (Yes/No)
Horizontal and Vertical Probe Placement	Neighborhood	4.8 Meters	Yes
Distance from obstructions (building)	N/A	16 Meters	Yes
Spacing from Trees	N/A	12 Meters	Yes
Spacing from Roadway	Neighborhood	~ 34 Meters - 2100 E. Racquet Club Rd. – AADT 7800 (2020); N Cerritos Rd – AADT 405 (2020)	Yes

Following consultation with the EPA Region 9 and receiving preliminary confirmation that the new monitoring site met the required siting criteria, South Coast AQMD proceeded with relocating the monitors and began monitoring on April 1, 2026. The new monitoring location has been assigned AQS

ID 06-065-5002 and measures O_3, NO_2, continuous PM_{10}, and $PM_{2.5}$ which is consistent with the monitoring objectives of the former Palm Springs Monitoring site at Fire Station 3.

Palm Springs System Modification Request Summary

Due to unforeseen logistical circumstances beyond the control of South Coast AQMD, the Palm Springs 590 E. Racquet Club Road monitoring facility ceased operations on March 31, 2026. Pursuant to 40 CFR Part 58.14(c), South Coast AQMD formally requests EPA approval to relocate O_3, NO_2, PM_{10}, and $PM_{2.5,}$ monitoring activities to the Center of Spiritual Living site located at 2100 E. Racquet Club Road, Palm Springs, CA.

The Center of Spiritual Living site is:

- Located approximately 1.01 miles east of the former monitoring location.
- Meets all applicable 40 CFR Part 58, Appendix E siting requirements.
- Maintains the same neighborhood scale of representativeness.
- Expected to produce pollutant measurements consistent with those historically observed at the former site and representative of ambient air quality conditions in the Palm Springs area.

South Coast AQMD requests EPA approval of this system modification in accordance with 40 CFR 58.14(c).