

WASHOE COUNTY HEALTH DISTRICT

ENHANCING QUALITY OF LIFE

Washoe County Air Quality Management Division Smoke Management Program

February 7, 2020



Public Health
Prevent. Promote. Protect.

**WASHOE COUNTY
HEALTH DISTRICT**
ENHANCING QUALITY OF LIFE



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

AQI	Air Quality Index
AQMD	Washoe County Health District, Air Quality Management Division
BIA	Bureau of Indian Affairs
BSMP	Basic Smoke Management Practices
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
EER	Exceptional Events Rule
EPA	U.S. Environmental Protection Agency
MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standards
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NO ₂	Nitrogen Dioxide
NRS	Nevada Revised Statute
NVPFA	Nevada Prescribed Fire Alliance
NWCG	National Wildfire Coordination Group
NWS	National Weather Service
O ₃	Ozone
PFIRS	Prescribed Fire Information Repository System
PM	Particulate Matter
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
RAWS	Remote Area Weather Station
SMP	Smoke Management Program
TFFT	Tahoe Fire and Fuels Team

Definitions

Agricultural Burning includes crop residue burning, ditch and fence line burning, rangeland burning, and burning for land clearance and general upkeep. It does not include burning of garbage and man-made materials as a form of waste disposal.

Class I Area includes all: 1) International parks; 2) National wilderness areas and national memorial parks that exceed 5,000 acres in size; and 3) National parks that exceed 6,000 acres in size and were in existence on August 7, 1977 (CAA Section 162(a)). There are no Class I Areas designated in Washoe County. However, the South Warner Wilderness Area and the Desolation Wilderness Area, which are Class I areas in California, are within 15 miles of Washoe County.

Land Manager includes any federal, state, local, or private entity that administers, directs, oversees, or controls the use of public or private land, including the application of fire to the land.

National Ambient Air Quality Standards (NAAQS) refers to the maximum acceptable ambient air concentration of pollutants allowed in order to protect public health with an adequate margin of safety, and to protect the public welfare from any known or anticipated adverse effects of such pollutants (i.e., visibility impairment, soiling, materials damage, etc.).

Prescribed Burn Permit Application is a permit issued by the Washoe County Health District, Air Quality Management Division (AQMD) for all land management ignited prescribed fires that emit greater than 1.0 tons of Particulate Matter (PM), and for any fire training being conducted regardless of size. This permit was previously called a Notification of Prescribed Burning.

Particulate Matter (PM) is a complex mixture of extremely small particles and liquid droplets suspended in the air.

PM₁₀ refers to particulate matter 10 microns in diameter or smaller.

PM_{2.5} refers to particulate matter 2.5 microns in diameter or smaller.

Prescribed Burning includes any fire purposefully ignited by land management agencies to meet specific land management objectives. The definition does not include fire training, residential open burning, or any other type of burning that is not specifically listed in the applicability section of this document.

Prescription is the measurable criteria that define conditions under which a prescribed fire may be ignited and guides the selection of appropriate management responses and indicates other required actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social, or legal considerations.

Residential Open Burning is the burning of vegetative yard waste conducted by single family residences within the jurisdiction of and under a permit obtained by the local fire protection agency. The vegetative yard waste shall be generated only from the residence conducting the burn.

Smoke Management includes, but is not limited to, techniques to reduce emissions and smoke impacts, the identification and avoidance of smoke sensitive areas, the monitoring and evaluation of the smoke impacts of each burn, and coordination among land management agencies to minimize cumulative impacts.

Smoke Sensitive Areas include, but are not limited to, Class I Areas, which include designated scenic and/or important views - especially during times of significant visitor use, as well as urban and rural population centers, homes, schools, hospitals, nursing homes, transportation facilities such as roads and airports, recreational areas, and other locations that may be sensitive to smoke impacts for health, safety, and/or aesthetic reasons.

Suppression Action includes any activity in which the responsible fire control agency personnel are actively trying to confine, contain or control a fire. Use of natural fire barriers such as cliffs, rocks, or rivers, etc., to contain the fire may be regarded as suppression as long as this is part of the suppression strategy.

Wildfire is an unplanned ignition of a wildland fire (such as a fire caused by lightning, volcanoes, unauthorized and human-caused fires), and escaped prescribed fires.

Wildland Fire is a general term describing any non-structure fire that occurs in the wildland. A wildland fire may be concurrently managed for one or more objectives and those objectives can change as the fire spreads across the landscape, encountering new fuels, weather, social conditions, and governmental jurisdictions.

Introduction

Purpose

The purpose of the Washoe County Health District Air Quality Management Division (AQMD) Smoke Management Program (SMP) is to coordinate and facilitate the management of prescribed outdoor burning on lands in Washoe County, while minimizing smoke impacts and protecting public health. This program is designed to meet the requirements of the U.S. Environmental Protection Agency (EPA) 2016 Exceptional Events Rule (EER), which states prescribed fires could qualify as exceptional events under certain conditions such as the use of SMP and the application of basic smoke management practices (BSMP) (81 FR 68251 and 68252). This SMP also meets the requirements of Nevada Revised Statute (NRS) 445B.100 through 445B.845, inclusive, which deal with air pollution, and the District Board of Health Regulations Governing Air Quality Management Prescribed Burning (040.037). This program is also designed to meet the requirements of the “EPA Interim Air Quality Policy on Wildland and Prescribed Fires” (May 1998), and follows the guidance in the [“National Wildfire Coordinating Group \(NWCG\) Smoke Management Guide for Prescribed Fire”](#) (PMS 420-2, February 2018).

Wildfires are not subject to the Washoe County Smoke Management Program. For a detailed report on wildfire smoke assessment and coordination, see the AQMD Wildfire Mitigation Plan (Appendix E). Prescribed fires that are declared wildfires and lead to Exceptional Events Demonstrations will follow the guidance document titled “Exceptional Events Guidance: Prescribed Fire on Wildland that May Influence Ozone and Particulate Matter Concentrations (*Prescribed Fire Guidance*, August 2019).”

This Smoke Management Program integrates two goals: 1) to allow fire to function, as nearly as possible, in its natural role in maintaining healthy wildland ecosystems, and 2) to protect public health and welfare by mitigating the impacts of smoke on air quality and visibility. The Washoe County SMP will be revisited and revised no later than five years after adoption by the Washoe County District Board of Health.

Cooperation and Program Support

The success of this program is through the ongoing cooperative effort by all organizations involved in the use of prescribed fire used for range, agricultural, and forestry practices.

Land managers and air regulators will work together to assess program implementation needs and to develop a mechanism for providing adequate program support. Program support agreements will be formalized under a Memorandum of Understanding (MOU) between the AQMD and the land management agencies. The agreement will be evaluated periodically to ensure that implementation needs continue to be met.

The Washoe County Health District, Air Quality Management Division, on behalf of the Washoe County District Board of Health, will work with the land managers and air agencies in other jurisdictions to ensure that intra- and interstate transport of air pollutants does not unfairly restrict the ability of Washoe County’s land managers to implement prescribed fire programs.

Smoke Management Program Goals

The goals of the Washoe County Smoke Management Program include, but are not limited to:

1. Acknowledging the role of fire in Washoe County with its use under controlled conditions to maintain healthy ecosystems while meeting the requirements of the Clean Air Act (CAA) and the National Ambient Air Quality Standards (NAAQS);
2. Protecting public health and safety, including smoke sensitive receptors, Class I visibility, as well as roadway visibility from the smoke effects of prescribed burning;
3. Providing the opportunity for forest, rangeland, and crop burning while minimizing air quality impacts;
4. Fostering and encouraging the development of reasonable alternative methods for disposing of or reducing the fuels on lands in Washoe County;
5. Encouraging the development of better smoke management models and techniques;
6. Encouraging emission reduction techniques and smoke monitoring when using prescribed burning;
7. Addressing smoke transport issues through enhanced communication and the development of intrastate, interstate, and interagency agreements.

Applicability

The provisions of this smoke management program apply to all areas of Washoe County under the jurisdiction of the AQMD. The AQMD's jurisdiction does not include any State of Nevada, Nevada Division of Environmental Protection (NDEP), Clark County, or the Bureau of Indian Affairs (BIA) trust lands. Prescribed burning under this smoke management program may be conducted for the following types of projects:

1. Hazard fuel reduction;
2. Wildlife and livestock habitat improvement;
3. Forest and rangeland improvement;
4. Insect, weed, and disease control;
5. Site preparation for revegetation;
6. Watershed management and water yield improvement;
7. Maintenance and improvement of natural ecosystems;
8. Maintenance of threatened and endangered species;
9. Agricultural practices; and
10. Other vegetative management improvement projects.

Authorization to Burn

Regulatory Authority

Air Quality is protected under the CAA, which was first passed by congress in 1963, with enactment in 1970 and last amended in 1990. The CAA requires the Environmental Protection Agency (EPA) to set NAAQS for pollutants considered harmful to public health and the environment. Two types of NAAQS have been established; primary and secondary standards. Primary standards set limits to protect public health, especially that of sensitive populations such as asthmatics, children, and seniors. Secondary standards set limits to protect public welfare, including protections against decreased visibility, damage to animals,

crops, and buildings. The EPA has set NAAQS for seven criteria pollutants (Table 1). The Washoe County Health District - Air Quality Management Division (AQMD) is a regional governmental agency responsible for air quality in Washoe County per EPA requirements.

On October 3, 2016, the EPA finalized revisions to the EER, “Treatment of Data Influenced by Exceptional Events”, regulations that govern the exclusion of event-influenced air quality data from certain regulatory decisions under the CAA Section 319(b). The EER contains definitions, procedural requirements, requirements for air agency demonstrations, and criteria for EPA approval for the exclusion of air quality data from regulatory decisions, including exclusion of elevated pollutants due to prescribed fire events. The 2016 EER encourages air agencies to identify reasonable control measures to reduce smoke impacts with the application of basic smoke management practices (BSMP). The AQMD requires all fire practitioners to consider using some or all of the Basic Smoke Management Practices (BSMP) on every burn. Basic smoke management practices are a set of six universally applicable activities which help manage, track, and reduce the effect of prescribed burning on air quality. Although all six are not always appropriate, these BSMPs should always be considered for use in addition to AQMDs burn requirements.

Table 1 National Ambient Air Quality Standards
(as of May 1, 2019)

Pollutant	Primary Standard		Secondary Standard	
	Averaging Time	Level	Averaging Time	Level
O ₃	8-hour	0.070 ppm	Same as primary	
PM _{2.5}	24-hour	35 µg/m ³	Same as primary	
	Annual	12.0 µg/m ³	Annual	15.0 µg/m ³
PM ₁₀	24-hour	150 µg/m ³	Same as primary	
CO	1-hour	35 ppm	None	
	8-hour	9 ppm	None	
NO ₂	1-hour	100 ppb	None	
	Annual	53 ppb	Same as primary	
SO ₂	1-hour	75 ppb	3-hour	0.5 ppm
Pb	Rolling 3-month average	0.15 µg/m ³	Same as primary	

Permit Application for Prescribed Fires

Land managers must obtain a permit from the AQMD for all prescribed burns within Washoe County. The permit must be obtained prior to ignition. For each project, a Prescribed Burn Permit Application (Appendix A) must be completed and submitted to the AQMD at least two weeks prior to the planned date of ignition along with the burn plan associated with the project. Completed applications and burn plans will be reviewed by the AQMD. Upon approval of the application and burn plan, the AQMD will issue a Smoke Management Permit

as soon as possible, but at least one week prior to the planned date of ignition. The issuance of a permit constitutes final approval; however, a 24-hour notification must be submitted before ignition (see Appendix B for the 24-hour Notification of Prescribed Burn). Permits issued are valid for up to 18 months. Each permit shall be valid for the dates listed on the permit. If projects covered by the permit are not completed within the 18-month timeframe, a new application and burn plan must be submitted after the expiration date, with AQMD issuing a new permit.

Permit Application Requirements

All burns conducted by local municipalities, state, and federal land managers shall be conducted by personnel trained in prescribed fire and smoke management techniques to the minimum level required by the land management agency in charge of the burn.

The local fire management officer of the state or federal land management agency having jurisdiction over the prescribed burn shall have received smoke management training obtained through successful completion of a National Wildfire Coordinating Group (or equivalent) course dedicated to smoke management. For prescribed fires conducted within Washoe County, the permit applicant must submit the Prescribed Burn Permit Application and a Burn Plan. The Burn Plan must include the following:

1. The specific location and description of the area to be burned;
2. The responsible personnel;
3. An emergency telephone number that is answered 24 hours a day;
4. The property owner;
5. The agency conducting the burn;
6. The burn prescription;
7. The number of acres to be burned, the type of fuel, fuel loading estimates, and the ignition technique to be used;
8. List of agencies and private parties involved;
9. Discussion of public notification to be conducted;
10. Criteria for making burn/no burn decisions;
11. Evaluation of alternative treatments;
12. A Smoke Management Plan including actions taken to minimize emissions before, during, and after the fire;
13. Emission estimates including the models, methods, and emission factors used;
14. Identification of smoke sensitive receptors and areas, including Class I areas, located within 15 miles of the project;
15. Safety and Contingency plans;
16. List of potentially affected air regulators to be notified; and
17. Smoke monitoring to be conducted.

For projects that: A) will emit more than 25.0 tons of PM; B) will emit more than 10.0 tons of PM and located within 15 miles of a Region 9 Class I Areas (Appendix D); C) are located in a non-attainment or maintenance area; or D) are located in a smoke sensitive area, the applicant shall demonstrate that the project shall not exceed applicable ambient air quality standards (within and/or outside of Washoe County). This demonstration shall be conducted using currently accepted models. The model output shall explicitly show conditions under which the burn will be conducted so as to minimize impacts of emissions.

Permit Conditions

The following permit conditions shall apply to permits issued by the AQMD for prescribed fires:

1. Air Pollution Episodes: Permits will not be valid during periods of an air pollution alert, warning, or emergency (as defined by the “District Board of Health Regulations Governing Air Quality Management” Regulation 050.001.C.1, Emergency Episode Plan). At the determination by the AQMD of such an episode, the AQMD shall notify each permit holder.
2. 24-Hour Notification: The land manager must notify the AQMD at least 24 hours preceding the burn.
4. Smoke Management: In order to minimize smoke impacts and emissions, each permittee shall apply the best smoke management and emission reduction techniques. It is recognized that no two fires are alike in terms of smoke emissions and impacts. Neither are any two fires alike in terms of smoke management options available. Therefore, the land manager will select appropriate smoke management techniques on a case-by-case basis as identified in the burn plan.
4. Precautions: The granting authority and the employees or agents thereof, in the issuing of a permit, do not assume any responsibility or liability for any hazardous condition(s) created by the permittee, which results in damage to the person or property of the permittee, or the person or property of any third party.
5. Availability of Permit: The approved permit, or copy thereof, shall be kept at the prescribed burn site and made available upon request of the AQMD or its representative.
6. Inspection by the AQMD: All prescribed fire operations shall be subject to inspection by the AQMD.
7. Local Regulations: The permit is for compliance with Washoe County air pollution control requirements only and is not a permit to violate any existing state laws, rules, regulations, or ordinances regarding fire, zoning, or building.
8. Revocation of Permit: If at any time the AQMD determines that any condition of the permit is not being complied with, the permit may be revoked for the specific project where non-compliance is occurring. At such time, all burning activities at the site of non-compliance shall be terminated. In addition to revocation of the permit, the AQMD may take any other enforcement action authorized under state statutes, rules, and regulations.
9. Other: Conditions may be added to the permit if deemed necessary by the AQMD.
10. Spot Forecast: At least one day prior to the prescribed fire, the Permittee shall request a Spot Forecast from the National Weather Service (NWS) Forecast Office, Reno.

In addition to the permit conditions, Land Managers must check the AQMD Burn Code before burning at OurCleanAir.com. If the Burn Code is Yellow, the Land Manager needs to contact the Smoke Management Coordinator to discuss the project and potential impacts to air quality in the Truckee Meadows before burning. During a Red Burn Code, all burning is prohibited.

24-Hour Notifications

The land manager must notify the AQMD no later than 24-hours preceding the burn by submitting the 24-hour Notification of Prescribed Burn (Appendix B). Notifications can be submitted to the Smoke Management Coordinator by email to KeepItClean@washoecounty.us. If the land manager is unable to send an email within 24 hours, the notification can be faxed to (775) 784-7225 or by directly contacting the Coordinator at (775) 784-7210. If the coordinator is unavailable, the land manager shall leave a message including the date of the proposed burn, the permit number, project name and location, responsible agency, estimated number of acres to be burned, and a contact name and phone number.

If at any time the responsible land management agency determines that the prescription for a particular prescribed fire has been exceeded (including impacts on visibility) and/or conditions of the permit are not being met (i.e., designated areas for burn, proper notification, etc.), the responsible parties shall promptly initiate suppression action unless, after consultation with the AQMD, the prescription is modified, or other appropriate actions are taken. The responsible signatory must monitor the fire to a sufficient level to provide information regarding whether or not the fire is within prescription. Monitoring data collected before, during, and after the burn should be used to evaluate the achievement of specific smoke management objectives, and to provide feedback for refinement of future prescriptions.

If at any time it is determined by the AQMD, in consultation with the responsible land management agency, that the prescribed fire is degrading air quality to levels expected to exceed air quality standards and/or permit conditions, the responsible parties shall promptly initiate suppression action unless and consult the AQMD to determine if the burn can continue based on prescription modification, or other appropriate actions. Factors that the AQMD will consider in this determination include, but are not limited to:

- Modeled data that indicates expected exceedances of any National Ambient Air Quality Standard (i.e., ozone (O₃), PM₁₀, PM_{2.5}; or carbon monoxide (CO));
- Air quality monitoring data that indicates expected exceedances of any National Ambient Air Quality Standard;
- Current Burn Code;
- Current air quality;
- Proximity of the fire to smoke sensitive areas;
- Citizen complaints;
- NWS Fire Weather Forecasts;
- NWS Spot Forecasts;
- Fuel conditions; and
- Existing and predicted size of the fire.

The AQMD may revoke the permit if it is determined that any conditions of the permit are not being complied with. At that time, all burning activities shall be terminated. In making their decision, the AQMD will review forecasted weather conditions for the burn area and discuss the conditions with the agency conducting the burn to determine favorable conditions for burning, including optimal smoke dispersal or current ambient air quality conditions. The AQMD may also consider information from the National Weather Service, nearby ambient air quality monitors', RAWs (Remote Automated Weather Station), the California 1300 call (United States Forest Service (USFS) Predictive Services in Redding) and the California Air Resources

Board 1400 wildfire and prescribed fire coordination call, and adjacent air pollution control agencies. Additionally, for prescribed fires near the California/Nevada border, the California Prescribed Fire Information Repository System (PFIRS), Tahoe Fire and Fuels Team (TFFT), and the NDEP Nevada Prescribed Fire Information Repository will be consulted. The AQMD may consider BlueSky smoke modeling or HYSPLIT Trajectory Model outputs if available. If a permit is revoked, the land manager will receive verbal notification as well as a written notice of the revocation.

Adjacent Agency Notifications

For prescribed burn projects that are not within Washoe County, or are conducted on Bureau of Indian Affairs (BIA) trust lands managed under the jurisdiction of a tribal air quality agency, or bordering state lands and Clark County, the air regulators of those counties, tribes, or bordering states must be notified prior to the burn. A list of the agencies and individuals to be notified must be included in the burn plans. Appendix C provides a listing of state, local, and BIA/tribal contacts.

Annual Reporting of Fire Activity

Each permitted user of prescribed fire who emits more than 10 tons of PM per year shall provide the AQMD with an annual reporting of fire activity by March 31 for the previous calendar year's (January through December) activities. Information to be reported includes: the permit number, the project name, location of the burn (latitude and longitude), the name of the individual conducting the burn or the agency name and contact, date and time ignition began, date and time the fire is declared out, actual acreage burned, fuel type, fuel loading, emissions estimates, emission factors used and their reference sources, names of air quality regulators notified and the notification date, and the emission reduction techniques used. All permitted ignitions shall be reported. See Appendix F for the Emissions Reporting Form. The emissions inventory shall be made available to all interested parties.

Minimizing Air Pollutant Emissions/Alternatives to Burning

Land managers may have an array of tools, including fire, which can be used to accomplish land use plans, depending on the resource benefits to be achieved. Several factors should be considered when selecting appropriate treatments. Those factors include the costs of treatment, the environmental impacts (i.e., air and water quality, soil, wildlife, etc.), and whether fire must be used to meet management objectives. The best combinations of treatments are those that meet management goals with the most favorable environmental impacts at the most reasonable costs. When a management objective is to maintain a fire dependent ecosystem, the effects of fire may not be duplicated by other tools. In that case, fire may be the preferred management tool even though other treatments may be equally effective for meeting other objectives. Additionally, fire can be used to reduce heavy fuel loads and prevent catastrophic wildfires.

Land managers must evaluate alternatives to prescribed burning within their burn plan and provide a detailed description of the alternatives considered and the rationale for rejecting

them. The AQMD recognizes that alternatives are not without potential negatives and that multiple resources must be weighed along with air quality benefits.

Smoke Management Components of the Burn Plan

Each land manager is responsible for proper smoke management to reduce emissions during a prescribed fire. The burn plan shall identify and implement appropriate smoke management techniques to minimize the amount and/or impact of smoke produced and to avoid exceedances of the NAAQS. Burn plan shall include the following smoke management components.

Actions to Minimize Fire Emissions

A land manager's decision to use a specific burning technique to reduce emissions is influenced by many considerations, including meeting specific land management objectives, complying with environmental regulations, reducing smoke effects on the general public, and minimizing operational costs. The use of emission reduction techniques benefits public health help to minimize exceedance of the NAAQS and reduce visibility impacts. These techniques will often reduce the risk of overexposure to wildland firefighters igniting and controlling prescribed fires. Techniques that reduce emissions limit total fuel consumption or consume fuel in a more efficient flaming stage. Each land manager conducting prescribed burning shall implement as many smoke management and emission reduction measures as are feasible for the specific burn and shall include a description of the emission reduction techniques used in the burn plan. These techniques for reducing emissions include:

- Burning fewer acres;
- Considering fuel moisture content;
- Reducing fuel loading in the area before ignition and;
- Increasing combustion efficiency (flaming phase of combustion).

Techniques for reducing smoke impacts include:

- Evaluate smoke dispersion conditions to minimize smoke impacts;
- Monitor the effects of the prescribed fire on air quality;
- Share the airshed to minimize exposure to the public – coordination of area burning;
- Limiting smoke impacts to roads, highways, and airports to the amounts, frequencies, and durations consistent with any guidance provided by highway and airport personnel;
- Using appropriate signage if smoke will impact any point of public access (i.e. highways, dirt roads, trails, campgrounds, etc.);
- Public notification;
- Determining nighttime impacts and taking appropriate precaution; and
- Burning during optimum mid-day dispersion hours, with all ignitions in a burn unit completed by 3:00 p.m. to prevent trapping smoke in inversions or diurnal wind flow patterns

Approaches to Evaluate Smoke Dispersion

Burn plans should evaluate potential smoke impacts at sensitive receptors and timing of the fires to minimize exposure to sensitive populations and avoid impacts in mandatory Class I Federal areas. The plan should identify the distance and direction from the burn site to local sensitive receptor areas and to regional/interstate areas where appropriate. Fire prescriptions submitted prior to the day of the fire must specify minimum requirements for the atmospheric capacity for smoke dispersal, such as minimum surface and upper level wind speeds, desired wind direction, minimum mixing height, and dispersion index. Spot forecasts from the National Weather Service should be used to determine the weather forecast for the burn location the day prior to the burn.

In addition to spot weather forecasts, on-site weather observations should be taken before ignition and at various times throughout the burn to determine smoke dispersions. Data collected should include the following; location of burn, air temperature, relative humidity, wind speed, wind directions, sky weather, elevation, and time. A RAWS may be utilized to gather information if personnel are unable to collect data on site. Additionally, personnel shall visually monitor the smoke behavior continuously during ignition and mop-up operations.

Public Notification and Exposure Reduction Procedures

All projects must identify actions that will be taken to notify populations and adjacent air quality authorities of potential smoke impacts prior to the burn. The plan must identify the distance and direction from the burn site to local sensitive receptor areas. Smoke sensitive areas include populated areas as well as roadways that may be affected by smoke and impair motorist visibility. Procedures for notifying the public of burn dates in smoke sensitive areas shall be included with the applicant's burn plan. The plan should also identify contingency actions that will be taken during a burn to reduce the exposure of smoke to sensitive receptors if smoke intrusions occur, such as halting ignitions, if smoke impacts create air quality concerns.

Appropriate notifications should include, but are not limited to:

- Local cooperators;
- Adjacent fire districts;
- Local weather office;
- Local and adjacent air quality districts;
- Social media;
- Local media;
- Smoke sensitive receptors (hospitals, nursing homes, daycare centers, schools); and
- Public interest groups.

Air Quality Monitoring

The extent of the monitoring should match the size of the fire and potential public health impacts. For small fires or fires that are remote enough to result in no noticeable smoke impacts on the public, visual monitoring of the direction of the plume may be sufficient. Other monitoring techniques include posting personnel on vulnerable roadways to look for

visibility impairment and initiate safety measures for motorists; posting personnel at smoke sensitive areas to look for smoke impacts; and continued tracking of meteorological conditions during the fire. For large fires expected to last more than one day, deploying particulate matter monitors in or near smoke sensitive areas may be warranted to facilitate timely response to smoke impacts.

If pollutant levels are anticipated to create a significant impact to public health, the AQMD may require the responsible land management agency to monitor in or near population centers impacted by smoke generated from a particular prescribed fire or wildfire. The AQMD will assist in identification of instrumentation, site selection, installation of instrumentation, operation, calibration, quality assurance, quality control, laboratory analysis, data interpretation, and supplies.

Due to the cooperative interagency nature of this SMP, cost sharing and pooling of resources associated with monitoring and/or modeling is understood. For monitoring and sampling of smoke generated by prescribed fire, the AQMD may therefore ask the responsible land management agency for financial reimbursement as negotiated and mutually agreed upon on a case-by-case basis between the AQMD and the responsible land management agency before resources are expended on modeling or monitoring.

Public Education and Awareness

The AQMD leverages partnerships with local and surrounding land managers as a tool for public education and awareness before, during, and after a prescribed fire. This is accomplished by posting and sharing press releases and social media posts through the AQMD's website, social media, local media, and/or email. AQMD will respond to local media requests regarding prescribed burning and take those opportunities to educate the public as to the importance of prescribed burning from a forest health aspect as well as the public health impacts. Health advisories will be issued by the AQMD if conditions from prescribed fires create sufficiently elevated levels of concentrations. Prescribed fire mapping tools such as the PFIRS, NDEP Nevada Prescribed Fire Information Repository map, the TFFT Lake Tahoe Basin Prescribed Fire, and the NWS Spot Forecast maps are available to the public to provide information as to who is conducting a burn and when and where the burn will be.

Additionally, the AQMD is part of the Nevada Prescribed Fire Alliance (NVPFA), which was established with the National Coalition of Prescribed Fire Councils in January of 2018. The NVPFA is a group of representatives from all sectors of burn implementation and regulation that manage natural resources and protect community health and safety and seek to improve the use of prescribed fire as a natural resource management tool through collaboration, facilitation, and shared learning experiences.

Surveillance and Enforcement

A land manager conducting a prescribed burn shall permit AQMD staff to enter and inspect burn sites unannounced, before, during, and after burns, to verify the accuracy of the permit information and compliance with the burn plan and smoke management plan, if appropriate. Site inspections conducted by the AQMD during and after fires shall be coordinated with the appropriate land manager as necessary to ensure the safety of AQMD employees and land managers. Should personal protective equipment (PPE) be required, AQMD employees will

have been properly trained in its use prior to entering any restricted area. Except under extraordinary circumstances, inspections will be conducted during reasonable business hours. Inspections on private property will be limited to valid permit days and within one week following the prescribed fire.

The AQMD has been granted a number of authorities in the NRS and the Nevada Administrative Code (NAC) to assist in enforcing requirements that preserve air quality. NRS 445B.230 provides broad authority to make determinations and issue orders as may be necessary to implement the programs that protect air quality. Violations are addressed in NRS 445B.450, which provides authority for the Division to serve written notice upon the person or persons responsible for alleged violations. Regulations under NAC 445B.275 specifies the types of violations for which written notice may be issued. A notice may be issued that includes an order to take corrective action within a reasonable time, or may require the person or persons responsible for the alleged violation to appear before the State Environmental Commission. The action may require further coordination and mutually agreeing to refine strategies or methods that utilize experiences to reduce the risk of public health issues.

Failure to comply with the procedures and conditions specified in the permit may result in enforcement action. Penalties of up to \$10,000 per day per violation may be assessed.

Air District Sampling for Particulate Matter

The AQMD will consider deployment of smoke monitoring equipment for large prescribed burns, defined as those that are in excess of 10 tons of Particulate Matter (PM), or greater than 10 acres in size, or those that may pose a risk to smoke sensitive areas. Factors that will be considered in the decision to deploy the equipment include:

1. Coordination with burn boss or other authority;
2. Size of burn (acres/piles) and estimated emissions of PM_{2.5};
3. Proximity to smoke sensitive areas;
4. Sufficient lead time, staff availability, and travel approval;
5. Ease of access and availability of secure location.

The monitoring equipment will be positioned in the anticipated downwind location nearest to the most likely-impacted smoke sensitive area and will be used to collect PM_{2.5} data. The data will either be read by the on-site staff member or will be electronically transmitted to the AQMD. Data will be forwarded by the on-site staff member or the Monitoring and Planning Supervisor to the AQMD Director.

When PM_{2.5} concentrations from portable and/or network air quality monitors reach and sustain at 55.4 µg/m³, or the Air Quality Index (AQI) equivalent classification of “Unhealthy for Sensitive Groups”, it may trigger:

1. Requirement to cease burning;
2. A revocation of the Smoke Management Permit; or
3. A Notice of Violation.

A health advisory or warning to protect the public drafted in accordance with NRS 445B.560, should the smoke constitute an imminent and substantial danger to the health of the public, may be issued by the AQMD at any time during a prescribed burn.

Program Evaluation

This SMP will be reviewed and evaluated no less frequently than every five years. The plan review process will include an evaluation of:

- The review of the MOU between the AQMD and Land Managers;
- Effectiveness of meeting permit requirements;
- PM attainment status;
- Conditions that resulted in PM NAAQS exceedances within Washoe County (if applicable); and
- Effectiveness of communication and collaboration between affected air agencies and land managers.



Please contact Daniel Inouye for
questions or comments at
dinouye@washoecounty.us

Appendix A
Prescribed Burn Permit Application

**PRESCRIBED BURN PERMIT APPLICATION AIR QUALITY
MANAGEMENT DIVISION**

Return Notification to:

Washoe County Air Quality Management Division
Attention: Smoke Management Coordinator
1001 East Ninth Street, Suite B171
Reno, NV 89512

Voice: (775) 784-7200

Email: [Prescribed Burn Permit](#)

FEE as of July 1, 2018: \$138.00 per burn plan + \$34.00 per unit.

NOTE: For prescribed burns located within Washoe County, Section 040.035 of the Washoe County District Board of Health Regulations Governing Air Quality Management allows prescribed burning in forest areas to be conducted only by local fire control authorities or managers. A copy of the Burn Plan must be submitted prior to this approval.

Applicant/Agency Overseeing Burn

Name: _____

Contact Name: _____ Title: _____

Street Address: _____

City: _____ State: _____ Zip Code: _____

Office Phone: _____ Cell Phone: _____

E-Mail: _____

Burn Description

Location (Include APN): _____

Project Name: _____

Is this within 15 miles of an identified area (IA)? _____

Number of Acres: _____

Burn Phases/Sections _____ Burn Type: _____

Volume/Weight of Material: _____

Date(s) of burn: _____

Start Time: _____

Duration (hours): _____

Reason for Burn: _____

Justification for alternatives: _____

Applicant Signature: _____ Date: _____

Revised 6/2018 – GR

Appendix B

24-Hour Notification of Prescribed Burn

24-hour Notification of Prescribed Burn
KeepItClean@washoecounty.us
FAX (775) 784-7225

Permit #: _____

Land Manager: _____

Project Name: _____ **Phases/Sections:** _____

Planned Burn Day/Time: _____

Appendix C
List of Air Quality Regulators

List of Air Quality Regulators

States

- Arizona Joseph Paul
Department of Environmental Quality
Air Quality Division
1110 West Washington Street
Phoenix, Arizona 85007
(602) 711-2363
<http://www.azdeq.gov/>
- California Greg Vlasek – Smoke Management Coordinator
California Air Resources Board
1001 I Street
Sacramento, CA 95814
(800) 242-4450
<http://www.arb.ca.gov/smp/smp.htm>
- Idaho Mark Boyle – Smoke Management Supervisor
Idaho Department of Environmental Quality
Air Quality Division
2110 Ironwood Parkway
Coeur d’Alene, ID 83814
(208) 666-4607
<https://www.deq.idaho.gov/air-quality/burning/>
- Nevada Sheryl Fontaine – Smoke Management Coordinator
Nevada Division of Environmental Protection
Bureau of Air Quality Planning
901 South Stewart Street, Suite 4001
Carson City, NV 89701
Phone: (775) 687-9359
<https://ndep.nv.gov/air/air-pollutants/smoke-management>
- Anita Karr – Senior Air Quality Specialist
Clark County Department of Air Quality
500 South Grand Central Parkway
Las Vegas, NV 89155
Phone: (702) 455-5942
<http://www.clarkcountynv.gov/depts/airquality/Pages/default.aspx>
- Oregon Peter Brewer – Wildfire Smoke Response Coordinator
Oregon Department of Environmental Quality
700 NE Multnomah Street, Suite 600
Bend, OR 97232-4100

Phone: (503) 229-5696

<http://www.oregon.gov/deq/pages/index.aspx>

Nick Yonker – Smoke Management Program Manager
Oregon Department of Forestry
2600 State Street
Salem, Oregon 97310
(503) 945-7451

Utah Bryce Bird - Director
Utah DEQ, Division of Air Quality
State Office Building
Physical: 195 North 1950 West
PO Box 144820
Salt Lake City, UT 84114-4820
Phone: (801) 536-4000
<http://www.airquality.utah.gov/index.htm>

Nevada Tribal Lands by Area

Bureau of Indian Affairs Western Nevada Agency:
311 East Washington Street
Carson City, NV 89701
Phone: (775) 887-3500
<https://www.bia.gov/regional-offices/western/western-nevada-agency>

Bureau of Indian Affairs Eastern Nevada Agency:
Joseph G. McDade, Superintendent
2719-4 Argent Ave.
Elko, NV 89801
Phone: (775) 738-5165
<http://www.bia.gov/WhoWeAre/RegionalOffices/Western/WeAre/EasternNevada/index.htm>

Washoe County Tribes

Reno Sparks Indian Colony

Bhie-Cie (BC) N. Ledesma, MPH
Acting Environmental Manager
Planning Department/
Environmental Program
1937 Prosperity Street
Reno, NV 89502
(775) 785-1363, ext. 5407
bledesma@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
<http://plpt.nsn.us/index.html>

Local Air Agencies in California by County

El Dorado County Air Quality Management District

Dave Johnston
Candice Thomas
El Dorado County AQMD
330 Fair Lane
Placerville, CA 95667
Phone: (530) 621-7501
Burn Line: West Slope (866) 621-5897 or
(530) 621-5897

Great Basin Unified Air Pollution Control District

Ann Logan
Great Basin Unified APCD
157 Short Street,
Bishop, CA 93514
Phone: (760)-872-8211

Lassen County Air Pollution Control District

Dan Newton
Lassen County APCD
720 South St.
Susanville, CA 96130
Phone: (530) 257-1041
Burn Line: (530) 257-2876

Modoc County Air Pollution Control District

Joe Moreo
Modoc County APCD
202 West 4th Street
Alturas, CA 96101
Phone: (530) 233-6310

Mojave Desert Air Quality Management District

Alan De Salvio
Mojave Desert AQMD
14306 Park Avenue
Victorville, CA 92392
Phone: (760) 245-6726

Northern Sierra Air Quality Management District

Nevada, Plumas and Sierra counties
Joe Fish
Main Office
200 Litton Drive, Suite 320
Grass Valley, CA 95945
Phone: (530)-274-9360
office@myairdistrict.com




Placer County Air Pollution Control District

Ann Hobbs Air Quality Specialist
Placer County APCD
110 Maple Street,
Auburn, CA 95603
Phone: (530) 745-2327
South Lake Tahoe (888) 332-2876 or
(530) 621-5842

Appendix D
Region 9 Class I Areas

CLASS I AREAS

IN EPA REGION 9

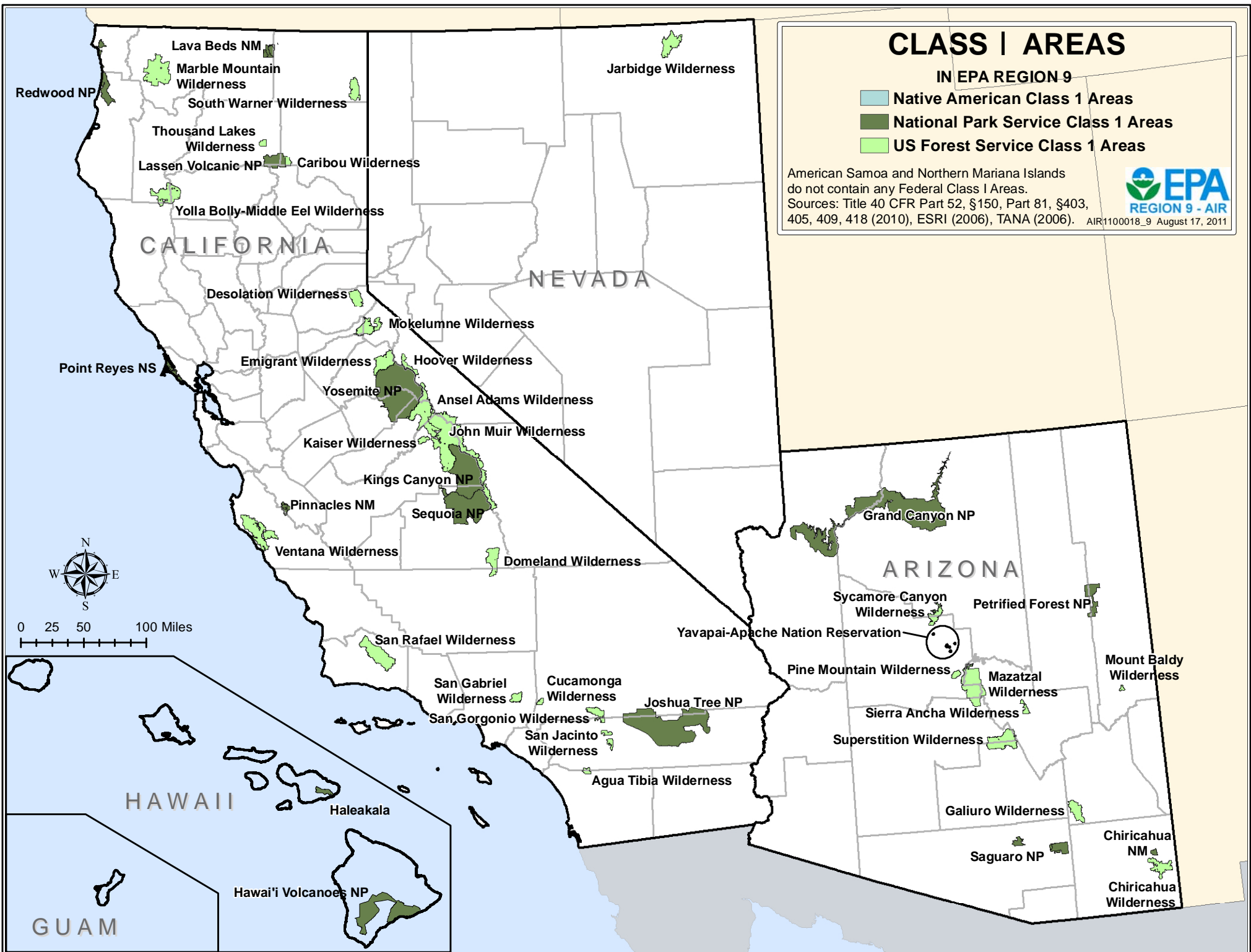
-  Native American Class 1 Areas
-  National Park Service Class 1 Areas
-  US Forest Service Class 1 Areas

American Samoa and Northern Mariana Islands do not contain any Federal Class I Areas.

Sources: Title 40 CFR Part 52, §150, Part 81, §403, 405, 409, 418 (2010), ESRI (2006), TANA (2006).



AIR1100018_9 August 17, 2011



Appendix E
Wildfire Mitigation Plan

WASHOE COUNTY HEALTH DISTRICT

ENHANCING QUALITY OF LIFE

Wildfire Mitigation Plan

2018

Submitted to U.S. EPA Region 9

September 1, 2018



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

AQI	Air Quality Index
AQMD	Washoe County Health District, Air Quality Management Division
AQS	Air Quality System
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
EC	Elemental Carbon
EED	Exceptional Event Demonstration
EER	Exceptional Events Rule
EPA	U.S. Environmental Protection Agency
HA 87	Hydrographic Area 87
MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standards
NCore	National Core Multi-Pollutant Monitoring Station
NO ₂	Nitrogen Dioxide
NWS	National Weather Service
OC	Organic Carbon
O ₃	Ozone
PM ₃	Particulate Matter
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
RWC	Residential Wood Combustion
SEP	Supplemental Environmental Program
SLAMS	State and Local Air Monitoring Station
SMP	Smoke Management Program
USFS	United States Forest Service

1.0 Mitigation of Exceptional Events

1.1 Mitigation of Exceptional Events Requirements

On October 3, 2016, the U.S. Environmental Protection Agency (EPA) finalized revisions to the “Treatment of Data Influenced by Exceptional Events”, regulations that govern the exclusion of event-influenced air quality data from certain regulatory decisions under the Clean Air Act (CAA) Section 319(b). This rule is known as the Exceptional Events Rule (EER). The EER contains definitions, procedural requirements, requirements for air agency demonstrations, and criteria for EPA approval for the exclusion of air quality data from regulatory decisions. As part of EPA’s mission to protect public health, the EER also requires mitigation plans for areas with known, recurring events that caused exceedances of the National Ambient Air Quality Standards (NAAQS). The EPA uses the benchmark of three exceptional events in three years. Because of recurring impacts of wildfire smoke to Washoe County, our area is subject to the mitigation requirements in 40 Code of Federal Regulations (CFR) Part 51.930 (Mitigation of Exceptional Events) for Particulate Matter less than or equal to 2.5 microns in aerodynamic diameter (PM_{2.5}) due to wildfires.

Under 40 CFR 51.930, a state requesting to exclude air quality data due to exceptional events must take appropriate and reasonable actions to protect public health from exceedances or violations of the NAAQS. At a minimum, the State must:

1. Provide for prompt public notification whenever air quality concentrations exceed or are expected to exceed an applicable ambient air quality standard;
2. Provide for public education concerning actions that individuals may take to reduce exposures to unhealthy levels of air quality during and following an exceptional event; and
3. Provide for the implementation of appropriate measures to protect public health from exceedances or violations of ambient air quality standards caused by exceptional events.

Mitigation Plan components must, at a minimum, contain provisions for the following:

1. Public notification to and education programs for affected or potentially affected communities. Such notification and education programs shall apply whenever air quality concentrations exceed or are expected to exceed a NAAQS with an averaging time that is less

than or equal to 24-hours.

2. Steps to identify, study, and implement mitigating measures, including approaches to address each of the following:
 - a. Measures to abate or minimize contributing controllable sources of identified pollutants.
 - b. Methods to minimize public exposure to high concentrations of identified pollutants.
 - c. Processes to collect and maintain data pertinent to the event.
 - d. Mechanisms to consult with other air quality managers in the affected area regarding the appropriate responses to abate and minimize impacts.

Additional components of the plan must include provisions for periodic review and evaluation of the mitigation plan and its effectiveness as well as a 30-day public comment period and any public comment documentation received.

This mitigation plan meets the requirements of 40 CFR 51.930 and underwent 30-day public comment period pursuant to 40 CFR 51.930(b)(2) from July 24 to August 24, 2018 (see Appendix C).

2.0 Regional Description

Washoe County is located in the northwest portion of Nevada. It is bounded by California, Oregon, and the Nevada counties of Humboldt, Pershing, Storey, Churchill, Lyon, and Carson City (Figure 1.1). The Truckee Meadows is approximately 200 square miles in size and situated in the southern portion of Washoe County. It is geographically identified as Hydrographic Area 87 (HA 87) as defined by the State of Nevada, Division of Water Resources. Most of Washoe County's population lives in and around the Truckee Meadows.

The Truckee Meadows sits at an elevation of 4,400 feet above sea level and surrounded by mountain ranges. To the west, the Sierras rise to elevations of 9,000 to 11,000 feet. Hills to the east reach 6,000 to 7,000 feet. The Truckee River, flowing from the Sierras eastward, drains into Pyramid Lake to the northeast of the Truckee Meadows.

Average annual wind speed measured at the Reno-Tahoe International Airport is 6.4 miles per hour (mph). January is the calmest month (4.5 mph) with April being the windiest (8.3 mph). Wintertime (November-January) averages 4.9 mph and summertime (June-August) averages 7.2 mph.

Most of Reno's precipitation falls from November through March in the form of rain and snow. Reno receives an average of 7.40 inches of precipitation per calendar year (1981-2010 climate normals).

Maximum temperatures of 90 °F or above normally occur between July 3 and August 21. Maximum temperatures typically peak at 94 °F between July 22 and July 29.

The 2017 population of Washoe County was 451,923, as reported from the Nevada State Demographer's Office. Approximately two-thirds of Washoe County's residents live in the Truckee Meadows, which includes the cities of Reno and Sparks. Anthropogenic activities such as transportation, manufacturing, freight distribution, and residential wood use are also concentrated in the Truckee Meadows.

Figure 1.1
Washoe County, Nevada



2.1 Sources of PM_{2.5}

Washoe County experiences two distinct air pollution seasons - wintertime particulate matter (PM) and summertime ozone (O₃). Wintertime temperature inversions combined with light winds can contribute to elevated levels of PM_{2.5}, Particulate Matter less than or equal to 10 microns in aerodynamic diameter (PM₁₀), Nitrogen Dioxide (NO₂), and Carbon Monoxide (CO). Inversions are common in mountain valleys such as the Truckee Meadows. Air pollution episodes persist until stronger winds scour the cold air out of the valley and break the temperature inversion.

Washoe County, Reno/Sparks in particular, has historically low ambient PM_{2.5} concentrations during the summer months of August and September. There are a limited amount of local emission sources that affect PM_{2.5} concentrations during these months to cause fluctuations. According to our 2014 Emissions Inventory, the largest sources of annual PM_{2.5} pollution within HA 87 are from non-point (86%) and on-road mobile (8%) categories. RWC comprises the majority of the non-point source category, however, these emissions occur primarily in the wintertime. According to our triennial 2015-2016 Residential Wood Use Survey, most of the wood combustion generally begins after October and stops by the end of February. On-road mobile category is more of a year round source of PM_{2.5}, but this category alone does not have the ability to greatly impact summertime PM_{2.5} concentrations. The only source of PM_{2.5} that causes any historical fluctuations during these months is wildfires.

Wildfire smoke can cause significant air pollution episodes in Washoe County. Winds can transport smoke from wildfires hundreds of miles away. The initial impact will be reduced visibility. If the smoke reaches ground level, then increases in all air pollutants will be noticeable. The best air pollutant indicators are PM_{2.5}, PM₁₀, NO₂, and CO. An increase in O₃ can sometimes, but not always, be associated with wildfire smoke. Elemental Carbon (EC) and Organic Carbon (OC) are also good wildfire smoke markers, especially if the fires occur outside the residential wood combustion (RWC) season. Prescribed burns may also cause elevated air pollution levels, and its indicators are similar to wildfire's.

3.0 Wildfire Events

Due to the increasing frequency of wildfires, smoke impacts from fires in and surrounding Nevada are contributing to exceedances of the 24-hour PM_{2.5} NAAQS. Wildfire activity and smoke impacts are typically highest during the wildfire season/summer months (June, July, August, and September). Wildfire events in 2008, 2013, and 2014 impacted Washoe County contributing to exceedances of the 24-hour PM_{2.5} NAAQS. Exceptional Events Demonstrations (EED) were submitted to the EPA Region 9 for each event per 40 CFR 50.14 and the Exceptional Events Rule of 2016. See the Washoe County Air Quality Management Reports and Data on OurCleanAir.com for the 2008, 2013 and 2014 Exceptional Event Demonstrations. Each EED included a section on public outreach and media coverage.

4.0 Public Notification and Education Programs

4.1 Public Notification

In 2013, AQMD created Facebook and Twitter pages and a YouTube channel. As part of improving our outreach and educational component of our mission statement, we created these social media pages to serve as a direct and prompt outlet to the public and other entities for the daily air quality index update, winter time burn codes, and emergency situations, such as exceptional events.

The AQMD collaborates with the National Weather Service (NWS) and local media to provide timely notifications to the public throughout the year and especially during wildfire events. The AQMD leverages NWS and local media's hundreds of thousands of social media followers to share accurate and consistent information to the community. The AQMD, NWS, and local media all follow each other's social media. When one organization updates their social media, it's shared and delivered to the public almost immediately. This collaboration also ensures consistent messaging.

The NWS and many of the local media outlets receive EnviroFlash updates directly or via AQMD's social media. EnviroFlash provides daily air quality forecasts and alerts when the AQI reaches harmful levels. These partnerships allow the public to receive timely information about precautions they can take to reduce exposure to the high levels of air pollution.

The AQMD provides prompt notifications throughout exceptional events to the public and local media. Air Quality Index (AQI) Forecasts and Air Alerts were distributed daily, or more frequently depending on conditions, via EnviroFlash. Air quality information was also available from the AQMD website (OurCleanAir.com), social media (Facebook, Twitter, YouTube), and Air Quality Hotline [(775) 785-4110]. The AQMD provided appropriate measures to protect public health from exceedances or violations of ambient air quality standards caused by the exceptional events by providing health advisories on a daily basis based on the AQI range.

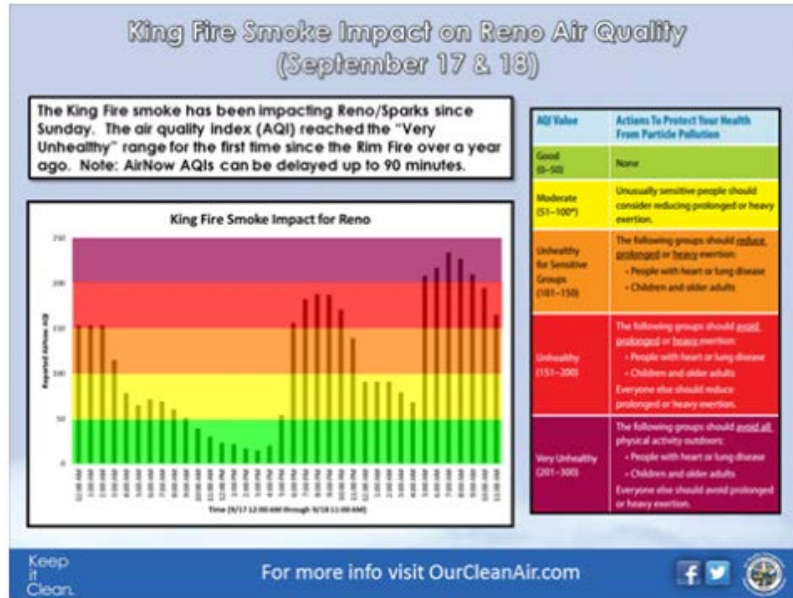
Below are examples of public notifications during exceptional events when air quality concentrations exceeded or were expected to exceed the PM_{2.5} NAAQS.



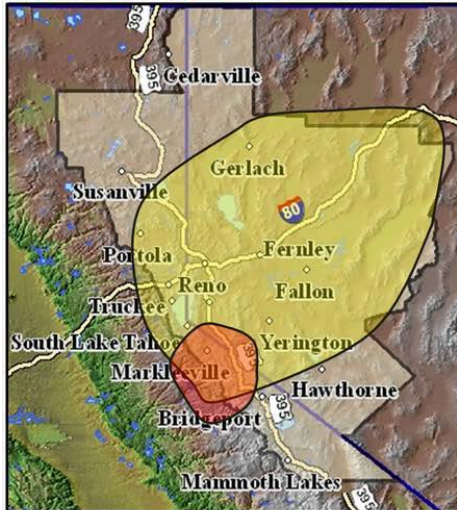
Washoe County Health District: Air Quality Management Division

Published by Brendan Schnieder [?] · September 18, 2014 ·

Check out our latest graphic about the #KingFire smoke impacts from yesterday and today.



Smoke for Labor Day Weekend



From Inciweb as of 8am Friday:

- American:** 27,440 acres
 - 100% contained!
- Rim:** 201,894 acres
 - 32% contained
 - Estimated containment September 20th

Yellow Shaded Area:

Smoke and haze, visibility mainly 2-5 miles.

Orange Shaded Area:

Poor visibility down to ¼ mile, especially in the afternoons and evenings.

Air Quality:

Sensitive groups should take precautions such as:

- ✓ Staying indoors with windows closed and air conditioners on.
- ✓ Avoiding strenuous outdoor activity.
- ✓ For air quality go to AirNow.gov

Send smoke reports to @NWSReno or comment on Facebook



US National Weather Service Reno Nevada August 30, 2013

The Rim fire will continue to produce smoke and haze across the Sierra and western Nevada through the weekend. The yellow shaded area on the map indicates where smoke and haze may occur through the holiday weekend, with the poorest visibility expected in the orange area. Dense Smoke Advisories (<http://owl.li/oqQ8D>) have been issued for Alpine county southward to northern Mono County. In western Nevada, Dense Smoke Advisories are in effect south of highway 50 through Douglas County.

Like · Comment · Share

Cherryrose Crazybazards, Carlyn Grocholski, Jennifer King Brakeman and 11 others like this.

50 shares

Josh-Tammy Sandvik That yellow needs to go south a bunch because we are buried in it! Like · Reply · 1 · August 30, 2013 at 3:46pm

Doug Hill Anyone up for a trip to some Grass Valley vineyards? Like · Reply · 1 · August 30, 2013 at 3:58pm

Thee Wire Whisperer Coiffure FIGURES, WE ARE IN THE ORANGE UGHHHHH Like · Reply · August 30, 2013 at 3:39pm

Truckee Dave so the Reno Air Races will be smoky Sept 11-15?

Write a comment...

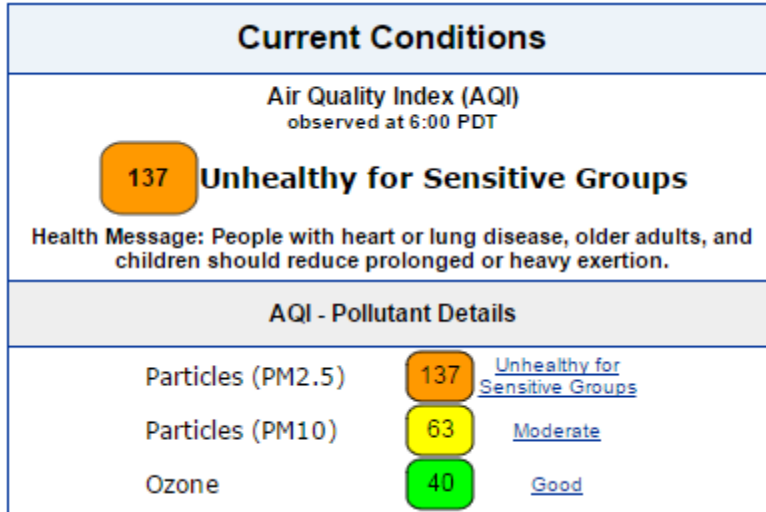


KTVN Channel 2 News @KTVN · Aug 19

Washoe County School District to hold indoor recesses today due to smoke from #AmericanFire. ktvn.com/story/23173293...

Expand

Reply Retweeted Favorited More



USFS Tahoe NF and 1 other Retweeted



NWS Reno @NWSReno · 29 Jun 2016

Some potential for #TrailheadFire smoke to affect Tahoe, Truckee, Reno later today. Depends on fire activity.



Retweeted 27 Liked 11

4.2 NWS Area Forecast Discussions

The AQMD collaborates with the Reno NWS, especially during air pollution events such as wildfires. This partnership has increased the efficiency of the forecast discussions to include information specific to wildfires and smoke impacts to the Reno/Sparks area. The NWS Forecast Office in Reno, Nevada issues at least two daily Area Forecast Discussions summarizing the short and long-term weather forecast. It also provides a synopsis of current observations as well as weather events such as smoke and haze. Below is an excerpt from an Area Forecast Discussion issued during the Trailhead Fire.

“Main change to the short term forecast was increasing the haze and smoke areas today and Sunday as the Trailhead fire west of the Sierra crest is likely to burn actively for at least the next couple of days. Winds will become more favorable for spreading smoke across the I-80 corridor into Reno-Sparks . . .”

Excerpt from NWS-Reno Area Forecast Discussion
(251 AM PDT SAT JUL 2 2016)

4.3 Wildfire Outreach Program

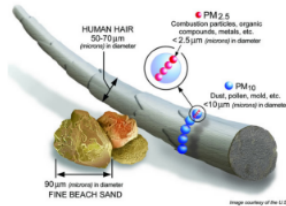
As part of the Keep it Clean outreach program, Be Smoke Smart was developed in 2015 to protect public health in the event of smoke impacts. Be Smoke Smart is promoted during wildfire season on our website (OurCleanAir.com) and through social media.

The website directs the public to links to where the fire is, where smoke is going to be, the current air quality and measures of protection during smoke impacts, and includes a local visibility guide to approximate air quality. The website also includes information regarding what wildfire smoke is composed of, the health effects of wildfire smoke, and the AQI for PM_{2.5}. Below are images from the Be Smoke Smart website.



What is in wildfire smoke?

Smoke is composed primarily of carbon dioxide, water vapor, carbon monoxide, particulate matter, hydrocarbons and other organic chemicals, nitrogen oxides, trace minerals and several thousand other compounds. The actual composition of smoke depends on the fuel type, the temperature of the fire, and the wind conditions. Particulate matter is the principal pollutant of concern from wildfire smoke for the relatively short-term exposures (hours to weeks) typically experienced by the public. Particulate matter is a generic term for particles suspended in the air, typically as a mixture of both solid particles and liquid droplets. Fine particulate matter (PM_{2.5}) found in smoke tend to be very small - less than 2.5 micrometers in diameter. For comparison, see the how PM_{2.5} compares with a human hair:



What are the health effects of wildfire smoke?

The effects of smoke range from eye and respiratory tract irritation to more serious disorders, including reduced lung function, bronchitis, exacerbation of asthma, and premature death. Studies have found that PM_{2.5} is linked (alone or with other pollutants) with increased mortality and aggravation of pre-existing respiratory and cardiovascular disease. In addition, particulates are respiratory irritants, and exposures to high concentrations of particulate matter can cause persistent cough, phlegm, wheezing and difficulty breathing. Particles can also affect healthy people, causing respiratory symptoms, transient reductions in lung function, and pulmonary inflammation. PM_{2.5} can also affect the body's immune system and make it more difficult to remove inhaled foreign materials from the lung, such as pollen and bacteria.

Air quality index (AQI) for PM_{2.5}

Air Quality Index	Who Needs to Be Concerned?	What Should I Do?
Good (0-50)	No one. Air quality is good for everyone.	It's a great day to be active outside!
Moderate (51-100)	Some people may be unusually sensitive to particle pollution and may need to take precautions.	Unusually sensitive people: Consider reducing prolonged or heavy exertion. Watch for symptoms such as coughing or shortness of breath. These are signs to take it a little easier. Everyone else: It's a good day to be active outside!
Unhealthy for Sensitive Groups (101-150)	Sensitive groups include people with heart or lung disease, older adults, children and teenagers.	Sensitive groups: Reduce prolonged or heavy exertion. It's OK to be active outside, but take more breaks and do less intense activities. Watch for symptoms such as coughing or shortness of breath. People with asthma should follow their asthma action plans and keep quick relief medicine handy. If you have heart disease: Symptoms such as palpitations, shortness of breath, or unusual fatigue may indicate a serious problem. If you have any of these, contact your health care provider.
Unhealthy (151-200)	Everyone can be affected.	Sensitive groups: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling. Everyone else: Reduce prolonged or heavy exertion. Take more breaks during all outdoor activities.
Very Unhealthy (201-300)	Everyone	Sensitive groups: Avoid all physical activity outdoors. Move activities indoors or reschedule to a time when air quality is better. Everyone else: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling to a time when air quality is better.
Hazardous (301-500)	Everyone	Everyone: Avoid all physical activity outdoors. Sensitive groups: Remain indoors and keep activity levels low. Follow tips for keeping particle levels low indoors.

What you can do to protect yourself and Be Smoke Smart

- Stop outdoor activity; stay inside and reduce activity.
- Keep AC on if available, the fresh-air intake closed, filter clean, and windows closed.
- Don't use whole-house fans and swamp coolers.
- Pay attention to air quality on AirNow.gov, your local air district website (OurCleanAir.com), and local media.
- Consult [local visibility guide](#) to approximate air quality.
- Follow the advice of your doctor especially those with heart or lung disease.
- Don't rely on dust masks.
- Stay hydrated.
- Keep indoor air clean; don't burn candles, vacuum, or smoke tobacco products.
- Consider relocating temporarily.
- Prevent other wildfires from happening by [Living with Fire](#).

Recommendations for Schools and Child Care on Poor Air Quality Days Air Quality Index (AQI) Table for Ozone and PM_{2.5} with Visibilities for Wildfire Smoke¹

Activity	Good=0 to 10 miles (Visibility 10 miles and up)	Moderate=5 to 10 (6 to 10 miles)	Unhealthy for Sensitive Groups*=< 5 miles (0 to 5 miles)
Recess (15 min)	No Restrictions	No Restrictions	Make indoor space available to all children especially those with lung/heart illnesses or who complain about difficulty breathing.
P.E. (1 hr)	No Restrictions	No Restrictions	Make indoor space available to all children. High school students with lung/heart conditions should limit prolonged or heavy exertion.
Scheduled Sporting Events	No Restrictions	Unusually sensitive children and high school students should limit prolonged or heavy exertion during scheduled sporting events.	High school students with asthma or other respiratory or cardiovascular illness should be medically managing their condition. Increase rest periods and substitutions to lower breathing rates.
Athletic Practice and Training (2 to 4 hrs)	No Restrictions	Unusually sensitive children and high school students should limit prolonged or heavy exertion during practice or training.	High school students with asthma or other respiratory or cardiovascular illness should be medically managing their condition. Increase rest periods and substitutions to lower breathing rates.

¹ Visibility conversions to AQI were taken from "Wildfire Smoke: A Guide for Public Health Officials" (Rev. July 2008 with 2012 AQI updates)

*Children are anyone from Infant to 8th Grade. High School Students are indicated and assumed to be the participants for Scheduled Sporting Events and Practice and Training activities. For children, consideration for relocation or rescheduling should be given at the Unhealthy for Sensitive Groups range for Sporting Events and Practice and Training activities.

5.0 Steps to Identify, Study and Implement Mitigating Measures

5.1 Minimize Contributing Controllable Sources of PM_{2.5}

5.1.1 Know the Code: Residential Burn Code Program

In 1987, AQMD initiated a burn code program to reduce emissions from woodstoves and fireplaces during wintertime weather inversions. The Burn Code program uses traffic lights to convey whether citizens can burn during a given time. The program runs from November 1st through the end of February. Green means it's okay to burn, we ask residents to burn dry, seasoned wood. Yellow, reduce burning or stop altogether, compliance is voluntary but greatly encouraged. Red means stop burning and that air pollution is affecting the health of the people in the community at this point. The Health District declares a Stage 1 Episode, which prohibits burning for 24 hours, or until the code is changed to yellow or green. Compliance is enforced at this stage. The burn code only affects residents living in a specific zip code within Washoe County, and specifically, HA87. See Figure 5.1 for the zip codes that must comply with the burn code program. Additionally, if citizens rely on wood burning as their only source of heat, they must submit a Sole Source of Heat Declaration to the AQMD each winter season.

5.1.2 Smoke Management Program

The AQMD has a Smoke Management Program (SMP) that addresses the health and air quality impacts from prescribed burning. The Washoe County District Board of Health adopted the SMP on August 28, 2003. The SMP is currently being revised and anticipated to be finalized in Fall 2018. As part of the SMP, the AQMD has Memorandum of Understanding (MOU) agreements in place with all Land Managers who conduct prescribed burning in Washoe County. The purpose of the MOU is to ensure that the stakeholders work towards the goal of the SMP. The MOU was most recently updated in 2017 and will be reviewed no less frequent than every five years. Additionally, as part of the SMP, Land Managers are required to submit an application with appropriate fees along with a burn plan for approval. A Smoke Management Permit is issued to the Land Manager with specified "Conditions of Operation" and is valid for 18 months. The SMP is available at OurCleanAir.com.

5.1.3 Wood-Burning Devices Program

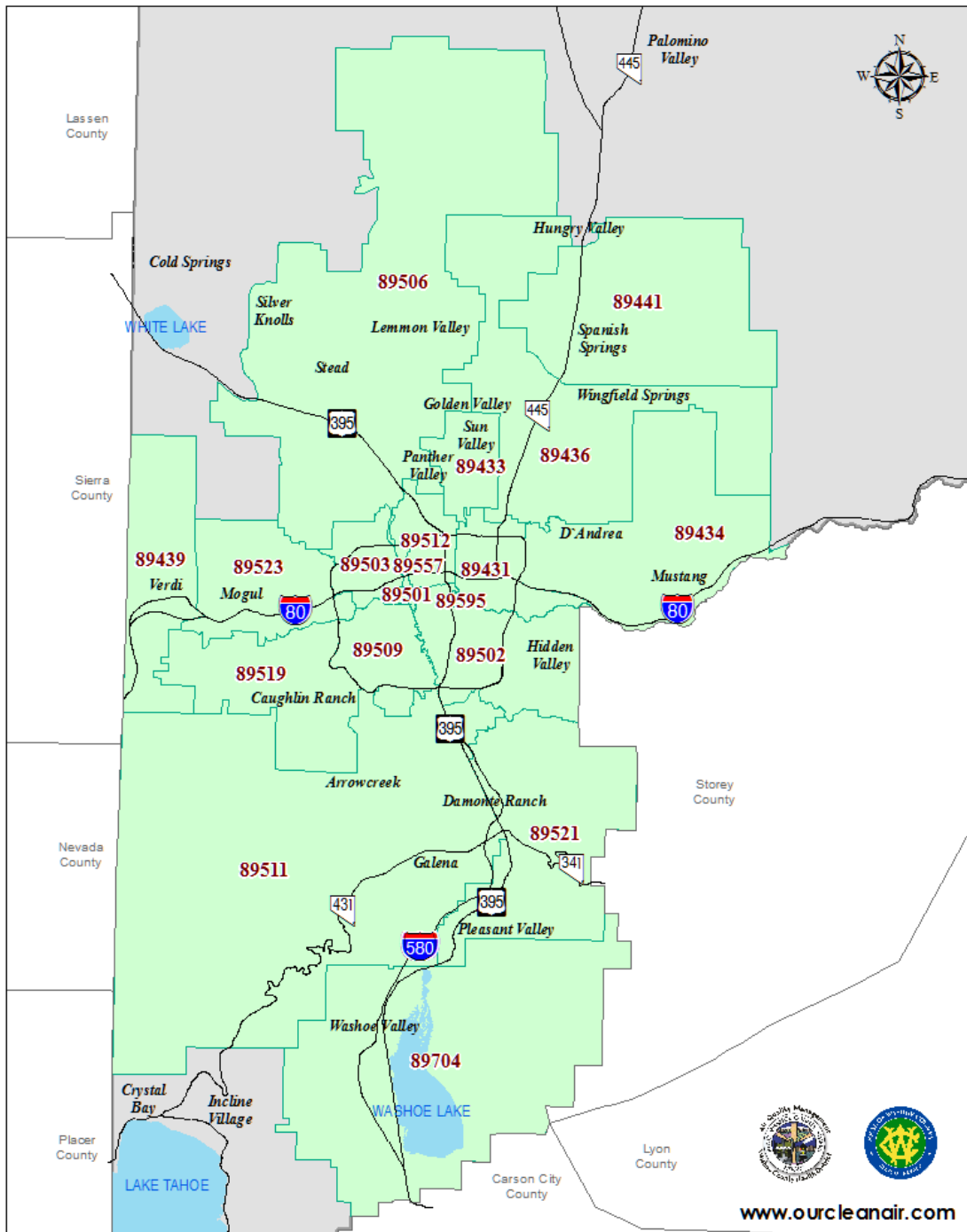
[The District Board of Health Regulations Governing Air Quality Management \(040.051\)](#) has regulation in place to limit PM emissions and other pollutants

discharged into the ambient air from wood-burning devices. This regulation was enacted to protect wintertime air quality from worsening due to emissions from wood-burning devices, especially during inversion days.

The regulation sets emission standards and certifies devices, requires the removal of non EPA-certified devices upon property transfer, restricts materials that can be burned, and limits the number of non low-emitting devices allowed in a resident or commercial property. This regulation applies to woodstoves, pellet stoves, and hydronic heaters. Currently, there are no hydronic heaters in Washoe County.

Figure 1.2
Burn Ban Zip Code Map

Washoe County Burn Ban Zip Codes



5.1.4 Woodstove Exchange Program

To accelerate the replacement of old, non EPA-certified stoves, AQMD has implemented several woodstove change-out programs over the last two decades. These change-out programs improved air quality by helping Washoe County residents to replace their devices qualified for rebates with cleaner, more efficient source of heat.

For the most recent change-out program, the AQMD partnered with the University of Nevada, Reno, Business Environmental Program to manage the program. Per the Supplemental Environmental Program (SEP) grant funding requirement, this program is set up to remove 197 functioning but non EPA-certified stoves, manufactured before 1992, from residences located within a specific zip codes in Washoe County, where they are most impacted by smoke from wood burning devices. Rebates are available for new wood burning stoves, pellet stoves, or new natural gas stoves. As of May 2018, 18 of the 197 rebates remain available. The 179 uncertified stoves removed to date were replaced with 62 woodstove, 65 pellet stoves, and 52 natural gas stoves.

Using the EPA wood stove emissions calculator, a conservative estimate for the 171 stoves changed out to-date equates to a reduction of 6.27 tons of particulate matter emissions per year. Over the 30-year expected life of these new stoves, an estimated 188 tons of particulate matter emissions will be prevented based on these change-outs number.

5.2 Minimize Public Exposure

5.2.1 Keep it Clean Outreach Program

Keep it Clean is the AQMD outreach program developed in 2012 to increase public awareness and engage the citizens of Washoe County to keep our air clean (see graphic below). Community action components to help mitigate air pollution concerns include:

Know the Code, a wood burning advisory program;
Rack Em Up, an alternative transportation program;
nOzone, a smog prevention program;
Be Smoke Smart, a wildfire awareness program, and
Be Idle Free, an education program to encourage the community to reduce unnecessary engine idling.

Each program encourages emission reduction and empowers citizens to take positive actions to Keep it Clean. The Keep it Clean brand has greatly increased public awareness of air quality, improved access to information regarding air quality and has successfully reached the community as indicated in website

statistics, residential wood use surveys, and outreach participation. Additionally, Keep it Clean won the 2014 EPA Gregg Cooke Visionary Program Award.

Keep it Clean.

Keep it Clean is the Washoe County Health District Air Quality Management Division's (AQMD) brand developed in 2012 to increase public awareness and engage citizens of Reno, Sparks, and Washoe County, Nevada to keep our air clean.

Know the Code.

 <p>Keep it Clean. Know the Code. OK TO BURN</p>	 <p>Keep it Clean. Know the Code. VOLUNTARY NO BURN</p>	 <p>Keep it Clean. Know the Code. PROHIBIT NO BURN</p>	<p>Know the Green, Yellow, Red Burn Code and when to burn for cleaner, healthier air during winter months.</p>
---	--	---	---

Know the Code is used from November through February to inform the public daily when it is alright to burn and when it is not by using color coded icons.



Rack Em Up.
Ride a Bike.
Good for the air.
Good for you.

Rack Em Up is promoted throughout the year to encourage active transportation.



nOzone
Take Care of Our Air.

nOzone is promoted during the summer months when ozone concerns are the greatest. The AQI and health messages are provided to the public daily.



Keep it Clean.
Be Smoke Smart.
Protect yourself from wildfire smoke.
OurCleanAir.com

Be Smoke Smart is promoted during wildfire season to protect public health in the event of smoke impacts.



Keep it Clean.
Be Idle Free.
OurCleanAir.com

Be Idle Free is promoted year round by encouraging the community to turn off their engine while not driving.

The Keep it Clean outreach program is the 2014 EPA Gregg Cooke Visionary Program award recipient.

WASHOE COUNTY HEALTH DISTRICT
ENHANCING QUALITY OF LIFE



775-784-4110 Hotline
775-784-7200 General Info
OurCleanAir.com



Sponsored by the Washoe County Health District Air Quality Management Division

5.2.2 Additional Monitoring

In addition to the SLAMS monitoring network, AQMD has one MetOne E-BAM and two MetOne Neighborhood Monitors to deploy during wildfire episodes as well as during prescribed fires to monitor PM_{2.5} impacts from smoke. These non-regulatory monitors are deployed in Southern Washoe County based on the severity of smoke impacts as it relates to sensitive receptors. Because these are non-regulatory monitors, they are only used to determine health impacts and protect public health during smoke episodes.

5.3 Collect and Maintain Data

5.3.1 Monitoring Network

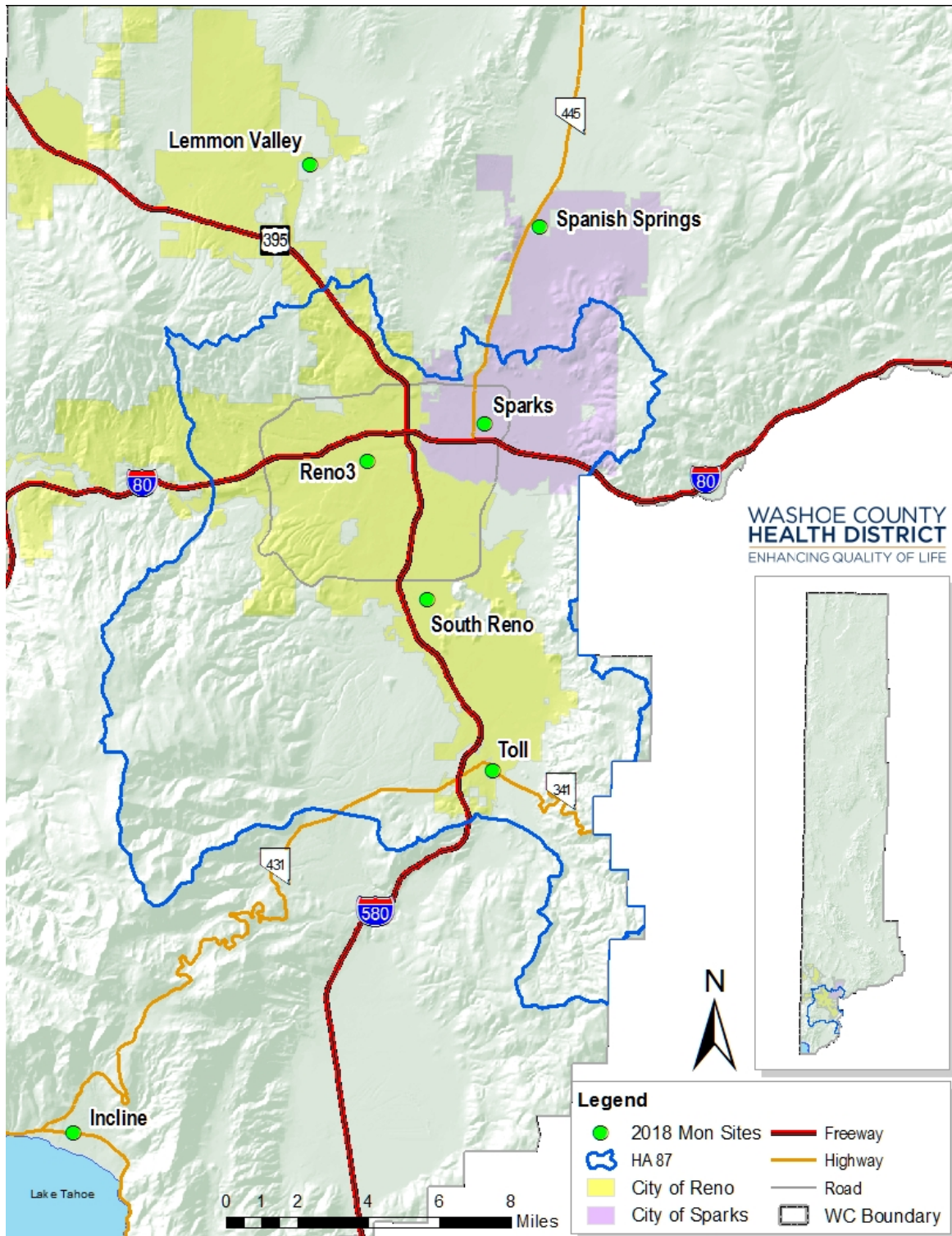
The AQMD began monitoring ambient air quality in Washoe County in the 1960's and currently operates seven State and Local Air Monitoring Stations (SLAMS) (Figure 1.3), with one site being a National Core Multi-Pollutant Monitoring Station (NCore). The blue boundary delineates HA87 as defined by the State of Nevada, Division of Water Resources. Table 5.1 lists the parameters monitored in 2018, sorted by site.

The AQMD's ambient air monitoring network meets the minimum monitoring requirements for all criteria pollutants pursuant to 40 CFR 58, Appendix D. Washoe County's monitoring network is reviewed annually pursuant to 40 CFR 58.10 to ensure the network meets the monitoring objectives defined in 40 CFR 58, Appendix D. Data is collected, quality assured, and certified annually in accordance with 40 CFR 58 and submitted to the Air Quality System (AQS). See Appendix A for the Annual Network Plan Approval Letter and Appendix B for the Data Certification Letter.

Table 1.1
List of Monitoring Sites and Pollutants Monitored in 2018

Site	O ₃	CO	Trace CO	Trace NO	NO ₂	NO _x	Trace NOy	Trace SO ₂	PM ₁₀	PM _{2.5}	PM _{coarse}	PM _{2.5} Speciation	Meteorology
Incline	✓												
Lemmon Valley	✓												
Reno3	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
South Reno	✓												✓
Sparks	✓	✓							✓	✓	✓		✓
Spanish Springs	✓								✓	✓	✓		
Toll	✓								✓				✓

Figure 1.3:
 Washoe County Health District – AQMD Ambient Air Monitoring Sites in 2018



5.4 Air Agency Consultation and Collaboration

During wildfire events, the AQMD shares information on social media from other air agencies as appropriate and participates on daily coordination calls regarding weather and fire activity to provide information regarding smoke impacts in our area. We also utilize the State Smoke Blogs, specifically the California Smoke Blog, as a means to monitor smoke impacts and wildfire activity. When additional monitors are deployed in response to a wildfire event through the United States Forest Service (USFS) Wildland Fire Air Quality Response Program, the AQMD monitors the PM_{2.5} interactive monitoring website to determine the AQI in surrounding areas from all sampling monitors.

Utilizing several resources and collaborating with surrounding air agencies during a wildfire event affecting the Mitigation Area allows AQMD to provide appropriate responses to abate and minimize smoke impacts to the public during an event.

6.0 Review and Evaluation Process

This mitigation plan will be reviewed and evaluated no less frequently than every five years.

The mitigation plan review will include an evaluation of

- Conditions that resulted in PM_{2.5} NAAQS exceedance in the Mitigation Area (if appropriate),
- Effectiveness of public notification and education,
- Effectiveness of control measures on identified sources, and
- Efficacy of communication and collaboration between affected air agencies and interested stakeholders.

A decision regarding revision and possible subsequent public comment period will be made after each review and evaluation. Revisions will be submitted to EPA in accordance with 40 CFR 51.930.

7.0 Public Comment

This mitigation plan was prepared to satisfy 40 CFR 51.930 and underwent 30-day public comment period from July 24, 2018 to August 24, 2018.

A public notice was published in the Reno Gazette-Journal on July 24, 2018 notifying the public that the Wildfire Mitigation Plan was available for public comment from July 24 through August 24, 2018 (Appendix C). A hard copy was available at the AQMD office and on the website (OurCleanAir.com).

Appendix A

ANNUAL NETWORK PLAN APPROVAL

**WASHOE COUNTY
HEALTH DISTRICT**
ENHANCING QUALITY OF LIFE

June 29, 2018

Gwen Yoshimura
Manager, Air Quality Analysis Office
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street, AIR-7
San Francisco, CA 94105

Subject: 2018 Annual Network Plan

Dear Ms. Yoshimura:

Enclosed is the “Washoe County Health District, Air Quality Management Division 2018 Ambient Air Monitoring Network Plan”. This plan was prepared in accordance with 40 CFR 58.10 and was available for public inspection from May 25 to June 25, 2018 at the Washoe County Health District, Air Quality Management Division (AQMD) website (OurCleanAir.com). A hardcopy of the plan was also available at the AQMD office. No written comments were received during the public inspection period.

Feel free to contact Mr. Craig Petersen or me at (775) 784-7200 if you have any questions or comments.

Sincerely,



Daniel Inouye
Monitoring and Planning Branch Chief

Attachments

cc: Anna Mebust, EPA Region 9
Craig Petersen, AQMD

WASHOE COUNTY HEALTH DISTRICT

ENHANCING QUALITY OF LIFE

Air Quality Management Division
2018 Ambient Air Monitoring Network Plan

Submitted to EPA Region 9 June 29, 2018



Public Health
Prevent. Promote. Protect.

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Acronyms and Abbreviations

AADT	Annual Average Daily Traffic Count
AQI	Air Quality Index
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
CMSA	Consolidated Metropolitan Statistical Area
CO	Carbon Monoxide
CSA	Combined Statistical Area
DMV	Department of Motor Vehicles
EBAM	Met One Environmental Beta Attenuation Monitor
EI	Emissions Inventory
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
NO	Nitric Oxide
NO ₂	Nitrogen Dioxide
NO _x	Oxides of Nitrogen
NO _y	Reactive Oxides of Nitrogen
O ₃	Ozone
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
RTI	Research Triangle Institute
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.

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 to these regulations. It represents the Washoe County Health District - Air Quality Management Division's (AQMD) ambient air monitoring program activities completed in 2017 and proposed network modifications for 2018-2019.

Public Inspection Process

This monitoring network plan was available for public inspection from May 25 to June 25, 2018 at the AQMD website (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 2018 Ambient Air Monitoring Network Plan, please contact the following individuals of the AQMD.

Charlene Albee, Division Director
(775) 784-7211, or calbee@washoecounty.us

Daniel Inouye, Branch Chief
(775) 784-7214, or dinouye@washoecounty.us

Craig Petersen, Senior Air Quality Specialist
(775) 784-7233, or cpetersen@washoecounty.us

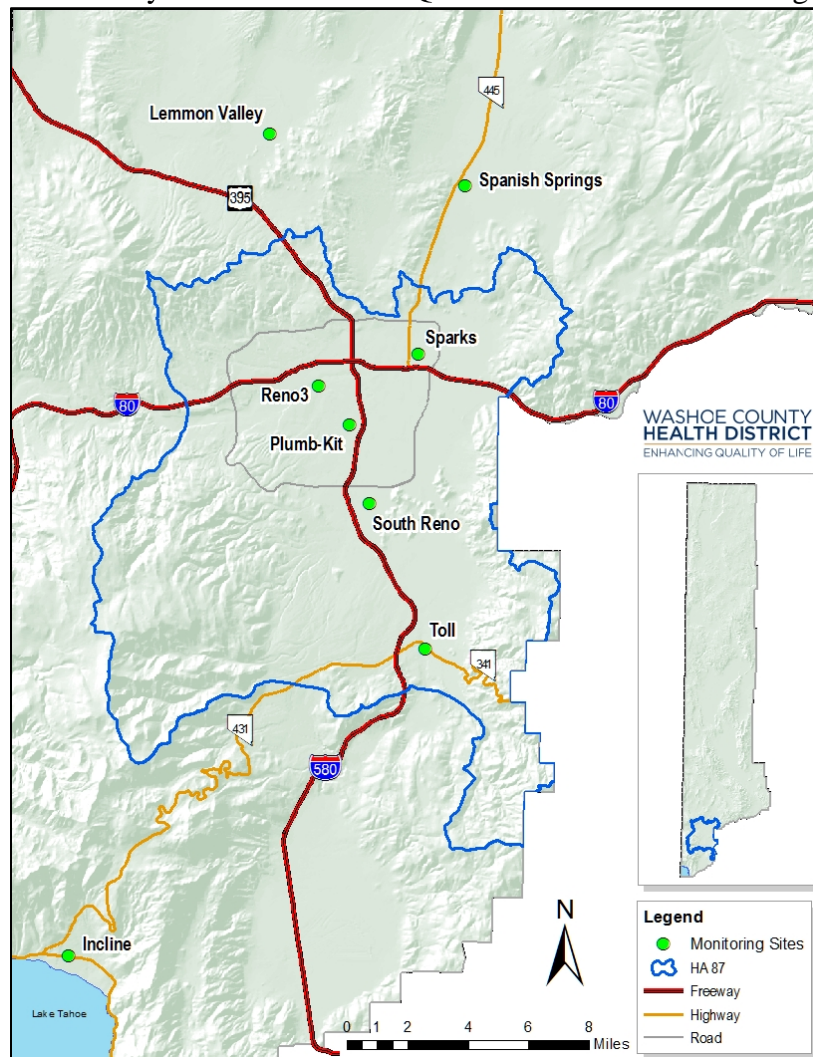
¹ 71 FR 61236-61328.

Overview of Washoe County Health District Network Operation

Network Design

The AQMD operated eight (8) ambient air monitoring sites in 2017 including monitoring at a new site in Spanish Springs beginning on January 1, 2017 (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 2017 sorted by network type and site, and includes the new Spanish Springs monitoring 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

Network Type Site	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
SLAMS																		
Incline	✓																	
Lemmon Valley	✓																	
Plumb-Kit												✓						✓
South Reno	✓											✓						✓
Sparks	✓	✓										✓		✓		✓		✓
Toll	✓											✓						✓
NCore ³																		
Reno3	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Speciation Trends																		
Reno3																	✓	
SPM																		
Spanish Springs	✓											✓		✓		✓		

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, 2008-2017](#)”. The 2017 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 (2015-2017)		Number of Sites		
			ppm	Site (ID)	Minimum Required	Active	Needed
Reno-Sparks	Washoe Storey Total	451,923 4,084 456,007	0.070	Lemmon Valley (2009)	2	6	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 within 85% of the NAAQS.

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

MSA	County	Population	Design Value (2015-2017)				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	451,923 4,084 456,007	7.6	Sparks (1005)	24	Sparks (1005)	0	2	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 within 85% of the NAAQS.

⁴ [Nevada State Demographer, “Governor Certified Population Estimates of Nevada’s Counties, Cities and Towns 2000 to 2017”, 2017.](#)

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

MSA	County	Population	Design Value (2015-2017)				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 <u>Storey</u> Total	451,923 <u>4,084</u> 456,007	7.6	Sparks (1005)	24	Sparks (1005)	0	2	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 (2015-2017)		Number of Sites		
			µg/m ³	Site (ID)	Minimum Required	Active	Needed
Reno-Sparks	Washoe <u>Storey</u> Total	451,923 <u>4,084</u> 456,007	155	Toll (0025)	3-4	5	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 250,000-500,000 must be in the range of 0 to 4 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 <u>Storey</u> Total	451,923 <u>4,084</u> 456,007	173,000 (2016)	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 2016 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.

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	451,923 <u>4,084</u> 456,007	604.0	275.4	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 2017 population data from the Nevada State Demographer's Office and 2014 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	451,923 <u>4,084</u> 456,007	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 2016 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.

Table 9
Minimum Monitoring Requirements for Pb at NCore

NCore Site Name	AQS ID	CBSA	County	Population	Number of Monitors		
					Minimum Required	Active	Needed
Reno 3	32-031-0016	Reno, NV	Washoe Storey Total	451,923 4,084 456,007	0	0	0

Title 40 CFR 58, Appendix D, Section 3(b) requires Pb monitoring for NCore sites in CBSAs with a population of 500,000 people or greater.

Table 10
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	0.17	2014 NEI	n/a	n/a	0	0	0
Reno-Tahoe International Airport	2001 E Plumb Lane Reno, NV	0.10	2014 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 2014 NEI. Table 10 includes the two largest sources of Pb emissions in the Reno, NV CBSA.

Table 11
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	456,007 (2017)	182,000 ⁵ (2017)	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.

⁵ 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 12 and 13 display how AQMD is assessing and meeting these collocation requirements.

Table 12
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 3.3.1 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 Reno 3 NCORE station, and all of the Primary PM₁₀ monitors are continuous methods, there is no collocation requirement.

Table 13
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	2	1	1	0

Title 40 CFR 58, Appendix A, Section 3.2.5 requires 15 percent (at least 1) of the monitors be collocated. The first collocated monitor must be a designated FRM monitor. AQMD meets this requirement by having two Primary PM_{2.5} FEM monitors with one at the Reno 3 monitoring station collocated with a PM_{2.5} FRM sampler.

Network Modifications Completed in 2017

SLAMS:

PM₁₀ (South Reno)

- Discontinued PM₁₀ monitoring at the South Reno monitoring station. See Appendix B, Network Modification Request/Approval for approved South Reno PM₁₀ monitor discontinuation.

PM₁₀, meteorology (Plumb Kit)

- Discontinued all monitoring at the Plumb Kit monitoring station. See Appendix B, Network Modification Request/Approval for approved Plumb Kit station discontinuation.

NCore:

PM₁₀ (Reno 3)

- Discontinued reporting FRM PM₁₀ data under parameter code 81102. See Appendix C, Network Modification Request/Approval for approved data reporting discontinuation.

Speciation Trends:

- No modifications completed.

SPM:

- Beginning January 1, 2017, officially began reporting O₃, PM_{2.5}, PM₁₀, and PM_{10-2.5} data to AQS from the new SPM site in Spanish Springs.

Additional Changes Completed in 2017

SLAMS:

O₃ (Incline)

- Replaced the Environics 6103 Ozone Transfer Standard/Multi-gas Calibrator with a Teledyne-API T700 Dynamic Dilution Calibrator as part of ten-year replacement program.
- Relocated O₃ probe from the northeast corner of building to a new location approximately 5.3 meters west and 3.5 meters south of previous location due to a roofing project.

NCore:

- No changes completed.

Speciation Trends:

- No changes completed.

SPM:

- No changes completed.

Network Modifications Proposed for 2018-2019

SLAMS:

All pollutants (Spanish Springs)

- Convert PM₁₀, PM_{2.5}, PM_{10-2.5}, and O₃ monitors from a SPM to a SLAMS beginning July 1, 2018.

Meteorology (Spanish Springs)

- Complete meteorological tower installation and begin monitoring wind speed, wind direction, and ambient temperature beginning January 1, 2019.

NCore:

All pollutants and meteorology (Reno 3)

- Relocate the Reno 3 NCore monitoring station from its current location to a new location in downtown Reno. A formal request stating this proposal will be submitted prior to any modifications to follow the 40 CFR 58.14 criteria.

Speciation Trends:

- Relocate the Reno 3 NCore monitoring station from its current location to a new location in downtown Reno. A formal request stating this proposal will be submitted prior to any modifications to follow the 40 CFR 58.14 criteria.

SPM:

All pollutants and meteorology (West Reno/Verdi)

- Begin monitoring PM₁₀, PM_{2.5}, PM_{10-2.5}, O₃, and meteorology at a new site in West Reno/Verdi. 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 2018-2019

SLAMS:

All parameters (Incline, Lemmon Valley, Plumb-Kit, South Reno, Spanish Springs, Sparks, and Toll)

- Replace all ESC 8832 Data Loggers with Agilaire 8872 Site Node Data Loggers as part of ten-year replacement program.

Meteorology (Plumb-Kit, South Reno, Sparks, and Toll)

- Replace all YSI 700 ambient temperature sensors with Met One 063-1 ambient temperature sensors as part of ten-year replacement program.

CO (Sparks)

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

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

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

NCore:

All parameters (Reno 3)

- Replace ESC 8832 Data Logger with Agilaire 8872 Site Node Data Logger as part of ten-year replacement program.

Meteorology (Reno 3)

- Replace YSI 700 ambient temperature sensor with Met One 063-1 ambient temperature sensor as part of ten-year replacement program.
- Install a new Met One 595 solar radiation sensor.

Speciation Trends:

- No changes proposed.

SPM:

- No changes proposed.

PM_{2.5} Monitoring Network Modifications Proposed for 2018-2019

SLAMS:

PM_{2.5} (Toll)

- Begin monitoring PM_{2.5} and PM_{10-2.5} at the Toll monitoring station. A formal letter stating this proposal will be submitted prior to any modifications to follow the 40 CFR 58.14 criteria.

NCore:

PM_{2.5} (Reno 3)

- Relocate the Reno 3 NCore monitoring station from its current location to a new location in downtown Reno. A formal request stating this proposal will be submitted prior to any modifications to follow the 40 CFR 58.14 criteria.

Speciation Trends:

- Relocate the Reno 3 NCore monitoring station from its current location to a new location in downtown Reno. A formal request stating this proposal will be submitted prior to any modifications to follow the 40 CFR 58.14 criteria.

SPM:

PM_{2.5} (West Reno/Verdi)

- Begin monitoring PM_{2.5} at new site in West Reno/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

Precision and Accuracy Reports for 2017 were submitted to AQS for the:

- 1st quarter in May 2017,
- 2nd quarter in August 2017,
- 3rd quarter in November 2017, and
- 4th quarter in February 2018.

Annual Data Certification for all data for 2017 was submitted to EPA on April 24, 2018.

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 2017. Figure 2 shows the location of tribal lands for the Reno-Sparks Indian Colony and Figure 3 is a map showing the locations of 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
 Elizabeth Acevedo
 Environmental Specialist II
 Environmental Program of the
 Planning Department
 1937 Prosperity Street
 Reno, NV 89502
 (775)785-1363, ext. 5409
eacevedo@rsic.org
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
<http://plpt.nsn.us/environmental/air.htm>

Table 14
 Tribal Ambient Air Monitoring Sites and Parameters Monitored

Network Site 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 2
Reno-Sparks Indian Colony

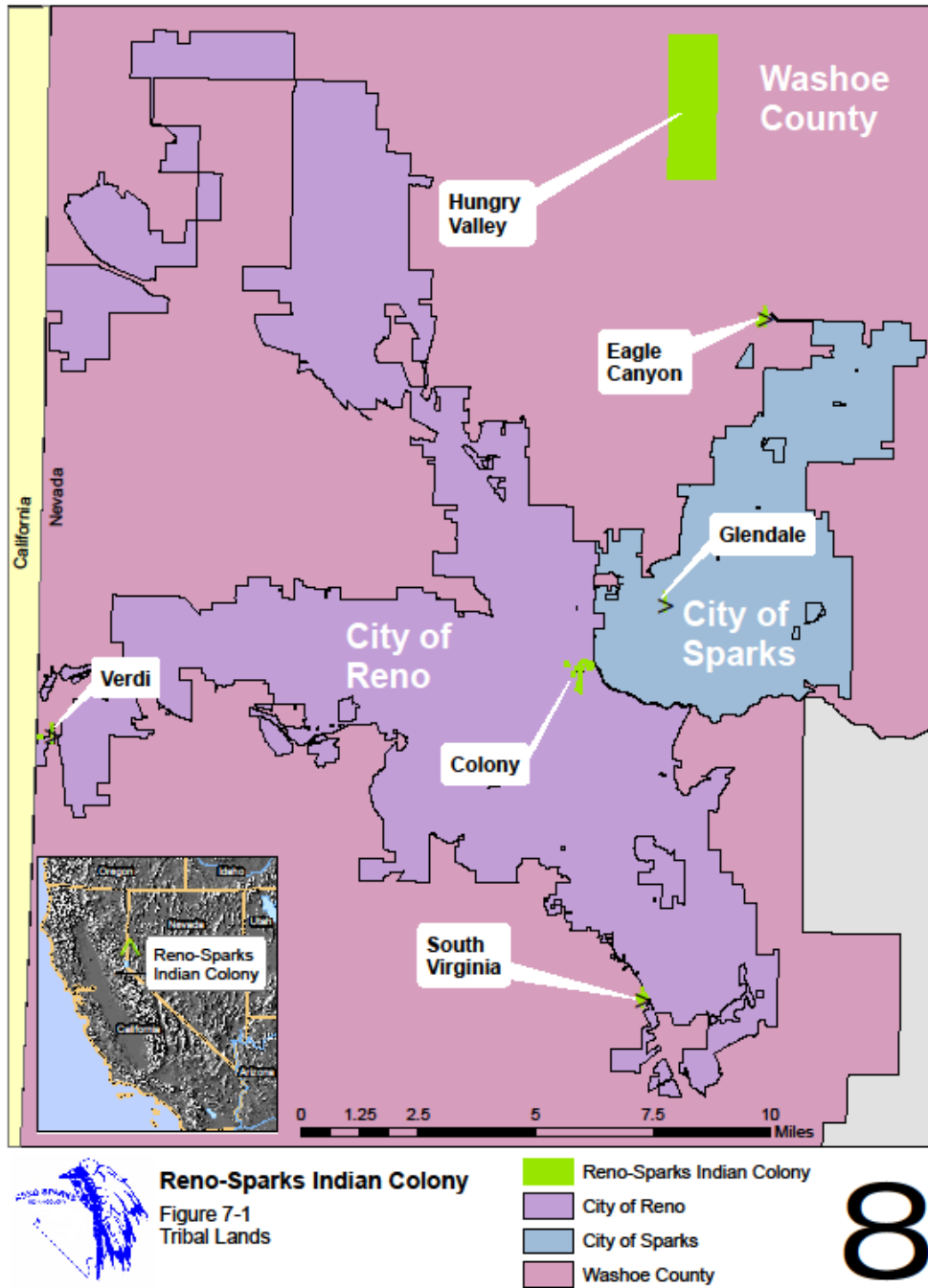


Figure 3
Pyramid Lake Paiute Tribe



Map 1 - Location of Pyramid Lake Paiute Tribe Air Quality Monitoring Site.

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.

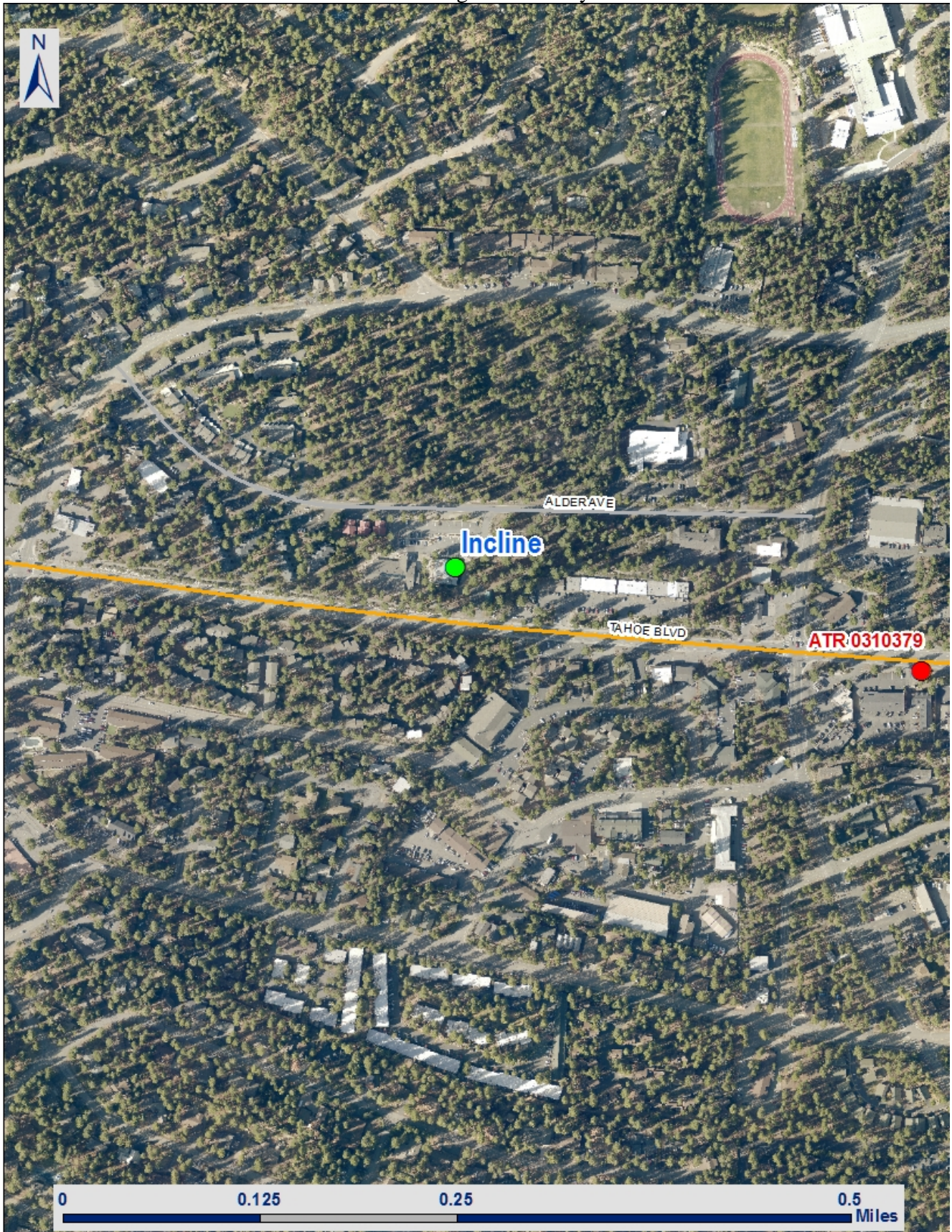
Site Name:	Incline
AQS ID:	32-031-2002
Geographical coordinates:	39° 15.025'N, 119° 57.404'W
Location:	Inside northeast corner of Washoe County office building.
Street address:	855 Alder Avenue Incline Village, NV 89451
County:	Washoe
Distance to road:	57 meters to Tahoe Boulevard
Traffic count:⁶	9,700 AADT (2015-2017) (NDOT ATR 0310379 – SR28 (Tahoe Blvd), 450 feet south of Village Blvd)
Groundcover:	Paved / Vegetated
Representative area:	Reno-Sparks MSA

Figure 4
Incline Monitoring Station



⁶ [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)	Population Exposure
Monitor type	SLAMS
Network affiliation(s)	n/a
Instrument manufacturer / model	TAPI 400E
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	5.8 meters
Distance from supporting structure	2.5 meters
Distance from obstructions on roof	n/a
Distance from obstructions not on roof	None
Distance from trees	10.8 meters*
Distance to furnace or incinerator flue	6.3 meters
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)	03/03/17 06/09/17 08/31/17 11/07/17
Date of two semi-annual flow rate audits (PM)	n/a

* Trees are not of sufficient height and leaf canopy density to interfere with the normal unrestricted airflow or pollutant scavenging around the monitoring path. At least 90 percent of the monitoring path is at least 10 meters from the drip line of the trees.

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
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:	803 AADT (2015-2017) (NDOT ATR 0310926 - Patrician Drive, 150 feet west of Lemmon Drive)
Groundcover:	Paved / Vegetated
Representative area:	Reno-Sparks MSA

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)	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	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
Distance from trees	21 meters
Distance to furnace or incinerator flue	9.1 meters
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)	03/01/17 06/06/17 08/30/17 11/01/17
Date of two semi-annual flow rate audits (PM)	n/a

Plumb-Kit

The Plumb-Kit site is located on the northeast corner of Plumb Lane and Kietzke Lane. The site is surrounded by both residential and commercial properties as well as a school.

Site name:	Plumb-Kit
AQS ID:	32-031-0030
Geographical coordinates:	39° 30.381'N, 119° 47.314'W
Location:	Northeast corner of Plumb and Kietzke Lanes.
Street address:	891 East Plumb Lane Reno, NV 89502
County:	Washoe
Distance to road:	36 meters to Kietzke Lane, 44 meters to Plumb Lane
Traffic count:	23,667 AADT (2015-2017) (NDOT ATR 0310191 - Kietzke Lane, 700 feet south of Plumb Lane) 24,367 AADT (2015-2017) (NDOT ATR 0310192 - East Plumb Lane, 590 feet east of Kietzke Lane)
Groundcover:	Gravel
Representative area:	Reno-Sparks MSA

Figure 8
Plumb-Kit Monitoring Station



Figure 9
Plumb-Kit Monitoring Site Vicinity Aerial



Plumb-Kit (continued)

Pollutant, POC	PM _{10, 2}	Wind Speed, 1	Wind Direction, 1	Ambient Temperature, 1
Primary / QA Collocated / Other	Primary	n/a	n/a	n/a
Parameter code	81102	61101	61102	62101
Basic monitoring objective(s)	NAAQS comparison	Public Information	Public Information	Public Information
Site type(s)	Population Exposure	Population Exposure	Population Exposure	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 50.5H	Met One 50.5H	YSI Series 700
Method code	122	061	061	014
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 2006	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	4.9 meters	10.0 meters	10.0 meters	5.0 meters
Distance from supporting structure	2.1 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
Distance from trees	12.2 meters*	13.0 meters	13.0 meters	13.0 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	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)	Bi-weekly verifications and quarterly audits	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)	n/a	03/15/17 06/15/17 09/13/17 11/21/17	03/15/17 06/15/17 09/13/17 11/21/17	03/15/17 06/15/17 09/13/17 11/21/17
Date of two semi-annual flow rate audits (PM)	03/15/17 06/15/17 09/13/17 11/21/17	n/a	n/a	n/a

* Trees are not of sufficient height and leaf canopy density to interfere with the normal unrestricted airflow or pollutant scavenging around the monitoring path. At least 90 percent of the monitoring path is at least 10 meters from the drip line of the trees.

Reno 3

This downtown site began operation in January 2002 to replace the Reno site. Both a residential neighborhood and a commercial growth area surround this site. In December 2010, this site became an NCore site.

Site name:	Reno 3
AQS ID:	32-031-0016
Geographical coordinates:	39° 31.505'N, 119° 48.463'W
Location:	Southwest corner of City of Reno parking lot.
Street address:	301A State Street Reno, NV 89501
County:	Washoe
Distance to road:	38 meters to Mill Street, 13.1 meters to State Street, and 6.7 meters to River Rock.
Traffic count:	4,200 AADT (2015-2017) (NDOT ATR 0310862 – Mill Street, 100 feet west of Holcomb Avenue) ≤900 Approximate AADT (NDOT Estimate – State Street) 200-300 Approximate AADT (RTC/City of Reno Estimate – River Rock Street)
Groundcover:	Paved
Representative area:	Reno-Sparks MSA

Figure 10
Reno 3 Monitoring Station



Figure 11
Reno 3 Monitoring Site Vicinity Aerial



Reno 3 (continued)

Pollutant, POC	PM ₁₀ , 2	PM _{2.5} , 3	PM _{10-2.5} , 2	PM _{2.5} Speciation, 1
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	Population Exposure	Population Exposure
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s)	NCORE	NCORE	NCORE	CSN 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	AMEC Foster Wheeler
Reporting Agency	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD	WCHD - AQMD
Spatial scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Monitoring start date	December 2010	December 2010	December 2010	November 2001
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	5.0 meters	5.1 meters	5.1 meters	SASS: 4.8 meters URG: 5.0 meters
Distance from supporting structure	2.1 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
Distance from trees	19.3 meters*	18.3 meters*	18.3 meters*	SASS: 19.7 meters* URG: 21 meters
Distance to furnace or incinerator flue	n/a	n/a	n/a	n/a
Distance between collocated monitors	n/a	3.8 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?	See pages 10 and 11	See pages 10 and 11	See pages 10 and 11	See pages 10 and 11
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)	03/09/17 06/14/17 09/14/17 11/29/17	03/09/17 06/14/17 09/14/17 11/29/17	03/09/17 06/14/17 09/14/17 11/29/17	03/28/17 06/22/17 09/27/17 12/19/17

Reno 3 (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)	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s)	NCore	NCore	NCore	NCore
Instrument manufacturer / model	BGI PQ200	BGI PQ200	BGI PQ200 coarse pair	TAPI 300EU
Method code	125	142	173	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	April 1988	January 1999	March 2009	December 2010
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
Distance from trees	18.4 meters*	19.4 meters*	18.4 meters*	17.4 meters*
Distance to furnace or incinerator flue	n/a	n/a	n/a	n/a
Distance between collocated monitors	n/a	3.8 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?	See pages 10 and 11	See pages 10 and 11	See pages 10 and 11	See pages 10 and 11
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	03/07/17 06/13/17 09/13/17 11/16/17
Date of two semi-annual flow rate audits (PM)	03/22/17 06/22/17 09/27/17 12/19/17	03/22/17 06/22/17 09/27/17 12/19/17	03/22/17 06/22/17 09/27/17 12/19/17	n/a

Reno 3 (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	Population Exposure	Population Exposure	Population Exposure
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s)	NCore	NCore	NCore	NCore
Instrument manufacturer / model	TAPI 400E	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 1983	November 2001	November 2001	November 2001
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	4.9 meters	4.8 meters	4.8 meters	4.8 meters
Distance from supporting structure	1.9 meters	1.8 meters	1.8 meters	1.8 meters
Distance from obstructions on roof	n/a	n/a	n/a	n/a
Distance from obstructions not on roof	None	None	None	None
Distance from trees	17.4 meters*	18.4 meters*	18.4 meters*	18.4 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?	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?	See pages 10 and 11	See pages 10 and 11	See pages 10 and 11	See pages 10 and 11
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)	03/07/17 06/13/17 09/13/17 11/16/17	03/09/17 06/13/17 09/15/17 12/19/17	03/09/17 06/13/17 09/15/17 12/19/17	03/09/17 06/13/17 09/15/17 12/19/17
Date of two semi-annual flow rate audits (PM)	n/a	n/a	n/a	n/a

Reno 3 (continued)

Pollutant, POC	Trace NO ₂ , 2	NO _y -NO _x , 1	NO _y , 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)	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s)	NCORE	NCORE	NCORE	NCORE
Instrument manufacturer / model	TAPI 200EU with 501	TAPI 200EU with 501	TAPI 200EU 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	December 2010	December 2010	December 2010	December 2010
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	10.0 meters	10.0 meters	10.0 meters	4.9 meters
Distance from supporting structure	10.0 meters	10.0 meters	10.0 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
Distance from trees	17.4 meters*	17.4 meters*	17.4 meters*	17.4 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?	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	9 seconds	9 seconds	9 seconds	6 seconds
Proposed modifications within the next 18 months?	See pages 10 and 11	See pages 10 and 11	See pages 10 and 11	See pages 10 and 11
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)	03/09/17 06/13/17 09/15/17 12/19/17	03/09/17 06/13/17 09/15/17 12/19/17	03/09/17 06/13/17 09/15/17 12/19/17	03/07/17 06/13/17 09/13/17 11/16/17
Date of two semi-annual flow rate audits (PM)	n/a	n/a	n/a	n/a

* Trees are not of sufficient height and leaf canopy density to interfere with the normal unrestricted airflow or pollutant scavenging around the monitoring path. At least 90 percent of the monitoring path is at least 10 meters from the drip line of the trees.

Reno 3 (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)	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitor type	SLAMS	SLAMS	SLAMS	SLAMS
Network affiliation(s)	NCore	NCore	NCore	NCore
Instrument manufacturer / model	Met One 50.5H	Met One 50.5H	YSI Series 700	Met One 083E
Method code	061	061	014	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	February 2013	February 2013	February 2013	February 2013
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	10.0 meters	10.0 meters	5.0 meters	5.0 meters
Distance from supporting structure	10.0 meters	10.0 meters	5.0 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
Distance from trees	22 meters	22 meters	22 meters	22 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?	See pages 10 and 11	See pages 10 and 11	See pages 10 and 11	See pages 10 and 11
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)	03/09/17 06/14/17 09/14/17 11/29/17	03/09/17 06/14/17 09/14/17 11/29/17	03/09/17 06/14/17 09/14/17 11/29/17	03/09/17 06/14/17 09/14/17 11/29/17
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
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:	4,700 AADT (2015-2017) (NDOT ATR 0310690 - Neil Road, 515 feet north of Delucchi Lane) 9,766 AADT (2015-2017) (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

Figure 12
South Reno Monitoring Station



Figure 13
South Reno Monitoring Site Vicinity Aerial



South Reno (continued)

Pollutant, POC	PM ₁₀ , 2	O ₃ , 1
Primary / QA Collocated / Other	Primary	n/a
Parameter code	81102	44201
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison
Site type(s)	Population Exposure	Population Exposure
Monitor type	SLAMS	SLAMS
Network affiliation(s)	n/a	n/a
Instrument manufacturer / model	Met One BAM 1020	TAPI T400
Method code	122	087
FRM / FEM / ARM / Other	FEM	FEM
Collecting Agency	WCHD - AQMD	WCHD - AQMD
Analytical Lab	n/a	n/a
Reporting Agency	WCHD - AQMD	WCHD - AQMD
Spatial scale	Neighborhood	Neighborhood
Monitoring start date	January 1988	January 1988
Current sampling frequency	Continuous	Continuous
Required sampling frequency	n/a	n/a
Sampling season	01/01 – 12/31	01/01 – 12/31
Probe height	4.9 meters	4.0 meters
Distance from supporting structure	2.2 meters	1.2 meters
Distance from obstructions on roof	n/a	n/a
Distance from obstructions not on roof	None	None
Distance from trees	28 meters	27 meters
Distance to furnace or incinerator flue	n/a	n/a
Distance between collocated monitors	n/a	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	No	n/a
For high volume PM instruments, is any PM instrument within 2 meters?	n/a	n/a
Unrestricted airflow	360 degrees	360 degrees
Probe material	n/a	Teflon
Residence time	n/a	6 seconds
Proposed modifications within the next 18 months?	None	None
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a	n/a
Frequency of flow rate verification for manual samplers (PM)	n/a	n/a
Frequency of flow rate verification for automated analyzers (PM)	Bi-weekly verifications and quarterly audits	n/a
Frequency of one-point QC check (gaseous)	n/a	Bi-weekly (3 point)
Date of annual performance evaluation (gaseous & meteorological)	n/a	03/02/17 06/07/17 09/01/17 11/02/17
Date of two semi-annual flow rate audits (PM)	03/15/17 06/15/17 09/13/17 12/13/17	n/a

South Reno (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)	Population Exposure	Population Exposure	Population Exposure
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	YSI Series 700
Method code	061	061	014
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
Distance from trees	27 meters	27 meters	27 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)	03/15/17 06/15/17 09/14/17 12/13/17	03/15/17 06/15/17 09/14/17 12/13/17	03/15/17 06/15/17 09/13/17 12/13/17
Date of two semi-annual flow rate audits (PM)	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 will convert to a SLAMS on July 1, 2018.

Site name:	Spanish Springs
AQS ID:	32-031-1007
Geographical coordinates:	39°37.287' N, 119°43.124' W
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:	35,000 AADT (2015-2017) (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

Figure 14
Spanish Springs Monitoring Station



Figure 15
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	88101	86101	44201
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison	Research Support	NAAQS comparison
Site type(s)	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Monitor type	SPM/SLAMS	SPM/SLAMS	SPM/SLAMS	SPM/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	34 meters	34 meters	34 meters	32 meters
Distance from trees	33 meters	34 meters	33 meters	35 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	5 seconds
Proposed modifications within the next 18 months?	See page 10	See page 10	See page 10	See page 10
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	03/01/17 06/06/17 08/30/17 11/01/17
Date of two semi-annual flow rate audits (PM)	03/16/17 06/13/17 09/08/17 12/14/17	03/16/17 06/13/17 09/08/17 12/14/17	03/16/17 06/13/17 09/08/17 12/14/17	n/a

Sparks

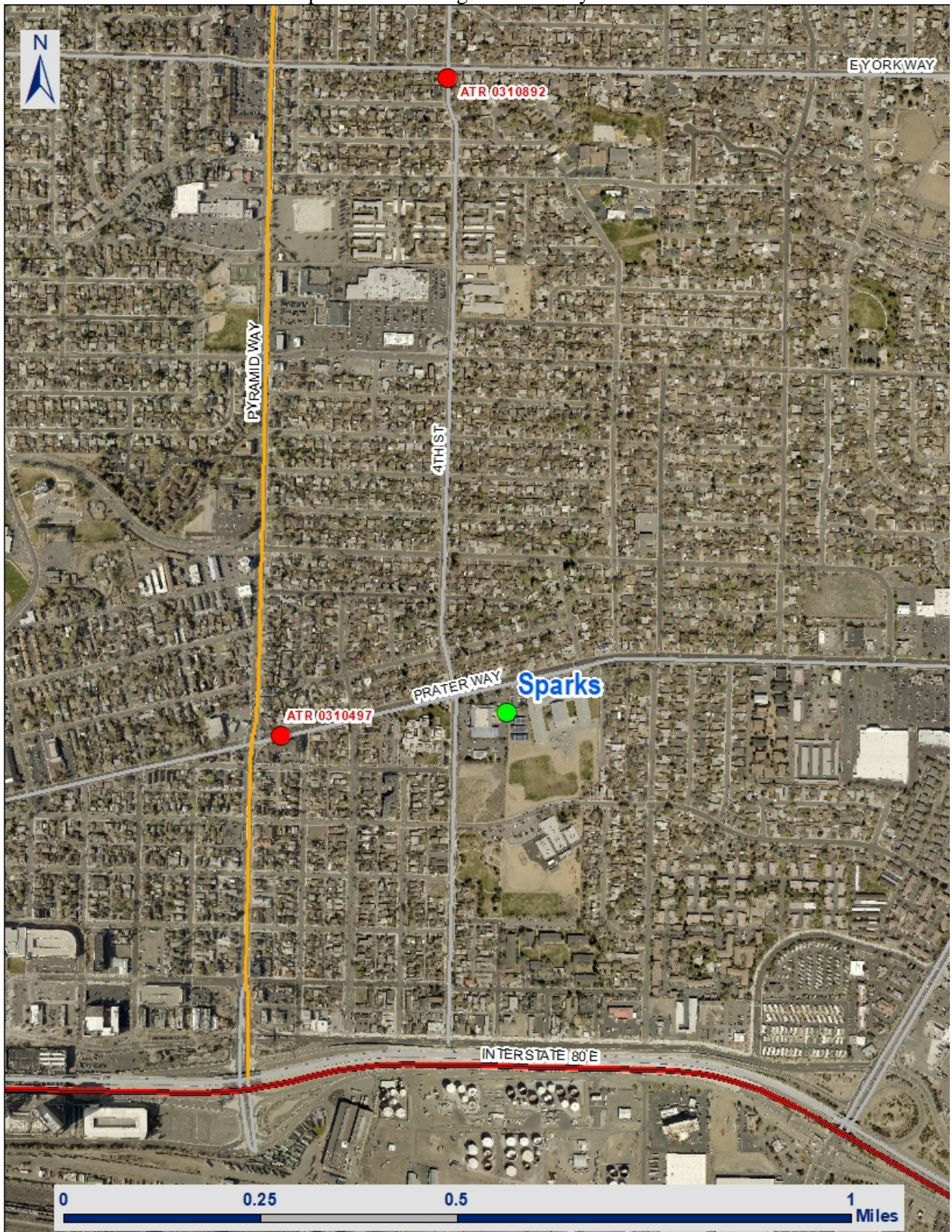
The Sparks site is located on US Postal Service property at 750 Fourth Street. The site is surrounded by commercial property, a residential neighborhood and is adjacent to Dilworth Middle School. In 2007 the Sparks site was moved approximately 55 meters north of its previous location, due to tree growth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

Site name:	Sparks
AQS ID:	32-031-1005
Geographical coordinates:	39° 32.455'N, 119° 44.806'W
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:	13,200 AADT (2015-2017) (NDOT ATR 0310497 - Prater Way, 100 feet east of Pyramid Way) 2,933 AADT (2015-2017) (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

Figure 16
Sparks Monitoring Station



Figure 17
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	88101	86101	42101
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison	Research Support	NAAQS comparison
Site type(s)	Population Exposure	Highest Concentration	Highest Concentration	Highest Concentration
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
Distance from trees	26 meters	26 meters	26 meters	27 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	03/02/17 06/07/17 09/06/17 11/02/17
Date of two semi-annual flow rate audits (PM)	03/16/17 06/13/17 09/08/17 12/14/17	03/16/17 06/13/17 09/08/17 12/14/17	03/16/17 06/13/17 09/08/17 12/14/17	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	Population Exposure	Population Exposure	Population Exposure
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	YSI Series 700
Method code	087	061	061	014
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
Distance from trees	26 meters	27 meters	27 meters	27 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)	03/02/17 06/07/17 09/06/17 11/02/17	03/16/17 06/13/17 09/08/17 12/14/17	03/16/17 06/13/17 09/08/17 12/14/17	03/16/17 06/13/17 09/08/17 12/14/17
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.

Site name:	Toll
AQS ID:	32-031-0025
Geographical coordinates:	39° 23.990'N, 119° 44.376'W
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:	7,133 AADT (2015-2017) (NDOT ATR 0310137 - SR 341, 0.4 miles east of US 395)
Groundcover:	Paved parking lot / Dirt
Representative area:	Reno-Sparks MSA

Figure 18
Toll Monitoring Station



Figure 19
Toll Monitoring Site Vicinity Aerial



Toll (continued)

Pollutant, POC	PM ₁₀ , 2	O ₃ , 1
Primary / QA Collocated / Other	Primary	n/a
Parameter code	81102	44201
Basic monitoring objective(s)	NAAQS comparison	NAAQS comparison
Site type(s)	Highest Concentration	Population Exposure
Monitor type	SLAMS	SLAMS
Network affiliation(s)	n/a	n/a
Instrument manufacturer / model	Met One BAM 1020	TAPI 400E
Method code	122	087
FRM / FEM / ARM / Other	FEM	FEM
Collecting Agency	WCHD - AQMD	WCHD - AQMD
Analytical Lab	n/a	n/a
Reporting Agency	WCHD - AQMD	WCHD - AQMD
Spatial scale	Neighborhood	Neighborhood
Monitoring start date	March 1996	March 1996
Current sampling frequency	Continuous	Continuous
Required sampling frequency	n/a	n/a
Sampling season	01/01 – 12/31	01/01 – 12/31
Probe height	5.0 meters	4.0 meters
Distance from supporting structure	2.1 meters	1.2 meters
Distance from obstructions on roof	n/a	n/a
Distance from obstructions not on roof	None	None
Distance from trees	28 meters	28 meters
Distance to furnace or incinerator flue	n/a	n/a
Distance between collocated monitors	n/a	n/a
For low volume PM instruments, is any PM instrument within 1 meter?	No	n/a
For high volume PM instruments, is any PM instrument within 2 meters?	n/a	n/a
Unrestricted airflow	360 degrees	360 degrees
Probe material	n/a	Teflon
Residence time	n/a	6 seconds
Proposed modifications within the next 18 months?	See page 11	None
Is it suitable for comparison against the annual PM _{2.5} NAAQS?	n/a	n/a
Frequency of flow rate verification for manual samplers (PM)	n/a	n/a
Frequency of flow rate verification for automated analyzers (PM)	Bi-weekly and quarterly audits	n/a
Frequency of one-point QC check (gaseous)	n/a	Bi-weekly (3 point)
Date of annual performance evaluation (gaseous & meteorological)	n/a	03/03/17 06/08/17 08/31/17 11/03/17
Date of two semi-annual flow rate audits (PM)	03/15/17 06/14/17 09/13/17 12/13/17	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)	Population Exposure	Population Exposure	Population Exposure
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	YSI Series 700
Method code	061	061	014
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
Distance from trees	30 meters	30 meters	30 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)	03/15/17 06/14/17 09/13/17 12/13/17	03/15/17 06/14/17 09/13/17 12/13/17	03/15/17 06/14/17 09/13/17 12/13/17
Date of two semi-annual flow rate audits (PM)	n/a	n/a	n/a

Appendix A
Public Inspection Plan

Public Inspection Plan

This monitoring network plan was available for public inspection from May 25 to June 25, 2018 at the AQMD website (OurCleanAir.com). A hardcopy of the plan was also available at the AQMD office. All comments received during this inspection period are outlined below.

1. No comments received.

Appendix B

Network Modification Request/Approval

South Reno PM₁₀ Discontinuation and Plumb-Kit Site Closure

**WASHOE COUNTY
HEALTH DISTRICT**
ENHANCING QUALITY OF LIFE

June 30, 2017

Meredith Kurpius
Manager, Air Quality Analysis Office
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street, AIR-7
San Francisco, CA 94105

Subject: Proposed Modifications to the Washoe County Health District, Air Quality Management Division Ambient Air Monitoring Network

Dear Ms. Kurpius:

Pursuant to 40 CFR 58.14, the Washoe County Health District, Air Quality Management Division (AQMD) requests review and approval for two modifications to the existing ambient air monitoring network. The AQMD is proposing to:

1. Discontinue PM₁₀ monitoring at the South Reno SLAMS (AQS ID 32-031-0020) effective December 31, 2017; and
2. Discontinue PM₁₀ monitoring and a complete site closure at the Plumb-Kit SLAMS (AQS ID 32-031-0030) effective December 31, 2017.

The proposed modifications are consistent with the AQMD's most recent Network Assessment (2015) and/or Annual Network Plan (2017). Attached are demonstrations to support AQMD's proposal to discontinue PM₁₀ monitoring at the South Reno and Plumb-Kit SLAMS. Approval of these requests will also build capacity to operate and maintain two new monitoring stations - Spanish Springs and West Reno. The Spanish Springs SPM (AQS ID 32-031-1007) has been submitting data to AQS since January 1, 2017. AQMD is actively reviewing potential monitoring locations in West Reno. A separate network modification request will be submitted when a specific location in West Reno is secured.

If you require additional information, feel free to contact Mr. Craig Petersen or me at (775) 784-7200.

Sincerely,



Daniel Inouye
Monitoring and Planning Branch Chief

cc: Anna Mebust, EPA Region 9
Craig Petersen, AQMD

Attachment A
 Discontinuation of PM₁₀ monitoring at the South Reno SLAMS (AQS ID 32-031-0020)

Discontinuation of PM₁₀ monitoring is based on criteria in 40 CFR 58.14(c)(1), including the points below.

1. The monitor has shown attainment during the previous five years (2012-16), specifically:
 - a. The monitor has not exceeded nor violated the 24-hour NAAQS of 150 µg/m³.
2. The monitor has a probability of less than 10 percent of exceeding 80 percent of the current 24-hour NAAQS.¹

Parameter (µg/m ³)	Averaging Time	5 Year Maximums (2012-16)					Ave Max	Std. Dev.	Student's t value (90% confidence)	Number of Data Values (n)	90% Upper CI	NAAQS	80% of NAAQS	Test	
		Year 1	Year 2	Year 3	Year 4	Year 5									
PM ₁₀ including EE ¹	24-hr	2012	2013	2014	2015	2016	2012-16								FAIL
PM ₁₀ excluding EE ¹	24-hr	61	133	106	100	62	92.40	30.83	2.13	5	121.8	150	120	PASS	

3. The monitor is not required in the PM₁₀ maintenance plan effective January 7, 2016 (80 FR 76232, December 8, 2015).
4. The monitor is located in the Truckee Meadows PM₁₀ maintenance area. PM₁₀ monitoring will continue at three stations in the maintenance area - Reno3 NCore (32-031-0016), Sparks SLAMS (32-031-1005), and Toll SLAMS (32-031-0025).
5. Discontinuation of PM₁₀ monitoring is listed in the most recent Network Assessment (2015) and ANP (2017).
6. The requirements of 40 CFR 58, Appendix D will continue to be met.

¹ Rim and American Fires (2013) and King Fire (2014) Exceptional Events

Attachment B

Discontinuation of PM₁₀ monitoring and complete site closure at the Plumb-Kit SLAMS (AQS ID 32-031-0025)

Discontinuation of PM₁₀ monitoring and complete site closure is based on criteria in 40 CFR 58.14(c)(1), including the points below.

1. The monitor has shown attainment during the previous five years (2012-16), specifically:
 - a. The monitor has not exceeded nor violated the 24-hour NAAQS of 150 µg/m³.
2. The monitor has a probability of less than 10 percent of exceeding 80 percent of the current 24-hour NAAQS.²

Parameter (µg/m ³)	Averaging Time	5 Year Maximums (2012-16)					Ave Max	Std. Dev.	Student's t value (90% confidence)	Number of Data Values (n)	90% Upper CI	NAAQS	80% of NAAQS	Test
		Year 1	Year 2	Year 3	Year 4	Year 5								
PM ₁₀ including EE ²	24-hr	92	127	136	70	80	101.00	29.09	2.13	5	128.7	150	120	FAIL
PM ₁₀ excluding EE ²	24-hr	92	113	89	70	80	88.80	16.02	2.13	5	104.1	150	120	PASS

3. The monitor is not required in the PM₁₀ maintenance plan effective January 7, 2016 (80 FR 76232, December 8, 2015).
4. The monitor is located in the Truckee Meadows PM₁₀ maintenance area. PM₁₀ monitoring will continue at three stations in the maintenance area - Reno3 NCore (32-031-0016), Sparks SLAMS (32-031-1005), and Toll SLAMS (32-031-0025).
5. Discontinuation of PM₁₀ monitoring and complete site closure is listed in the most recent ANP (2017).
6. The requirements of 40 CFR 58, Appendix D will continue to be met.

² Rim and American Fires (2013) and King Fire (2014) Exceptional Events



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105
DEC 19 2017

Mr. Daniel K. Inouye
Chief, Monitoring and Planning Branch
Air Quality Management Division
Washoe County Health District
P.O. Box 11130
Reno, Nevada 89520-0027

Dear Mr. Inouye:

This letter provides the Environmental Protection Agency's (EPA's) review and approval for the Washoe County Health District's (WCHD's) closure of the Federal Reference Method (FRM) PM₁₀ SLAMS monitor reporting parameter code 81102 data to parameter occurrence code (POC) 1 at Reno3 (AQS ID: 32-031-0016-81102-1). This letter also approves the discontinuation of the PM₁₀ State or Local Air Monitoring Station (SLAMS) monitors at South Reno (AQS ID: 32-031-0020) and Plumb-Kit (AQS ID: 32-031-0030). On June 30, 2017 and December 8, 2017, WCHD sent letters to EPA describing these network changes.

Per 40 CFR 58.14, monitoring agencies are required to obtain EPA approval for the discontinuation of SLAMS monitors. Discontinuation of these monitors was specifically reviewed under 40 CR 58.14(c), which states that requests for discontinuation "may also be approved on a case-by-case basis if discontinuance does not compromise data collection needed for implementation of a [National Ambient Air Quality Standard (NAAQS)] and if the requirements of appendix D to this part, if any, continue to be met."

The Reno3 PM₁₀ FRM has been operating since 1988 and has been used to provide PM_{coarse} measurements since 2009 to fulfill requirements for National Core (NCore) multipollutant monitoring stations. In 2013, WCHD began reporting regulatory PM₁₀ data from a continuous Federal Equivalent Method (FEM) to POC 2 at Reno3 in addition to the FRM. A comparison of 24-hour PM₁₀ concentrations measured between 2013 and 2016 at Reno3 shows that the FRM and FEM are very highly correlated ($R^2 = 0.9704$) and that the FEM provides PM₁₀ data of comparable concentrations to the FRM, with a slope of 0.9808. WCHD is requesting closure of the PM₁₀ POC 1 FRM data reporting to parameter code 88102. WCHD will continue to operate the FRM instrument for PM_{coarse} and report PM₁₀ data from the FRM in local conditions (parameter code 85101), and will continue to report PM₁₀ data to parameter code 81102 from the FEM for comparison with the 1987 24-hour PM₁₀ NAAQS. This analysis shows that discontinuation of data reporting from the FRM would not compromise data collection at Reno3 needed for implementation of the 1987 24-hour PM₁₀ NAAQS; discontinuation also will not prevent WCHD from meeting 40 CFR 58 Appendix D requirements.

In evaluating the request to discontinue PM₁₀ monitoring at South Reno and Plumb-Kit, EPA analyzed PM₁₀ data associated with the five most recently available design values (2012 – 2016 design values, encompassing data from 2010 – 2016) for both sites and throughout the WCHD PM₁₀ network. WCHD started monitoring for PM₁₀ using a manual method instrument at South Reno and Plumb-Kit in 1988 and 2006, respectively. In 2010, both sites sampled on a 1-in-6 day schedule. In 2011, WCHD transitioned from manual to continuous PM₁₀ instruments at both sites. Due to this transition, both sites have invalid PM₁₀ design values in AQS for 2012 and 2013. Based on certified data submitted to AQS, both the South Reno and Plumb-Kit sites were in attainment of the 1987 24-hour PM₁₀ NAAQS from 2014-2016, with valid PM₁₀ design values of 0.0. Neither site measured an exceedance of the 1987 24-hour PM₁₀ NAAQS at any point during 2010-2016.

There were five total PM₁₀ monitoring sites operating in Washoe County at the end of 2016, all of which were located within the Truckee Meadows PM₁₀ maintenance area. The 2016 design value site in the Truckee Meadows maintenance area is Toll (AQS ID: 32-031-0025), with a design value of 0.3. A comparison of 2012-2016 data from South Reno and Toll on days where at least one of those monitors measured a concentration above 80% of the NAAQS shows that Toll measured higher concentrations than South Reno on four out of four such days; a similar comparison between Plumb-Kit and Toll shows that Toll measured higher concentrations than Plumb-Kit on four out of six such days. Preliminary data currently available for a portion of 2017 is consistent with the trends previously discussed. Based on these analyses, discontinuance of these monitors does not compromise data collection needed for implementation of the 1987 24-hour PM₁₀ NAAQS and will not prevent WCHD from meeting 40 CFR 58 Appendix D requirements.

Therefore, EPA approves WCHD's discontinuation of the Reno3 PM₁₀ FRM SLAMS monitor reporting parameter code 81102 data to POC 1, and discontinuation of the South Reno and Plumb-Kit PM₁₀ SLAMS monitors on a case-by-case basis per 40 CFR 58.14(c). Please include these network modifications and EPA's approval in your next annual network plan.

If there are any questions regarding this letter, please feel free to contact me at (415) 947-4134 or Anna Mebust of my staff at (415) 972-3265.

Sincerely,



Gwen Yoshimura, Manager
Air Quality Analysis Office

cc (via email): Craig Peterson, WCHD

Appendix C

Network Modification Request/Approval

Reno 3 FRM PM₁₀ “Closure” of Parameter Code 81102 Data Reporting

**WASHOE COUNTY
HEALTH DISTRICT**
ENHANCING QUALITY OF LIFE

December 8, 2017

Gwen Yoshimura
Manager, Air Quality Analysis Office
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street, AIR-7
San Francisco, CA 94105

Subject: Proposed Modification to the Washoe County Health District, Air Quality Management Division Ambient Air Monitoring Network

Dear Ms. Yoshimura:

Pursuant to 40 CFR 58.14.c, the Washoe County Health District, Air Quality Management Division (AQMD) requests review and approval for a modification to the existing ambient air monitoring network. The AQMD is proposing to:

1. "Close" the PM₁₀ FRM monitor at the Reno3 SLAMS (32-031-0016-81102-1) reporting to the regulatory parameter code of 81102 in AQS, effective January 1, 2018.

The monitor will continue to operate after January 1, 2018. AQMD will continue to report data under the local PM₁₀ parameter code (85101) and will use the data for PM_{coarse} measurements. This modification was not included in the 2017 Annual Network Plan (ANP), but was a recommendation from EPA's review of the ANP.

If you require additional information, feel free to contact Mr. Brendan Schnieder or me at (775) 784-7200.

Sincerely,



Daniel Inouye
Monitoring and Planning Branch Chief

cc: Anna Mebust, EPA Region 9
Brendan Schnieder, AQMD



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105
DEC 19 2017

Mr. Daniel K. Inouye
Chief, Monitoring and Planning Branch
Air Quality Management Division
Washoe County Health District
P.O. Box 11130
Reno, Nevada 89520-0027

Dear Mr. Inouye:

This letter provides the Environmental Protection Agency's (EPA's) review and approval for the Washoe County Health District's (WCHD's) closure of the Federal Reference Method (FRM) PM₁₀ SLAMS monitor reporting parameter code 81102 data to parameter occurrence code (POC) 1 at Reno3 (AQS ID: 32-031-0016-81102-1). This letter also approves the discontinuation of the PM₁₀ State or Local Air Monitoring Station (SLAMS) monitors at South Reno (AQS ID: 32-031-0020) and Plumb-Kit (AQS ID: 32-031-0030). On June 30, 2017 and December 8, 2017, WCHD sent letters to EPA describing these network changes.

Per 40 CFR 58.14, monitoring agencies are required to obtain EPA approval for the discontinuation of SLAMS monitors. Discontinuation of these monitors was specifically reviewed under 40 CR 58.14(c), which states that requests for discontinuation "may also be approved on a case-by-case basis if discontinuance does not compromise data collection needed for implementation of a [National Ambient Air Quality Standard (NAAQS)] and if the requirements of appendix D to this part, if any, continue to be met."

The Reno3 PM₁₀ FRM has been operating since 1988 and has been used to provide PM_{coarse} measurements since 2009 to fulfill requirements for National Core (NCore) multipollutant monitoring stations. In 2013, WCHD began reporting regulatory PM₁₀ data from a continuous Federal Equivalent Method (FEM) to POC 2 at Reno3 in addition to the FRM. A comparison of 24-hour PM₁₀ concentrations measured between 2013 and 2016 at Reno3 shows that the FRM and FEM are very highly correlated ($R^2 = 0.9704$) and that the FEM provides PM₁₀ data of comparable concentrations to the FRM, with a slope of 0.9808. WCHD is requesting closure of the PM₁₀ POC 1 FRM data reporting to parameter code 88102. WCHD will continue to operate the FRM instrument for PM_{coarse} and report PM₁₀ data from the FRM in local conditions (parameter code 85101), and will continue to report PM₁₀ data to parameter code 81102 from the FEM for comparison with the 1987 24-hour PM₁₀ NAAQS. This analysis shows that discontinuation of data reporting from the FRM would not compromise data collection at Reno3 needed for implementation of the 1987 24-hour PM₁₀ NAAQS; discontinuation also will not prevent WCHD from meeting 40 CFR 58 Appendix D requirements.

In evaluating the request to discontinue PM₁₀ monitoring at South Reno and Plumb-Kit, EPA analyzed PM₁₀ data associated with the five most recently available design values (2012 – 2016 design values, encompassing data from 2010 – 2016) for both sites and throughout the WCHD PM₁₀ network. WCHD started monitoring for PM₁₀ using a manual method instrument at South Reno and Plumb-Kit in 1988 and 2006, respectively. In 2010, both sites sampled on a 1-in-6 day schedule. In 2011, WCHD transitioned from manual to continuous PM₁₀ instruments at both sites. Due to this transition, both sites have invalid PM₁₀ design values in AQS for 2012 and 2013. Based on certified data submitted to AQS, both the South Reno and Plumb-Kit sites were in attainment of the 1987 24-hour PM₁₀ NAAQS from 2014-2016, with valid PM₁₀ design values of 0.0. Neither site measured an exceedance of the 1987 24-hour PM₁₀ NAAQS at any point during 2010-2016.

There were five total PM₁₀ monitoring sites operating in Washoe County at the end of 2016, all of which were located within the Truckee Meadows PM₁₀ maintenance area. The 2016 design value site in the Truckee Meadows maintenance area is Toll (AQS ID: 32-031-0025), with a design value of 0.3. A comparison of 2012-2016 data from South Reno and Toll on days where at least one of those monitors measured a concentration above 80% of the NAAQS shows that Toll measured higher concentrations than South Reno on four out of four such days; a similar comparison between Plumb-Kit and Toll shows that Toll measured higher concentrations than Plumb-Kit on four out of six such days. Preliminary data currently available for a portion of 2017 is consistent with the trends previously discussed. Based on these analyses, discontinuance of these monitors does not compromise data collection needed for implementation of the 1987 24-hour PM₁₀ NAAQS and will not prevent WCHD from meeting 40 CFR 58 Appendix D requirements.

Therefore, EPA approves WCHD's discontinuation of the Reno3 PM₁₀ FRM SLAMS monitor reporting parameter code 81102 data to POC 1, and discontinuation of the South Reno and Plumb-Kit PM₁₀ SLAMS monitors on a case-by-case basis per 40 CFR 58.14(c). Please include these network modifications and EPA's approval in your next annual network plan.

If there are any questions regarding this letter, please feel free to contact me at (415) 947-4134 or Anna Mebust of my staff at (415) 972-3265.

Sincerely,



Gwen Yoshimura, Manager
Air Quality Analysis Office

cc (via email): Craig Peterson, WCHD

Appendix B

DATA CERTIFICATION LETTER

**WASHOE COUNTY
HEALTH DISTRICT**
ENHANCING QUALITY OF LIFE

April 24, 2018

Elizabeth Adams
Acting Director, Air Division
U.S. EPA Region 9
75 Hawthorne Street, AIR-1
San Francisco, CA 94105

Re: CY2017 Ambient Air Monitoring Data Certification

Dear Ms. Adams:

Attached please find a copy of the Washoe County Health District, Air Quality Management Division's (AQMD) AQS AMP600 Data Certification Report and AMP450NC Quick Look summary report for ambient air monitoring data for all State and Local Air Monitoring Stations (SLAMS) and Special Purpose Monitors (SPMs) which meet criteria in 40 CFR 58 Appendix A operated from January 1 to December 31, 2017. Included is data from Federal Reference Method (FRM) and Federal Equivalent Method (FEM) monitors for CO, NO/NO_x/NO₂, ozone, PM₁₀, PM_{10-2.5}, PM_{2.5}, and SO₂ (hourly and 5-minute average data).

Please note that AQMD requested to discontinue CO monitoring at the Toll SLAMS (AQS ID: 32-031-0025) and the Lemmon Valley SLAMS (AQS ID: 32-031-2009) on December 14, 2016. EPA approved the request on January 10, 2017. CO monitoring was officially discontinued on January 17, 2017 at the Toll SLAMS and January 18, 2017 at the Lemmon Valley SLAMS.

This letter certifies that the ambient concentration data and the quality assurance data are completely submitted to AQS, and the ambient data are accurate to the best of my knowledge taking into consideration the quality assurance findings.

Please contact Mr. Craig Petersen or me at (775) 784-7200 with any questions or concerns.

Sincerely,



Daniel Inouye
Branch Chief, Monitoring and Planning

Attachments

cc: Gwen Yoshimura, Manager, Air Quality Analysis Office, U.S. EPA, Region 9
Fletcher Clover, Air Quality Analysis Office, U.S. EPA, Region 9
Charlene Albee, Director, AQMD

User ID: BAA

CERTIFICATION EVALUATION AND CONCURRENCE

Report Request ID: 1646127

Report Code: AMP600

Apr. 18, 2018

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region
	32	031									

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration

CRITERIA

AGENCY SELECTIONS

Washoe County District Health Department

SELECTED OPTIONS

Option Type	Option Value
MERGE PDF FILES	YES
AGENCY ROLE	CERTIFYING

DATE CRITERIA

Start Date	End Date
2017	2017

Data Evaluation and Concurrence Report Summary

Certification Year: 2017

Certifying Agency (CA): Washoe County District Health Department (1138)

Pollutants in Report:

<u>Parameter Name</u>	<u>Code</u>	<u>Monitors Evaluated</u>	<u>Monitors Recommended for Concurrence by AQS</u>	<u>Monitors NOT Recommended for Concurrence by AQS</u>
Carbon monoxide	42101	4	2	2
Nitrogen dioxide (NO2)	42602	1	1	0
Ozone	44201	7	7	0
PM10 Total 0-10um STP	81102	7	7	0
PM2.5 - Local Conditions	88101	4	4	0
Sulfur dioxide	42401	1	1	0

PQAOs in Report:

<u>PQAO Name</u>	<u>PQAO Code</u>	<u>TSA Date</u>
Washoe County District Health Department	1138	09/16/10

Summary of 'N' flags for all pollutants:

<u>PQAO</u>	<u>Code</u>	<u>AQS Site-ID</u>	<u>POC</u>	<u>AQS Recommended Flag</u>	<u>Cert. Agency Recommended Flag</u>	<u>Reason for AQS Recommendation</u>
1138	42101	32-031-2009	1	N		Annual Performance Evaluation Audit Missing or 1 Level.
1138	42101	32-031-0025	1	N		Annual Performance Evaluation Audit Missing or 1 Level.

Signature of Monitoring Organization Representative:

Daniel Inouye

Data Evaluation and Concurrence Report for Gaseous Pollutants

Certifying Year 2017
Certifying Agency Code Washoe County District Health Department (1138)
Parameter Carbon monoxide (42101) (ppm)

PQAO Name Washoe County District Health Department (1138)
QAPP Approval Date 11/14/2014

NPAP Audit Summary:

Number of Passed Audits	NPAP Bias	Criteria Met
1	2.57692	Y

AQS Site ID	POC Monitor Type	Routine Data						One Point Quality Check			Annual PE		NPAP		Concur. Flag			
		Mean	Min	Max	Exceed. Count	Outlier Count	Perc. Comp.	Precision	Bias	Complete	Bias	Complete	Bias	PQAO Level Criteria	QAPP Appr.	Aqs Rec Flag	CA Rec Flag	Epa Concur
32-031-0016	1 SLAMS	0.224	-0.062	2.747	0	0	98	4.51	+/-4.36	100	1.90	100	2.58	Y	Y	Y		
32-031-0025	1 SLAMS	0.135	0.000	0.500	0	0	97	6.25	+/-4.06	100		0		Y	Y	N		
32-031-1005	1 SLAMS	0.414	0.100	3.000	0	0	99	1.03	+/-0.95	100	0.51	100		Y	Y	Y		
32-031-2009	1 SLAMS	0.149	0.100	0.800	0	0	97	0.00	+1.11	100		0		Y	Y	N		

Data Evaluation and Concurrence Report for Gaseous Pollutants

Certifying Year 2017
Certifying Agency Code Washoe County District Health Department (1138)
Parameter Nitrogen dioxide (NO2) (42602) (ppb)

PQAO Name Washoe County District Health Department (1138)
QAPP Approval Date 11/14/2014

NPAP Audit Summary:

Number of Passed Audits	NPAP Bias	Criteria Met
		Y

AQS Site ID	POC Monitor Type	Routine Data					One Point Quality Check			Annual PE		NPAP		Concur. Flag				
		Mean	Min	Max	Exceed. Count	Outlier Count	Perc. Comp.	Precision	Bias	Complete	Bias	Complete	Bias	PQAO Level Criteria	QAPP Appr.	Aqs Rec Flag	CA Rec Flag	Epa Concur
32-031-0016	1 SLAMS	12.6	-0.1	89.3		0	94	3.73	+/-2.95	100	0.71	100		Y	Y	Y		

Data Evaluation and Concurrence Report for Gaseous Pollutants

Certifying Year 2017
Certifying Agency Code Washoe County District Health Department (1138)
Parameter Ozone (44201) (ppm)

PQAO Name Washoe County District Health Department (1138)
QAPP Approval Date 11/14/2014

NPAP Audit Summary:

Number of Passed Audits	NPAP Bias	Criteria Met
1	1.42119	Y

AQS Site ID	POC Monitor Type	Routine Data						One Point Quality Check			Annual PE		NPAP		Concur. Flag			
		Mean	Min	Max	Exceed. Count	Outlier Count	Perc. Comp.	Precision	Bias	Complete	Bias	Complete	Bias	PQAO Level Criteria	QAPP Appr.	Aqs Rec Flag	CA Rec Flag	Epa Concur
32-031-0016	1 SLAMS	0.050	0.007	0.084	0	0	98	1.38	+/-0.98	100	0.27	100	1.42	Y	Y	Y		
32-031-0020	1 SLAMS	0.047	0.008	0.087	0	0	98	3.33	+/-1.99	100	2.61	100		Y	Y	Y		
32-031-0025	1 SLAMS	0.049	0.016	0.087	0	0	99	1.77	+/-1.46	100	0.92	100		Y	Y	Y		
32-031-1005	1 SLAMS	0.049	0.003	0.095	0	0	99	1.29	+/-1.16	100	- 1.17	100		Y	Y	Y		
32-031-1007	1 SPM	0.050	0.015	0.078	0	0	99	3.08	+/-2.72	100	2.48	100		Y	Y	Y		
32-031-2002	1 SLAMS	0.049	0.013	0.079	0	0	99	1.97	+/-1.65	100	- 0.42	100		Y	Y	Y		
32-031-2009	1 SLAMS	0.051	0.016	0.078	0	0	99	1.40	+/-1.14	100	- 0.15	100		Y	Y	Y		

Data Evaluation and Concurrence Report for Gaseous Pollutants

Certifying Year 2017
Certifying Agency Code Washoe County District Health Department (1138)
Parameter Sulfur dioxide (42401) (ppb)

PQAO Name Washoe County District Health Department (1138)
QAPP Approval Date 11/14/2014

NPAP Audit Summary:

Number of Passed Audits	NPAP Bias	Criteria Met
0	13.6968	Y

AQS Site ID	POC Monitor Type	Routine Data					One Point Quality Check			Annual PE		NPAP		Concur. Flag				
		Mean	Min	Max	Exceed. Count	Outlier Count	Perc. Comp.	Precision	Bias	Complete	Bias	Complete	Bias	PQAO Level Criteria	QAPP Appr.	Aqs Rec Flag	CA Rec Flag	Epa Concur
32-031-0016	1 SLAMS	0.3	- 0.1	9.7		0	98	4.91	+/-4.19	100	- 5.02	100	13.70	Y	Y	Y		

Data Evaluation and Concurrence Report for Particulate Matter

Certifying Year: 2017

Certifying Agency: Washoe County District Health Department (1138)

Parameter: PM10 Total 0-10um STP (81102) CONTINUOUS

PQAO Name: Washoe County District Health Department (1138)

Quality Assurance Project Plan Approval Date: 11/14/2014

Monitors Summaries

AQS Site ID	POC	Monitor Type	Routine Data (ug/m3)						Flow Rate Verification		Flow Rate Audit		QAPP Appr.	Concurrence Flag		
			Mean	Min	Max	Exceed. Count	Outlier Count	% Complete	% Bias	% Complete	% Bias	% Complete		AQS Rec Flag	CA Rec Flag	EPA Rec Concur
32-031-0016	2	SLAMS	19.11	-4.0	326.0	0	95	+/-0.60	100	+0.36	100	Y	Y			
32-031-0020	2	SLAMS	17.24	-4.0	408.0	0	100	-0.89	100	-0.94	100	Y	Y			
32-031-0025	2	SLAMS	16.64	-5.0	985.0	0	99	-0.79	100	-1.26	100	Y	Y			
32-031-0030	2	SLAMS	22.73	-5.0	526.0	0	98	+0.85	100	+0.89	100	Y	Y			
32-031-1005	4	SLAMS	23.59	-3.0	290.0	0	98	+/-1.27	100	-0.42	100	Y	Y			
32-031-1007	1	SPM	15.36	-3.0	985.0	0	100	+/-1.18	100	+0.26	100	Y	Y			

Parameter: PM10 Total 0-10um STP (81102) INTERMITTENT

PQAO Name: Washoe County District Health Department (1138)

Quality Assurance Project Plan Approval Date: 11/14/2014

Collocation Summary

# Sites	# Sites Req	# Sites Collocated	% Collocated	CV Est	CV UB	Criteria Met?
0	0	0	100			Y

Monitors Summaries

AQS Site ID	POC	Monitor Type	Routine Data (ug/m3)						Flow Rate Audit		Collocation			Concurrence Flag				
			Mean	Min	Max	Exceed. Count	Outlier Count	% Complete	% Bias	% Complete	CV	% Complete	PQAO Crit. Met	QAPP Appr.	AQS Rec Flag	CA Rec Flag	EPA Rec Concur	
32-031-0016	1	SLAMS	17.63	2.0	85.0	0	0	100	-1.36	100			Y	Y	Y			

Data Evaluation and Concurrence Report for Particulate Matter

Certifying Year: 2017

Certifying Agency: Washoe County District Health Department (1138)

Parameter: PM2.5 - Local Conditions (88101)

PQAO Name: Washoe County District Health Department (1138)

Quality Assurance Project Plan Approval Date: 11/14/2014

Collocation Summary

Method	# Sites	# Sites Req	# Sites Collocated	% Collocated	CV Est	CV UB	Criteria Met?
170	3	1	1	100	12.52	13.92	Y

PEP Summary

# Methods	# Audited Methods	# PEP Required	# PEP Submitted	% Complete	Bias	Criteria Met?
1	1	5	5	100	+11.88	Y

Monitors Summaries

AQS Site ID	POC	Method	Monitor Type	Routine Data (ug/m3)					Flow Rate Audit		Collocation			PEP		Concurrence Flag			
				Mean	Min	Max	Exceed. Count	Outlier Count	% Complete	Bias	% Complete	CV	% Complete	PQAO Crit. Met	PQAO Crit. Met	QAPP Appr.	AQS Rec Flag	CA Rec Flag	EPA Rec Concur
32-031-0016	1	142	SLAMS	6.27	.7	22.2	0	98	-0.63	100			Y	Y	Y	Y			
32-031-0016	3	170	SLAMS	7.30	-10.0	125.0	0	97	-0.03	100	13.92	100	Y	Y	Y	Y			
32-031-1005	1	170	SLAMS	8.10	-8.0	94.0	0	99	+0.24	100			Y	Y	Y	Y			
32-031-1007	1	170	SPM	4.62	-7.0	117.0	0	99	-0.12	100			Y	Y	Y	Y			

Data Concurrency and Evaluation Report for Lead

User ID: BAA

QUICKLOOK ALL PARAMETERS

Report Request ID: 1639863

Report Code: AMP450NC

Apr. 2, 2018

GEOGRAPHIC SELECTIONS

Tribal Code	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region
	32	031	0016								

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
ALL	42401	600	H
ALL	86101		

AGENCY SELECTIONS

Washoe County District Health Department

SELECTED OPTIONS

Option Type	Option Value
EVENTS PROCESSING	EXCLUDE REGIONALLY CONCURRED EVENTS
MERGE PDF FILES	YES
AGENCY ROLE	PQAO

SORT ORDER

Order	Column
1	STATE_CODE
2	COUNTY_CODE
3	SITE_ID
4	PARAMETER_CODE
5	POC
6	DATES
7	EDT_ID

DATE CRITERIA

Start Date	End Date
2017	2017

APPLICABLE STANDARDS

Standard Description

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM

QUICKLOOK ALL PARAMETERS

Apr. 2, 2018

EXCEPTIONAL DATA TYPES

EDT	DESCRIPTION
0	NO EVENTS
1	EVENTS EXCLUDED
2	EVENTS INCLUDED
5	EVENTS WITH CONCURRENCE EXCLUDED

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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Parameter	Unit	P O C	PQAO	Year	Meth	# Obs	1st Max Value	2nd Max Value	3rd Max Value	4th Max Value	Arith. Mean	Duration	Cert & Eval	EDF
Site ID: 32-031-0016 City: Reno		County: Washoe		Address: 301 A STATE STREET, RENO, NV 89502										
42401	Sulfur dioxide		2	1138	2017	600	99266	13.9	12.6	12.1	12.1	.32	5 MINUTE	0
86101	PM10-2.5 - Local Conditions (LC)		1	1138	2017	173	118	57.4	30.3	30.0	27.7	9.71	24 HOUR	0
86101	PM10-2.5 - Local Conditions (LC)		2	1138	2017	185	8375	243.0	149.0	141.0	131.0	9.72	1 HOUR	0

Note: The * indicates that the mean does not satisfy summary criteria.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM

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METHODS USED IN THIS REPORT

PARAMETER	METHOD CODE	COLLECTION METHOD	ANALYSIS METHOD
42401	600	Instrumental	Ultraviolet Fluorescence API 100 EU
86101	173	BGI Inc Model PQ200 PM10-2.5 Sampler Pair	Paired Gravimetric Difference
86101	185	Met One BAM-1020 System	Paired Beta Difference

Note: The * indicates that the mean does not satisfy summary criteria.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM

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PQAOS USED IN THIS REPORT

PQAO	AGENCY DESCRIPTION
1138	Washoe County District Health Department

Note: The * indicates that the mean does not satisfy summary criteria.

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CERTIFICATION EVALUATION AND CONCURRENCE FLAG MEANINGS

FLAG	MEANING
M	The monitoring organization has revised data from this monitor since the most recent certification letter received from the state.
N	The certifying agency has submitted the certification letter and required summary reports, but the certifying agency and/or EPA has determined that issues regarding the quality of the ambient concentration data cannot be resolved due to data completeness, the lack of performed quality assurance checks or the results of uncertainty statistics shown in the AMP255 report or the certification and quality assurance report.
S	The certifying agency has submitted the certification letter and required summary reports. A value of "S" conveys no Regional assessment regarding data quality per se. This flag will remain until the Region provides an "N" or "Y" concurrence flag.
U	Uncertified. The certifying agency did not submit a required certification letter and summary reports for this monitor even though the due date has passed, or the state's certification letter specifically did not apply the certification to this monitor.
X	Certification is not required by 40 CFR 58.15 and no conditions apply to be the basis for assigning another flag value
Y	The certifying agency has submitted a certification letter, and EPA has no unresolved reservations about data quality (after reviewing the letter, the attached summary reports, the amount of quality assurance data submitted to AQS, the quality statistics, and the highest reported concentrations).

Note: The * indicates that the mean does not satisfy summary criteria.

Appendix C

PUBLIC INSPECTION PLAN

A public notice was published in the Reno Gazette-Journal on July 24, 2018 notifying the public that the “Wildfire Mitigation Plan” was available for public inspection and comment from July 24 through August 24, 2018. A hard copy was available at the AQMD office and on the website (OurCleanAir.com). This mitigation plan underwent 30-day public comment pursuant to 40 CFR 51.930(b)(2). The AQMD did not receive any public comments during the public comment period.

Appendix F

Emissions Reporting Form

