

WASHOE COUNTY HEALTH DISTRICT

ENHANCING QUALITY OF LIFE

2023 Ambient Air Monitoring Network Plan

June 30, 2023



Public Health
Prevent. Promote. Protect.



VISION

A healthy community

MISSION

To protect and enhance the well-being and quality of life for all in Washoe County.

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Acronyms and Abbreviations

AADT	Annual Average Daily Traffic Count
AQMD	Washoe County Health District - Air Quality Management Division
AQS	Air Quality System
ARM	Approved Regional Method
ATR	Automatic Traffic Recorder
BAM	Beta Attenuation Monitor
CARB	California Air Resources Board
CBSA	Core-Based Statistical Area
cc/min	Cubic centimeter per minute
CFR	Code of Federal Regulations
CO	Carbon Monoxide
EPA	U.S. Environmental Protection Agency
ESC	Environmental Systems Corporation
FEM	Federal Equivalent Method
FRM	Federal Reference Method
GFC	Gas Filter Correlation
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NCore	National Core multipollutant monitoring station
NDOT	Nevada Department of Transportation
NEI	National Emissions Inventory
NO	Nitric Oxide
NO ₂	Nitrogen Dioxide
NO _x	Oxides of Nitrogen
NO _y	Reactive Oxides of Nitrogen
O ₃	Ozone
ORD	EPA's Office of Research and Development
PLPT	Pyramid Lake Paiute Tribe
PM _{2.5}	Particulate Matter less than or equal to 2.5 microns in aerodynamic diameter
PM ₁₀	Particulate Matter less than or equal to 10 microns in aerodynamic diameter
PM _{coarse}	PM ₁₀ minus PM _{2.5}
ppb	parts per billion
ppm	parts per million
PWEI	Population Weighted Emissions Index
RSIC	Reno-Sparks Indian Colony
SASS	Speciation Air Sampling System
SIP	State Implementation Plan
SLAMS	State and Local Air Monitoring Station
SO ₂	Sulfur Dioxide
SPM	Special Purpose Monitoring
SR	State Route
STN	Speciation Trends Network
TAPI	Teledyne Advanced Pollution Instrumentation, Inc.
WAMMS	Wadsworth Air and Meteorological Monitoring Site

Introduction

Purpose

The U.S. Environmental Protection Agency (EPA) finalized amendments to the ambient air monitoring regulations on October 17, 2006.¹ The amendments revise the technical requirements for certain types of ambient air monitoring sites, add provisions for monitoring of PM_{coarse}, and reduce certain monitoring requirements for criteria pollutants. Monitoring agencies are required to submit annual monitoring network plans, conduct network assessments every five years, perform quality assurance activities, and in certain instances, have NCore sites established by January 1, 2011.

This plan was prepared and submitted as part of the fulfillment of these regulations. It represents the Washoe County Health District - Air Quality Management Division's (AQMD) ambient air monitoring program activities completed in 2022 and proposed network modifications for 2023-2024.

Public Inspection Process

This monitoring network plan was available for public inspection from May 25 to June 25, 2023, at the AQMD website ([OurCleanAir.com](https://www.ourcleanair.com)). A hardcopy of the plan was also available at the AQMD office. See Appendix A for AQMD's Public Inspection Plan.

Agency Contacts

For information or questions regarding the 2023 Ambient Air Monitoring Network Plan, please contact the following individuals of the AQMD.

Francisco Vega, Division Director
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Daniel Timmons, Senior Air Quality Specialist
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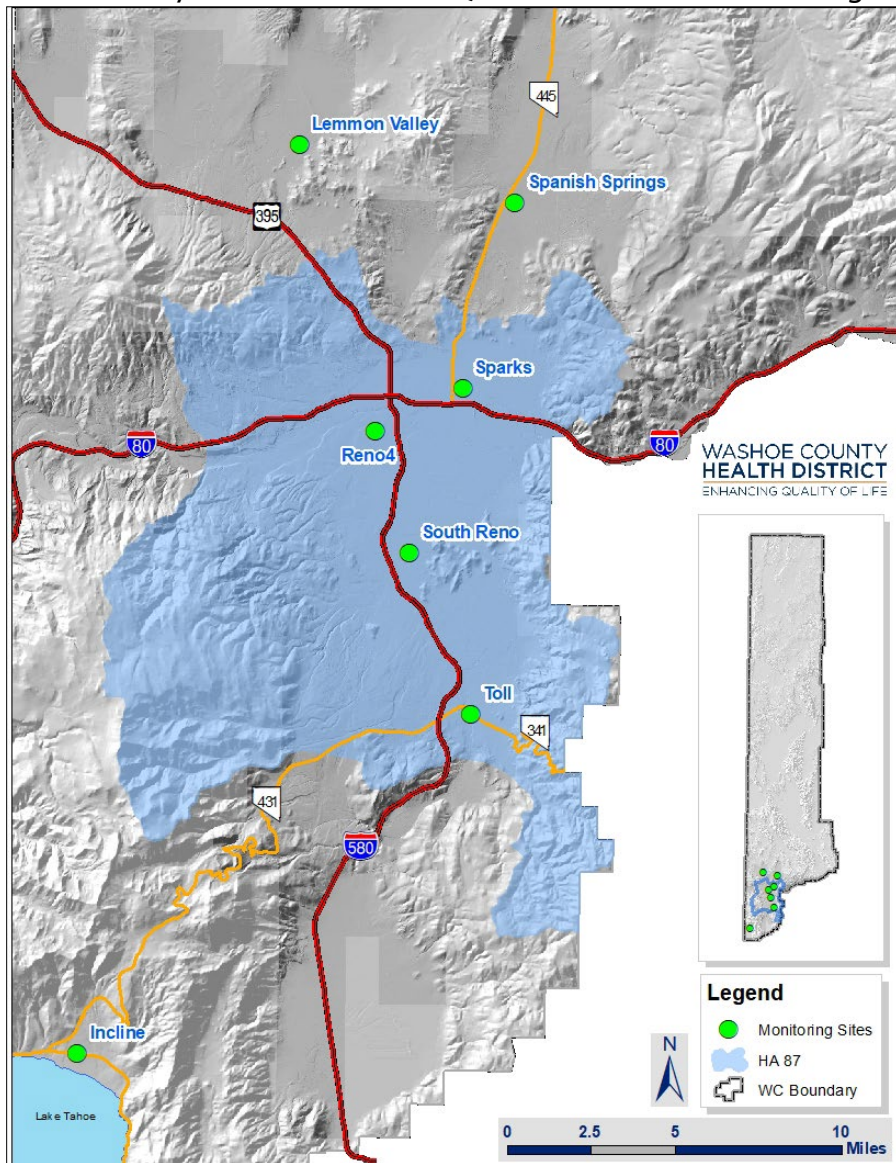
¹ 71 FR 61236-61328.

Overview of Washoe County Health District Network Operation

Network Design

The AQMD operated seven (7) ambient air monitoring sites in 2023 (Figure 1). The blue boundary delineates Hydrographic Area 87 (HA 87) as defined by the State of Nevada Division of Water Resources. This area was designated as “serious” non-attainment for the 24-hour PM₁₀ NAAQS until it was redesignated to “Attainment/Maintenance” effective January 7, 2016.² Washoe County is classified as “attainment” or “unclassifiable/attainment” for all other pollutants and averaging times. Table 1 lists the parameters monitored in 2022 sorted by network type and site.

Figure 1
Washoe County Health District - AQMD Ambient Air Monitoring Sites



² 80 FR 76232 (December 8, 2015).

**Table 1
Ambient Air Monitoring Sites and Parameters Monitored**

<u>Network Type</u> Site																		
SLAMS	O ₃	CO	Trace CO	NO	NO ₂	NO _x	Trace NO	NOy-NO	NOy	Trace SO ₂	PM ₁₀ (manual)	PM ₁₀ (continuous)	PM _{2.5} (manual)	PM _{2.5} (continuous)	PM _{coarse} (manual)	PM _{coarse} (continuous)	PM _{2.5} Speciation	Meteorology
Incline	✓																	
Lemmon Valley	✓																	
South Reno	✓																	✓
Spanish Springs	✓											✓		✓		✓		✓
Sparks	✓	✓										✓		✓		✓		✓
Toll	✓											✓		✓		✓		✓
NCore³																		
Reno4	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
STN																		
Reno4																		✓
SPM																		

Notes: Meteorology for the NCore network includes ambient temperature, wind speed, wind direction, and relative humidity. The PM₁₀ manual method monitor at NCore is for PM_{coarse} calculation only and is not submitted to AQS for data to be used in comparison to the NAAQS.

³ NCore monitoring began December 2010.

Minimum Monitoring Requirements

Except where otherwise noted, each monitor in AQMD’s ambient air monitoring network meets the minimum monitoring requirements for all criteria pollutants pursuant to 40 CFR 58, Appendices A, B, C, D, and E, where applicable. Tables 2 through 10 provide pollutant specific monitoring requirements. Additional pollutant specific data may be found in the [“Washoe County, Nevada, Air Quality Trends Report, 2012-2021”](#). The 2022 population data are from the Nevada State Demographer’s Office.⁴

Table 2
Minimum Monitoring Requirements for O₃

MSA	County	Population	8-hour Design Value (2020-2022)		Number of Sites		
			ppm	Site (ID)	Minimum Required	Active	Needed
Reno- Sparks	Washoe Storey Total	501,635 4,427 506,062	0.073	Incline (2002)	2	7	0

Monitors required for SIP or Maintenance Plan: 2

Title 40 CFR 58, Appendix D, Section 4.1 requires O₃ monitoring in MSAs with populations above 350,000 people. Monitors are also required in MSAs with lower populations if measured O₃ values within that MSA are 85% or more of the NAAQS.

Table 3
Minimum Monitoring Requirements for PM_{2.5} SLAMS (FRM/FEM/ARM)

MSA	County	Population	Design Value (2020-2022)				Number of SLAMS Sites		
			Annual (µg/m ³)	Annual Site (ID)	Daily (µg/m ³)	Daily Site (ID)	Minimum Required	Active	Needed
Reno- Sparks	Washoe Storey Total	501,635 4,427 506,062	11.0	Sparks (1005)	77.7	Reno4 (0031)	1	4	0

Monitors required for: SIP or Maintenance Plan: 0; NCore: 1

Title 40 CFR 58, Appendix D, Section 4.7.1 requires PM_{2.5} monitoring in MSAs with populations above 500,000 people and in MSAs with lower populations if measured PM_{2.5} values for an MSA are 85% or more of the NAAQS.

⁴ Nevada State Demographer, “Governor Certified Population Estimates of Nevada’s Counties, Cities and Towns 2002 to 2022”

Table 4
Minimum Monitoring Requirements for Continuous PM_{2.5} Monitors (FEM/ARM/non-FEM)

MSA	County	Population	Design Value (2020-2022)				Number of Continuous Monitors		
			Annual (µg/m ³)	Annual Site (ID)	Daily (µg/m ³)	Daily Site (ID)	Minimum Required	Active	Needed
Reno-Sparks	Washoe Storey Total	501,635 4,427 506,062	11.0	Sparks (1005)	77.7	Reno (0031)	1	4	0

Monitors required for: SIP or Maintenance Plan: 0; NCore: 1

Title 40 CFR 58, Appendix D, Section 4.7.2 requires continuous PM_{2.5} monitors equal to at least one-half (round up) of the minimum sites listed in Table D-5 of Title 40 CFR 58, Appendix D.

Table 5
Minimum Monitoring Requirements for PM₁₀

MSA	County	Population	Maximum Concentration (2020-2022)		Number of Sites		
			µg/m ³	Site (ID)	Minimum Required	Active	Needed
Reno-Sparks	Washoe Storey Total	501,635 4,427 506,062	319	Toll (0025)	4-8	4	0

Monitors required for SIP or Maintenance Plan: 4

Title 40 CFR 58, Appendix D, Section 4.6 specifies PM₁₀ monitoring requirements in MSAs based on population and design values. The number of PM₁₀ stations in areas where MSA populations are from 500,000-1,000,000 must be in the range of 4 to 8 stations, depending on ambient concentration levels.

Table 6
Minimum Monitoring Requirements for NO₂

CBSA	County	Population	Max AADT counts (year)	Number of Monitors					
				Required Near-Road	Active Near-Road	Near-Road Needed	Required Area-Wide	Active Area-Wide	Area-Wide Needed
Reno, NV	Washoe Storey Total	501,635 4,427 506,062	170,000 ⁵ (2022)	0	0	0	0	1	0

Monitors required for: SIP or Maintenance Plan: 0; NCore: 1

Monitors required for PAMS: 0

EPA Regional Administrator-required monitors per 40 CFR 58, App. D 4.3.4: 0

Title 40 CFR 58, Appendix D, Section 4.3.2 requires one near-road NO₂ monitoring station in each CBSA with populations over 1,000,000 people. Likewise, Title 40 CFR 58, Appendix D, Section 4.3.3 requires one area-wide NO₂ monitoring station in each CBSA with populations over 1,000,000 people. Based on the 2022 population data from the Nevada State Demographer's Office, the Reno, NV CBSA does not require a near-road or area-wide NO₂ monitoring station.

⁵ NDOT ATR 0310634 between the Plumb-Villanova Interchange 'Exit 65' & Mill St Interchange 'Exit 66'.

**Table 7
Minimum Monitoring Requirements for SO₂**

CBSA	County	Population	Total SO ₂ (tons/year)	PWEI (Million persons- tons/year)	Data Requirements Rule Source(s) using Monitoring	Number of Monitors		
						Minimum Required	Active	Needed
Reno, NV	Washoe <u>Storey</u> Total	501,635 4,427 506,062	339.0 ⁶	171.6	n/a	0	1	0

Monitors required for SIP or Maintenance Plan: 0; NCore: 1

EPA Regional Administrator-required monitors per 40 CFR 58, App. D 4.4.3: 0

Title 40 CFR 58, Appendix D, Section 4.4.2 requires an SO₂ monitoring network based on a calculated population weighted emissions index (PWEI). This index is calculated by multiplying the population of a CBSA with the National Emission Inventory (NEI) data for counties within that CBSA. The calculated value is then divided by one million in order to obtain the PWEI value. PWEI monitoring requirements are as follows: 1) one monitor in CBSAs with a PWEI value greater than 5,000, 2) two monitors in CBSAs with a PWEI value greater than 100,000, and 3) three monitors in CBSAs with a PWEI value greater than 1,000,000. As shown in Table 8, AQMD used 2022 population data from the Nevada State Demographer’s Office and 2020 National Emissions Inventory data to determine that no additional SO₂ monitoring is required.

**Table 8
Minimum Monitoring Requirements for CO**

CBSA	County	Population	Number of Monitors		
			Required Near- Road	Active Near-Road	Needed
Reno, NV	Washoe <u>Storey</u> Total	501,635 4,427 506,062	0	0	0

Monitors required for: SIP or Maintenance Plan: 0; NCore: 1

EPA Regional Administrator-required monitors per 40 CFR 58, App. D 4.2.2: 0

Title 40 CFR 58, Appendix D, Section 3.0 requires high sensitivity CO monitors at NCore sites. Title 40 CFR 58, Appendix D, Section 4.2 requires one CO monitor to operate collocated with one required near-road NO₂ monitor in CBSAs having populations over 1,000,000 people. Based on the 2020 population data from the Nevada State Demographer’s Office, the Reno, NV CBSA does not require a CO monitor collocated with a near-road NO₂ monitor.

⁶ U.S.EPA, 2020 National Emissions Inventory (NEI) Data

**Table 9
Source-Oriented Pb Monitoring**

Source Name	Address	Pb Emissions (tons/year)	Emission Inventory Source & Data Year	Max 3-Month Design Value ($\mu\text{g}/\text{m}^3$)	Design Value Date (3 rd Month, Year)	Number of Monitors		
						Minimum Required	Active	Needed
Reno-Stead Airport	4895 Texas Ave Reno, NV	0.126	2020 NEI	n/a	n/a	0	0	0
Reno-Tahoe International Airport	2001 E Plumb Lane Reno, NV	0.123	2020 NEI	n/a	n/a	0	0	0

Monitors required for: SIP or Maintenance Plan: 0

EPA Regional Administrator-required monitors per 40 CFR 58, App. D 4.5(c): 0

Title 40 CFR 58, Appendix D, Section 4.5(a) requires one source-oriented SLAMS site located to measure the maximum Pb concentration in ambient air resulting from each non-airport Pb source which emits 0.50 or more tons per year and from each airport which emits 1.0 or more tons per year based on the most recent National Emission Inventory. All non-airport sources of Pb within the CBSA emit less than 0.5 tons per year and all airport sources within the CBSA emit less than 1.0 tons per year, according to the 2020 NEI. Table 10 includes the two largest sources of Pb emissions in the Reno, NV CBSA.

**Table 10
Near-Road NO₂, PM_{2.5}, and CO Monitors**

CBSA	Population (year)	Max AADT Counts (year)	Number of Monitors						
			Required NO ₂	Active NO ₂	Required PM _{2.5}	Active PM _{2.5}	Required CO	Active CO	Additional Needed
Reno, NV	501,635 (2022)	170,000 ⁷ (2022)	0	0	0	0	0	0	0

Title 40 CFR 58.13 and Appendix D to Title 40 CFR 58, Sections 4.2, 4.3, and 4.7 require one near-road CO monitor to operate collocated with one near-road NO₂ monitor in CBSAs having a population of 1,000,000 or more persons. An additional NO₂ monitor is required in CBSAs with a population of 2,500,000 or more persons.

⁷ NDOT ATR 0310634 between the Plumb-Villanova Interchange 'Exit 65' & Mill St Interchange 'Exit 66'.

Collocation Requirements

Title 40 CFR 58, Appendix A, Section 3 describes the number of collocated monitors required for PM_{2.5}, PM₁₀, and Pb networks at the Primary Quality Assurance Organization (PQAO) level. Tables 11 and 12 display how AQMD is assessing and meeting these collocation requirements.

Table 11
Collocation of Manual PM_{2.5}, PM₁₀, and non-NCore Pb Monitors

Method Code	Number of Primary Monitors	Number of Collocated Monitors	
		Required	Active
125	0	0	0

Title 40 CFR 58, Appendix A, Section 3.2.3 requires 15 percent (at least 1) of the manual method samplers be collocated. Being that AQMD only runs one manual method sampler for the calculation of PM_{10-2.5} at the Reno4 NCore station, and all the Primary PM₁₀ monitors are continuous methods, there is no collocation requirement.

Table 12
Collocation of Automated FEM PM_{2.5} Monitors

Method Code	Number of Primary Monitors	Number of Required Collocated Monitors	Number of Active Collocated FRM Monitors	Number of Active Collocated FEM Monitors (same method designation as primary)
170	4	1	1	0

Title 40 CFR 58, Appendix A, Section 3.2.3 requires 15 percent of the primary monitors of each method designation (at least 1) be collocated. Values of 0.5 and greater round up. The first collocated monitor must be a designated FRM monitor. AQMD meets this requirement by having four Primary PM_{2.5} FEM monitors with one at the Reno4 monitoring station collocated with a PM_{2.5} FRM sampler.

Process to Review Changes to PM2.5 Monitoring Network

40 CFR 58.10(c) requires this annual network plan to “provide for the review of changes to a PM2.5 monitoring network that impact the location of a violating PM2.5 monitor.” There is no current plan to relocate or discontinue any PM2.5 monitor suitable for NAAQS comparison. Any changes to the PM2.5 monitoring network with impact to the location of a violating PM2.5 monitor will be documented in this section of future annual network plans.

Network Modifications Completed in 2022

SLAMS:

- No modifications completed.

NCore:

- No modifications completed.

Speciation Trends:

- No modifications completed.

SPM:

- No modifications completed.

Additional Changes Completed in 2022

SLAMS:

CO (Sparks)

- Programmed data logger/calibrator to run nightly automatic zero and span checks.

O3 (Incline, Lemmon Valley, South Reno, Spanish Springs, Sparks, and Toll)

- Programmed data loggers/calibrators to run nightly automatic zero and span checks.

NCore:

- No changes completed.

Speciation Trends:

- No changes completed.

SPM:

- No changes completed.

Network Modifications Proposed for 2023-2024

SLAMS:

CO (Sparks)

- Discontinue CO monitoring at the Sparks station. A formal request stating this proposal will be submitted prior to any modifications to follow the 40 CFR 58.14 criteria.

O3 and meteorology (South Reno)

- Discontinue all monitoring at the South Reno station. A formal request stating this proposal will be submitted prior to any modifications to follow the 40 CFR 58.14 criteria.

NCore:

- No modifications proposed.

Speciation Trends:

- No modifications proposed.

SPM:

All pollutants and meteorology (Verdi)

- Begin monitoring PM₁₀, PM_{2.5}, PM_{coarse}, O₃, and meteorology at a new site in Verdi. This station will be constructed with American Rescue Plan (ARP) grants funds from EPA. A formal request stating this proposal will be submitted prior to any modifications to follow the 40 CFR 58.14 criteria.

Additional Changes Proposed for 2023-2024

SLAMS:

PM₁₀, PM_{2.5}, PM_{coarse} (Sparks)

- Install new Met One BAM 1020's as part of the 10-year replacement schedule. These monitors were purchased using one-time 103 grant funding received in 2022.

NCore:

SO₂, NO_x (Reno4)

- Install new T-Series Teledyne trace-level SO₂ and NO_x analyzers as part of the 10-year replacement schedule.

PM₁₀, PM_{2.5}, PM_{coarse} (Reno4)

- Install new Met One BAM 1020's as part of the 10-year replacement schedule. These monitors were purchased using one-time 103 grant funding received in 2022.

Speciation Trends:

- Install a new Met One SuperSASS as part of the 10-year replacement schedule. This sampler will be purchased using one-time 103 grant funding from EPA.

SPM:

- No changes proposed.

PM_{2.5} Monitoring Network Modifications Proposed for 2023-2024

SLAMS:

PM_{2.5}

- No modifications proposed.

NCORE:

PM_{2.5}

- No modifications proposed.

Speciation Trends:

- No modifications proposed.

SPM:

PM_{2.5} (Verdi)

- Begin monitoring PM_{2.5} at new site in Verdi. A formal request stating this proposal will be submitted prior to any modifications to follow the 40 CFR 58.14 criteria.

Data Submission Requirements

Quality Assurance Data for 2022 were submitted to AQS for the:

- 1st quarter in June 2022
- 2nd quarter in September 2022
- 3rd quarter in December 2022
- 4th quarter in March 2023

Annual Data Certification for all data for 2022 was submitted to EPA on April 17, 2023.

Environmental Justice and Underserved Communities

Historically Underserved Communities are defined as:

(1) A census tract:

- (I) Designated as a qualified census tract by the United States Secretary of Housing and Urban Development pursuant to 26 U.S.C. § 42(d)(5)(B)(ii); or
- (II) In which, in the immediately preceding census, at least 20 percent of households were not proficient in the English language;

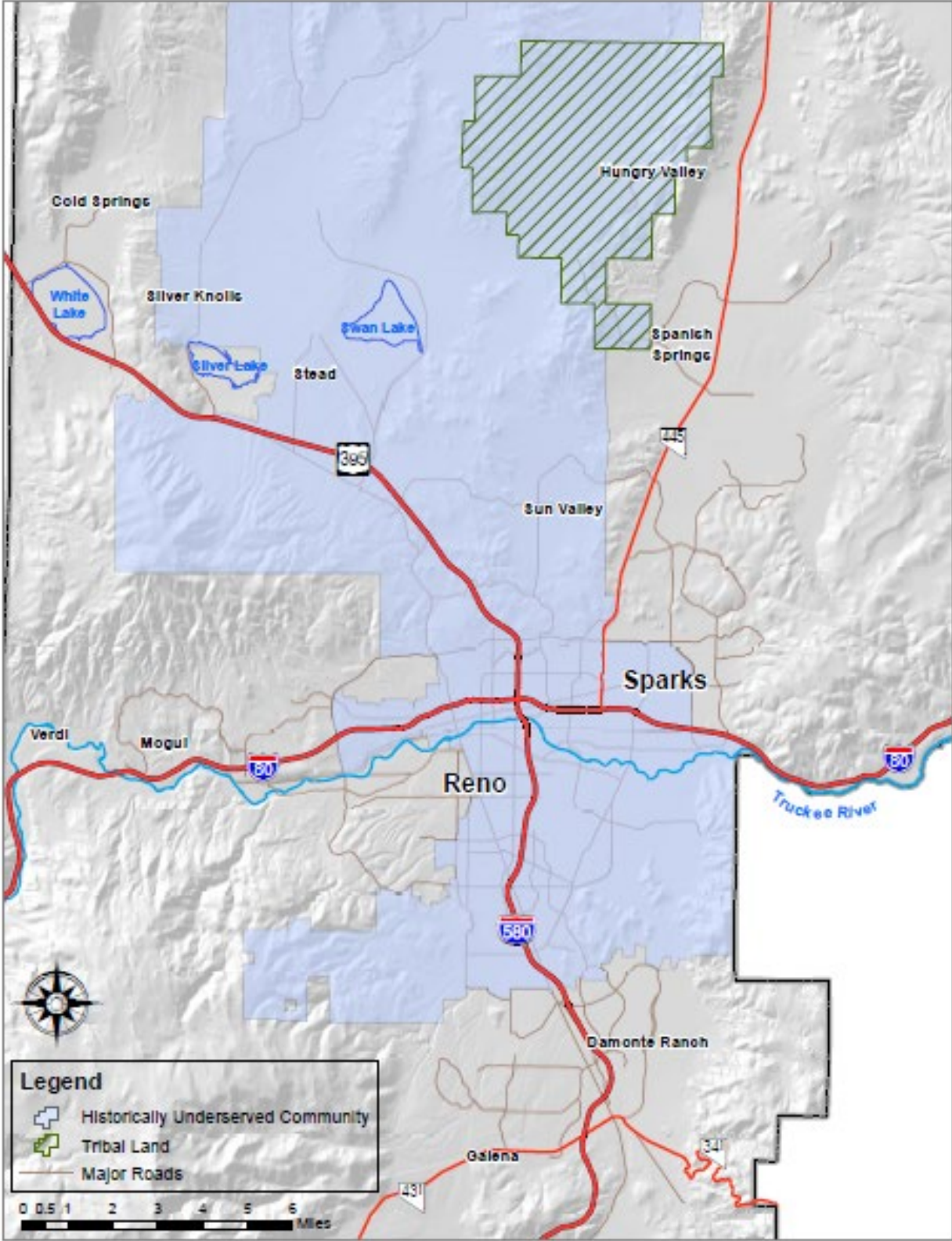
(2) A community in this State with at least one public school:

- (I) In which 75 percent or more of the enrolled pupils in the school are eligible for free or reduced-price lunches pursuant to 42 U.S.C. §§ 1751 et seq.; or
- (II) That participates in universal meal service in high poverty areas pursuant to Section 104 of the Healthy, Hunger-Free Kids Act of 2010, Public Law 111-296; or

(3) A community in this State located on qualified tribal land, as defined in NRS 370.0325.

Figure 12 highlights the Historically Underserved Communities in the Reno/Sparks area.

Figure 2
Historically Underserved Communities in the Reno/Sparks Area



Four out of seven of AQMD's ambient air monitoring sites are located in the communities defined above as historically underserved. Those sites are Lemmon Valley, Reno4, South Reno, and Sparks. AQMD will consider environmental justice factors during network design, siting, relocating, or discontinuing monitors, and engaging with specific communities when plans are out for public comment.

In 2022, AQMD partnered with the Reno-Sparks Indian Colony and donated two PurpleAir sensors as part of a supplemental environmental project. Both sensors have been installed on Tribal Lands, one in the original 28-acre Colony in central west Reno and the other in Hungry Valley.

Overview of Tribal Network Operations

Network Design

Two tribes operate ambient air monitoring networks within the geographic boundaries of Washoe County - The Reno-Sparks Indian Colony (RSIC) and Pyramid Lake Paiute Tribe (PLPT). Table 13 summarizes the tribal sites and parameters monitored in 2022. Figure 3 shows the location of tribal lands for the Reno-Sparks Indian Colony and the Pyramid Lake Paiute Tribes' monitoring sites. For additional detailed site information about the RSIC and PLPT monitoring networks including annual network plans, refer to the following contact information.

Reno-Sparks Indian Colony

Candance Stowell
 Planning Manager
 Planning Department/
 Environmental Program
 1937 Prosperity Street
 Reno, NV 89502
 (775) 785-1363
cstowell@rsic.org
<http://www.rsic.org/>

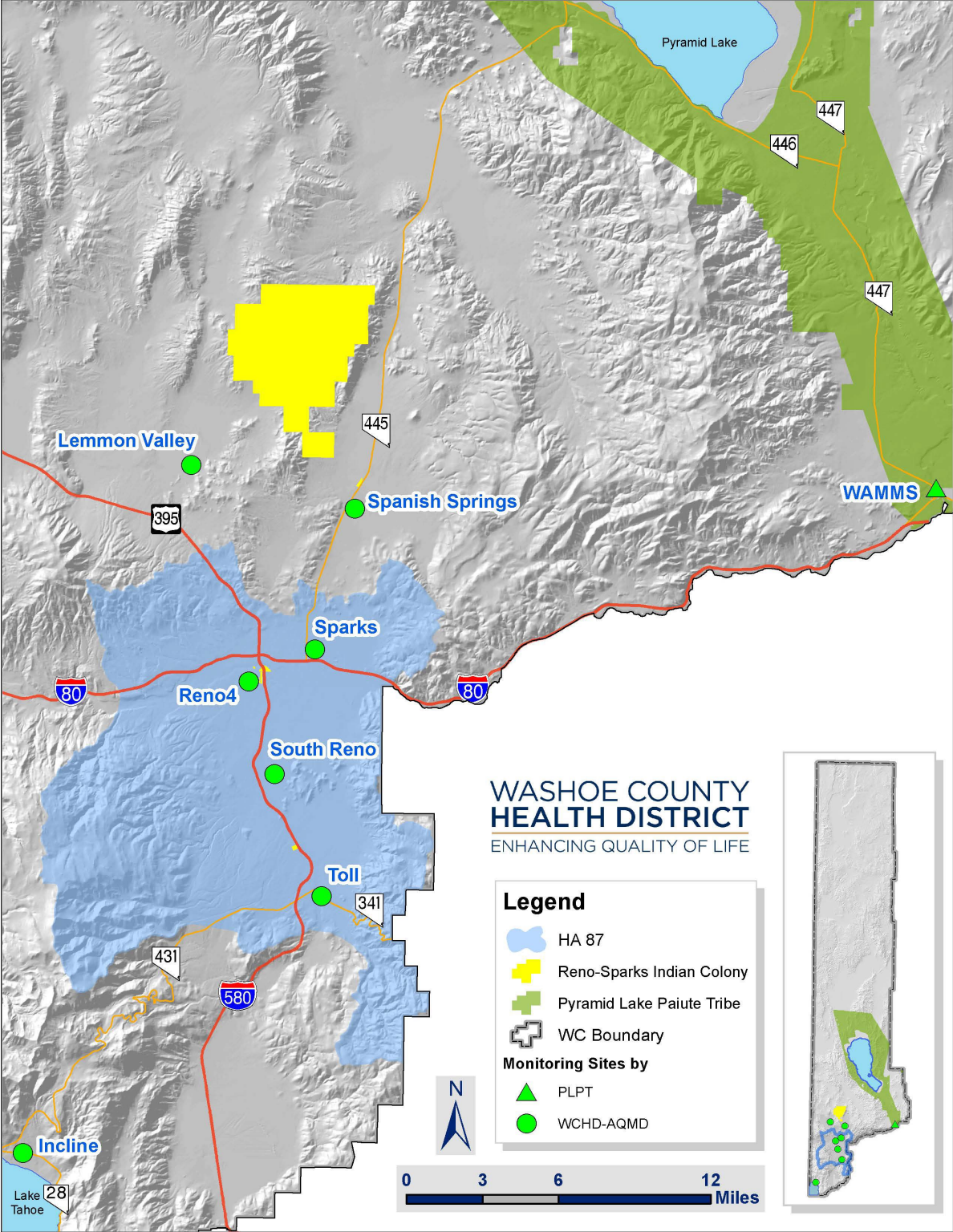
Pyramid Lake Paiute Tribe

Tanda Roberts
 Air Quality Specialist
 Environmental Department
 P.O. Box 256
 Nixon, NV 89424
 (775) 574-0101 ext.18
troberts@plpt.nsn.us
<https://plpt.nsn.us/>

Table 13
 Tribal Ambient Air Monitoring Sites and Parameters Monitored

Network Site ID	O ₃	CO	Trace CO	NO	NO ₂	NO _x	Trace NO	NOy-NO	NOy	Trace SO ₂	PM ₁₀ (manual)	PM ₁₀ (continuous)	PM _{2.5} (manual)	PM _{2.5} (continuous)	PM _{coarse} (manual)	PM _{coarse} (continuous)	PM _{2.5} Speciation	Meteorology
RSIC																		
Hungry Valley TT-653-2010																		
PLPT																		
WADSAQ T-561-1026												✓						✓

Figure 3
Tribal Monitoring Network



Washoe County Health District Detailed Site Information

Incline

This site is located in a Washoe County office building at 855 Alder Avenue and is outside HA 87. It is located in a residential/commercial neighborhood. The AQMD had monitored PM₁₀ (1993-2002) and CO (1993-2002) and currently monitors for O₃. This site was temporarily closed from December 2005 to May 2008 for remodeling. By multi-agency cooperative agreement, the California Air Resources Board (CARB) monitored PM_{2.5} (1999-2002) and NO₂ (1999-2002). Since May 2008, this site only monitors for O₃.

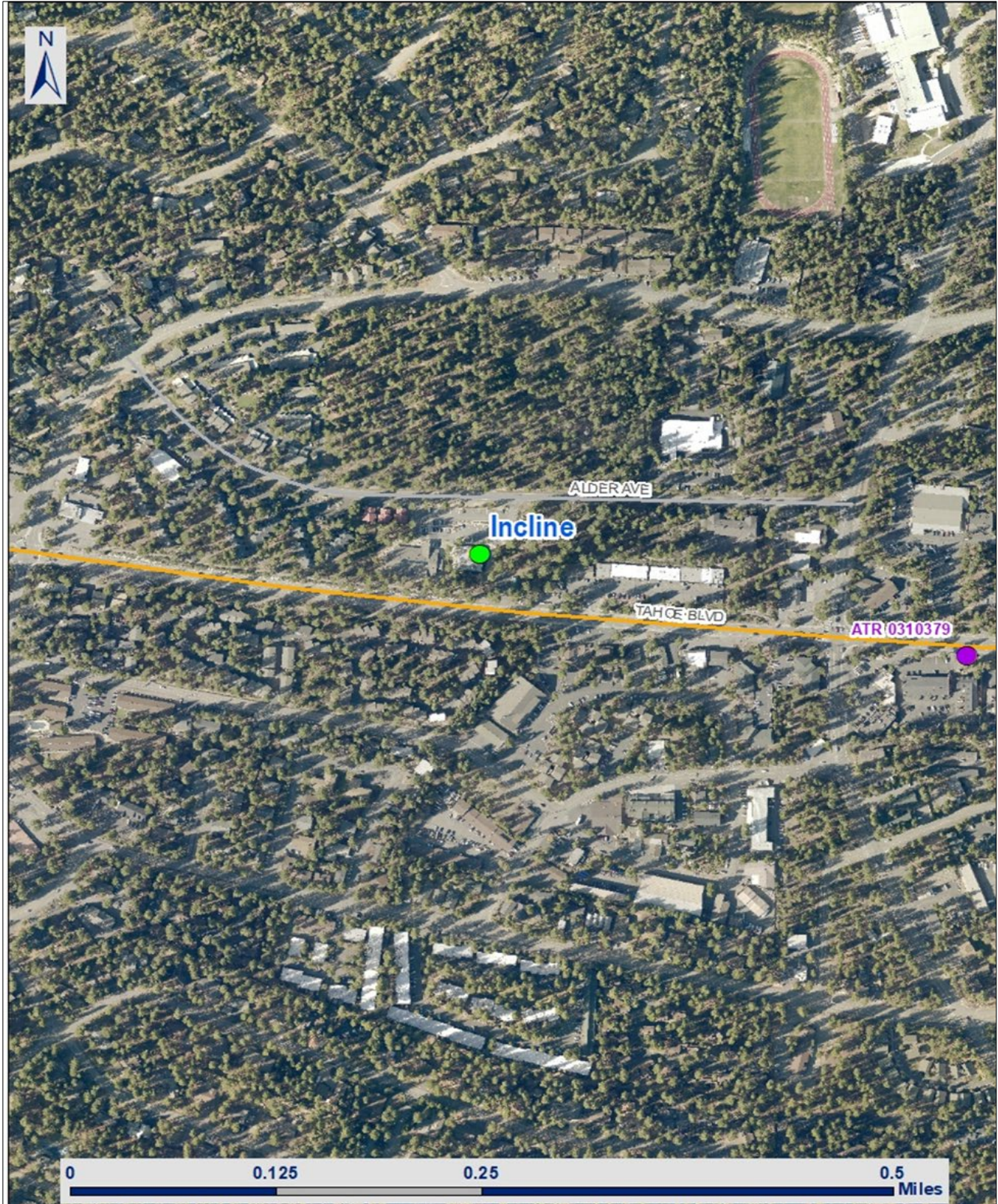
Site Name:	Incline
AQS ID:	32-031-2002
Geographical coordinates:	39° 15.025'N, 119° 57.404'W
Elevation:	6,437'
Assessor's Parcel Number:	132-020-23
Owner:	Washoe County
Location:	Inside northeast corner of Washoe County office building.
Street address:	855 Alder Avenue Incline Village, NV 89451
County:	Washoe
Distance to road:	57 meters to Tahoe Boulevard
Traffic count:⁸	9,333 AADT (2019-2021) (NDOT ATR 0310379 - SR28 (Tahoe Blvd), 450 feet south of Village Blvd)
Groundcover:	Paved / Vegetated
Representative area:	Reno-Sparks MSA
Hydrographic area:	90

Figure 4
Incline Monitoring Station



⁸ [Nevada Department of Transportation Traffic Information](#)

Figure 5
Incline Monitoring Site Vicinity Aerial



Incline (continued)

Pollutant, POC	O ₃ , 1
Primary / QA Collocated / Other	n/a
Parameter code	44201
Basic monitoring objective(s)	NAAQS comparison
Site type(s)	Highest Concentration
Monitor type	SLAMS
Network affiliation(s)	n/a
Instrument manufacturer / model	TAPI T400
Method code	087
FRM / FEM / ARM / Other	FEM
Collecting Agency	WCHD - AQMD
Analytical Lab	n/a
Reporting Agency	WCHD - AQMD
Spatial scale	Neighborhood
Monitoring start date	June 1993
Current sampling frequency	Continuous
Required sampling frequency	n/a
Sampling season	01/01 - 12/31
Probe height	5.3 meters
Distance from supporting structure	2.0 meters
Distance from obstructions on roof	n/a
Distance from obstructions not on roof	None
Horizontal distance from trees	10.8 meters ¹
Vertical height of tree above probe	8.7 meters
Distance to furnace or incinerator flue	6.3 meters ²
Distance between collocated monitors	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	n/a
For high volume PM instruments, is any PM instrument within 2 meters?	n/a
Unrestricted airflow	360 degrees
Probe material	Teflon
Residence time	8 seconds
Proposed modifications within the next 18 months?	None
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a
Frequency of flow rate verification for manual samplers (PM)	n/a
Frequency of flow rate verification for automated analyzers (PM)	n/a
Frequency of one-point QC check (gaseous)	Bi-weekly (3 point)
Date of annual performance evaluation (gaseous & meteorological)	03/10/22 06/07/22 09/07/22 11/08/22
Date of two semi-annual flow rate audits (PM)	n/a

¹At least 90 percent of the monitoring path is at least 10 meters from the drip line of the trees.

²At least 90 percent of the monitoring path is away from the furnace flue.

Lemmon Valley

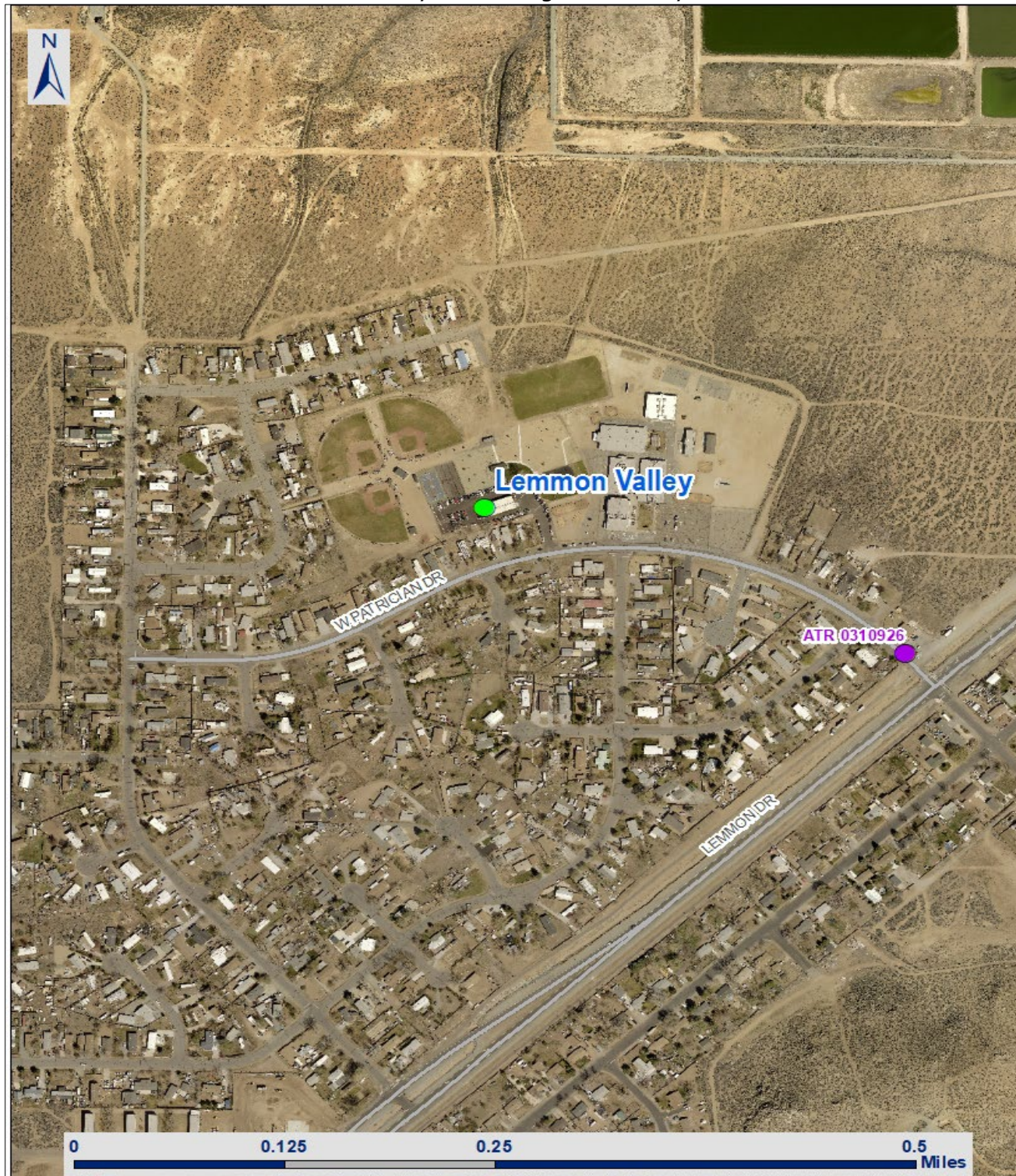
Located at the Boys and Girls Club at 325 Patrician Drive, this site is outside HA 87. It is in a transitional area among residences, parks, and open fields.

Site name:	Lemmon Valley
AQS ID:	32-031-2009
Geographical coordinates:	39° 38.716'N, 119° 50.401'W
Elevation:	4,925'
Assessor's Parcel Number	080-461-31
Owner:	Washoe County
Location:	Inside northwest corner of Boys and Girls Club.
Street address:	325 W. Patrician Drive Reno, NV 89506
County:	Washoe
Distance to road:	59 meters to Patrician Drive.
Traffic count:	713 AADT (2019-2021) (NDOT ATR 0310926 - Patrician Drive, 150 feet west of Lemmon Drive)
Groundcover:	Paved / Vegetated
Representative area:	Reno-Sparks MSA
Hydrographic area:	92B

Figure 6
Lemmon Valley Monitoring Station



Figure 7
Lemmon Valley Monitoring Site Vicinity Aerial



Lemmon Valley (continued)

Pollutant, POC	O ₃ , 1
Primary / QA Collocated / Other	Primary
Parameter code	44201
Basic monitoring objective(s)	NAAQS comparison
Site type(s)	Population Exposure
Monitor type	SLAMS
Network affiliation(s)	n/a
Instrument manufacturer / model	TAPI T400
Method code	087
FRM / FEM / ARM / Other	FEM
Collecting Agency	WCHD - AQMD
Analytical Lab	n/a
Reporting Agency	WCHD - AQMD
Spatial scale	Urban
Monitoring start date	January 1987
Current sampling frequency	Continuous
Required sampling frequency	n/a
Sampling season	01/01 - 12/31
Probe height	5.5 meters
Distance from supporting structure	2.0 meters
Distance from obstructions on roof	n/a
Distance from obstructions not on roof	None
Horizontal distance from trees	21 meters
Vertical height of tree above probe	9.5 meters
Distance to furnace or incinerator flue	9.1 meters ¹
Distance between collocated monitors	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	n/a
For high volume PM instruments, is any PM instrument within 2 meters?	n/a
Unrestricted airflow	360 degrees
Probe material	Teflon
Residence time	7 seconds
Proposed modifications within the next 18 months?	None
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a
Frequency of flow rate verification for manual samplers (PM)	n/a
Frequency of flow rate verification for automated analyzers (PM)	n/a
Frequency of one-point QC check (gaseous)	Bi-weekly (3 point)
Date of annual performance evaluation (gaseous & meteorological)	03/08/22 06/09/22 09/08/22 11/03/22
Date of two semi-annual flow rate audits (PM)	n/a

¹At least 90 percent of the monitoring path is away from the furnace flue.

Reno4

Located at Libby C. Booth Elementary School at 1450 Stewart Street in Reno, this site is near the northern edge of the playground and bus loading/unloading zone. Reno4 began monitoring in January 2020 as a relocation of the Reno3 site. Reno4 is an NCore site and monitors for O₃, PM₁₀, PM_{2.5}, PM_{coarse}, Trace CO, Trace SO₂, NO_x, and Trace NO_y. Meteorological parameters including ambient temperature, relative humidity, wind speed, and wind direction are also monitored. This site is also part of EPA's national Speciation Trends Network (STN).

Site name:	Reno4
AQS ID:	32-031-0031
Geographical coordinates:	39° 31.316'N, 119° 47.724'W
Elevation:	4,461'
Assessor's Parcel Number:	013-042-01
Owner:	Washoe County School District Board
Location:	North edge of Libby Booth Elementary School property
Street address:	1260-A Stewart St. Reno NV 89502
County:	Washoe
Distance to road:	10 meters to Stewart St. and 150 meters to Yori Ave.
Traffic count:	976 AADT (2019-2021) (NDOT ATR 0310886 - Yori Ave, 165 feet north of Stewart St.) ≤900 Approximate AADT (NDOT Estimate - Stewart Street)
Groundcover:	Decomposed Granite
Representative area:	Reno-Sparks MSA
Hydrographic area:	87

Figure 8
Reno4 Monitoring Station



Figure 9
Reno4 Monitoring Site Vicinity Aerial



Reno4 (continued)

Pollutant, POC	PM ₁₀ , 2	PM _{2.5} , 2	PM _{10-2.5} , 2	PM _{2.5} Speciation, 5
Primary / QA Collocated / Other	Primary	Primary	Primary	Primary
Parameter code	81102 & 85101	88101	86101	88502
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison	Research Support	Research Support
Site type(s)	Population Exposure	Population Exposure	n/a	Population Exposure
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s)	NCore	NCore	NCore	STN, NCore
Instrument manufacturer / model	Met One BAM 1020	Met One BAM 1020	Met One BAM 1020 Coarse Pair	Met One SASS; URG 3000N
Method code	122	170	185	SASS: 810 URG: 870
FRM / FEM / ARM / Other	FEM	FEM	FEM	Other
Collecting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Analytical Lab	n/a	n/a	n/a	Wood
Reporting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	UC Davis
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	January 2020	January 2020	January 2020	January 2020
Current sampling frequency	Continuous	Continuous	Continuous	1:3
Required sampling frequency	n/a	n/a	n/a	1:3
Sampling season	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe height	5.2 meters	5.1 meters	5.1 meters	SASS: 4.9 meters URG: 5.1 meters
Distance from supporting structure	2.2 meters	2.2 meters	2.2 meters	SASS: 1.8 meters URG: 2.1 meters
Distance from obstructions on roof	n/a	n/a	n/a	n/a
Distance from obstructions not on roof	None	None	None	None
Horizontal distance from trees	42.0 meters	43.2 meters	42.0 meters	SASS: 44.7 meters URG: 46.0 meters
Vertical height of tree above probe	9.8 meters	9.9 meters	9.9 meters	SASS: 10.1 meters URG: 9.9 meters
Distance to furnace or incinerator flue	n/a	n/a	n/a	n/a
Distance between collocated monitors	n/a	1.2 meters	n/a	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	No	No	No	No
For high volume PM instruments, is any PM instrument within 2 meters?	n/a	n/a	n/a	n/a
Unrestricted airflow	360 degrees	360 degrees	360 degrees	360 degrees
Probe material	n/a	n/a	n/a	n/a
Residence time	n/a	n/a	n/a	n/a
Proposed modifications within the next 18 months?	None	None	None	None
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a	Yes	n/a	No
Frequency of flow rate verification for manual samplers (PM)	n/a	n/a	n/a	Monthly verifications and quarterly audits
Frequency of flow rate verification for automated analyzers (PM)	Bi-weekly verifications and quarterly audits	Bi-weekly verifications and quarterly audits	Bi-weekly verifications and quarterly audits	n/a
Frequency of one-point QC check (gaseous)	n/a	n/a	n/a	n/a
Date of annual performance evaluation (gaseous & meteorological)	n/a	n/a	n/a	n/a
Date of two semi-annual flow rate audits (PM)	03/03/22 06/15/22 09/07/22 12/13/22	03/03/22 06/15/22 09/07/22 12/13/22	03/03/22 06/15/22 09/07/22 12/13/22	03/16/22 06/24/22 09/07/22 11/02/22

Reno4 (continued)

Pollutant, POC	PM ₁₀ , 1	PM _{2.5} , 1	PM _{10-2.5} , 1	Trace CO, 1
Primary / QA Collocated / Other	Other	QA Collocated	Other	n/a
Parameter code	85101	88101	86101	42101
Basic monitoring objective(s)	Research Support	NAAQS comparison	Research Support	NAAQS comparison
Site type(s)	n/a	Population Exposure	n/a	Highest Concentration
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s)	NCore	NCore	NCore	NCore
Instrument manufacturer / model	Met One E-SEQ	Met One E-SEQ	Met One E-SEQ	TAPI 300EU
Method code	246	545	247	593
FRM / FEM / ARM / Other	FRM	FRM	FRM	FRM
Collecting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Analytical Lab	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	n/a
Reporting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	January 2020	January 2020	January 2020	January 2020
Current sampling frequency	1:3	1:3	1:3	Continuous
Required sampling frequency	1:3	1:3	1:3	n/a
Sampling season	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe height	5.0 meters	5.0 meters	5.0 meters	4.9 meters
Distance from supporting structure	2.0 meters	2.0 meters	2.0 meters	1.9 meters
Distance from obstructions on roof	n/a	n/a	n/a	n/a
Distance from obstructions not on roof	None	None	None	None
Horizontal distance from trees	42.0 meters	43.2 meters	42.0 meters	45.7 meters
Vertical height of tree above probe	10 meters	10 meters	10 meters	10.1 meters
Distance to furnace or incinerator flue	n/a	n/a	n/a	n/a
Distance between collocated monitors	n/a	1.2 meters	n/a	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	No	No	No	n/a
For high volume PM instruments, is any PM instrument within 2 meters?	n/a	n/a	n/a	n/a
Unrestricted airflow	360 degrees	360 degrees	360 degrees	360 degrees
Probe material	n/a	n/a	n/a	Teflon
Residence time	n/a	n/a	n/a	6 seconds
Proposed modifications within the next 18 months?	None	None	None	None
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a	Yes	n/a	n/a
Frequency of flow rate verification for manual samplers (PM)	Monthly verifications and quarterly audits	Monthly verifications and quarterly audits	Monthly verifications and quarterly audits	n/a
Frequency of flow rate verification for automated analyzers (PM)	n/a	n/a	n/a	n/a
Frequency of one-point QC check (gaseous)	n/a	n/a	n/a	Weekly
Date of annual performance evaluation (gaseous & meteorological)	n/a	n/a	n/a	03/03/22 06/14/22 09/14/22 11/10/22
Date of two semi-annual flow rate audits (PM)	03/16/22 06/15/22 09/07/22 11/02/22	03/16/22 06/15/22 09/07/22 11/02/22	03/16/22 06/15/22 09/07/22 11/02/22	n/a

Reno4 (continued)

Pollutant, POC	O ₃ , 1	NO, 1	NO ₂ , 1	NO _x , 1
Primary / QA Collocated / Other	n/a	Primary	Primary	Primary
Parameter code	44201	42601	42602	42603
Basic monitoring objective(s)	NAAQS comparison	Research Support	NAAQS comparison	Research Support
Site type(s)	Population Exposure	n/a	Highest Concentration	n/a
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s)	NCore	NCore	NCore	NCore
Instrument manufacturer / model	TAPI T400	TAPI 200EU	TAPI 200EU	TAPI 200EU
Method code	087	099	099	099
FRM / FEM / ARM / Other	FEM	FRM	FRM	FRM
Collecting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Analytical Lab	n/a	n/a	n/a	n/a
Reporting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	January 2020	January 2020	January 2020	January 2020
Current sampling frequency	Continuous	Continuous	Continuous	Continuous
Required sampling frequency	n/a	n/a	n/a	n/a
Sampling season	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe height	5.1 meters	5.1 meters	5.1 meters	5.1 meters
Distance from supporting structure	2.1 meters	2.1 meters	2.1 meters	2.1 meters
Distance from obstructions on roof	n/a	n/a	n/a	n/a
Distance from obstructions not on roof	None	None	None	None
Horizontal distance from trees	45.7 meters	46.9 meters	46.9 meters	46.9 meters
Vertical height of tree above probe	9.9 meters	9.9 meters	9.9 meters	9.9 meters
Distance to furnace or incinerator flue	n/a	n/a	n/a	n/a
Distance between collocated monitors	n/a	n/a	n/a	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	n/a	n/a	n/a	n/a
For high volume PM instruments, is any PM instrument within 2 meters?	n/a	n/a	n/a	n/a
Unrestricted airflow	360 degrees	360 degrees	360 degrees	360 degrees
Probe material	Teflon	Teflon	Teflon	Teflon
Residence time	6 seconds	5 seconds	5 seconds	5 seconds
Proposed modifications within the next 18 months?	None	None	None	None
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a	n/a	n/a	n/a
Frequency of flow rate verification for manual samplers (PM)	n/a	n/a	n/a	n/a
Frequency of flow rate verification for automated analyzers (PM)	n/a	n/a	n/a	n/a
Frequency of one-point QC check (gaseous)	Weekly	Weekly (4 point w/ GPT)	Weekly (4 point w/ GPT)	Weekly (4 point w/ GPT)
Date of annual performance evaluation (gaseous & meteorological)	03/03/22 06/14/22 09/14/22 11/10/22	03/04/22 06/15/22 09/14/22 11/16/22	03/04/22 06/15/22 09/14/22 11/16/22	03/04/22 06/15/22 09/14/22 11/16/22
Date of two semi-annual flow rate audits (PM)	n/a	n/a	n/a	n/a

Reno4 (continued)

Pollutant, POC	Trace NO _x , 1	NO _x -NO _x , 1	NO _x , 1	Trace SO ₂ , 1
Primary / QA Collocated / Other	n/a	n/a	n/a	n/a
Parameter code	42601	42612	42600	42401
Basic monitoring objective(s)	Research Support	Research Support	Research Support	NAAQS comparison
Site type(s)	n/a	n/a	n/a	Highest Concentration
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s)	NCore	NCore	NCore	NCore
Instrument manufacturer / model	TAPI T200U with 501	TAPI T200U with 501	TAPI T200U with 501	TAPI 100EU
Method code	699	699	699	600
FRM / FEM / ARM / Other	Other	Other	Other	FEM
Collecting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Analytical Lab	n/a	n/a	n/a	n/a
Reporting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	January 2020	January 2020	January 2020	January 2020
Current sampling frequency	Continuous	Continuous	Continuous	Continuous
Required sampling frequency	n/a	n/a	n/a	n/a
Sampling season	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe height	8.6 meters	8.6 meters	8.6 meters	5.1 meters
Distance from supporting structure	8.6 meters	8.6 meters	8.6 meters	2.1 meters
Distance from obstructions on roof	n/a	n/a	n/a	n/a
Distance from obstructions not on roof	None	None	None	None
Horizontal distance from trees	47.7 meters	47.7 meters	47.7 meters	45.7 meters
Vertical height of tree above probe	6.4 meters	6.4 meters	6.4 meters	9.9 meters
Distance to furnace or incinerator flue	n/a	n/a	n/a	n/a
Distance between collocated monitors	n/a	n/a	n/a	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	n/a	n/a	n/a	n/a
For high volume PM instruments, is any PM instrument within 2 meters?	n/a	n/a	n/a	n/a
Unrestricted airflow	360 degrees	360 degrees	360 degrees	360 degrees
Probe material	Teflon	Teflon	Teflon	Teflon
Residence time	8 seconds	8 seconds	8 seconds	6 seconds
Proposed modifications within the next 18 months?	None	None	None	None
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a	n/a	n/a	n/a
Frequency of flow rate verification for manual samplers (PM)	n/a	n/a	n/a	n/a
Frequency of flow rate verification for automated analyzers (PM)	n/a	n/a	n/a	n/a
Frequency of one-point QC check (gaseous)	Weekly (4 point w/ GPT)	Weekly (4 point w/ GPT)	Weekly (4 point w/ GPT)	Weekly
Date of annual performance evaluation (gaseous & meteorological)	03/04/22 06/16/22 09/15/22 11/16/22	03/04/22 06/16/22 09/15/22 11/16/22	03/04/22 06/16/22 09/15/22 11/16/22	03/03/22 06/14/22 09/14/22 11/10/22
Date of two semi-annual flow rate audits (PM)	n/a	n/a	n/a	n/a

Reno4 (continued)

Pollutant, POC	Wind Speed, 1	Wind Direction, 1	Ambient Temperature, 1	Relative Humidity, 1
Primary / QA Collocated / Other	n/a	n/a	n/a	n/a
Parameter code	61101 & 61103	61102 & 61104	62101	62201
Basic monitoring objective(s)	Research, Public Information	Research, Public Information	Research, Public Information	Research, Public Information
Site type(s)	n/a	n/a	n/a	n/a
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s)	NCore	NCore	NCore	NCore
Instrument manufacturer / model	Met One 50.5H	Met One 50.5H	Met One 063-1	Met One 083E
Method code	061	061	040	061
FRM / FEM / ARM / Other	n/a	n/a	n/a	n/a
Collecting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Analytical Lab	n/a	n/a	n/a	n/a
Reporting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	January 2020	January 2020	January 2020	January 2020
Current sampling frequency	Continuous	Continuous	Continuous	Continuous
Required sampling frequency	n/a	n/a	n/a	n/a
Sampling season	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe height	9.7 meters	9.7 meters	9.7 meters	9.7 meters
Distance from supporting structure	9.7 meters	9.7 meters	9.7 meters	9.7 meters
Distance from obstructions on roof	n/a	n/a	n/a	n/a
Distance from obstructions not on roof	None	None	None	None
Horizontal distance from trees	47.7 meters	47.7 meters	47.7 meters	47.7 meters
Vertical height of tree above probe	5.3 meters	5.3 meters	5.3 meters	5.3 meters
Distance to furnace or incinerator flue	n/a	n/a	n/a	n/a
Distance between collocated monitors	n/a	n/a	n/a	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	n/a	n/a	n/a	n/a
For high volume PM instruments, is any PM instrument within 2 meters?	n/a	n/a	n/a	n/a
Unrestricted airflow	360 degrees	360 degrees	360 degrees	360 degrees
Probe material	n/a	n/a	n/a	n/a
Residence time	n/a	n/a	n/a	n/a
Proposed modifications within the next 18 months?	None	None	None	None
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a	n/a	n/a	n/a
Frequency of flow rate verification for manual samplers (PM)	n/a	n/a	n/a	n/a
Frequency of flow rate verification for automated analyzers (PM)	n/a	n/a	n/a	n/a
Frequency of one-point QC check (gaseous)	n/a	n/a	n/a	n/a
Date of annual performance evaluation (gaseous & meteorological)	03/03/22 06/24/22 09/21/22	03/03/22 06/24/22 09/21/22	03/03/22 06/24/22 09/06/22	03/22/22 06/24/22 09/21/22
Date of two semi-annual flow rate audits (PM)	n/a	n/a	n/a	n/a

South Reno

Located on the NV Energy property at 4110 Delucchi Lane, this site is in a transitional environment between open fields and office buildings.

Site name:	South Reno
AQS ID:	32-031-0020
Geographical coordinates:	39° 28.153'N, 119° 46.521'W
Elevation:	4,449'
Assessor's Parcel Number:	025-460-35
Owner:	Sierra Pacific Power Co.
Location:	Northeast corner of NV Energy campus.
Street address:	4110 Delucchi Lane Reno, NV 89502
County:	Washoe
Distance to road:	37 meters to Delucchi Lane.
Traffic count:	4,883 AADT (2019-2021) (NDOT ATR 0310690 - Neil Road, 515 feet north of Delucchi Lane)
	10,050 AADT (2019-2021) (NDOT ATR 0311159 - Airway Drive, south of McCarran Blvd.)
	≤900 Approximate AADT (NDOT Estimate - Delucchi Lane)
Groundcover:	Gravel / Dirt / Vegetated
Representative area:	Reno-Sparks MSA
Hydrographic area:	87

Figure 10
South Reno Monitoring Station



Figure 11
South Reno Monitoring Site Vicinity Aerial



South Reno (continued)

Pollutant, POC	O ₃ , 1	Wind Speed, 1	Wind Direction, 1	Ambient Temperature, 1
Primary / QA Collocated / Other	n/a	n/a	n/a	n/a
Parameter code	44201	61101	61102	62101
Basic monitoring objective(s)	NAAQS comparison	Public Information	Public Information	Public Information
Site type(s)	Population Exposure	n/a	n/a	n/a
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s)	n/a	n/a	n/a	n/a
Instrument manufacturer / model	TAPI T400	Met One 50.5H	Met One 50.5H	Met One 063-1
Method code	087	061	061	040
FRM / FEM / ARM / Other	FEM	n/a	n/a	n/a
Collecting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Analytical Lab	n/a	n/a	n/a	n/a
Reporting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	January 1988	January 2014	January 2014	January 2014
Current sampling frequency	Continuous	Continuous	Continuous	Continuous
Required sampling frequency	n/a	n/a	n/a	n/a
Sampling season	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe height	4.0 meters	10.0 meters	10.0 meters	5.0 meters
Distance from supporting structure	1.2 meters	10.0 meters	10.0 meters	5.0 meters
Distance from obstructions on roof	n/a	n/a	n/a	n/a
Distance from obstructions not on roof	None	None	None	None
Horizontal distance from trees	27 meters	27 meters	27 meters	27 meters
Vertical height of tree above probe	13 meters	3 meters	3 meters	12 meters
Distance to furnace or incinerator flue	n/a	n/a	n/a	n/a
Distance between collocated monitors	n/a	n/a	n/a	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	n/a	n/a	n/a	n/a
For high volume PM instruments, is any PM instrument within 2 meters?	n/a	n/a	n/a	n/a
Unrestricted airflow	360 degrees	360 degrees	360 degrees	360 degrees
Probe material	Teflon	n/a	n/a	n/a
Residence time	6 seconds	n/a	n/a	n/a
Proposed modifications within the next 18 months?	Discontinue monitoring	Discontinue monitoring	Discontinue monitoring	Discontinue monitoring
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a	n/a	n/a	n/a
Frequency of flow rate verification for manual samplers (PM)	n/a	n/a	n/a	n/a
Frequency of flow rate verification for automated analyzers (PM)	n/a	n/a	n/a	n/a
Frequency of one-point QC check (gaseous)	Bi-weekly (3 point)	n/a	n/a	n/a
Date of annual performance evaluation (gaseous & meteorological)	03/09/22 06/08/22 09/02/22 11/04/22	03/09/22 06/23/22 09/28/22	03/09/22 06/23/22 09/28/22	03/03/22 06/23/22 09/28/22
Date of two semi-annual flow rate audits (PM)	n/a	n/a	n/a	n/a

Spanish Springs

Located on the north side of Lazy 5 Regional Park in Spanish Springs, this site is located outside of HA 87. It is in a transitional area between open rangeland, residential areas, and a Washoe County Public Library. The Spanish Springs site began monitoring O₃, PM₁₀, PM_{2.5}, and PM_{10-2.5} as a SPM on January 1, 2017, and was converted to a SLAMS on July 1, 2018. It began monitoring wind speed, wind direction, and ambient temperature as a SPM on January 1, 2019, and was converted to a SLAMS on January 1, 2020.

Site name:	Spanish Springs
AQS ID:	32-031-1007
Geographical coordinates:	39°37.287' N, 119°43.124' W
Elevation:	4,485'
Assessor's Parcel Number:	083-024-06
Owner:	Washoe County
Location:	North side of Lazy 5 Regional Park.
Street address:	7200 Pyramid Way Sparks, NV 89436
County:	Washoe
Distance to road:	460 meters to Pyramid Hwy and 99 meters to Aquene Court.
Traffic count:	39,166 AADT (2019-2021) (NDOT ATR 0311128 - SR445 (Pyramid Hwy), 0.25 miles north of Sparks Blvd.) ≤900 Approximate AADT (NDOT Estimate - Aquene Court)
Groundcover:	Paved / Vegetated
Representative area:	Reno-Sparks MSA
Hydrographic area:	85

Figure 12
Spanish Springs Monitoring Station



Figure 13
Spanish Springs Site Vicinity Aerial



Spanish Springs (continued)

Pollutant, POC	PM ₁₀ , 1	PM _{2.5} , 1	PM _{10-2.5} , 1	O ₃ , 1
Primary / QA Collocated / Other	Primary	Primary	Primary	n/a
Parameter code	81102 & 85101	88101	86101	44201
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison	Research Support	NAAQS comparison
Site type(s)	Population Exposure	Population Exposure	n/a	Population Exposure
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s)	n/a	n/a	n/a	n/a
Instrument manufacturer / model	Met One BAM 1020	Met One BAM 1020	Met One BAM 1020 Coarse Pair	TAPI T400
Method code	122	170	185	087
FRM / FEM / ARM / Other	FEM	FEM	FEM	FEM
Collecting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Analytical Lab	n/a	n/a	n/a	n/a
Reporting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	January 2017	January 2017	January 2017	January 2017
Current sampling frequency	Continuous	Continuous	Continuous	Continuous
Required sampling frequency	n/a	n/a	n/a	n/a
Sampling season	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe height	5.0 meters	5.1 meters	5.1 meters	4.0 meters
Distance from supporting structure	2.1 meters	2.2 meters	2.2 meters	1.1 meters
Distance from obstructions on roof	n/a	n/a	n/a	n/a
Distance from obstructions not on roof	n/a	n/a	n/a	n/a
Horizontal distance from trees	33 meters	34 meters	33 meters	35 meters
Vertical height of tree above probe	n/a	n/a	n/a	1.0 meters
Distance to furnace or incinerator flue	n/a	n/a	n/a	n/a
Distance between collocated monitors	n/a	n/a	n/a	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	No	No	No	n/a
For high volume PM instruments, is any PM instrument within 2 meters?	n/a	n/a	n/a	n/a
Unrestricted airflow	360 degrees	360 degrees	360 degrees	360 degrees
Probe material	n/a	n/a	n/a	Teflon
Residence time	n/a	n/a	n/a	6 seconds
Proposed modifications within the next 18 months?	None	None	None	None
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a	Yes	n/a	n/a
Frequency of flow rate verification for manual samplers (PM)	n/a	n/a	n/a	n/a
Frequency of flow rate verification for automated analyzers (PM)	Bi-weekly and quarterly audits	Bi-weekly and quarterly audits	Bi-weekly and quarterly audits	n/a
Frequency of one-point QC check (gaseous)	n/a	n/a	n/a	Bi-weekly (3 point)
Date of annual performance evaluation (gaseous & meteorological)	n/a	n/a	n/a	03/08/22 06/09/22 09/02/22 11/03/22
Date of two semi-annual flow rate audits (PM)	03/03/22 06/15/22 09/07/22 12/13/22	03/03/22 06/15/22 09/07/22 12/13/22	03/03/22 06/15/22 09/07/22 12/13/22	n/a

Spanish Springs (continued)

Pollutant, POC	Wind Speed, 1	Wind Direction, 1	Ambient Temperature, 1
Primary / QA Collocated / Other	n/a	n/a	n/a
Parameter code	61101	61102	62101
Basic monitoring objective(s)	Public Information	Public Information	Public Information
Site type(s)	n/a	n/a	n/a
Monitor type	SLAMS	SLAMS	SLAMS
Network affiliation(s)	n/a	n/a	n/a
Instrument manufacturer / model	Met One 50.5H	Met One 50.5H	Met One 063-1
Method code	061	061	040
FRM / FEM / ARM / Other	n/a	n/a	n/a
Collecting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Analytical Lab	n/a	n/a	n/a
Reporting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	January 2019	January 2019	January 2019
Current sampling frequency	Continuous	Continuous	Continuous
Required sampling frequency	n/a	n/a	n/a
Sampling season	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe height	10.0 meters	10.0 meters	5.0 meters
Distance from supporting structure	10.0 meters	10.0 meters	5.0 meters
Distance from obstructions on roof	n/a	n/a	n/a
Distance from obstructions not on roof	None	None	None
Horizontal distance from trees	32 meters	32 meters	32 meters
Vertical height of tree above probe	n/a	n/a	n/a
Distance to furnace or incinerator flue	n/a	n/a	n/a
Distance between collocated monitors	n/a	n/a	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	n/a	n/a	n/a
For high volume PM instruments, is any PM instrument within 2 meters?	n/a	n/a	n/a
Unrestricted airflow	360 degrees	360 degrees	360 degrees
Probe material	n/a	n/a	n/a
Residence time	n/a	n/a	n/a
Proposed modifications within the next 18 months?	None	None	None
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a	n/a	n/a
Frequency of flow rate verification for manual samplers (PM)	n/a	n/a	n/a
Frequency of flow rate verification for automated analyzers (PM)	n/a	n/a	n/a
Frequency of one-point QC check (gaseous)	n/a	n/a	n/a
Date of annual performance evaluation (gaseous & meteorological)	03/03/22 04/14/22 09/21/22	03/03/22 04/14/22 09/21/22	03/02/22 06/17/22 09/21/22
Date of two semi-annual flow rate audits (PM)	n/a	n/a	n/a

Sparks

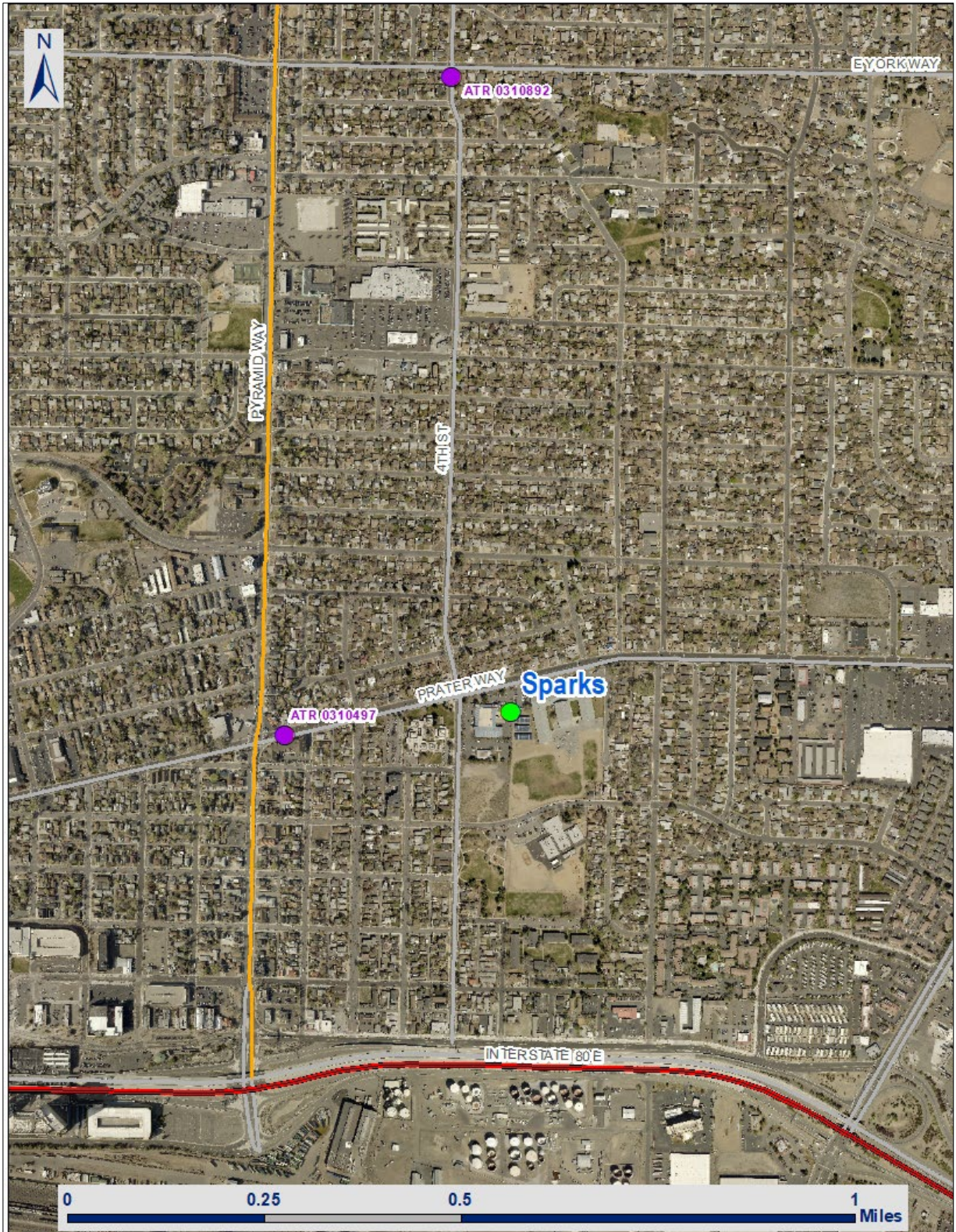
The Sparks site is located on US Postal Service property at 750 Fourth Street. The site is surrounded by commercial property, a residential neighborhood and is adjacent to Dilworth Middle School. In 2007 the Sparks site was moved approximately 55 meters north of its previous location, due to tree growth affecting siting criteria.

Site name:	Sparks
AQS ID:	32-031-1005
Geographical coordinates:	39° 32.455'N, 119° 44.806'W
Elevation:	4,409'
Assessor's Parcel Number:	033-253-04
Owner:	United States Postal Service
Location:	East end of US Postal Service back parking lot.
Street address:	750 4 th Street Sparks, NV 89431
County:	Washoe
Distance to road:	50 meters to Prater Way and 103 meters to 4 th Street.
Traffic count:	13,833 AADT (2019-2021) (NDOT ATR 0310497 - Prater Way, 100 feet east of Pyramid Way)
	2,050 AADT (2019-2021) (NDOT ATR 0310892 - 4th Street, 123 feet north of Tasker Way & 129 feet south of York Way)
Groundcover:	Paved / Vegetated / Decomposed Granite
Representative area:	Reno-Sparks MSA
Hydrographic area:	87

Figure 14
Sparks Monitoring Station



Figure 15
Sparks Monitoring Site Vicinity Aerial



Sparks (continued)

Pollutant, POC	PM ₁₀ , 1	PM _{2.5} , 1	PM _{10-2.5} , 1	CO, 1
Primary / QA Collocated / Other	Primary	Primary	Primary	n/a
Parameter code	81102 & 85101	88101	86101	42101
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison	Research Support	NAAQS comparison
Site type(s)	Population Exposure	Highest Concentration	n/a	Population Exposure
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s)	n/a	n/a	n/a	n/a
Instrument manufacturer / model	Met One BAM 1020	Met One BAM 1020	Met One BAM 1020 Coarse Pair	TAPI 300EU
Method code	122	170	185	093
FRM / FEM / ARM / Other	FEM	FEM	FEM	FRM
Collecting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Analytical Lab	n/a	n/a	n/a	n/a
Reporting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	April 1988	January 2012	July 2014	January 1980
Current sampling frequency	Continuous	Continuous	Continuous	Continuous
Required sampling frequency	n/a	n/a	n/a	n/a
Sampling season	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe height	5.1 meters	5.0 meters	5.0 meters	4.6 meters
Distance from supporting structure	2.1 meters	2.1 meters	2.1 meters	1.7 meters
Distance from obstructions on roof	n/a	n/a	n/a	n/a
Distance from obstructions not on roof	None	None	None	None
Horizontal distance from trees	26 meters	26 meters	26 meters	27 meters
Vertical height of tree above probe	10.9 meters	11 meters	11 meters	11.4 meters
Distance to furnace or incinerator flue	n/a	n/a	n/a	n/a
Distance between collocated monitors	n/a	n/a	n/a	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	No	No	No	n/a
For high volume PM instruments, is any PM instrument within 2 meters?	n/a	n/a	n/a	n/a
Unrestricted airflow	360 degrees	360 degrees	360 degrees	360 degrees
Probe material	n/a	n/a	n/a	Teflon
Residence time	n/a	n/a	n/a	3 seconds
Proposed modifications within the next 18 months?	None	None	None	None
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a	Yes	n/a	n/a
Frequency of flow rate verification for manual samplers (PM)	n/a	n/a	n/a	n/a
Frequency of flow rate verification for automated analyzers (PM)	Bi-weekly and quarterly audits	Bi-weekly and quarterly audits	Bi-weekly and quarterly audits	n/a
Frequency of one-point QC check (gaseous)	n/a	n/a	n/a	Bi-weekly (3 point)
Date of annual performance evaluation (gaseous & meteorological)	n/a	n/a	n/a	03/16/22 06/09/22 09/02/22 11/04/22
Date of two semi-annual flow rate audits (PM)	03/02/22 06/17/22 09/06/22 12/13/22	03/02/22 06/17/22 09/06/22 12/13/22	03/02/22 06/17/22 09/06/22 12/13/22	n/a

Sparks (continued)

Pollutant, POC	O ₃ , 1	Wind Speed, 1	Wind Direction, 1	Ambient Temperature, 1
Primary / QA Collocated / Other	n/a	n/a	n/a	n/a
Parameter code	44201	61101	61102	62101
Basic monitoring objective(s)	NAAQS comparison	Public Information	Public Information	Public Information
Site type(s)	Population Exposure	n/a	n/a	n/a
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s)	n/a	n/a	n/a	n/a
Instrument manufacturer / model	TAPI T400	Met One 50.5H	Met One 50.5H	Met One 063-1
Method code	087	061	061	040
FRM / FEM / ARM / Other	FEM	n/a	n/a	n/a
Collecting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Analytical Lab	n/a	n/a	n/a	n/a
Reporting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	January 1979	January 2014	January 2014	January 2014
Current sampling frequency	Continuous	Continuous	Continuous	Continuous
Required sampling frequency	n/a	n/a	n/a	n/a
Sampling season	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe height	4.6 meters	10.0 meters	10.0 meters	5.0 meters
Distance from supporting structure	1.7 meters	10.0 meters	10.0 meters	5.0 meters
Distance from obstructions on roof	n/a	n/a	n/a	n/a
Distance from obstructions not on roof	None	None	None	None
Horizontal distance from trees	26 meters	27 meters	27 meters	27 meters
Vertical height of tree above probe	11.4 meters	6 meters	6 meters	11 meters
Distance to furnace or incinerator flue	n/a	n/a	n/a	n/a
Distance between collocated monitors	n/a	n/a	n/a	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	n/a	n/a	n/a	n/a
For high volume PM instruments, is any PM instrument within 2 meters?	n/a	n/a	n/a	n/a
Unrestricted airflow	360 degrees	360 degrees	360 degrees	360 degrees
Probe material	Teflon	n/a	n/a	n/a
Residence time	3 seconds	n/a	n/a	n/a
Proposed modifications within the next 18 months?	None	None	None	None
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a	n/a	n/a	n/a
Frequency of flow rate verification for manual samplers (PM)	n/a	n/a	n/a	n/a
Frequency of flow rate verification for automated analyzers (PM)	n/a	n/a	n/a	n/a
Frequency of one-point QC check (gaseous)	Bi-weekly (3 point)	n/a	n/a	n/a
Date of annual performance evaluation (gaseous & meteorological)	03/16/22 06/09/22 09/02/22 11/04/22	03/09/22 06/23/22 09/21/22	03/09/22 06/23/22 09/21/22	03/02/22 06/17/22 09/06/22
Date of two semi-annual flow rate audits (PM)	n/a	n/a	n/a	n/a

Toll

The Toll Road site is located at 684A State Route 341 (Geiger Grade), one-half mile east of US Highway 395. The site is near the edge of a residential neighborhood and adjacent to an area that is becoming commercially developed with an apartment complex and storage units. The Toll site began monitoring PM_{2.5} and PM_{10-2.5} on January 1, 2019 and was converted to a SLAMS on January 1, 2020..

Site name:	Toll
AQS ID:	32-031-0025
Geographical coordinates:	39° 23.990'N, 119° 44.376'W
Elevation:	4,570'
Assessor's Parcel Number:	017-011-22
Owner:	Washoe County School District Board
Location:	North end of Washoe County School District parking lot.
Street address:	684A State Route 341 Reno, NV 89521
County:	Washoe
Distance to road:	21 meters to SR341 (Geiger Grade Road).
Traffic count:	12,800 AADT (2019-2021) (NDOT ATR 0310137 - SR 341, 0.4 miles east of US 395)
Groundcover:	Paved parking lot
Representative area:	Reno-Sparks MSA
Hydrographic area:	87

Figure 16
Toll Monitoring Station



Figure 17
Toll Monitoring Site Vicinity Aerial



Toll (continued)

Pollutant, POC	PM ₁₀ , 2	PM _{2.5} , 1	PM _{10-2.5} , 1	O ₃ , 1
Primary / QA Collocated / Other	Primary	Primary	Primary	n/a
Parameter code	81102 & 85101	88101	86101	44201
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison	Research Support	NAAQS comparison
Site type(s)	Highest Concentration	Population Exposure	n/a	Population Exposure
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s)	n/a	n/a	n/a	n/a
Instrument manufacturer / model	Met One BAM 1020	Met One BAM 1020	Met One BAM 1020 Coarse Pair	TAPI 400E
Method code	122	170	185	087
FRM / FEM / ARM / Other	FEM	FEM	FEM	FEM
Collecting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Analytical Lab	n/a	n/a	n/a	n/a
Reporting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	March 1996	January 2019	January 2019	March 1996
Current sampling frequency	Continuous	Continuous	Continuous	Continuous
Required sampling frequency	n/a	n/a	n/a	n/a
Sampling season	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe height	5.0 meters	5.1 meters	5.1 meters	4.0 meters
Distance from supporting structure	2.1 meters	2.2 meters	2.2 meters	1.2 meters
Distance from obstructions on roof	n/a	n/a	n/a	n/a
Distance from obstructions not on roof	None	None	None	None
Horizontal distance from trees	27 meters	25 meters	25 meters	27 meters
Vertical height of tree above probe	2.0 meters	1.9 meters	1.9 meters	3.0 meters
Distance to furnace or incinerator flue	n/a	n/a	n/a	n/a
Distance between collocated monitors	n/a	n/a	n/a	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	No	No	No	n/a
For high volume PM instruments, is any PM instrument within 2 meters?	n/a	n/a	n/a	n/a
Unrestricted airflow	360 degrees	360 degrees	360 degrees	360 degrees
Probe material	n/a	n/a	n/a	Teflon
Residence time	n/a	n/a	n/a	6 seconds
Proposed modifications within the next 18 months?	None	None	None	None
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a	Yes	n/a	n/a
Frequency of flow rate verification for manual samplers (PM)	n/a	n/a	n/a	n/a
Frequency of flow rate verification for automated analyzers (PM)	Bi-weekly and quarterly audits	Bi-weekly and quarterly audits	Bi-weekly and quarterly audits	n/a
Frequency of one-point QC check (gaseous)	n/a	n/a	n/a	Bi-weekly (3 point)
Date of annual performance evaluation (gaseous & meteorological)	n/a	n/a	n/a	03/09/21 06/04/21 09/01/21 11/18/21
Date of two semi-annual flow rate audits (PM)	03/24/21 06/01/21 08/09/21 11/01/21	03/24/21 06/01/21 08/09/21 11/01/21	03/24/21 06/01/21 08/09/21 11/01/21	n/a

Toll (continued)

Pollutant, POC	Wind Speed, 1	Wind Direction, 1	Ambient Temperature, 1
Primary / QA Collocated / Other	n/a	n/a	n/a
Parameter code	61101	61102	62101
Basic monitoring objective(s)	Public Information	Public Information	Public Information
Site type(s)	n/a	n/a	n/a
Monitor type	SLAMS	SLAMS	SLAMS
Network affiliation(s)	n/a	n/a	n/a
Instrument manufacturer / model	Met One 50.5H	Met One 50.5H	Met One 063-1
Method code	061	061	040
FRM / FEM / ARM / Other	n/a	n/a	n/a
Collecting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Analytical Lab	n/a	n/a	n/a
Reporting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Spatial scale	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	January 2014	January 2014	January 2014
Current sampling frequency	Continuous	Continuous	Continuous
Required sampling frequency	n/a	n/a	n/a
Sampling season	01/01 - 12/31	01/01 - 12/31	01/01 - 12/31
Probe height	10.0 meters	10.0 meters	5.0 meters
Distance from supporting structure	10.0 meters	10.0 meters	5.0 meters
Distance from obstructions on roof	n/a	n/a	n/a
Distance from obstructions not on roof	None	None	None
Horizontal distance from trees	29 meters	29 meters	29 meters
Vertical height of tree above probe	n/a	n/a	2.0 meters
Distance to furnace or incinerator flue	n/a	n/a	n/a
Distance between collocated monitors	n/a	n/a	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	n/a	n/a	n/a
For high volume PM instruments, is any PM instrument within 2 meters?	n/a	n/a	n/a
Unrestricted airflow	360 degrees	360 degrees	360 degrees
Probe material	n/a	n/a	n/a
Residence time	n/a	n/a	n/a
Proposed modifications within the next 18 months?	None	None	None
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a	n/a	n/a
Frequency of flow rate verification for manual samplers (PM)	n/a	n/a	n/a
Frequency of flow rate verification for automated analyzers (PM)	n/a	n/a	n/a
Frequency of one-point QC check (gaseous)	n/a	n/a	n/a
Date of annual performance evaluation (gaseous & meteorological)	03/09/22 06/23/22 09/21/22	03/09/22 06/23/22 09/21/22	03/03/22 06/23/22 09/06/22
Date of two semi-annual flow rate audits (PM)	n/a	n/a	n/a

WASHOE COUNTY
HEALTH DISTRICT
ENHANCING QUALITY OF LIFE

Please contact Craig Petersen for
questions or comments at
cpetersen@washoecounty.gov

Appendix A
Public Inspection Plan

Public Inspection Plan

The Washoe County Health District issued a press release on May 26, 2023, to inform the public of the annual network plan comment period. The press release provided a web link to the draft plan and explained how to submit written comments during the comment period. A copy of the press release, all comments received during the comment period, and AQMD's response to the comments are included below.

Press Release

WASHOE COUNTY HEALTH DISTRICT SEEKS COMMENT ON ANNUAL AMBIENT AIR MONITORING NETWORK PLAN

by Scott Oxarart | May 26, 2023

WASHOE COUNTY HEALTH DISTRICT

ENHANCING QUALITY OF LIFE

Reno/Sparks, Nev. May 26, 2023 – The Washoe County Health District – Air Quality Management Division (AQMD) is requesting written public comment on its draft [2023 Ambient Air Monitoring Network Plan](#), an annual report which provides a detailed description of how and where air pollution is monitored in Washoe County.

Air Monitoring Network Plans are required by the U.S. Environmental Protection Agency (EPA). The plan provides the specific location of each monitoring station, siting criteria, monitoring methods and objectives, frequency of sampling, pollutants measured at each station, and aerial photographs showing their physical location. It also summarizes network modifications completed over the last 12 months and proposed network modifications over the next 18 months.

[Sign up for Washoe County Air Quality updates here.](#)

The 2023 plan is substantially similar to the 2022 Ambient Air Monitoring Network Plan except for the proposal to begin monitoring at a new station in Verdi and discontinue monitoring at an

existing station in South Reno. A summary of all proposed changes may be found on pages 10 and 11 of the plan.

The County's air monitoring network includes seven locations within the county: Incline, Lemmon Valley, Reno4, South Reno, Spanish Springs, Sparks, and Toll. One or more of the following pollutants are measured at each site: carbon monoxide, oxides of nitrogen, ozone, sulfur dioxide, PM10, and PM2.5.

Comments will be accepted until midnight on June 25, 2023, and may be submitted via email to

HealthAirQuality-Planning@washoecounty.gov.

All correspondence must include first and last name and a complete mailing address.

For more information regarding the Health District's air quality efforts, visit the Air Quality Management Division's website at OurCleanAir.com.

The Washoe County Health District is nationally accredited by the Public Health Accreditation Board and has jurisdiction over all public health matters in Reno, Sparks, and Washoe County through the policy-making Washoe County District Board of Health. The District consists of five divisions: Administrative Health Services, Air Quality Management, Community and Clinical Health Services, Environmental Health Services and Epidemiology & Public Health Preparedness. [More info can be found here](#)



Scott Oxarart
Health District
Communications Manager
775-276-1021
soxarart@washoecounty.gov

Comment 1

From: [Petersen, Craig](#)
To: [Diane Heirshberg](#)
Cc: [Health - AQ-Planning](#)
Subject: RE: Comments on draft 2023 Ambient Air Monitoring Network Plan
Date: Thursday, June 29, 2023 3:45:00 PM
Attachments: [image001.png](#)

Again, thank you for your comments. The Ambient Air Monitoring Annual Network Plan (ANP) outlines ambient air monitoring that occurred during the previous 12 months and summarizes modifications planned for the upcoming 18 months. The Washoe County Health District, Air Quality Management Division's (AQMD) ambient air monitoring network currently meets or exceeds all requirements as set forth by federal regulation. The minimum monitoring requirements are summarized on pages 4 – 7 of the ANP, but can be found in their entirety in [40 CFR 58, Appendix D](#).

For near real-time data related to PM2.5 and smoke monitoring, and for purposes of making decisions on how to protect yourself from wildfire smoke, AQMD recommends all citizens use [EPA's Fire and Smoke Map](#). As can be seen on the map, the Incline area has a higher density of PM2.5 sensors than any other area in Washoe County. For regulatory monitoring of PM2.5 in other areas of the Lake Tahoe Air Basin, please note that CARB operates a regulatory PM2.5 monitor in Tahoe City, CA and Nevada Division of Environmental Protection (NDEP) operates a regulatory PM2.5 monitor in Stateline, NV. Near real-time data for these stations can also be found on [EPA's Fire and Smoke Map](#).

The Reno4 monitoring station in the downtown area of Reno, and its large suite of pollutants, is a unique station designated by EPA as a National Core Multipollutant Monitoring Station (NCore). There are only approximately 60 urban NCore stations in the entire nation, and only two in the state of Nevada. The National NCore network integrates several advanced measurement systems for particles, pollutant gases and meteorology. Most NCore stations have been operating since the formal start of the network on January 1, 2011. The requirements for NCore monitoring can also be found in [40 CFR 58, Appendix D](#). The presence of extra monitoring for CO, SO2, and NO2 at the Reno4 monitoring station is not due to high concentration levels for those pollutants, but rather a requirement for NCore stations. This data helps EPA establish national air quality trends and supports national research activities.

As required by EPA, AQMD uses Nevada Department of Transportation (NDOT) tools to report annual average daily traffic (AADT) counts for each monitoring station in the network. Table 10 in the ANP reports the maximum AADT count in Washoe County as 170,000 as recorded by the NDOT automatic traffic recorder (ATR) number 0310634, located between the Plumb-Villanova Interchange "Exit 65" and the Mill Street Interchange "Exit 66". Using these maximum traffic counts as a surrogate, and based on current air monitoring data of at our nearby Reno4 station, AQMD would have a hard time justifying additional CO, SO2, and NO2 monitoring in areas where traffic counts are significantly less, and concentrations of those pollutants are well below health-based standards.

For data related to trends of all criteria air pollutants in Washoe County, including PM2.5, PM10, CO, O3, SO2, and NO2, please see AQMD's [Air Quality Trends Report](#). This report summarizes ten-year air quality trends as related to the Air Quality Index (AQI), Burn Code season, and design values of all

criteria air pollutants.

Sincerely,

Craig A. Petersen

Supervisor, Monitoring and Planning | Air Quality Management Division | Washoe County Health District
cpetersen@washoecounty.gov | O: (775) 784-7233 | 1001 E. Ninth St., Bldg. B, Reno, NV 89512



From: Petersen, Craig <CPetersen@washoecounty.gov>
Sent: Monday, June 5, 2023 1:17 PM
To: Diane Heirshberg <dbheirshberg@gmail.com>; Health - AQ-Planning <HealthAirQuality-Planning@washoecounty.gov>
Cc: Hill, Alexis <AHill@washoecounty.gov>; Brown, Eric P. <EPriceBrown@washoecounty.gov>
Subject: RE: Comments on draft 2023 Ambient Air Monitoring Network Plan

Hi Diane,

Thank you very much for your comments regarding our 2023 Ambient Air Monitoring Network Plan. All comments received will be considered and included in our final submittal package to EPA.

Sincerely,

Craig A. Petersen

Supervisor, Monitoring and Planning | Air Quality Management Division | Washoe County Health District
cpetersen@washoecounty.gov | O: (775) 784-7233 | 1001 E. Ninth St., Bldg. B, Reno, NV 89512



From: Diane Heirshberg <dbheirshberg@gmail.com>
Sent: Saturday, May 27, 2023 8:16 PM
To: Health - AQ-Planning <HealthAirQuality-Planning@washoecounty.gov>
Cc: Hill, Alexis <AHill@washoecounty.gov>; Brown, Eric P. <EPriceBrown@washoecounty.gov>
Subject: Comments on draft 2023 Ambient Air Monitoring Network Plan

[NOTICE: This message originated outside of Washoe County -- DO NOT CLICK on links or open attachments unless you are sure the content is safe.]

Dear Health District,

I have reviewed the 2023 Ambient Air Monitoring Network Plan ("the Plan"), and would ask that the Plan be modified to provide the same monitoring of air pollution in Incline Village and Crystal Bay as is provided in other areas of the County. Improved air pollution monitoring in Incline Village Crystal Bay is needed immediately.

The Plan reflects that in Incline Village, Washoe County is only monitoring O3, but is conducting air pollution monitoring of several other air pollutants in other areas of the County. This is especially concerning since in the past there was monitoring of PM2.5 and NO2; it is my understanding that PM2.5 summarizes short-term trends in particle pollution concentrations and gives an idea of how many days per year the community is exposed to unhealthy levels of particulate matter. The County is urged to conduct additional monitoring to protect its citizens living and working in Incline Village and Crystal Bay.

Contrast the monitoring of only O3 in Incline Village, with the monitoring in Reno 4 (Libby Booth), Spanish Springs, Sparks and Toll Rd. of O3, PM2.5, PM10.25, and PM10, and with Reno Libby Booth where you additionally monitor Trace CO, Trace SO2, NOx and Trace NOy, PM10.2.5 Specification, and Sparks where you additionally monitor CO.

Incline Village Crystal Bay residents have raised concerns to the County about air pollution from the excessive vehicular traffic in Incline Village Crystal Bay, and the community also has concerns about air pollution from the fires that have occurred throughout Nevada and North and South California over the last few years and sent smoke and invisible air pollution into Incline Village and Crystal Bay. In case you are unfamiliar with the weather patterns, prevailing winds bring the smoke to Incline Village and Crystal Bay from both Southern and Northern California and locations in Nevada, and it is important to monitor the amount and types of air pollution and how the fires impact Incline Village Crystal Bay residents. As the County knows smoke from wildfires can travel long distances and affect a community even if the fire itself is not a threat because smoke from wildfires is harmful to the respiratory and cardiovascular health of people residing hundreds of miles away. Wildfire smoke is made up of a complex mixture of fine particles and gases which pose a larger threat to health than just irritating the eyes, nose and throat, as the fine particles can reach and penetrate the lungs when inhaled. Smoke also contains a number of harmful gases, the most dangerous being carbon monoxide which decreases the body's oxygen supply, leading to headaches and reduced alertness. It can also worsen the symptoms of anyone who suffers from angina. In large enough quantities, carbon monoxide inhalation is fatal. Wildfire release large amounts of carbon dioxide, black carbon, brown carbon and ozone precursors into the atmosphere, and this should be monitored in Incline Village Crystal Bay, which receive much more fire related air pollution than other areas of the County.

Further, I have attached data showing peak season traffic into little Incline Village Crystal Bay. The attached reports from NDOT for July 2022 data showing vehicular traffic at SR 28 and Lakeshore Dr. of up to 19,603 vehicles per day, and the Sand Canyon data shows vehicle counts in July and August 2022 of 44,769 and 55,855 vehicles respectively. The residents of Incline Village Crystal Bay have repeatedly expressed concern over increasing air pollution from increasing vehicular omissions, and I respectfully urge that we should at least receive air pollution monitoring equal to that provided in other areas of the County which are subject to lesser volumes of these types of air pollution.

I thank you in advance for your consideration of these issues and hope that you will install the necessary equipment to monitor air pollution in Incline Village of PM2.5, PM10.25, PM10, CO and Trace CO, Trace SO2, NOx, Trace NOy.

Respectfully submitted

Diane Becker
Full time resident of Incline Village
805-290-2779

Comment 2

From: [Petersen, Craig](#)
To: [Carole Black](#)
Cc: [Health - AQ-Planning](#)
Subject: RE: Comments on the proposed 2023 Ambient Air Monitoring Network Plan
Date: Thursday, June 29, 2023 3:46:00 PM
Attachments: [image001.png](#)

Again, thank you for your comments. The Ambient Air Monitoring Annual Network Plan (ANP) outlines ambient air monitoring that occurred during the previous 12 months and summarizes modifications planned for the upcoming 18 months. The Washoe County Health District, Air Quality Management Division's (AQMD) ambient air monitoring network currently meets or exceeds all requirements as set forth by federal regulation. The minimum monitoring requirements are summarized on pages 4 – 7 of the ANP, but can be found in their entirety in [40 CFR 58, Appendix D](#).

For near real-time data related to PM2.5 and smoke monitoring, and for purposes of making decisions on how to protect yourself from wildfire smoke, AQMD recommends all citizens use [EPA's Fire and Smoke Map](#). As can be seen on the map, the Incline area has a higher density of PM2.5 sensors than any other area in Washoe County. For regulatory monitoring of PM2.5 in other areas of the Lake Tahoe Air Basin, please note that CARB operates a regulatory PM2.5 monitor in Tahoe City, CA and Nevada Division of Environmental Protection (NDEP) operates a regulatory PM2.5 monitor in Stateline, NV. Near real-time data for these stations can also be found on [EPA's Fire and Smoke Map](#).

The Reno4 monitoring station in the downtown area of Reno, and its large suite of pollutants, is a unique station designated by EPA as a National Core Multipollutant Monitoring Station (NCore). There are only approximately 60 urban NCore stations in the entire nation, and only two in the state of Nevada. The National NCore network integrates several advanced measurement systems for particles, pollutant gases and meteorology. Most NCore stations have been operating since the formal start of the network on January 1, 2011. The requirements for NCore monitoring can also be found in [40 CFR 58, Appendix D](#). The presence of extra monitoring for CO, SO2, and NO2 at the Reno4 monitoring station is not due to high concentration levels for those pollutants, but rather a requirement for NCore stations. This data helps EPA establish national air quality trends and supports national research activities.

As required by EPA, AQMD uses Nevada Department of Transportation (NDOT) tools to report annual average daily traffic (AADT) counts for each monitoring station in the network. Table 10 in the ANP reports the maximum AADT count in Washoe County as 170,000 as recorded by the NDOT automatic traffic recorder (ATR) number 0310634, located between the Plumb-Villanova Interchange "Exit 65" and the Mill Street Interchange "Exit 66". Using these maximum traffic counts as a surrogate, and based on current air monitoring data of at our nearby Reno4 station, AQMD would have a hard time justifying additional CO, SO2, and NO2 monitoring in areas where traffic counts are significantly less, and concentrations of those pollutants are well below health-based standards.

For data related to trends of all criteria air pollutants in Washoe County, including PM2.5, PM10, CO, O3, SO2, and NO2, please see AQMD's [Air Quality Trends Report](#). This report summarizes ten-year air quality trends as related to the Air Quality Index (AQI), Burn Code season, and design values of all

criteria air pollutants.

Sincerely,

Craig A. Petersen

Supervisor, Monitoring and Planning | Air Quality Management Division | Washoe County Health District
cpetersen@washoecounty.gov | O: (775) 784-7233 | 1001 E. Ninth St., Bldg. B, Reno, NV 89512



From: Petersen, Craig <CPetersen@washoecounty.gov>
Sent: Monday, June 5, 2023 1:18 PM
To: Carole Black <carolejbblack@gmail.com>; Health - AQ-Planning <HealthAirQuality-Planning@washoecounty.gov>
Cc: Hill, Alexis <AHill@washoecounty.gov>; Brown, Eric P. <EPriceBrown@washoecounty.gov>
Subject: RE: Comments on the proposed 2023 Ambient Air Monitoring Network Plan

Hi Carole,

Thank you very much for your comments regarding our 2023 Ambient Air Monitoring Network Plan. All comments received will be considered and included in our final submittal package to EPA.

Sincerely,

Craig A. Petersen

Supervisor, Monitoring and Planning | Air Quality Management Division | Washoe County Health District
cpetersen@washoecounty.gov | O: (775) 784-7233 | 1001 E. Ninth St., Bldg. B, Reno, NV 89512



From: Carole Black <carolejbblack@gmail.com>
Sent: Sunday, May 28, 2023 11:31 PM
To: Health - AQ-Planning <HealthAirQuality-Planning@washoecounty.gov>
Cc: Hill, Alexis <AHill@washoecounty.gov>; Brown, Eric P. <EPriceBrown@washoecounty.gov>
Subject: Comments on the proposed 2023 Ambient Air Monitoring Network Plan

[NOTICE: This message originated outside of Washoe County -- DO NOT CLICK on links or open attachments unless you are sure the content is safe.]

I write as an Incline Village resident to express concern regarding this proposed Plan which fails to improve air quality monitoring in Incline Village/Crystal Bay, NV. I have raised this issue in the past in the setting of serious elevations in noxious air contaminants locally from wildfire smoke with both relatively nearby fires and also distant events.

As the National Weather Service and nightly news fully understands when preparing weather reports

and projections, the climate in the Tahoe Basin does not immediately mimic that in Reno/Sparks. And, the air quality metrics experienced in IVCB also DO NOT reliably mimic measurements in other parts of Washoe County (on the other side of Mt Rose and other adjacent mountain peaks) or in other areas around the Tahoe Basin. In the Basin the determinant often appears to be wind direction and speed as well as proximity to a fire. In past events, I have struggled to understand the actual situation in IV based on the available measurements in order to make critical personal health related decisions, and, in fact, as I recall, I communicated this dearth of timely relevant information to Mr Brown directly with examples during a past event.

Like others, I have reviewed the 2023 Ambient Air Monitoring Network Plan with dismay. As currently structured, the proposed Plan is inadequate to monitor air quality in IVCB or to provide needed concurrent information to residents, visitors, Washoe County staff & others working in the area and the County/Health District regarding health risks. Given IVCB location and fire risk, the status quo is simply insufficient. IVCB is a high risk area based on the local environment, limited egress options and current minimal important metric monitoring. In addition, the few egress roadways are overcrowded and evacuation planning does not fully consider the existing situation including tourism numbers/impacts.

Thus, in order to plan and manage personal situations pro-actively/effectively, improved air pollution monitoring with timely reporting is needed immediately to provide the same, or perhaps greater, monitoring of air pollution in IVCB as is provided elsewhere within the County. The required daily metrics list must at a minimum include PM 2.5 and PM 10 as critical data points in assessing current exposure levels, e.g., from wildfire/smoke.. Other air chemical pollutant measurements would also be important/helpful.

In addition, there is a concern regarding TRPA metrics and thresholds since TRPA thresholds include metrics related to NV PM 2.5 and PM 10 levels (https://www.trpa.gov/wp-content/uploads/documents/archive/Thresholds_Regional-Plan_Amended_2019_4_24.pdf).

With no measurements from IVCB, or NV Tahoe area, how can compliance be assessed? And isn't this an important environmental consideration as new development is considered? and/or zoning changes contemplated? Instead one layered EIC after another qualitatively indicates, based on stacked assumptions, that all is well. We know that we are already at risk – is the County simply trying to avoid the measurements to document this?

Please institute a robust air quality measurement/management plan within the Washoe County Tahoe area for our safety as well as for assessing and avoiding added unintentional adverse development impacts.

Thank you, Carole Black, Incline Village resident

Comment 3

From: [Petersen, Craig](#)
To: [Pamela Tsigidinos](#)
Cc: [Health - AQ-Planning](#)
Subject: RE: Public Comment on 2023 Ambient Air Monitoring Network Plan
Date: Thursday, June 29, 2023 4:37:00 PM
Attachments: [image001.png](#)

Again, thank you for your comments. The Ambient Air Monitoring Annual Network Plan (ANP) outlines ambient air monitoring that occurred during the previous 12 months and summarizes modifications planned for the upcoming 18 months. The Washoe County Health District, Air Quality Management Division's (AQMD) ambient air monitoring network currently meets or exceeds all requirements as set forth by federal regulation. The minimum monitoring requirements are summarized on pages 4 – 7 of the ANP, but can be found in their entirety in [40 CFR 58, Appendix D](#).

For near real-time data related to PM2.5 and smoke monitoring, and for purposes of making decisions on how to protect yourself from wildfire smoke, AQMD recommends all citizens use [EPA's Fire and Smoke Map](#). As can be seen on the map, the Incline area has a higher density of PM2.5 sensors than any other area in Washoe County. For regulatory monitoring of PM2.5 in other areas of the Lake Tahoe Air Basin, please note that CARB operates a regulatory PM2.5 monitor in Tahoe City, CA and Nevada Division of Environmental Protection (NDEP) operates a regulatory PM2.5 monitor in Stateline, NV. Near real-time data for these stations can also be found on [EPA's Fire and Smoke Map](#).

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criteria air pollutants.

Sincerely,

Craig A. Petersen

Supervisor, Monitoring and Planning | Air Quality Management Division | Washoe County Health District
cpetersen@washoecounty.gov | O: (775) 784-7233 | 1001 E. Ninth St., Bldg. B, Reno, NV 89512



From: Petersen, Craig

Sent: Monday, June 26, 2023 9:17 AM

To: Pamela Tsigdinos <ptsigdinos@yahoo.com>; Health - AQ-Planning <HealthAirQuality-Planning@washoecounty.gov>; Vega, Francisco <FVega@washoecounty.gov>; Timmons, Daniel R. <DRTimmons@washoecounty.gov>

Cc: Hill, Alexis <AHill@washoecounty.gov>; Brown, Eric P. <EPriceBrown@washoecounty.gov>

Subject: RE: Public Comment on 2023 Ambient Air Monitoring Network Plan

Hi Pamela,

Thank you very much for your comments regarding our 2023 Ambient Air Monitoring Network Plan.

All comments received will be considered and included in our final submittal package to EPA.

Sincerely,

Craig A. Petersen

Supervisor, Monitoring and Planning | Air Quality Management Division | Washoe County Health District
cpetersen@washoecounty.gov | O: (775) 784-7233 | 1001 E. Ninth St., Bldg. B, Reno, NV 89512



From: Pamela Tsigdinos <ptsigdinos@yahoo.com>

Sent: Saturday, June 24, 2023 6:08 PM

To: Health - AQ-Planning <HealthAirQuality-Planning@washoecounty.gov>; Vega, Francisco <FVega@washoecounty.gov>; Petersen, Craig <CPetersen@washoecounty.gov>; Timmons, Daniel R. <DRTimmons@washoecounty.gov>

Cc: Hill, Alexis <AHill@washoecounty.gov>; Brown, Eric P. <EPriceBrown@washoecounty.gov>

Subject: Public Comment on 2023 Ambient Air Monitoring Network Plan

[NOTICE: This message originated outside of Washoe County -- DO NOT CLICK on links or open attachments unless you are sure the content is safe.]

Dear Washoe County Health District,

Along with fellow residents I have reviewed the 2023 Ambient Air Monitoring Network Plan. I am asthmatic so this is an issue that is of particular concern. Just yesterday near where I live in Incline Village a fire on the East Shore near Spooner Summit filled the air with smoke. You can learn more from the Lake Tahoe USFS notification
<https://twitter.com/LakeTahoeUSFS/status/1672378940349116416?s=20>

Improved air pollution monitoring in Incline Village Crystal Bay is needed immediately. I write to ask that the Plan be modified to provide the same level of air pollution monitoring for Incline Village and Crystal Bay that is provided to other areas of Washoe County.

The Plan indicates that in Incline Village, Washoe County is only monitoring O₃, but is conducting air pollution monitoring of several other air pollutants in other areas of the County. This is especially concerning since in the past there was monitoring of PM_{2.5} and NO₂; it is my understanding that PM_{2.5} summarizes short-term trends in particle pollution concentrations and gives an idea of how many days per year the community is exposed to unhealthy levels of particulate matter. I urge Washoe County to conduct additional monitoring to protect citizens living and working in Incline Village and Crystal Bay.

Contrast the monitoring of only O₃ in Incline Village, with the monitoring in Reno 4 (Libby Booth), Spanish Springs, Sparks and Toll Rd. of O₃, PM_{2.5}, PM_{10.25}, and PM₁₀, and with Reno Libby Booth where you additionally monitor Trace CO, Trace SO₂, NO_x and Trace NO_y, PM_{10.2.5} Specification, and Sparks where you additionally monitor CO.

Incline Village Crystal Bay residents have raised concerns to the County about air pollution from the excessive vehicular traffic in Incline Village Crystal Bay, and the community also has concerns about air pollution from the fires that have occurred throughout Nevada and North and South California over the last few years and sent smoke and invisible air pollution into Incline Village and Crystal Bay.

In case you are unfamiliar with the weather patterns, prevailing winds bring the smoke to Incline Village and Crystal Bay from both Southern and Northern California and locations in Nevada, and it is important to monitor the amount and types of air pollution and how the fires impact Incline Village Crystal Bay residents. As the County knows smoke from wildfires can travel long distances and affect a community even if the fire itself is not a threat because smoke from wildfires is harmful to the respiratory and cardiovascular health of people residing hundreds of miles away. Wildfire smoke is made up of a complex mixture of fine particles and gases which pose a larger threat to health than just irritating the eyes, nose and throat, as the fine particles can reach and penetrate the lungs when inhaled.

Smoke also contains a number of harmful gases, the most dangerous being carbon monoxide which decreases the body's oxygen supply, leading to headaches and reduced alertness. It can also worsen the symptoms of anyone who suffers from angina. In large enough quantities, carbon monoxide inhalation is fatal. Wildfire release large amounts of carbon dioxide, black carbon, brown carbon and ozone precursors into the atmosphere, and this should be monitored in Incline Village Crystal Bay, which receive much more fire related air pollution than other areas of the County.

Further, I reviewed reports from NDOT from July 2022 data showing vehicular traffic at SR 28 and Lakeshore Drive of up to 19,603 vehicles per day. This number is likely to increase with more people commuting into the Tahoe Basin for work and as a result of more tourism

tied to developments slated for North Lake Tahoe. The residents of Incline Village Crystal Bay have repeatedly expressed concern over increasing air pollution from increasing vehicle omissions. I respectfully urge that our communities should receive air pollution monitoring equal to that provided in other areas of Washoe County that are subject to lesser volumes of these types of air pollution.

I thank you in advance for your consideration of these issues and hope that you will install the necessary equipment to monitor air pollution in Incline Village of PM_{2.5}, PM_{10.25}, PM₁₀, CO and Trace CO, Trace SO₂, NO_x, Trace NO_y.

Respectfully submitted,

Pamela M. Tsigdinos
Full time resident of Incline Village
cell: 408-674-6997

Comment 4



June 24, 2023

To: Washoe County Health District

RE: Public Comment – Washoe County 2023 Ambient Air Monitoring Network Plan Draft

Definitions:

NAAQS = National Ambient Air Quality Standards

EPA = US Environmental Protection Agency

USFS = US Forest Service

IV/CB = Incline Village and Crystal Bay, NV

Dear Washoe County Health District:

Thank you for allowing public comment on the Washoe County 2023 Ambient Air Monitoring Network Plan Draft.

TahoeCleanAir.org comments are as follows:

1. The draft plan provides for a mere single O3 monitoring device in the IV/CB community. Therefore, the draft plan is woefully deficient as it relates to the capability to provide complete wildfire generated NAAQS pollutant air monitoring and data collection capabilities in and around IV/CB. This includes air monitoring capability for the following NAAQS pollutants:

- Carbon monoxide
- Nitrogen dioxide
- PM10
- PM2.5
- Sulfur dioxide

<https://www.epa.gov/criteria-air-pollutants/naqs-table>

Complete air monitoring capability in the IV/CB region, connected with all wildfire generated NAAQS pollutants is necessary to collect critical air quality data in real time. This, in addition to helping ensure timely adequate public health warnings, and to provide a reasonable opportunity / capability to conduct collection of ongoing cumulative data and evaluation opportunities over time as experienced by the IV/CB population. The placement of a mere single Ozone device robs the IV/CB community of the opportunity to collect and utilize complete wildfire generated smoke pollutant data to help improve air monitoring capability and help define the need for added wildfire smoke mitigation in relation to the IV/CB region in the future.

Unique to other Washoe County population centers, IV/CB is located in the Lake Tahoe Basin with a steep mountain range separating it from other population centers in Washoe County. History shows that the Lake Tahoe Basin often experiences heavy inversion layering that traps wildfire smoke for days, weeks and months. This then significantly, adversely, and cumulatively impacts, often times up to dangerous levels, the air quality in IV/CB.

2. While the EPA and Washoe County exempt wildfires from various air quality reporting requirements under the "exceptional event" rule, wildfires under today's USFS policies allow intentional wildfire growth and expansion, for highly controversial forest resource purposes. Therefore, these intentionally grown and expanded wildfires should

1 of 2

not be placed in the "exceptional event" category. This intentional fire growth and expansion process has been ongoing since 1979, and EPA and Washoe County, due to the current reporting exemption, have failed to provide adequate air monitor data reporting caused by purposely generated NAAQS pollutants impacting IV/CB.

Additionally, the EPA, USFS and Washoe County continue their public education message that fire season is year-round. Yet, these agencies escape collecting critical and complete air monitoring data collection from wildfire related NAAQS pollutants under the "exceptional event" rule.

How can the public gain and successfully analyze useful vital air monitoring cumulative impact data, for all NAAQS pollutants, generated by wildfire over time if the EPA and Washoe County continue to exempt accurate and complete wildfire air quality pollutant reporting under the "exceptional events" rule?

Regardless of whether Washoe County and the EPA feel that the USFS process of intentional wildfire growth and expansion fits the definition of an "exceptional" event, true and complete air quality monitoring capabilities in the IV/CB region continue to be woefully deficient.

In Conclusion

Please add air monitoring capabilities within your proposed plan, to provide complete air monitoring capability in and around IV/CB for all wildfire generated NAAQS pollutants.

Sincerely,

Doug Flaherty, President

Tahoe Sierra Clean Air Coalition (DBA TahoeCleanAir.org)

A Nevada 501(c)(3) Non-Profit Corporation

774 Mays Blvd 10-124

Incline Village, NV 89451

Phone: 775-345-3465

TahoeSierraCleanAir@gmail.com

TahoeCleanAir.org Organizational Purpose

Tahoe Sierra Clean Air Coalition (DBA TahoeCleanAir.Org) is a Nevada 501 (c) (3) non-profit corporation registered to do business in the State of California. Our organizational purpose extends beyond protecting clean air, and includes, among other purposes, protecting and preserving natural resources, including but not limited to clean air, clean water, including lake and stream clarity, soils, plants and vegetation, wildlife and wildlife habitat including wildlife corridors, fish and fish habitat, birds and bird migration, insects, forest and wilderness from adverse environmental impacts and the threat and potential of adverse environmental impacts, including cumulative adverse impacts, within the Nevada and California Sierra Range, and its foothill communities, with corporation/organization geographical purpose priority being that of the Lake Tahoe Basin. Our purpose further extends to all things incidental to supporting environmental impact assessments and studies, including the gathering of data necessary to analyze the cumulative adverse environmental, health and safety impacts from public and private projects inside and outside the Lake Tahoe Basin, and addressing and supporting safe and effective evacuation during wildfire. Our purpose further extends to supporting transparency in government to ensure that our purpose and all things incidental to our specific and primary purposes are achieved.

From: [Petersen, Craig](#)
To: [Doug Flaherty](#)
Cc: [Health - AQ-Planning](#)
Subject: RE: Public Comment 2023 Ambient Air Monitoring Network Plan
Date: Friday, June 30, 2023 7:55:00 AM
Attachments: [image001.png](#)

Again, thank you for your comments. The Ambient Air Monitoring Annual Network Plan (ANP) outlines ambient air monitoring that occurred during the previous 12 months and summarizes modifications planned for the upcoming 18 months. The Washoe County Health District, Air Quality Management Division's (AQMD) ambient air monitoring network currently meets or exceeds all requirements as set forth by federal regulation. The minimum monitoring requirements are summarized on pages 4 – 7 of the ANP, but can be found in their entirety in [40 CFR 58, Appendix D](#).

For near real-time data related to PM2.5 and smoke monitoring, and for purposes of making decisions on how to protect yourself from wildfire smoke, AQMD recommends all citizens use [EPA's Fire and Smoke Map](#). As can be seen on the map, the Incline area has a higher density of PM2.5 sensors than any other area in Washoe County. For regulatory monitoring of PM2.5 in other areas of the Lake Tahoe Air Basin, please note that CARB operates a regulatory PM2.5 monitor in Tahoe City, CA and Nevada Division of Environmental Protection (NDEP) operates a regulatory PM2.5 monitor in Stateline, NV. Near real-time data for these stations can also be found on [EPA's Fire and Smoke Map](#).

The Reno4 monitoring station in the downtown area of Reno, and its large suite of pollutants, is a unique station designated by EPA as a National Core Multipollutant Monitoring Station (NCore). There are only approximately 60 urban NCore stations in the entire nation, and only two in the state of Nevada. The National NCore network integrates several advanced measurement systems for particles, pollutant gases and meteorology. Most NCore stations have been operating since the formal start of the network on January 1, 2011. The requirements for NCore monitoring can also be found in [40 CFR 58, Appendix D](#). The presence of extra monitoring for CO, SO2, and NO2 at the Reno4 monitoring station is not due to high concentration levels for those pollutants, but rather a requirement for NCore stations. This data helps EPA establish national air quality trends and supports national research activities.

As required by EPA, AQMD uses Nevada Department of Transportation (NDOT) tools to report annual average daily traffic (AADT) counts for each monitoring station in the network. Table 10 in the ANP reports the maximum AADT count in Washoe County as 170,000 as recorded by the NDOT automatic traffic recorder (ATR) number 0310634, located between the Plumb-Villanova Interchange "Exit 65" and the Mill Street Interchange "Exit 66". Using these maximum traffic counts as a surrogate, and based on current air monitoring data of at our nearby Reno4 station, AQMD would have a hard time justifying additional CO, SO2, and NO2 monitoring in areas where traffic counts are significantly less, and concentrations of those pollutants are well below health-based standards.

For data related to trends of all criteria air pollutants in Washoe County, including PM2.5, PM10, CO, O3, SO2, and NO2, please see AQMD's [Air Quality Trends Report](#). This report summarizes ten-year air quality trends as related to the Air Quality Index (AQI), Burn Code season, and design values of all

criteria air pollutants.

Sincerely,

Craig A. Petersen

Supervisor, Monitoring and Planning | Air Quality Management Division | Washoe County Health District
cpetersen@washoecounty.gov | O: (775) 784-7233 | 1001 E. Ninth St., Bldg. B, Reno, NV 89512



From: Petersen, Craig

Sent: Monday, June 26, 2023 9:16 AM

To: Doug Flaherty <tahoesierracleanair@gmail.com>; Vega, Francisco <FVega@washoecounty.gov>; Timmons, Daniel R. <DRTimmons@washoecounty.gov>; Health - Air Quality Contact Us <Health-AirQualityContactUs@washoecounty.gov>

Cc: Health - AQ-Planning <HealthAirQuality-Planning@washoecounty.gov>

Subject: RE: Public Comment 2023 Ambient Air Monitoring Network Plan

Hi Doug,

Thank you very much for your comments regarding our 2023 Ambient Air Monitoring Network Plan. All comments received will be considered and included in our final submittal package to EPA.

Sincerely,

Craig A. Petersen

Supervisor, Monitoring and Planning | Air Quality Management Division | Washoe County Health District
cpetersen@washoecounty.gov | O: (775) 784-7233 | 1001 E. Ninth St., Bldg. B, Reno, NV 89512



From: Doug Flaherty <tahoesierracleanair@gmail.com>

Sent: Saturday, June 24, 2023 3:33 PM

To: Vega, Francisco <FVega@washoecounty.gov>; Petersen, Craig <CPetersen@washoecounty.gov>; Timmons, Daniel R. <DRTimmons@washoecounty.gov>; Health - Air Quality Contact Us <Health-AirQualityContactUs@washoecounty.gov>

Subject: Public Comment 2023 Ambient Air Monitoring Network Plan

[NOTICE: This message originated outside of Washoe County -- DO NOT CLICK on links or open attachments unless you are sure the content is safe.]

To: Washoe County Health District

RE: Public Comment – Washoe County 2023 Ambient Air Monitoring Network Plan Draft

Dear Washoe County Health District:

Please find attached [TahoeCleanAir.org](https://www.tahoecleanair.org) comments in connection with the Washoe County 2023 Ambient Air Monitoring Network Plan Draft.

Sincerely,
Doug Flaherty, President
Tahoe Sierra Clean Air Coalition (DBA [TahoeCleanAir.org](https://www.tahoecleanair.org))
A Nevada 501(c)(3) Non-Profit Corporation
774 Mays Blvd 10-124
Incline Village, NV 89451
Phone: 775-345-3465
[Email: TahoeSierraCleanAir@gmail.com](mailto:TahoeSierraCleanAir@gmail.com)

[TahoeCleanAir.org](https://www.tahoecleanair.org) Organizational Purpose

Tahoe Sierra Clean Air Coalition (DBA [TahoeCleanAir.Org](https://www.tahoecleanair.org)) is a Nevada 501 (c) (3) non-profit corporation registered to do business in the State of California. Our organizational purpose extends beyond protecting clean air, and includes, among other purposes, protecting and preserving natural resources, including but not limited to clean air, clean water, including lake and stream clarity, soils, plants and vegetation, wildlife and wildlife habitat including wildlife corridors, fish and fish habitat, birds and bird migration, insects, forest and wilderness from adverse environmental impacts and the threat and potential of adverse environmental impacts, including cumulative adverse impacts, within the Nevada and California Sierra Range, and its foothill communities, with corporation/organization geographical purpose priority being that of the Lake Tahoe Basin. Our purpose further extends to all things incidental to supporting environmental impact assessments and studies, including the gathering of data necessary to analyze the cumulative adverse environmental, health and safety impacts from public and private projects inside and outside the Lake Tahoe Basin, and addressing and supporting safe and effective evacuation during wildfire. Our purpose further extends to supporting transparency in government to ensure that our purpose and all things incidental to our specific and primary purposes are achieved.