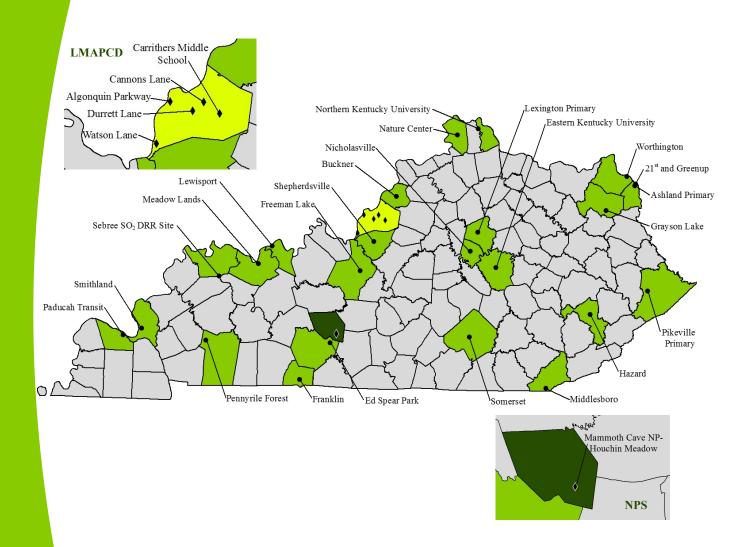
Kentucky Annual Ambient Air Monitoring Network Plan 2025







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CERTIFICATION

By the signatures below, the Kentucky Division for Air Quality certifies that the information contained in this Surveillance Network document for sampling year 2025 is complete and accurate at the time of submittal to EPA Region 4. However, due to circumstances that may arise during the sampling year, some network information may change. A notification of change and a request for approval will be submitted to EPA Region 4 at that time, following a 30-day public comment period.

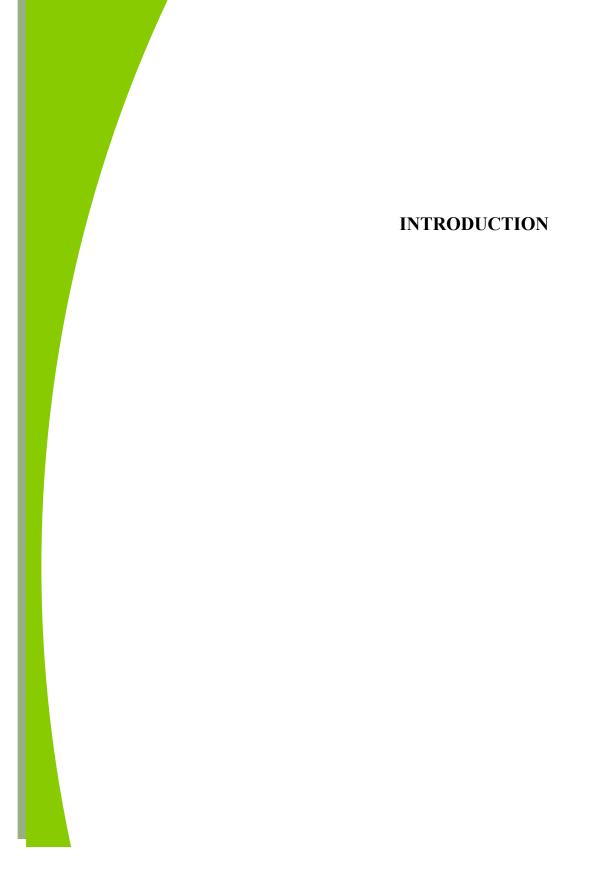
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Print Name:	Wayne Bray Technical Services	Signature:	 Date:	
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PUBLIC NOTIFICATION AND COMMENT PERIOD

In accordance with 40 C.F.R. 58.10(a)(1), the Kentucky Energy and Environment Cabinet shall make the annual monitoring network plan available for public inspection for at least 30 days prior to submission to the US EPA. The annual monitoring network plan details the operation and location of ambient air monitors operated by the Kentucky Division for Air Quality (KDAQ), Louisville Metro Air Pollution Control District (LMAPCD), and the National Park Service (NPS).

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INTRODUCTION

The Kentucky Division for Air Quality (KDAQ) has operated an air quality monitoring network in the Commonwealth since July 1967. The Louisville Metro Air Pollution Control District (LMAPCD), a local agency, has maintained a sub-network in its area of jurisdiction since January 1956. Since that time, the networks have been expanded in accordance with United States Environmental Protection Agency's (US EPA) regulations.

In October 1975, the US EPA established a work group to critically review and evaluate current air monitoring activities at that time. This group was named the Standing Air Monitoring Working Group (SAMWG). The review by the SAMWG indicated several areas where deficiencies existed which needed correction. The principal areas needing correction were: an excess of monitoring sites in some areas to assess air quality; existing regulations that did not allow for flexibility to conduct special purpose monitoring studies; and data reporting that was untimely and incomplete. These deficiencies were primarily caused by a lack of uniformity in station locations and probe siting, sampling methodology, quality assurance practices, and data handling procedures.

In August 1978, recommendations developed by SAMWG, to remedy the deficiencies in the existing monitoring activities, were combined with the new requirements of Section 319 of the Clean Air Act. Section 319 provided for the development of uniform air quality monitoring criteria and methodology; reporting of a uniform air quality index in major urban areas; and the establishment of an air quality monitoring system nationwide which utilized uniform monitoring criteria and provided for monitoring stations in major urban areas that supplement state-monitoring. The combination of the recommendations and requirements were included in a proposed revision to air monitoring regulations.

In May 1979, air monitoring regulations were finalized by the US EPA requiring certain modifications and additions to be included in the State Implementation Plan for air quality surveillance. These regulations require each state to operate a network of monitoring stations designated as State and Local Air Monitoring Stations (SLAMS) that measure ambient concentrations of air pollutants for which standards have been established. The SLAMS designation contains provisions concerning the conformity to specific siting and monitoring criteria not previously required. The regulations also provide for an annual review of the monitoring network to insure objectives are being met and to identify needed modification.

The current overall network consists of 30 air monitoring stations, operated by KDAQ, LMAPCD, and the National Park Service (NPS). The Commonwealth's SLAMS air monitoring network monitors criteria pollutants for which the National Ambient Air Quality Standards (NAAQS) have been issued. In addition to a SLAMS network, KDAQ's air monitoring network includes special purpose monitors (SPM) for air toxics and meteorological data.

The annual monitoring network description, as provided for in 40 CFR Part 58.10, *Annual monitoring network plan and periodic network assessment*, must contain the following information for each monitoring station in the network:

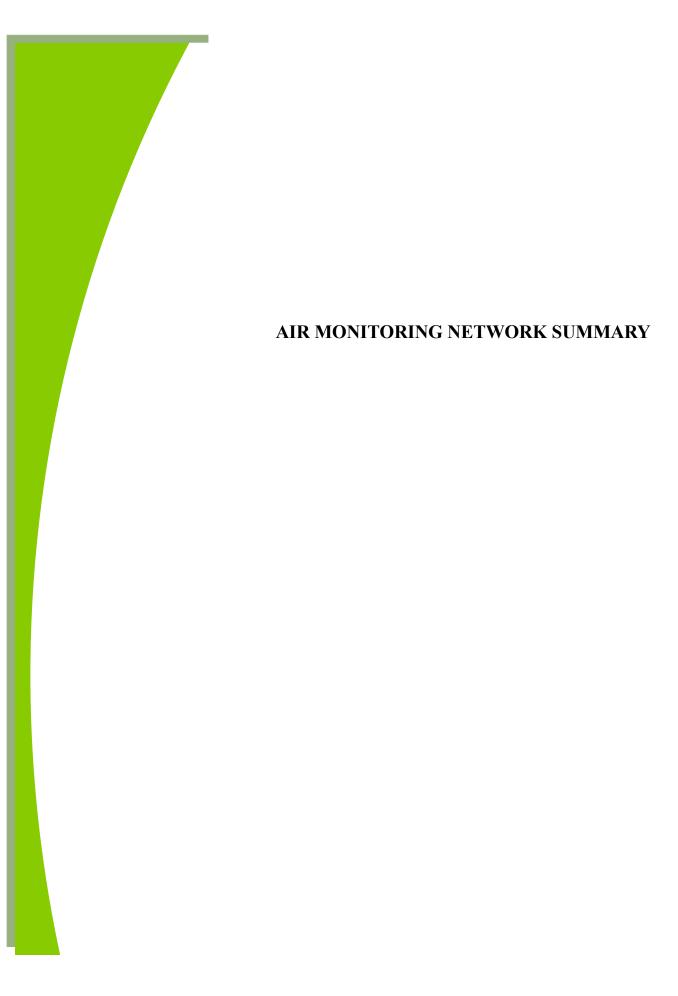
- 1. The Air Quality System (AQS) site identification number for existing stations.
- 2. The location, including the street address and geographical coordinates, for each monitoring station.
- 3. The sampling and analysis method used for each measured parameter.
- 4. The operating schedule for each monitor.
- 5. Any proposal to remove or move a monitoring station within a period of eighteen months following the plan submittal.

- 6. The monitoring objective and spatial scale of representativeness for each monitor.
- 7. The identification of any site that is suitable for comparison against the PM_{2.5} NAAQS.
- 8. The Metropolitan Statistical Area (MSA), Core-Based Statistical Area (CBSA), Combined Statistical Area (CSA), or other area represented by the monitor.

The following document constitutes the Kentucky ambient air monitoring network description and is organized into four main parts:

- 1. Station Description Format: An outline of the designations, parameters, monitoring methods, and the basis for site selection.
- 2. Network Summaries: Presenting the total number of sites and monitors in each region and for the state. Also included is a listing of all proposed changes to the current network.
- 3. Air Monitoring Station Description: Each air monitor station is described in detail as per the outline in (1) above.
- 4. Appendices: Additional information relating to the ambient air monitoring network.

Modification to the network as determined by an annual review process will be made each year to maintain a current network description document.



SUMMARY OF KDAQ NETWORK CHANGES 2025

During the 2025-2026 monitoring year, KDAQ will operate 67 instruments, including 1 meteorological station, located at 24 ambient air monitoring sites in 23 Kentucky counties. LMAPCD will operate an additional 34 instruments, including 5 meteorological stations, in Jefferson County. When combined with the air monitoring site operated by the National Park Service (NPS) at Mammoth Cave National Park, the total ambient air monitoring network will consist of 103 instruments, including 7 meteorological stations, located at 30 sites across 25 counties of the Commonwealth.

KDAQ proposes no changes to the ambient air monitoring network. Changes to the LMAPCD network are detailed in Appendix E.

KDAQ is reapplying for existing waivers at the Hazard (21-193-0003) and Somerset (21-199-0003) sites. These waivers were originally included in the 2023 Network Plan and approved by EPA. Waiver requests can be found in Appendix K. KDAQ is also working on updating the Memoranda of Agreement (MOA) with surrounding states. The Clarksville, TN-KY agreement has been updated to include the change from Hopkinsville (21-047-0006) to Pennyrile Forest (21-047-0007). Current MOAs can be found in Appendices B-D.

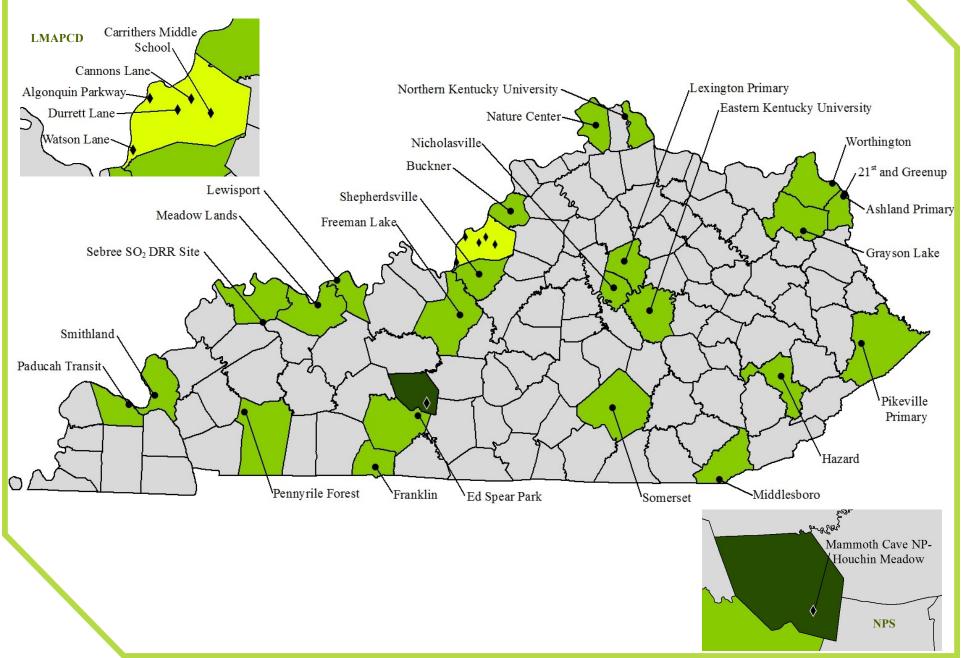
No changes to are being	proposed.		

2025 AIR MONITORING STATIONS SUMMARY

Metropolitan Statistical Area	Site Count	Filter Based PM _{2.5}	Continuous PM _{2.5}	PM ₁₀	Continuous PM ₁₀	SO_2	NO ₂	NO _y	СО	O_3	Pb	VOC	Carbonyl	РАН	PM _{2.5} Speciation	Carbon Speciation	Black Carbon	H ₂ S	RadNet	Met
Bowling Green, KY	2		2 ^{S,C,i}							2 ^{i,Max}										1
Cincinnati-, OH-KY-IN	2	2 ^c	1 ⁱ ,S,C			1	1			2 ⁱ										
Clarksville, TN-KY	1		1 ^{i,X,S}							1 ⁱ										
Elizabethtown, KY	1	1 ^C	1 ^{i,S}							1 ^{i,Max}										
Huntington-Ashland, WV-KY-OH	4		2 ^{i,S,X}	4 ^{C,m}		2	1			3 ^{i,Max}		2 ^D	2 ^D	1						1
Lexington-Fayette, KY	2		2 ^{i,S}	1 m		2	1 r40			2 ^{i,Max}									1	
Louisville/Jefferson County, KY-IN	7	2 ^{n,C}	5 ^{e,E,i,n,S}		2 ^{i,E}	3 ⁱ	2 ^{n,i}	1	2 ^{n,i}	6 ^{i,Max}		2 ^G	1		1	1	1	1	1	5 ⁿ
Owensboro, KY	1		1 ^{i,S}			1	1 ⁱ			1 ^{i,Max}										
Paducah, KY-IL	2		1 ^{i,S}			1	1			2 ^{i,M}									1	
Micropolitan Statistical Area																				
Franklin, KY	1									1 ⁱ										
Henderson, KY	1					1^{DRR}														
Middlesborough, KY	1		1 ^{i,S}							1 ⁱ										
Pikeville, KY	1		1 ^{i,S}							1 ⁱ										
Richmond-Berea, KY	1										2 ^C									
Somerset, KY	1		1 ^{i,S}							1 ⁱ										
Not in a CBSA																				
Hancock County	1									1 ⁱ										
Perry County	1		1 ^{i,S}							1 ⁱ										
KDAQ Totals	24	3	15	5	0	8	5	0	0	21	2	2	2	1	0	0	0	0	2	1
LMAPCD Totals	5	2	5	0	2	3	2	1	2	4	0	2	1	0	1	1	1	1	1	5
NPS Totals	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total Network	30	5	20	5	2	11	7	1	2	26	2	4	3	1	1	1	1	1	3	7

Tallies are equal to the actual number of monitors in operation. Superscripts represent additional information about the network.; r40=RA-40 Monitor; Max= Maximum O₃ Concentration Site; n=Near-Road Monitor; X= Regional PM_{2.5} Transport or Background Monitor; S=Continuous PM T640; i=AQI Reported; m= PM10 Filter Analyzed for Metals; G=Continuous Auto-GC; C=Collocated Monitors; D= Duplicate Channels; DRR= SO2 Data Requirements Rule Monitor; E= Continuous PM2.5-PM10 T640x-Coarse; (T640x samples for PM₁₀, PM_{2.5} and PM coarse with a single monitor)

2025 Ambient Air Monitoring Network





STATION DESCRIPTION FORMAT

AQS Site Identification Information

Pertinent, specific siting information for each site and monitor is stored in the US EPA's AQS data system. This information includes the exact location of the site, local and regional population, description of the site location, monitor types, and monitoring objectives. This site and monitor information is routinely updated whenever there is a change in site characteristics or pollutants monitored.

Network Station Description

The network station descriptions contained in this document include the following information:

1. Site Description

Specific information is provided to show the location of the monitoring equipment at the site, the CBSA in which the site is located, the AQS identification number, the GPS coordinates, and the conformance of monitors and monitor-probes to siting criteria.

2. Date Established

The date that each existing monitoring station was established is shown in the description. For proposed air monitoring stations, the date that the station is expected to be in operation is included in the annual Summary of Network Changes.

3. Site Approval Status

Each monitoring station in the existing network has been reviewed with the purpose of determining whether it meets all design criteria for inclusion in the SLAMS network. Stations that do not meet the criteria will either be relocated in the immediate area or, when possible, resited at the present location. KDAQ may also seek an exemption from certain criteria from the US EPA.

4. Monitoring Objectives

The monitoring network was designed to provide information to be used as a basis for the following actions:

- (a) To determine compliance with ambient air quality standards and to plan measures in order to attain these standards.
- (b) To activate emergency control procedures in the event of an impending air pollution episode.
- (c) To observe pollution trends throughout a region including rural areas and report progress made toward meeting ambient air quality standards.
- (d) To provide a database for the evaluation of the effects of air quality on population, land use, and transportation planning; to provide a database for the development and evaluation of air dispersion models.

5. Monitoring Station Designations, Monitor Types, and Network Affiliations

The Annual Network Surveillance document must describe the types of monitors that are used to collect ambient data. Most monitors described in the air quality surveillance network are designated as SLAMS, but some monitors fulfill other requirements. Additionally, monitors

may be associated with additional networks beyond the state air program or may be used to fulfill multiple network design requirements.

State and Local Air Monitoring Stations (SLAMS): Requirements for air quality surveillance systems provide for the establishment of a network of monitoring stations designated as SLAMS that measure ambient concentrations of pollutants for which standards have been established. These stations must meet requirements that relate to four major areas: quality assurance, monitoring methodology, sampling interval, and siting of instruments.

Special Purpose (SPM and SPM-Other): Not all monitors and monitoring stations in the air quality surveillance network are included in the SLAMS network. In order to allow the capability of providing monitoring for complaint studies, modeling verification and compliance status, certain monitors are reserved for short-term studies and are designated as either Special Purpose Monitors (SPM) or Other Special Purpose Monitors (SPM-Other).

NCore: NCore is a multi pollutant network that integrates several advanced measurement systems for particulates, pollutant gases and meteorology.

Air Quality Index (AQI): The AQI is a method of reporting that converts pollutant concentrations to a simple number scale of 0-500. Intervals on the AQI scale are related to potential health effects of the daily measured concentrations of major pollutants. AQI reporting is required for all metropolitan statistical areas with a population exceeding 350,000. However, KDAQ provides this service to the general public for multiple areas within the state. KDAQ prepares the index twice daily for release to the public from the pollutant data reported from the selected sites in locations across Kentucky. The ambient air data establishing the AQI is subject to quality assurance procedures and is not considered official.

Emergency Episode Monitoring (Episode): Regulations provide for the operation of at least one continuous SLAMS monitor for each major pollutant in designated locations for emergency episode monitoring. These monitors are placed in areas of worst air quality and provide continual surveillance during episode conditions.

EPA: Monitor operated by the EPA or an EPA contractor. Monitors may be eligible for comparisons against the NAAQS and are typically a part of the CASTNET network.

Non-EPA Federal: Monitors operated by Federal agencies outside of the US EPA (such as the National Park Service) are designated as Non-EPA Federal monitors. These monitors are typically used for special studies, but the data may also be eligible for comparisons against the NAAQS.

Population Weighted Emissions Index (PWEI): On June 22, 2010, the US EPA released a new SO₂ Final Rule and a set of monitoring requirements. The requirements use a Population Weighted Emissions Index (PWEI) that is calculated for each Core-Based Statistical Area (CBSA). The PWEI is calculated by multiplying the population of each CBSA and the total amount of SO₂, in tons per year, that is emitted within the CBSA based upon county level data from the National Emissions Inventory (NEI). The result is then divided by one million to provide the PWEI value, which is expressed in a unit of million persons-tons per year. PWEI requirements technically apply to the MSA and are not monitor specific. Any SO₂ used to fulfill MSA PWEI requirements must first and foremost be designated as SLAMS.

Regional Administrator 40 (RA-40): On February 9, 2010, the US EPA released a new NO₂ Final Rule and a new set of monitoring requirements. Under the new monitoring regulations, the EPA Regional Administrator must collaborate with agencies to establish or designate 40 NO₂ monitoring locations, with a primary focus on protecting susceptible and vulnerable populations. RA-40 NO₂ monitors are SLAMS monitors foremost.

Maximum Ozone Concentration: Each Metropolitan Statistical Area (MSA) must have at least one ozone monitor designated to record maximum expected ozone concentrations. These monitors are first and foremost SLAMS (or SLAMS-like) monitors.

6. Monitoring Methods

All sampling and analytical procedures used for NAAQS compliance in the air-monitoring network conform to Federal reference (FRM), alternate (FAM), or equivalent (FEM) methods. In case there is no federal method, procedures are described in the Kentucky Air Quality Monitoring and Quality Assurance Manuals.

(a) Particulate Matter 10 Microns in Size (PM₁₀)

All PM₁₀ samplers operated by KDAQ are certified as either FRM or FEM samplers and are operated according to the requirements set forth in 40 CFR 50 and 40 CFR 53. Intermittent samplers typically collect a 24-hour sample every sixth day on 46.2 mm PTFE filters. However, certain sites may collect samples more frequently to address local air quality concerns. Filters are sent to a contract laboratory, where they are weighed before and after a sample run. The gain in weight in relation to the volume of air sampled is calculated in micrograms per cubic meter (ug/m³). The PTFE filters are to be equilibrated before each weighing for a minimum of 24 hours at a 20-23 degrees C mean temperature and a 30-40% mean relative humidity.

For continuous PM_{10} monitoring, LMAPCD uses Teledyne API T640x for PM_{10} NAAQS compliance and PM_{coarse} monitoring. TAPI T640x monitors collect $PM_{2.5}$, PM_{10} , and $PM_{10-2.5}$ (coarse) data continuously via the principle of broadband particle-scattering spectroscopy. During sampling, ambient air is pulled into an inlet at a rate of 16.7 lpm and through a sample conditioner, prior to being introduced to a particle sensor equipped with a polychromatic (broadband) LED. Particles in the sample reflect light from the LED, which is measured by the analyzer and used to calculate the particle-mass of the sample.

(b) Particulate Matter 2.5 Microns in Size (PM_{2.5})

The Division currently operates continuous Teledyne-API (TAPI) T640 continuous PM_{2.5} spectroscopy monitors and manual intermittent samplers for monitoring particulate matter 2.5 microns in size (PM_{2.5}). All PM_{2.5} samplers and monitors operated by KDAQ are certified as either reference or equivalent methods. All FRM manual intermittent samplers are operated per the requirements set forth in 40 CFR 50, Appendix L. Samples are collected on 46.2 mm PTFE filters over a 24-hour sampling period, with airflow maintained at 16.7 liters per minute. Filters are sent to a contract laboratory, where they are weighed before and after a sample run. The gain in weight in relation to the volume of air sampled is calculated in micrograms per cubic meter (ug/m³). Samples must be retrieved within 177 hours of the end of the sample run and are kept cool (4 degrees C or cooler) during transit to the contract laboratory. The PTFE filters are to be equilibrated before each weighing for a minimum of 24 hours at a controlled atmosphere of 20-23 degrees C mean temperature and 30-40% mean relative humidity. Filters must be used within thirty days of initial weighing. Filters must be re-weighed within thirty days of the end of the sample run and must be kept at 4 degrees C or cooler.

TAPI T640 monitors collect PM_{2.5} data continuously via the principle of broadband particle-scattering spectroscopy. The TAPI T640 is designated as a FEM for PM_{2.5}. During sampling, ambient air is pulled into an inlet at a rate of 5.0 lpm and through a sample conditioner, prior to being introduced to a particle sensor equipped with a polychromatic (broadband) LED. Particles in the sample reflect light from the LED, which is measured by the analyzer and used to calculate the particle-mass of the sample.

LMAPCD uses Teledyne API T640 and T640x for NAAQS compliance monitoring. Continuous PM_{2.5} T640s are used to provide 24-hour daily reporting for the AQI. The data obtained from continuous FEMs may or may not be used for comparison to the NAAQS. A statement on the use of continuous FEM PM_{2.5} monitors is included in the appendices of this document.

(c) PM_{2.5} Speciation and Carbon Speciation Sampling and Analysis

In addition to operating PM_{2.5} samplers that determine only PM_{2.5} mass values, LMAPCD also operates PM_{2.5} speciation samplers that collect samples that are analyzed to determine the chemical makeup of PM_{2.5}. Samples are collected on a set of two filters, one comprised of Teflon and one comprised of nylon, over a 24-hour sampling period. The filters are composed of either Teflon or nylon in order to collect specific types of toxic pollutants. A second instrument collects a sample on a quartz filter over a 24-hour sampling period. The quartz filter is used to collect a speciated carbon sample.

After collection, the samples are shipped in ice chests to an EPA contract laboratory for analysis. At the laboratory, the samples are analyzed using optical and electron microscopy, thermal-optical analysis, ion chromatography, and x-ray fluorescence to determine the presence and level of specific toxic compounds. Sample results are entered in the AQS data system.

(d) Sulfur Dioxide (SO_2)

Instruments used to continuously monitor sulfur dioxide levels in the atmosphere employ the UV fluorescence method. The continuous data output from the instrument is transmitted by telemetry for entry into an automated central data system.

Calibration of these instruments is done dynamically using certified gas mixtures containing a known concentration of sulfur dioxide gas. This gas is then diluted in a specially designed apparatus to give varying known concentrations of sulfur dioxide. These known concentrations are supplied to the instruments, which are adjusted so that instrument output corresponds with the specific concentrations. Calibration curves are prepared for each instrument and each data point is automatically compared to this curve before entry into the data acquisition system.

(e) Carbon Monoxide (CO)

Continuous monitoring for carbon monoxide is performed by use of the non-dispersive infrared correlation method. Data is transmitted by telemetry for entry in an automated central data acquisition system.

Calibration of the instrument is performed periodically by using nitrogen or zero air to establish the zero baseline and NIST or NIST traceable gas mixtures of carbon monoxide in air. The span is checked daily using a certified mixture of compressed gas containing approximately 45 parts per million carbon monoxide.

(f) $Ozone(O_3)$

Ozone is monitored using the UV photometry methods. The continuous data output from the instrument is transmitted by telemetry for entry into an automated central data acquisition system.

Monitors are calibrated routinely using an ozone generator, which is calibrated using the ultra violet photometry reference method. Calibration curves are prepared for each instrument and each data point is automatically compared to this curve before entry into the data acquisition system.

(g) Nitrogen Dioxide (NO₂)

KDAQ uses the chemiluminescence method for monitoring the nitrogen dioxide level in the ambient air. The continuous data output from the instrument is transmitted by telemetry for entry into an automated central data acquisition system.

LMAPCD utilizes the Cavity-Attenuated Phase-Shift (CAPS) spectroscopy method as well as chemiluminescence to measure nitrogen dioxide and total reactive nitrogen (NO/NOy) respectively.

Calibration of these instruments is done dynamically using NIST certified gas mixtures of nitric oxide. Through the use of dilution apparatus, varying concentrations are produced and supplied to the monitors, thus producing a specific calibration curve for each instrument. Each data point is automatically compared to this curve before entry into the data acquisition system.

(h) Lead (Pb)

To determine lead concentrations, KDAQ uses high volume particulate samplers, which collect samples of suspended particulates onto 8 x 10 glass fiber filters. The samplers use a brushless motor and a critical flow orifice in order to achieve a sampling flow rate between 1.10 and 1.70 cubic meters per minute (m³/min) over the course of 24 hours. Upon collection, the filters are sent to an US EPA certified laboratory for analysis. The sample filters are cut into strips, acid digested according to 40 CFR Part 50, Appendix G, and analyzed by Inductively Coupled Plasma with Mass Spectroscopy Detection (ICP-MS).

(i) **Air Toxics**

Air toxics samples are classified into four categories: metals, volatile organic compounds (VOC), polycyclic aromatic hydrocarbons (PAH), and carbonyls.

Metal samples are collected on 46.2 mm PTFE filters over a 24-hour period from the PM_{10} monitoring method. The filter is weighed before and after the sample run by a contract laboratory. The gain in weight in relation to the volume of air sampled is used to calculate the concentration in micrograms per cubic meter (ug/m³). The filter is then delivered to a separate US EPA contract laboratory for analysis by inductively coupled plasma/mass spectrometer analysis.

VOC samples are collected in a passivated vacuum canister. Ambient air is pulled into the canister over a 24-hour sampling period. The sample is shipped to an US EPA contract laboratory for analysis via gas chromatography. Additionally, LMAPCD operates a continuous automatic gas chromatographs, which continuously monitor for various VOCs and hazardous air pollutants.

PAH samples are collected by a hi-volume air sampler over a 24-hour period. The sample is collected on a polyurethane foam filter cartridge. After sampling, the filter cartridge is packed on ice and shipped to a US EPA contract laboratory for analysis via gas chromatography/mass spectrometry.

Carbonyl samples are collected on a DNPH cartridge. An ambient air stream flows through the cartridge at a one-liter per minute flow rate for a 24-hour sampling period. The cartridge is packed on ice and shipped to an US EPA contract laboratory for high-pressure liquid chromatography analysis.

(j) Black Carbon

LMAPCD plans to incorporate a black carbon monitor at the Durrett Lane (Near-Road) site to better characterize particulate carbon species. The analysis is performed at 7 optical wavelengths spanning the range from the near-infrared (950 nm) to the near-ultraviolet (370 nm). The sequencing of illumination and analysis is performed on a 1-Hz time base, yielding the complete spectrum of aerosol optical absorption with one data line every second.

The optical performance of the monitor is validated by a 'Neutral Density Optical Filter Kit', consisting of four precision optical elements whose absorbance is traceable to fundamental standards. Software routines measure the optical intensities at all wavelengths and compare the analysis at the instant with the original reference values.

(j) RadNet

The US EPA RadNet fixed air station consists of a high-volume sampler that pulls ambient air through a 4-inch diameter filter at a rate of 1,000 liters per minute. Filters are collected twice each week. The instrument also consists of two radiation detectors that continuously measure gamma and beta radiation from particulates collected on the air filter. Data is recorded to the monitor's CPU and is sent hourly to the National Air and Radiation Environmental Laboratory (NAREL) for evaluation.

The RadNet network, which has stations in each State, has been used to track environmental releases of radioactivity from nuclear weapons tests and nuclear accidents. RadNet also documents the status and trends of environmental radioactivity. In general, data generated from RadNet provides the information base for making decisions necessary to ensure the protection of public health. The system helps the EPA determine whether additional sampling or other actions are needed in response to particular releases of radioactivity to the environment. RadNet can also provide supplementary information on population exposure, radiation trends, and other aspects of releases. Data is published by NAREL in a quarterly report entitled *Environmental Radiation Data*. While KDAQ and LMAPCD operate the monitors, all other aspects, including maintenance and data responsibility, are handled by the US EPA. For more information, please visit the US EPA's RadNet website: epa.gov/radnet.

7. Quality Assurance Status

The Division for Air Quality and LMAPCD both have an extensive quality assurance program to ensure that all air monitoring data collected is accurate and precise. KDAQ staff members audit air monitors on a scheduled basis, including those operated by the Louisville Metro Air Pollution Control District and the National Park Service, to ensure that each instrument is calibrated and operating properly. Agencies audit their data monthly and verify that the data reported by each instrument is recorded accurately in the computerized database.

8. Scale of Representativeness

Each station in the monitoring network must be described in terms of the physical dimensions of the air parcel nearest the monitoring station throughout which actual pollutant concentrations are reasonably similar. Area dimensions or scales of representativeness used in the network description are:

- (a) Microscale defines the concentration in air volumes associated with area dimensions ranging from several meters up to about 100 meters.
- (b) Middle scale defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometers.

- (c) Neighborhood scale defines the concentrations within an extended area of a city that has relatively uniform land use with dimensions in the 0.5 to 4.0 kilometers.
- (d) Urban scale defines an overall city-sized condition with dimensions on the order of 4 to 50 kilometers.
- (e) Regional Scale defines air quality levels over areas having dimensions of 50 to hundreds of kilometers.

The scale of representativeness is closely related to the type of air monitoring site and the objectives of that site. There are six basics types of sites supported by the ambient air monitoring network:

- (a) To determine the highest concentrations expected to occur in the area covered by the network.
- (b) To determine representative concentrations in areas of high population density.
- (c) To determine the impact on ambient pollution levels of significant sources or source categories.
- (d) To determine the extent of regional transport of pollutants.
- (e) To determine general background concentration levels.
- (f) To determine impacts on visibility, vegetation damage, or other welfare-based concerns.

The design intent in siting stations is to correctly match the area dimensions represented by the sample of monitored air with the area dimensions most appropriate for the monitoring objective of the station. The following relationship of these six basic site type and the scale of representativeness are appropriate when siting monitoring stations:

Monitoring Site Type
Highest Concentration
Population Oriented
Source Impact
Regional Transport & General Background
Welfare-based Impacts

Scale of Representativeness
Micro, Middle, Neighborhood
Neighborhood, Urban
Micro, Middle, Neighborhood
Neighborhood, Regional
Urban, Regional

Data Processing and Reporting

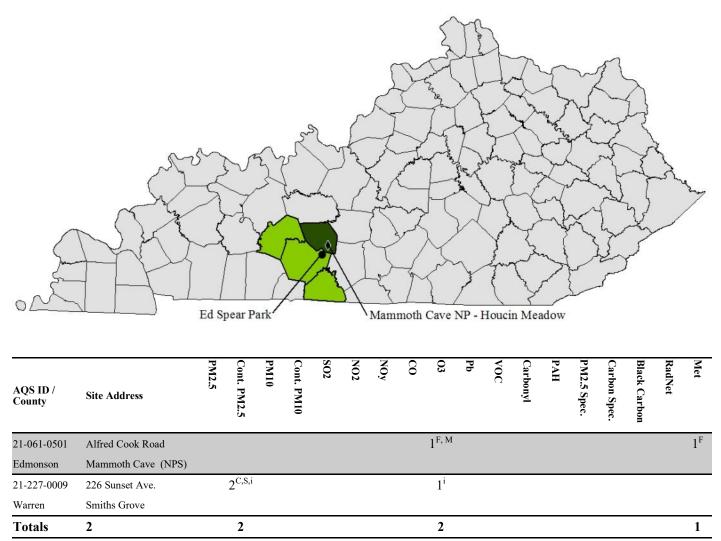
All ambient air quality data collected by KDAQ are stored on a server located at the main office building of Commonwealth Office of Technology at 101 Cold Harbor Drive, Frankfort, Kentucky. The server runs a full database back up every night and keeps an hourly transaction log. After each month of data has passed all quality assurance checks, the data is transmitted via telemetry to the US EPA's national data storage system known as AQS.

All ambient air quality and meteorological data collected by LMAPCD are stored on a server maintained by Louisville Metro's Department of Information Technology (DoIT) located at 410 South 5th Street in Louisville, KY. The server runs a full database back up every night and those data are stored at an offsite facility for disaster recovery purposes.

Statistical data summaries generated from the AQS database are compiled to produce the Ambient Air Quality Annual Report. This report may be accessed at the KDAQ website: https://eec.ky.gov/Environmental-Protection/Air/Pages/Division-Reports.aspx.



Bowling Green, KY



Tallies are equal to the actual number of monitors present. Superscripts represent additional information about the network.

F=Non-EPA Federal Monitor

S=Continuous T640 Monitor

C=Collocated

i=AQI Reported

M=Maximum Ozone Concentration Site for MSA

CSA/MSA: Bowling Green-Glasgow-Franklin, KY CSA; Bowling Green, KY MSA 401 KAR 50:020 Air Quality Region: South Central Kentucky Intrastate (105)

Site Name: Mammoth Cave National Park-Houchin Meadow

AQS Site ID: 21-061-0501

Location: Alfred Cook Road, Park City, KY 42160

County: Edmonson

GPS Coordinates: 37.13182, -86.147944 (NAD83)

Date Established: August 1, 1997 **Inspection Date:** December 4, 2024

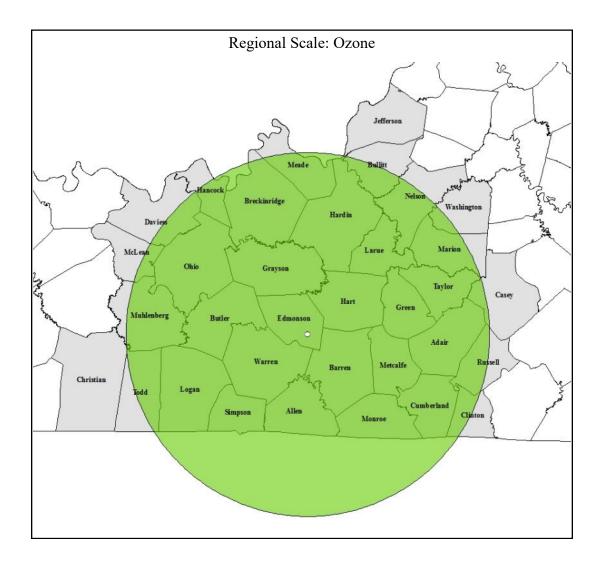
Inspection By: Nall



Mammoth Cave National Park was established as one of 156 mandatory Federal Class I Areas nationwide under the Clean Air Act Amendments of 1977. Class I Areas are imparted with the highest level of air quality protections, especially regarding visibility degradation (haze). The Division maintains a cooperative relationship with Mammoth Cave National Park and frequently includes the site's data in air quality analyses. Additionally, the ozone monitor is designated as the "Maximum Ozone Concentration" monitor for the Bowling Green, KY MSA. However, KDAQ does not operate the site nor certify the annual data. While the park conducts a variety of air quality studies, only certain data is reported to the EPA's AQS database.

	Monitors											
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling								
AEM Ozone		CASTNET Maximum O ₃ Non-EPA Federal Transport	Automated Equivalent Method utilizing UV photometry analysis	Continuously								
Meteorological		Non-EPA Federal	AQM grade instruments for wind speed, wind direction, humidity, barometric pressure, and temperature	Continuously								

Area Representativeness: This site represents a regional scale for ozone.



CSA/MSA: Bowling Green-Glasgow-Franklin, KY CSA; Bowling Green, KY MSA 401 KAR 50:020 Air Quality Region: South Central Kentucky Intrastate (105)

Site Name: Ed Spear Park (Smiths Grove)

AOS Site ID: 21-227-0009

Location: 226 Sunset Avenue, Smiths Grove, KY 42171

County: Warren

GPS Coordinates: 37.04926, -86.21487 (NAD83)

Date Established: May 3, 2012 **Inspection Date:** December 4, 2024

Inspection By: Nall

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



This monitoring site was established as a replacement for the Oakland (Warren County) air monitoring station (21-227-0008). In October 2010, the Oakland site was found to be sitting within the doline of a sinkhole and was discontinued. Monitoring was established at the new Ed Spear Park site in May 2012. Inspections found the sample lines and equipment to be in good condition. The sample inlets are 39 meters from the nearest road. The site meets the requirements of 40 CFR 58, Appendices A, C, D, E and G.

Monitoring Objective:

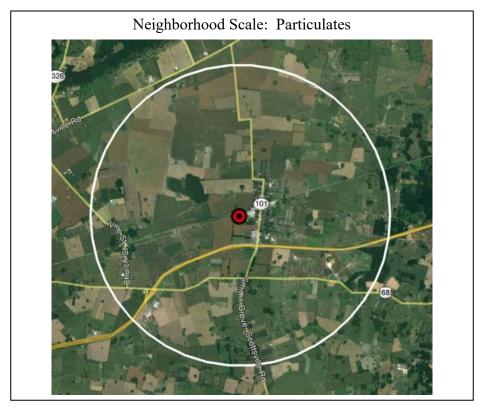
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards. While not required for the CBSA, the site also provides levels of ozone and particulate matter for daily index reporting.

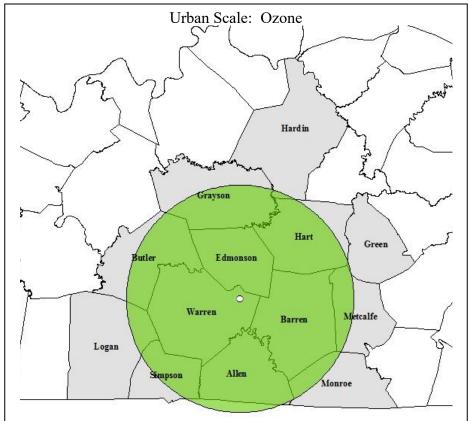
Monitors											
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling							
AEM Ozone	4.1	SLAMS AQI	UV photometry	Continuously March 1 – October 31							
FEM PM _{2.5} Continuous	4.67	SLAMS AQI	Broadband Spectroscopy	Continuously							
Collocated FEM PM _{2.5} Continuous	4.68	SLAMS	Broadband Spectroscopy	Continuously							

Quality Assurance Status:

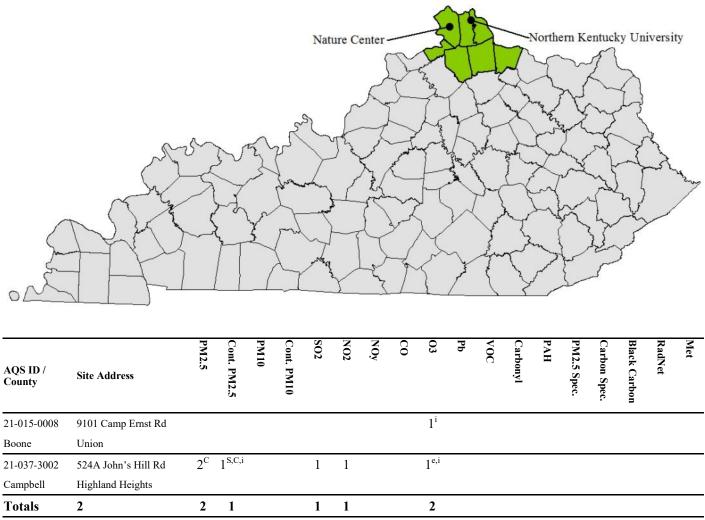
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:
This site represents population exposure on a neighborhood scale for particulates. This site also represents population exposure on an urban scale for ozone.





Cincinnati, OH-KY-IN



Tallies are equal to the actual number of monitors present. Superscripts represent additional information about the network.

i=AQI Reported

e=Emergency Episode Monitor

C=Collocated Monitors

S=Continuous T640 Monitor

CSA/MSA: <u>Cincinnati-Wilmington</u>, <u>OH-KY-IN</u> CSA; <u>Cincinnati</u>, <u>OH-KY-IN</u> MSA **401 KAR 50:020 Air Quality Region:** Metropolitan Cincinnati (Ohio) Interstate (079)

Site Name: Nature Center AQS Site ID: 21-015-0008

Location: 9101 Camp Ernst Rd, Union, KY 41091

County: Boone

GPS Coordinates: 38.9674434, -84.7213627(NAD 83)

Date Established: April 13, 2022 **Inspection Date:** October 17, 2024

Inspection By: Nall

Site Approval Status: Site and monitor meet all design criteria for the monitoring network.



This monitoring site was established as a replacement for East Bend (21-015-0003) due to siting issues that could not be resolved. The site is located on the grounds of the Boone County Extension Environmental and Nature Center. A Kentucky Mesonet station is located approximately 45 meters SSW from the air monitoring shelter. The sample inlet is approximately 29 meters from the nearest road. Upon inspection, the sample line and monitor were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices A, C, D, E, and G.

Monitoring Objective:

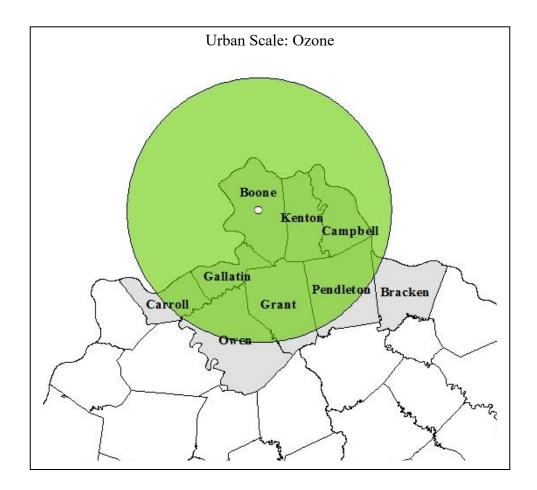
The monitoring objective is to determine compliance with National Ambient Air Quality Standards.

Monitors											
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling							
AEM Ozone		SLAMS AQI	•	Continuously March 1 – October 31							

Ouality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness: This site will represent the upwind background levels on an urban scale for ozone.



CSA/MSA: Cincinnati-Wilmington, OH-KY-IN CSA; Cincinnati, OH-KY-IN MSA 401 KAR 50:020 Air Quality Region: Metropolitan Cincinnati (Ohio) Interstate (079)

Site Name: Northern Kentucky University (NKU)

AQS Site ID: 21-037-3002

Location: 524A John's Hill Road, Highland Heights, KY 41076

County: Campbell

GPS Coordinates: 39.021834, -84.474436 (NAD 83)

Date Established: August 1, 2007 **Inspection Date:** October 17, 2024

Inspection By: Nall

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located on farmland owned by Northern Kentucky University in Highland Heights, Kentucky. The sample inlets are 450 meters from the nearest road, which is Interstate 275. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices A, C, D, E and G.

Monitoring Objective:

The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to provide ozone, particulate, nitrogen dioxide, and sulfur dioxide levels for daily index reporting; and to detect elevated pollutant levels for activation of emergency control procedures for ozone.

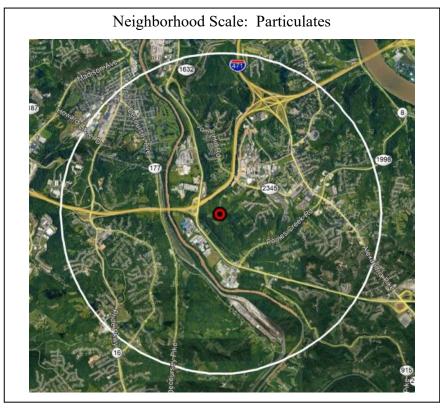
			Monitors	
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling
AEM Nitrogen Dioxide (NO ₂ , NO, NO _x)	3.78	SLAMS	Chemiluminescence	Continuously
AEM Ozone	3.8	SLAMS AQI EPISODE	UV photometry	Continuously March 1 – October 31
FRM PM _{2.5}	4.63	SLAMS	Gravimetric	24-hours every third day
Collocated FRM PM _{2.5}	4.63	SLAMS	Gravimetric	24-hours every sixth day
FEM PM _{2.5} Continuous	4.61	SLAMS AQI	Broadband Spectroscopy	Continuously
AEM Sulfur Dioxide	3.78	SLAMS	UV fluorescence	Continuously

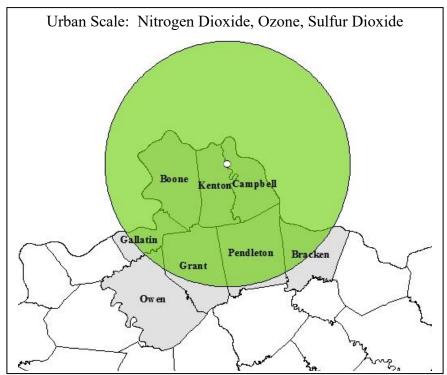
Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

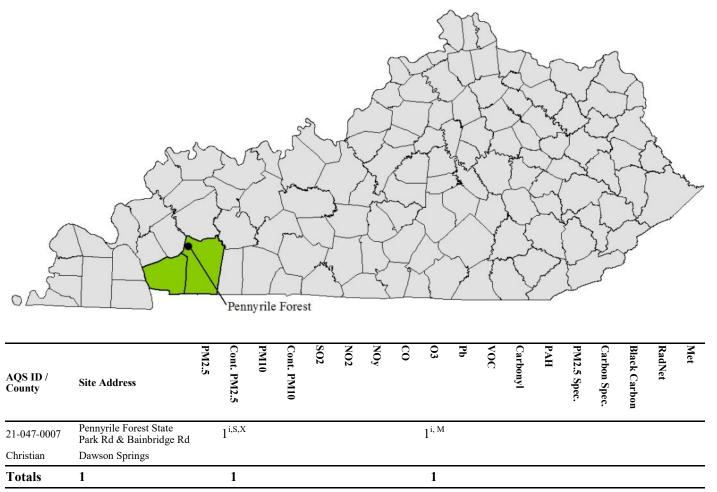
Area Representativeness:

This site represents population exposure for nitrogen dioxide, ozone, and sulfur dioxide on an urban scale. This site also represents population exposure on a neighborhood scale for particulate matter.





Clarksville, TN-KY



Tallies are equal to the actual number of monitors present. Superscripts represent additional information about the network.

X = Regional Transport PM2.5 Monitor

i=AQI Reported

S=Continuous T640 Monitor

M = Maximum Ozone Concentration Site for MSA

CSA/MSA: Clarksville, TN- KY MSA

401 KAR 50:020 Air Quality Region: Paducah - Cairo Interstate (072)

Site Name: Pennyrile Forest **AQS Site ID:** 21-047-0007

Location: Pennyrile Forest State Park Rd. and Bainbridge Rd., Dawson Springs, KY 42408

County: Christian

GPS Coordinates: 37.05778, -87.65 (NAD 83)

Date Established: TBD **Inspection Date:** TBD **Inspection By:** TBD

Site Approval Status: Approved for site relocation



Due to increased traffic along an adjacent gravel road, the Hopkinsville site (21-047-0006) is being relocated to a field on Pennyrile State Forest property. The new site is slated to begin July 1, 2025. The Hopkinsville site will run until the shelter can be relocated to the Pennyrile Forest. The monitoring site will be a stationary equipment shelter and will continue to run the same equipment as the Hopkinsville site. Additional information can be found in the 2024 Kentucky Network Plan Addendum.

Monitoring Objective:

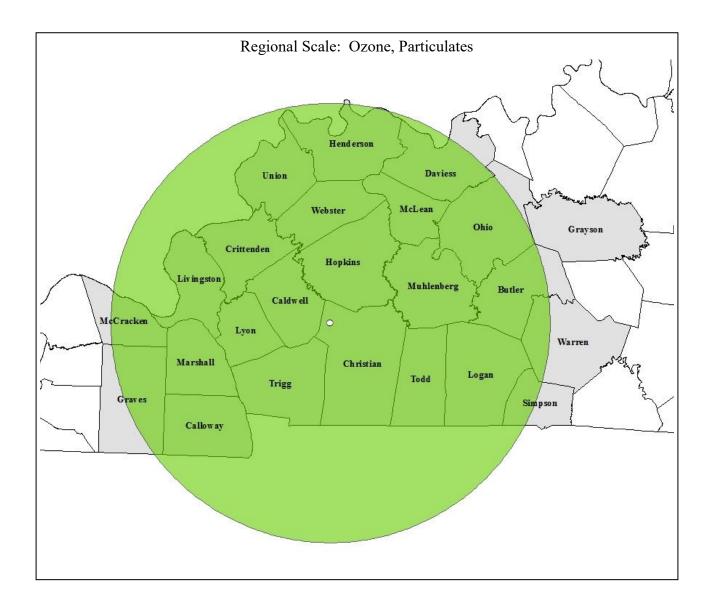
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to determine levels of interstate regional transport of fine particulate matter and ozone.

	Monitors											
Monitor Type	Inlet Height (meters)		Analysis Method	Frequency of Sampling								
AEM Ozone	TBD	SLAMS AQI Maximum O ₃ Transport	UV photometry	Continuously March 1 – October 31								
FEM PM _{2.5} Continuous	TBD	SLAMS AQI Transport	Broadband Spectroscopy	Continuously								

Quality Assurance Status:

All Quality Assurance procedures will be implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness: This site represents population exposure on a regional scale for ozone and $PM_{2.5}$.



Elizabethtown, KY



AQS ID / County	Site Address	PM2.5	Cont. PM2.5	PM10	Cont. PM10	SO2	NO2	NOy	СО	03	Pb	VOC	Carbonyl	PAH	PM2.5 Spec.	Carbon Spec.	Black Carbon	RadNet	Met
21-093-0007	140 Freeman Lake Park Rd	1 [°]	1 ^{S,i}							1 ^{M,i}									
Hardin	Elizabethtown																		
Totals	1	1	1							1									

Tallies are equal to the actual number of monitors present. Superscripts represent additional information about the network.

C=Collocated

M=Maximum Ozone Concentration Site for MSA

S=Continuous T640 Monitor

i=AQI Reported

CSA/MSA: Louisville/Jefferson County - Elizabethtown, KY-IN CSA; Elizabethtown, KY MSA

401 KAR 50:020 Air Quality Region: North Central Kentucky Interstate (104)

Site Name: Freeman Lake AQS Site ID: 21-093-0007

Location: Freeman Lake Park, 140 Freeman Lake Park Road, Elizabethtown, KY, 42701

County: Hardin

GPS Coordinates: 37.7145134, -85.8708227 (NAD 83)

Date Established: March 1, 2025 **Inspection Date:** March 6, 2025

Inspection By: Nall

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located on the grounds of Freeman Lake Park. The site is located on the southside of the lake, near a water treatment plant that is no longer in operation. The sample inlets are approximately 182 meters from the nearest road. This site was formally Elizabethtown (21-093-0006) which had to be relocated due to land development. The site meets requirements of 40 CFR 58, Appendices A, C, D, and E.

Monitoring Objective:

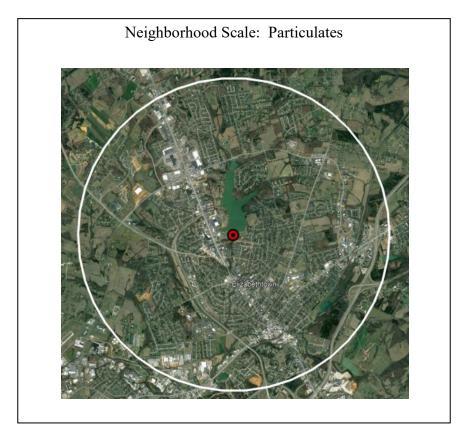
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards.

	Monitors				
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling	
AEM Ozone	3.91	SLAMS AQI Maximum O ₃		Continuously March 1 – October 31	
FEM PM _{2.5} Continuous	4.69	SLAMS AQI	Broadband Spectroscopy	Continuously	
Collocated FRM PM _{2.5}	4.47	SLAMS	Gravimetric	24-hours every sixth day	

Quality Assurance Status:

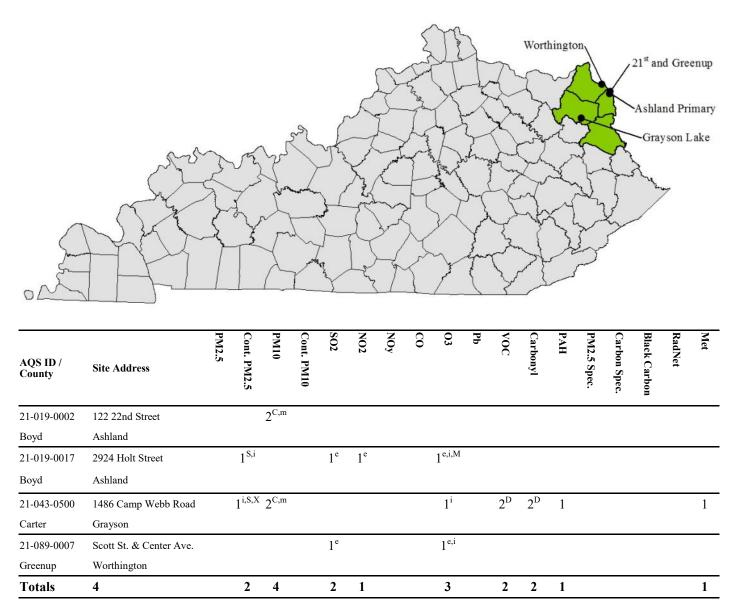
Area Representativeness:

This site will represent population exposure on a neighborhood scale for particulates and population exposure on an urban scale for ozone.





Huntington-Ashland, WV-KY-OH



Tallies are equal to the actual number of monitors present. Superscripts represent additional information about the network.

i=AQI Reported

m=PM10 Filter Analyzed for Metals

C = Collocated

e=Emergency Episode Monitor

S=Continuous T640 Monitor

X = Regional Background PM2.5 Monitor

M=Maximum Ozone Concentration Site for MSA

D=Duplicate

CSA/MSA: Charleston-Huntington-Ashland, WV-OH-KY CSA; Huntington-Ashland, WV-KY-OH

MSA

401 KAR 50:020 Air Quality Region: Huntington (WV)-Ashland (KY)-Portsmouth-Ironton (OH)

Interstate (103)

Site Name: 21st and Greenup **AQS Site ID:** 21-019-0002

Location: 121 22nd Street, Ashland, KY 41101

County: Boyd

GPS Coordinates: 38.47676, -82.63137 (NAD 83)

Date Established: April 2, 1978 **Inspection Date:** October 1, 2024

Inspection By: Nall

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



The monitoring site is located on the west end of the roof of the Valvoline Oil complex building in Ashland, Kentucky. The building is one story tall. The sample inlets are 38 meters from the nearest road. Upon inspection, the sample inlets and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices A, C, D, and E.

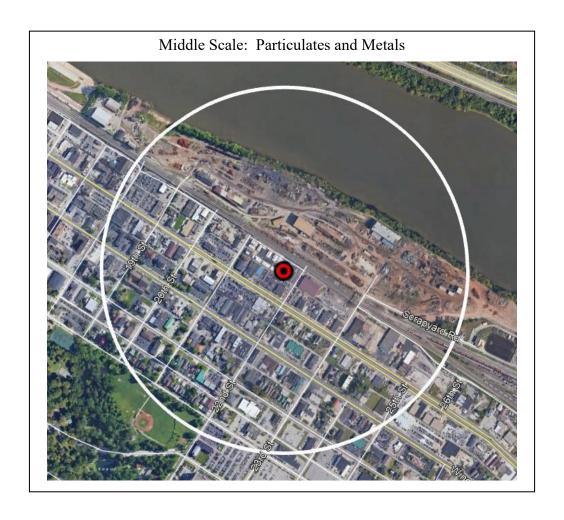
Monitoring Objective:

The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to measure concentrations of a sub-group of air toxics.

			Monitors	
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling
FRM PM ₁₀	6.2	SLAMS	Gravimetric	24-hours every sixth day
- Metals PM ₁₀		SPM-Other	Determined from the PM ₁₀ sample using EPA method IO 3.5	Same as PM ₁₀
Collocated FRM PM ₁₀	6.2	SLAMS	Gravimetric	24-hours every twelfth day
- Collocated Metals PM ₁₀		SPM-Other	Determined from the PM ₁₀ sample using EPA method IO 3.5	24-hours; six samples per year

Quality Assurance Status:

Area Representativeness: The site represents maximum concentration on a middle scale for particulates and metals.



CSA/MSA: Charleston-Huntington-Ashland, WV-OH-KY CSA; Huntington-Ashland, WV-KY-OH

MSA

401 KAR 50:020 Air Quality Region: Huntington (WV)-Ashland (KY)-Portsmouth-Ironton (OH)

Interstate (103)

Site Name: Ashland Primary (FIVCO)

AQS Site ID: 21-019-0017

Location: FIVCO Health Department, 2924 Holt Street, Ashland, KY 41101

County: Boyd

GPS Coordinates: 38.459347, -82.640386 (NAD 83)

Date Established: January 1, 1999 **Inspection Date:** October 1, 2024

Inspection By: Nall

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located on the grounds of the health department building in Ashland, Kentucky. The sample inlets are 60 meters from the nearest road. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices A, C, D, E, and G.

Monitoring Objective:

The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to detect elevated pollutant levels for activation of emergency control procedures for nitrogen dioxide, ozone, and sulfur dioxide; and to provide pollutant levels for daily air quality index reporting.

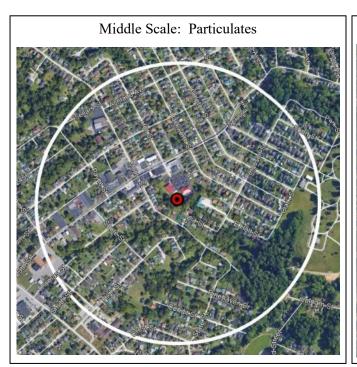
Monitors				
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling
AEM Nitrogen Dioxide (NO ₂ , NO, NO _x)	3.83	SLAMS EPISODE	Chemiluminescence	Continuously
AEM Sulfur Dioxide	3.83	SLAMS EPISODE	UV fluorescence	Continuously
AEM Ozone	3.83	SLAMS AQI EPISODE Maximum O ³	UV photometry	Continuously March 1 – October 31
FEM PM _{2.5} Continuous	4.73	SLAMS AQI	Broadband spectroscopy	Continuously

Quality Assurance Status:

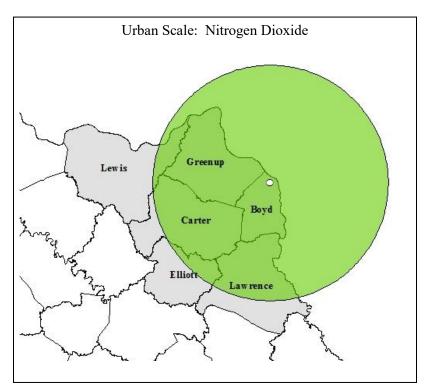
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:

This site represents population exposure on a neighborhood scale for air toxics, ozone, and sulfur dioxide. This site also represents maximum concentrations on a middle scale for particulates, as well as an urban scale for nitrogen dioxide.







CSA/MSA: Charleston-Huntington-Ashland, WV-OH-KY CSA; Huntington-Ashland, WV-KY-OH

MSA

401 KAR 50:020 Air Quality Region: Huntington (WV)-Ashland (KY)-Portsmouth-Ironton (OH)

Interstate (103)

Site Name: Grayson Lake **AQS Site ID:** 21-043-0500

Location: Camp Robert Webb, 1486 Camp Webb Road, Grayson Lake, KY 41143

County: Carter

GPS Coordinates: 38.238876, -82.988059 (NAD 83)

Date Established: May 13, 1983 **Inspection Date:** October 1, 2024

Inspection By: Nall

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter in a fenced area located in a remote section of Camp Webb in Grayson, Kentucky. The nearest road is a service road to the site and is 106 meters from the site. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices A, C, D, E, and G.

Monitoring Objective:

The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to determine background levels of $PM_{2.5}$ and PM_{10} ; to provide ozone data upwind of the Ashland area; and to measure rural concentrations of a sub-group of air toxics for use in a national air toxics assessment.

	Monitors				
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling	
AEM Ozone	3.68	SLAMS AQI	UV photometry	Continuously March 1 – October 31	
FRM PM ₁₀	2.19	SLAMS	Gravimetric	24-hours every sixth day	
- Metals PM ₁₀		NATTS SPM-Other	Determined from the PM ₁₀ samples using EPA method IO 3.5	Same as PM ₁₀	
Collocated PM ₁₀	2.19	SLAMS	Gravimetric	24-hours every twelfth day	
- Collocated metals PM ₁₀		NATTS SPM-Other	Determined from the PM ₁₀ samples using EPA method IO 3.5	24-hours; six samples per year	

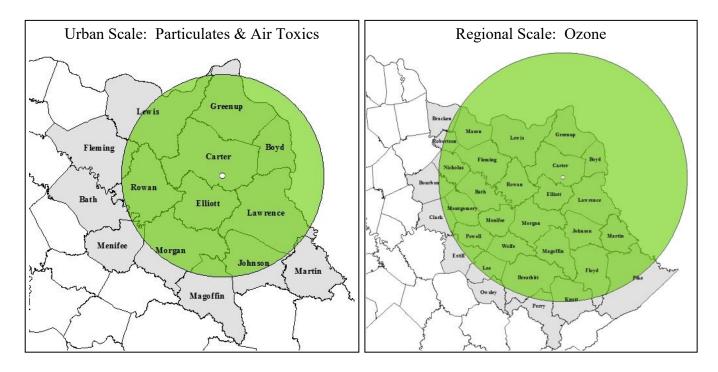
		N	Ionitors (Continued)	
FEM PM _{2.5} Continuous	4.76	SLAMS AQI	Broadband Spectroscopy	Continuously
Volatile Organic Compounds	4.24	NATTS SPM-Other	EPA method TO-15.	24-hours every sixth day
- Duplicate Volatile Organic Compounds		NATTS SPM-Other	EPA method TO-15. Collected via same sampling system as primary VOCs.	24-hours; six samples per year
Polycyclic Aromatic Hydrocarbons	2.11	NATTS SPM-Other	EPA method TO-13A	24-hours every sixth day
Carbonyls	4.24	NATTS SPM-Other	EPA method TO-11A	24-hours every sixth day
- Duplicate Carbonyls		NATTS SPM-Other	EPA method TO-11A. Collected via same sampling system as primary carbonyls.	24-hours; six samples per year
Meteorological	13.6	Other	AQM grade instruments for wind speed, wind direction, and temperature	Continuously

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:

The site represents background levels on an urban scale for particulates and air toxics. This site also represents upwind/background levels on an regional scale for ozone.



CSA/MSA: Charleston-Huntington-Ashland, WV-OH-KY CSA; Huntington-Ashland, WV-KY-OH

MSA

401 KAR 50:020 Air Quality Region: Huntington (WV)-Ashland (KY)-Portsmouth-Ironton (OH)

Interstate (103)

Site Name: Worthington AQS Site ID: 21-089-0007

Location: Scott Street & Center Avenue, Worthington, KY 41183

County: Greenup

GPS Coordinates: 38.548156, -82.731156 (NAD 83)

Date Established: October 12, 1980 **Inspection Date:** October 1, 2024

Inspection By: Nall

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located on the grounds of a water tower near the intersection of Scott Street and Center Avenue in Worthington, Kentucky. The sample inlets are 19 meters from the nearest road. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices A, C, D, E, and G.

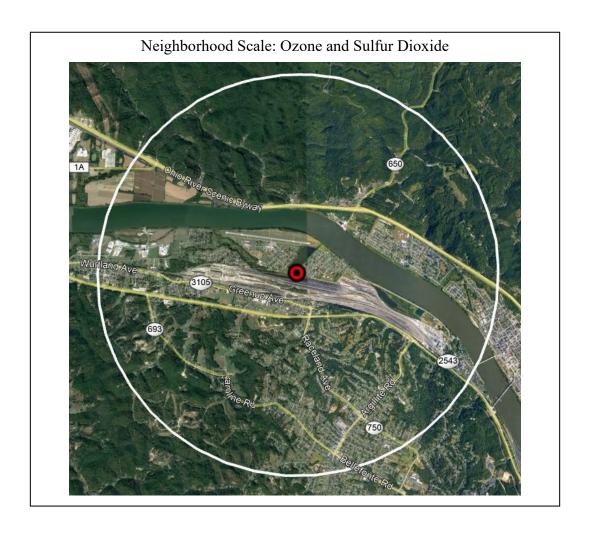
Monitoring Objective:

The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to detect elevated pollutant levels for activation of emergency control procedures for ozone and sulfur dioxide.

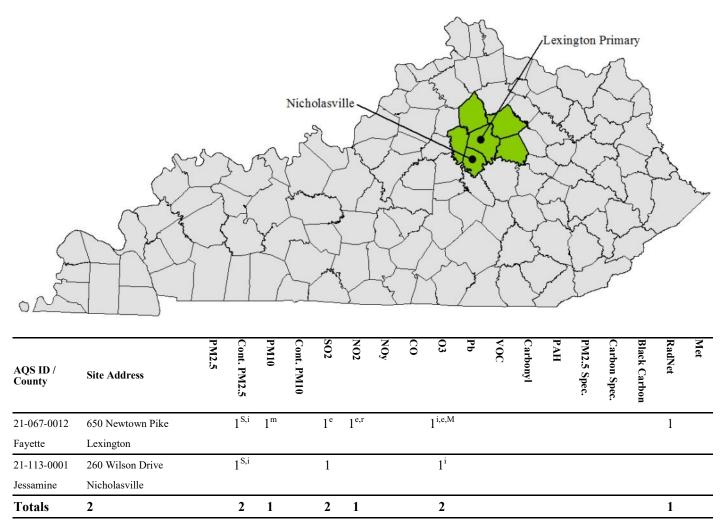
Monitors				
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling
AEM Ozone		SLAMS EPISODE AQI	UV photometry	Continuously March 1 – October 31
AEM Sulfur Dioxide	4.18	SLAMS EPISODE	UV fluorescence	Continuously

Quality Assurance Status:

Area Representativeness: This site represents population exposure on a neighborhood scale for ozone and sulfur dioxide.



Lexington-Fayette, KY



Tallies are equal to the actual number of monitors present. Superscripts represent additional information about the network.

i = AQI

r=RA-40 Monitor

S=Continuous T640 Monitor

m=PM10 Filter Analyzed for Metals

e =Emergency Episode Monitor

M = Maximum Ozone Concentration Site for MSA

CSA/MSA: Lexington-Fayette--Richmond--Frankfort, KY CSA; Lexington-Fayette, KY MSA

401 KAR 50:020 Air Quality Region: Bluegrass Intrastate (102)

Site Name: Lexington Primary (Newtown)

AQS Site ID: 21-067-0012

Location: Fayette County Health Department, 650 Newtown Pike, Lexington, KY 40508

County: Fayette

GPS Coordinates: 38.065056, -84.497556 (NAD 83)

Date Established: November 8, 1979 **Inspection Date:** November 21, 2024

Inspection By: Nall

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located on the grounds of the Fayette County Health Department building in Lexington, Kentucky. The sample inlets are 132 meters from the nearest road. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices A, C, D, E and G.

Monitoring Objective:

The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to detect elevated pollutant levels for activation of emergency control procedures for nitrogen dioxide, ozone, particulates, and sulfur dioxide; and to provide pollutant levels for daily air quality index reporting.

Additionally, the nitrogen dioxide monitor has been approved as a RA-40 monitor. According to CFR, each EPA Regional Administrator is required to collaborate with agencies to establish or designate 40 NO₂ monitoring locations, with a primary focus on protecting susceptible and vulnerable populations.

	Monitors				
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling	
AEM Ozone		SLAMS AQI EPISODE Maximum O ³	UV photometry	Continuously March 1 – October 31	
AEM Nitrogen Dioxide (NO ₂ , NO, NO _x)	4.0	SLAMS (RA-40) EPISODE	Chemiluminescence	Continuously	
AEM Sulfur Dioxide	0.70	SLAMS EPISODE	UV fluorescence	Continuously	
FEM PM _{2.5} Continuous	,	SLAMS AQI	Broadband Spectroscopy	Continuously	

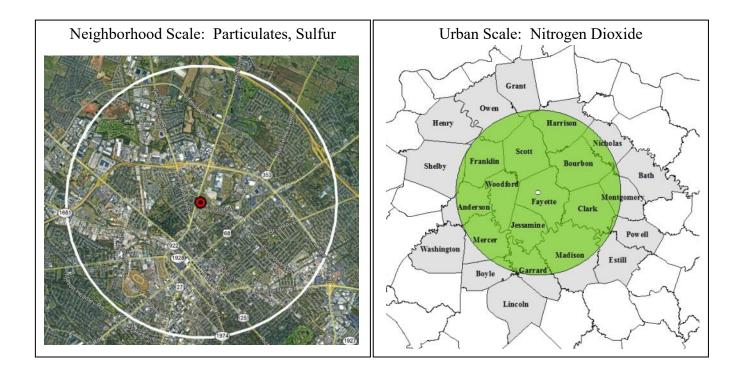
Monitors (Continued)				
PM_{10}	4.71	SLAMS	Gravimetric	24-hours every sixth day
- PM ₁₀ Metals		SPM-Other	Determined from the PM ₁₀ sample using EPA method IO 3.5	Same as PM ₁₀
Radiation	1.3	RadNet	RadNet fixed stationary monitor, manual and automated methods	Continuously & 2 weekly filters

Quality Assurance Status:

All quality assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:

This site represents population exposure on a neighborhood scale for particulates, sulfur dioxide and ozone. This site also represents population exposure on an urban scale for nitrogen dioxide.



CSA/MSA: Lexington-Fayette--Richmond--Frankfort, KY CSA; Lexington-Fayette, KY MSA

401 KAR 50:020 Air Quality Region: Bluegrass Intrastate (102)

Site Name: Nicholasville AQS Site ID: 21-113-0001

Location: KYTC Maintenance Garage, 260 Wilson Drive, Nicholasville, KY 40356

County: Jessamine

GPS Coordinates: 37.89147, -84.58825 (NAD 83)

Date Established: August 1, 1991 **Inspection Date:** November 21, 2024

Inspection By: Nall

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located on the grounds of the Kentucky Transportation Cabinet garage in Nicholasville, Kentucky. The sample inlets are 82 meters from the nearest road. Upon inspection, the sample inlets and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices A, C, D, E, and G.

Monitoring Objective:

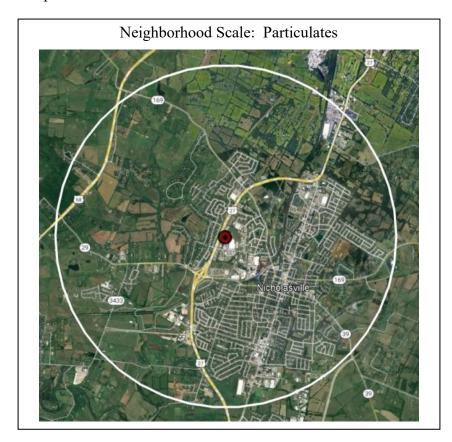
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to provide ozone data upwind of the Lexington area.

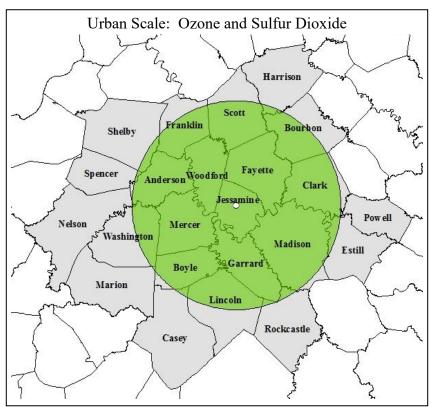
Monitors				
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	3.9	SLAMS AQI	UV photometry	Continuously March 1 – October 31
AEM Sulfur Dioxide	3.91	SLAMS	UV fluorescence	Continuously
FEM PM _{2.5} Continuous	4.58	SLAMS AQI	Broadband Spectroscopy	Continuously

Quality Assurance Status:

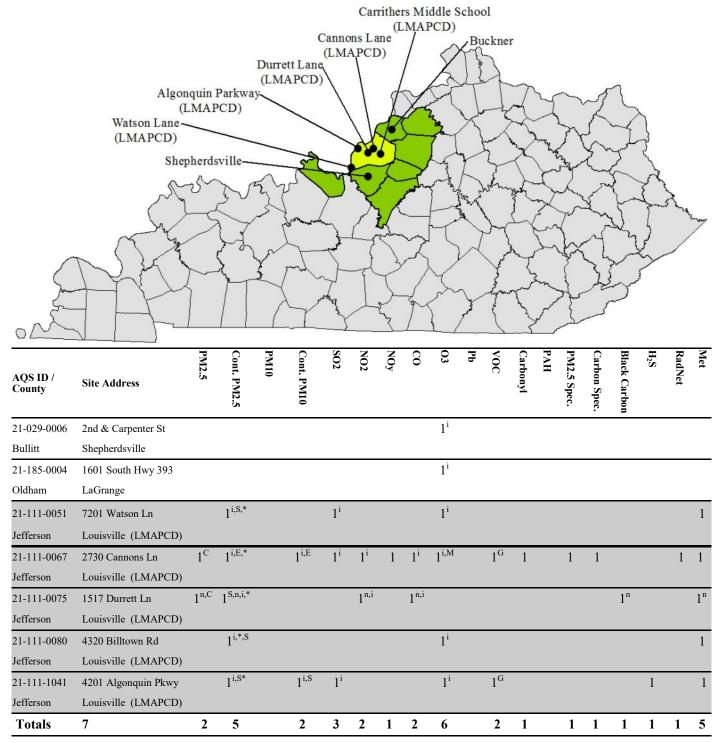
Area Representativeness:

The site represents population exposure on a neighborhood scale for particulates. This site also represents population exposure on an urban scale for ozone and sulfur dioxide.





Louisville/Jefferson County, KY-IN



Tallies are equal to the actual number of parameters currently monitored. Superscripts represent additional information about the network.

M=Maximum Ozone Concentration Site for MSA

 $E = Continuous\ PM2.5 - PM10\ T640x - Coarse;\ (T640x\ samples\ for\ PM_{10},\ PM_{2.5},\ and\ PM_{coarse}\ with\ a\ single\ monitor)$

KY-IN MSA

401 KAR 50:020 Air Quality Region: North Central Kentucky Intrastate (104)

Site Name: Shepherdsville **AQS Site ID:** 21-029-0006

Location: East Joe B. Hall Avenue & Carpenter Streets, Shepherdsville, KY 40165

County: Bullitt

GPS Coordinates: 37.986275, -85.711899 (NAD 83)

Date Established: January 30, 1992 **Inspection Date:** December 6, 2024 **Inspection By:** Nall and Bray

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located in a fenced-in area near the intersection of Second and Carpenter Streets in Shepherdsville, Kentucky. The sample inlets are 58 meters from the nearest road. Upon inspection, the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices A, C, D, E, and G.

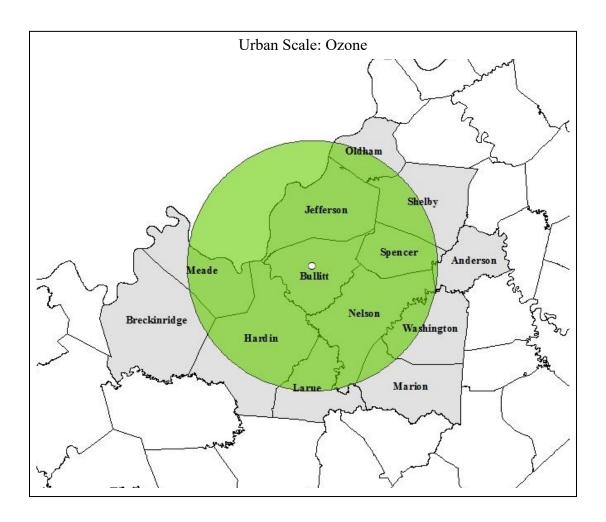
Monitoring Objective:

The monitoring objectives are to determine compliance with National Ambient Air Quality Standards.

	Monitors				
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling	
AEM Ozone	3.96	SLAMS AQI	UV photometry	Continuously March 1 – October 31	

Quality Assurance Status:

Area Representativeness: This site represents population exposure on an urban scale for ozone.



KY-IN MSA

401 KAR 50:020 Air Quality Region: North Central Kentucky Intrastate (104)

Site Name: Buckner

AQS Site ID: 21-185-0004

Location: KYTC Maintenance Facility, 1601 South Hwy 393, LaGrange, KY 40031

County: Oldham

GPS Coordinates: 38.4001911, -85.444291 (NAD 83)

Date Established: May 1, 1981 **Inspection Date:** December 6, 2024 **Inspection By:** Nall and Bray

Site Approval Status: Site and monitor meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located on the grounds of the Kentucky Transportation Cabinet Highway garage in Buckner, Kentucky. The sample inlet is 51 meters from the nearest road. Upon inspection, the sample line and monitor were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices A, C, D, E, and G.

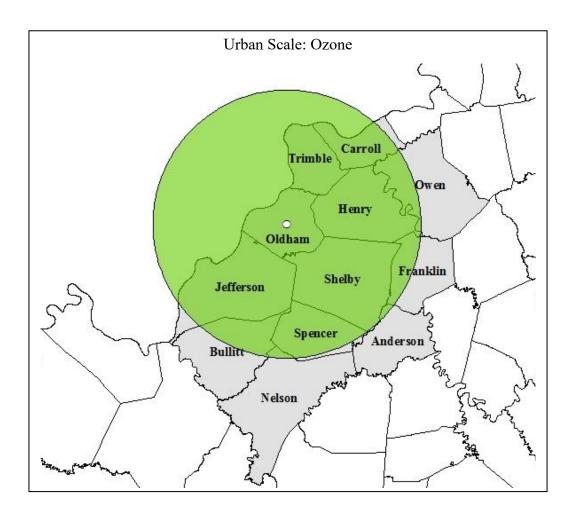
Monitoring Objective:

The monitoring objectives are to determine compliance with National Ambient Air Quality Standards.

Monitors				
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	3.93	SLAMS AQI		Continuously March 1 – October 31

Quality Assurance Status:

Area Representativeness: This site represents maximum concentrations on an urban scale.



KY-IN MSA

401 KAR 50:020 Air Quality Region: Louisville Interstate (078)

Site Name: Watson Lane **AQS Site ID:** 21-111-0051

Location: 7201 Watson Lane, Louisville, KY 40272

County: Jefferson

GPS Coordinates: 38.06091, -85.89804 (NAD 83)

Date Established: July 16, 1992 **Inspection Date:** October 24, 2024

Inspection By: APCD Quality Assurance Staff

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located on the grounds of the former Watson Lane Elementary School in Louisville, Kentucky. The site is situated in the southwestern portion of Louisville and is located approximately 1.5 km to the northeast of the LG&E Mill Creek Power Plant. This site serves as the maximum concentration site for Sulfur Dioxide, provides representative measurements of PM_{2.5}, and also serves as a downwind representation of ozone from the urban core under northeasterly flows.

Monitoring Objective:

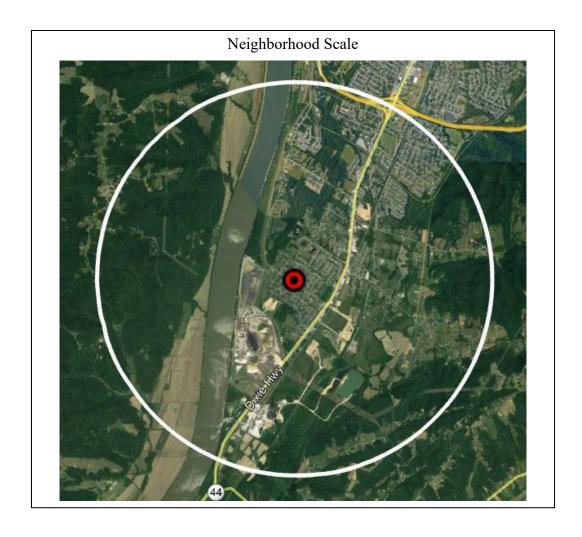
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to provide pollution levels for daily index reporting.

Monitors				
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	3.1	SLAMS AQI	UV photometry	Continuously March 1 – October 31
FEM PM _{2.5} Continuous	4.4	SLAMS AQI	Broadband Spectroscopy	Continuously
AEM Sulfur Dioxide	3.0	SLAMS AQI	UV fluorescence	Continuously
Meteorological	5.8	Other	AQM grade instruments for wind speed and wind direction.	Continuously

Quality Assurance Status:

Area Representativeness:

This site represents population exposure on a neighborhood scale for ozone and particulates. This site also represents maximum concentrations on a neighborhood scale for SO₂.



KY-IN MSA

401 KAR 50:020 Air Quality Region: Louisville Interstate (078)

Site Name: Cannons Lane (CLAMS)

AQS Site ID: 21-111-0067

Location: Bowman Field, 2730 Cannons Lane, Louisville, KY 40204

County: Jefferson

GPS Coordinates: 38.2288760, -85.654520 (NAD 83)

Date Established: July 1, 2008

Inspection Date: October 22 and 29, 2024 **Inspection By:** APCD Quality Assurance Staff

Site Approval Status: EPA SLAMS approval on December 22, 2008; EPA NCore approval on October 30, 2009. Aside from the damaged Met tower, site and monitors meet all design criteria for the

monitoring network.



The site is located in the northeast quadrant of Jefferson County, about 9 km from the urban core of Metro Louisville. The site is adjacent to the Bowman Field Airport and the property is leased by LMAPCD. The site was originally established as a SLAMS site in 2008, became an NCore site in 2009, and became a PAMS site in 2021. In December 2010, a solar electric array was installed which was designed to produce approximately 6,300 kWh electricity per year.

Monitoring Objective:

The NCore Network addresses the following monitoring objectives:

- timely reporting of data to the public through AIRNow, air quality forecasting, and other public reporting mechanisms
- support development of emission strategies through air quality model evaluation and other observational methods
- accountability of emission strategy progress through tracking long-term trends of criteria and non-criteria pollutants and their precursors
- support long-term health assessments that contribute to ongoing reviews of the National Ambient Air Quality Standards (NAAQS)
- compliance through establishing nonattainment/attainment areas by comparison with the NAAQS
- support multiple disciplines of scientific research, including public health, atmospheric, and ecological.

Monitors				
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling
Carbon Monoxide	3.8	NCore SLAMS AQI	Automated Reference Method utilizing trace level non-dispersive infrared analysis.	Continuously
Nitrogen Dioxide (NO ₂)	3.8	NCore PAMS SLAMS AQI	Cavity Attenuated Phase Shift Spectrometry	Continuously
Total Reactive Nitrogen (NO/NO _y)	3.5	NCore PAMS	Automated method utilizing trace level chemiluminescence analysis.	Continuously
AEM Ozone	3.8	NCore PAMS SLAMS AQI Maximum O ₃	UV photometry	Continuously
Sulfur Dioxide	3.8	NCore SLAMS AQI	Automated Equivalent Method utilizing trace level UV fluorescence analysis.	Continuously
FEM PM _{2.5} and PM ₁₀ Continuous - PM _{Coarse} (PM ₁₀ -PM _{2.5})	4.8	NCore SLAMS AQI	Broadband Spectroscopy	Continuously
PM _{2.5} Speciation	2.0	NCore SLAMS	Multi-Species manual collection method utilizing thermal optical ion chromatography, gravimetric, and X-ray fluorescence.	24-hours every third day
PM _{2.5} Carbon Speciation	2.2	NCore SLAMS	Multi-species manual collection method utilizing thermal optical and gravimetric analyses.	24-hours every third day
FRM PM _{2.5} Collocated	4.6	NCore SLAMS QA Collocated	Manual reference method utilizing gravimetric analysis	24-hours every third day
Volatile Organic Compounds	4.2	PAMS	Automatic gas chromatograph with flame ionization detection	Continuously
Carbonyls	4.2	PAMS	DNPH Cartridge using TO-11A analysis	Three 8-hour samples every third day June 1—August 31
Meteorological -Wind Speed and Direction	5.4	NCore PAMS	Air Quality Measurements approved instrumentation for wind speed, and wind direction.	Continuously
-Temperature and RH	2.6	NCore PAMS	Air Quality Measurements approved instrumentation for temperature and	Continuously
-Barometric Pressure	4.0	PAMS	humidity. Air Quality Measurements approved instrumentation for barometric pressure.	Continuously
-Ceilometer	4.0	PAMS	Pulsed diode laser light detection and ranging (LIDAR).	Continuously
-Solar Radiation	4.3	NCore PAMS	Air Quality Measurements approved instrumentation for solar radiation.	Continuously
-UV Solar	4.4	PAMS	Air Quality Measurements approved instrumentation for UV Solar.	Continuously
-Rain Gauge	1.4	NCore PAMS	Air Quality Measurements approved instrumentation for precipitation.	Continuously
Radiation	2.6	RadNet	RadNet fixed station air monitor, manual and automated methods	Continuously + 2 weekly filters

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:

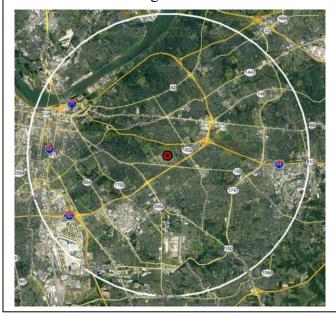
The air monitoring equipment at the Cannon's Lane NCore station is specifically located at the urban and neighborhood scales. These scales are generally the most representative of the expected population exposures that occur throughout metropolitan areas.

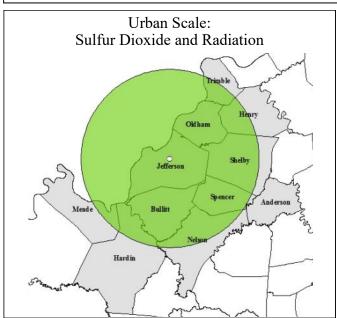
Pollutant	Spatial Scale	Comments
Ozone	Neighborhood	4 km radius
Carbon Monoxide	Neighborhood Scale	4 km radius
Particulates	Neighborhood Scale	4 km radius
NO _x /NO _y	Neighborhood and Urban Scale	10 km radius
SO_2	Urban Scale	50 km radius
Radiation	Urban	50 km radius

Neighborhood Scale: Carbon Monoxide, Ozone, and Particulates



Neighborhood and Urban Scales (10 km radius): Nitrogen Oxides





KY-IN MSA

401 KAR 50:020 Air Quality Region: Louisville Interstate (078)

Site Name: Durrett Lane (Near Road)

AQS Site ID: 21-111-0075

Location: 1517 Durrett Lane, Louisville, KY 40213

County: Jefferson

GPS Coordinates: 38.193632, -85.711950 (NAD 83)

Date Established: January 1, 2014 **Inspection Date:** October 22, 2024

Inspection By: APCD Quality Assurance Staff

Site Approval Status: Aside from the lowered Met tower due to ongoing troubleshooting of Met

equipment, site and monitors meet all design criteria for the monitoring network.



On February 9, 2010, the EPA released a new NO₂ Final Rule and a new set of monitoring requirements. Under the new monitoring requirements, State and Local agencies are required to establish near-road monitoring stations based upon core based statistical area (CBSA) populations and traffic metrics. The Louisville/Jefferson County, KY-IN MSA is required to establish not only a near-road nitrogen dioxide monitor, but also near-road PM_{2.5} and carbon monoxide monitors. In response, LMAPCD has established a multi-pollutant near-road site that includes instrumentation to measure nitrogen dioxide, PM_{2.5}, carbon monoxide, and meteorology. The specific site was chosen following the development of a formal site proposal and a 30-day comment public period in April 2013. Data collection at the site began in January 2014. More information regarding near-road monitoring can be found in the appendices of this Annual Network Plan.

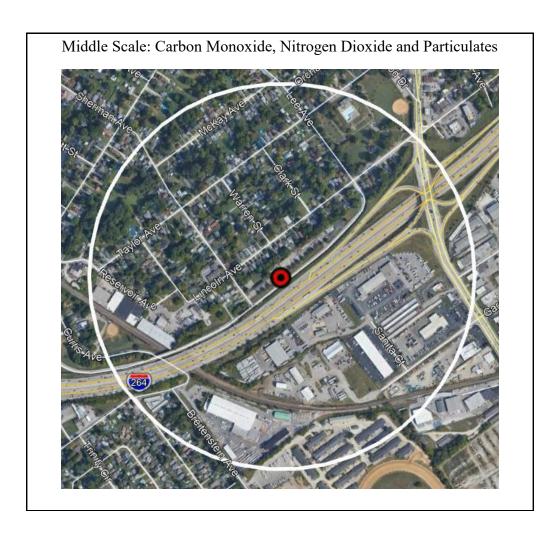
Monitoring Objective:

The monitoring objective will be to determine compliance with National Ambient Air Quality Standards for nitrogen dioxide, carbon monoxide, and particulate matter.

Monitors				
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling
AEM Nitrogen Dioxide (NO ₂)	3.4	SLAMS AQI	Cavity Attenuated Phase Shift Spectroscopy	Continuously
Carbon Monoxide	3.4	SLAMS AQI	Automated Reference Method utilizing trace-level non-dispersive infrared analysis	Continuously
FEM PM _{2.5} Continuous	4.2	SLAMS AQI	Broadband Spectroscopy	Continuously
FRM PM _{2.5} Collocated	4.3	SLAMS	Manual Reference Method utilizing gravi- metric analysis	24-hours every third day
Meteorological - Wind Speed and Direction	5.2	Other	AQM grade instruments for wind speed and wind direction	Continuously
- Temperature and RH	3.8	Other	AQM grade instruments for temperature and humidity	Continuously
Black Carbon	4.0	SPM	Wavelength Dual Spot Optical Absorption	Continuously

Quality Assurance Status: All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness: The site represents maximum concentrations on a middle scale.



KY-IN MSA

401 KAR 50:020 Air Quality Region: Louisville Interstate (078)

Site Name: Carrithers Middle School

AQS Site ID: 21-111-0080

Location: 4320 Billtown Road, Louisville, KY 40291

County: Jefferson

GPS Coordinates: 38.182435, -85.574361 (WGS)

Date Established: January 9, 2018 **Inspection Date:** October 24, 2024

Inspection By: APCD Quality Assurance Staff

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



Due to Jefferson County Public School's plan for significant modification to the Bates Elementary property, the Bates site was retired in early 2018. A new site was established on the grounds of Carrithers Middle School, which is located three miles to the north of the Bates Elementary School site. The instrumentation from Bates was transferred to Carrithers and the new site became operational on 1/9/2018.

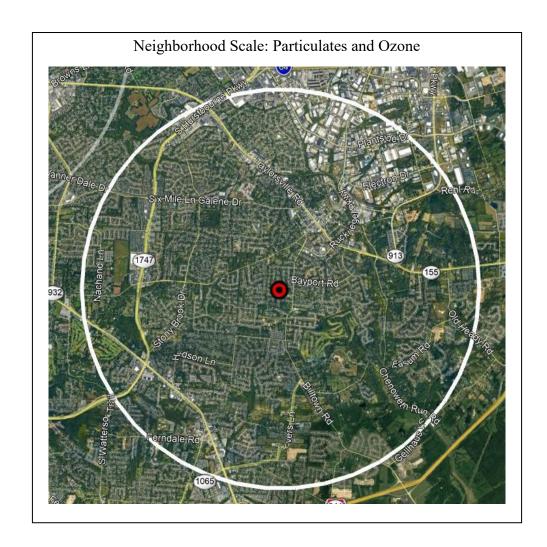
Monitoring Objective:

The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to provide pollution levels for daily index reporting.

Monitors				
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	3.6	SLAMS AQI	UV photometry	Continuously March 1 – October 31
FEM PM _{2.5} Continuous	4.4	SLAMS AQI	Broadband Spectroscopy	Continuously
Meteorological -Wind Speed and Direction	6.0		AQM grade instruments for wind speed and wind direction.	Continuously
- Temperature and RH	4.2	Other	AQM grade instruments for temperature and humidity.	Continuously

Quality Assurance Status:

Area Representativeness: This site represents population exposure on a neighborhood scale for ozone and fine particulates.



KY-IN MSA

401 KAR 50:020 Air Quality Region: Louisville Interstate (078)

Site Name: Algonquin Parkway **AQS Site ID:** 21-111-1041

Location: 4201 Algonquin Parkway, Louisville, KY 40211

County: Jefferson

GPS Coordinates: 38.23158, -85.82675 (NAD 83)

Date Established: April 13, 1978 **Inspection Date:** October 28, 2024

Inspection By: APCD Quality Assurance Staff

Site Approval Status: Site and monitor meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located on the grounds of the Firearms Training Center in Louisville, Kentucky. The site is situated in West Louisville and is located directly to the northeast of the Rubbertown industrial area. LMAPCD replaced the existing shelter with a new, larger shelter in September, 2017 to house a continuous Toxics Monitor (Auto GC) and to accommodate additional instruments that were transferred from the nearby Southwick Community Center site (now retired). Additional particulate and gaseous instruments have been installed at the Algonquin Parkway site since 2017, which has allowed for a better characterization of air quality and meteorological conditions in West Louisville. name of this site was changed from Firearms Training to Algonquin Parkway in 2020.

Monitoring Objective:

The monitoring objectives are to determine compliance with National Ambient Air Quality Standards, to provide pollution levels for daily index reporting, and to characterize VOC concentrations.

Monitors				
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling
AEM Ozone	3.6	SLAMS AQI	UV Photometry	Continuously March 1 – October 31
FEM PM _{2.5} and PM ₁₀ Continuous	4.2	SLAMS AQI	Broadband Spectroscopy	Continuously
AEM Sulfur Dioxide	3.8	SLAMS AQI	UV Fluorescence	Continuously
Volatile Organic Carbon	3.7	SPM	Automatic gas chromatograph with flame ionization detection	Continuously
Hydrogen Sulfide	3.7	SPM	UV Fluorescence	Continuously
Meteorological -Wind Speed and Direction	9.0	SLAMS	AQM grade instruments for wind speed and wind direction	Continuously
- Temperature and RH	1.9	SLAMS	AQM grade instruments for temperature and humidity	Continuously

Quality Assurance Status:

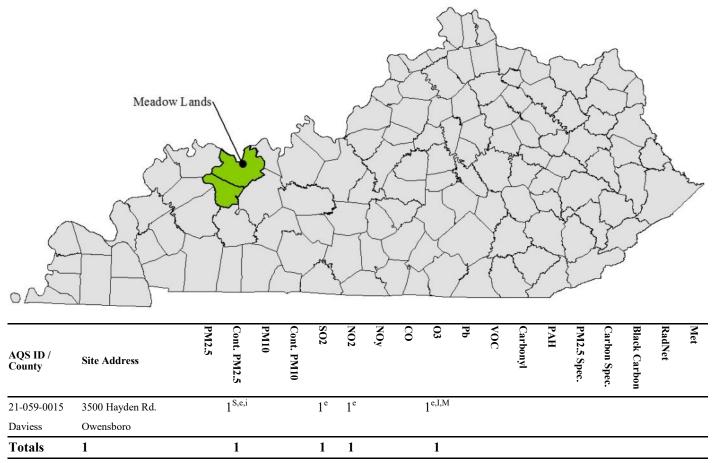
All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area Representativeness:

This site represents population exposure on a neighborhood scale for particulates, ozone, and sulfur dioxide.



Owensboro, KY



Tallies are equal to the actual number of monitors present. Superscripts represent additional information about the network.

- e=Emergency Episode Monitor
- S=Continuous T640 Monitor
- i=AQI Reported
- M=Maximum Ozone Concentration Site for MSA

CSA/MSA: Owensboro, KY MSA

401 KAR 50:020 Air Quality Region: Evansville-Owensboro-Henderson Interstate (077)

Site Name: Meadow Lands (Owensboro)

AOS Site ID: 21-059-0015

Location: Meadow Lands Elementary School, 3500 Hayden Rd, Owensboro, KY 42303

County: Daviess

GPS Coordinates: 37.7716709, -87.0558193 (NAD 83)

Date Established: November 21, 2024 **Inspection Date:** October 22, 2024

Inspection By: Nall

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located on the grounds of Meadow Lands Elementary School. The sample inlets are 131 meters from the nearest road. The site meets requirements established by 40 CFR 58, Appendices A, C, D, E, and G. This site was previously Owensboro Primary (21-059-0005), which had to be relocated due to land development plans.

Monitoring Objective:

The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to detect emergency pollution levels of criteria pollutants for activation of emergency control procedures.

Monitors				
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling
AEM Nitrogen Dioxide (NO ₂ , NO, NO _x)	4.56	SLAMS EPISODE	Chemiluminescence	Continuously
AEM Ozone	4.55	SLAMS EPISODE Maximum O ₃ AQI	UV photometry	Continuously March 1 – October 31
FEM PM _{2.5} Continuous	4.58	SLAMS EPISODE AQI	Broadband Spectroscopy	Continuously
AEM Sulfur Dioxide	4.52	SLAMS EPISODE	UV fluorescence	Continuously

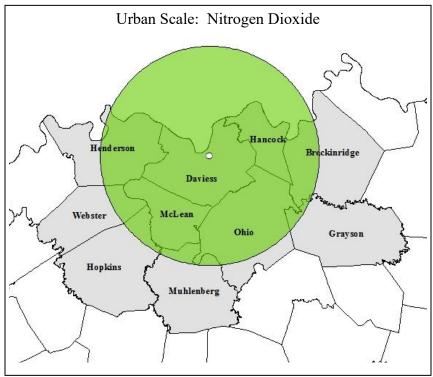
Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

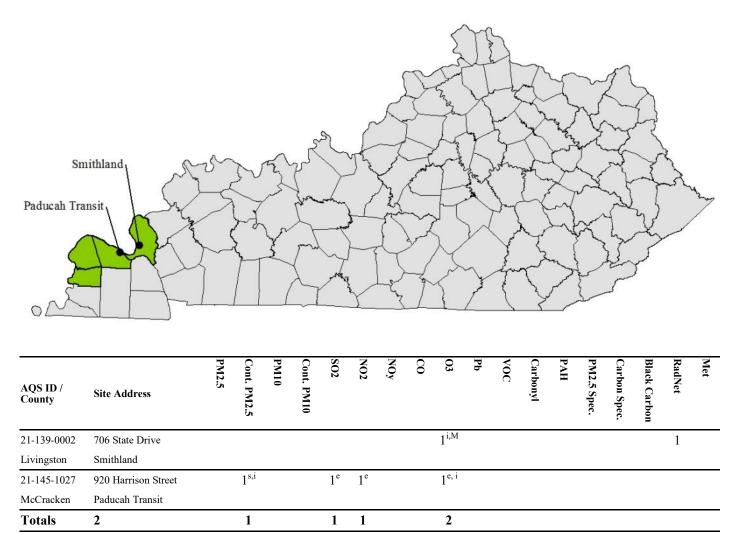
Area Representativeness:

This site represents population exposure on a neighborhood scale for particulates, ozone, and sulfur dioxide. This site also represents population exposure on an urban scale for nitrogen dioxide.





Paducah, KY-IL



Tallies are equal to the actual number of monitors present. Superscripts represent additional information about the network.

e=Emergency Episode Monitor

S=Continuous T640 Monitor

i=AQI Reported

M=Maximum Ozone Concentration Site for MSA

CSA/MSA: <u>Paducah-Mayfield, KY-IL</u> CSA; <u>Paducah, KY-IL</u> MSA **401 KAR 50:020 Air Quality Region:** Paducah-Cairo Interstate (072)

Site Name: Smithland AQS Site ID: 21-139-0003

Location: Livingston County Road Dept., 730 State Drive, Smithland, KY 42081

County: Livingston

GPS Coordinates: 37.155417, -88.393972 (NAD 83)

Date Established: April 1, 1988 **Inspection Date:** September 25, 2024

Inspection By: Nall

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located on the grounds of the Livingston County Road Dept. facility in Smithland, Kentucky. The sample inlets are 136 meters from the nearest road. Upon inspection, the sample lines and monitors were found to be in good The site meets condition. the requirements of 40 **CFR** 58, Appendices A, C, D, and E.

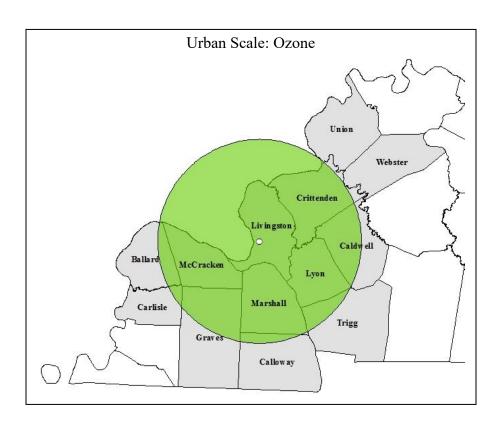
Monitoring Objective:

The monitoring objective is to determine compliance with National Ambient Air Quality Standards.

Monitors								
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling				
AEM Ozone	3.87	SLAMS Maximum O ₃ AQI	UV photometry	Continuously				
Radiation	1.33	RadNet	RadNet fixed stationary monitor, manual and automated methods	Continuously & 2 weekly filters				

Quality Assurance Status:

Area Representativeness: This site represents maximum concentrations on an urban scale.



CSA/MSA: <u>Paducah-Mayfield, KY-IL</u> CSA; <u>Paducah, KY-IL</u> MSA **401 KAR 50:020 Air Quality Region:** Paducah-Cairo Interstate (072)

Site Name: Paducah Transit **AQS Site ID:** 21-145-1027

Location: 920 Harrison Street, Paducah, KY 42001

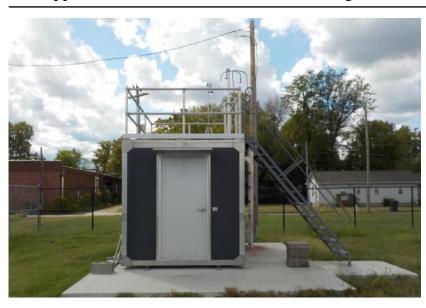
County: McCracken

GPS Coordinates: 37.08727, -88.60801 (NAD 83)

Date Established: January 10, 2023 **Inspection Date:** September 25, 2024

Inspection By: Nall

Site Approval Status: Site and monitors meet design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located on the grounds of Paducah Area Transit System in Paducah, Kentucky. The sample inlets are 30 meters from the nearest road. The site meets the requirements established by 40 CFR 58, Appendices A, C, D, E, and G. This site was formally Jackson Purchase (21-145-1024).property owners were expanding operations and the site had to be relocated as quickly as possible. Paducah Transit is 2.8 miles NW of the Jackson Purchase site.

Monitoring Objective:

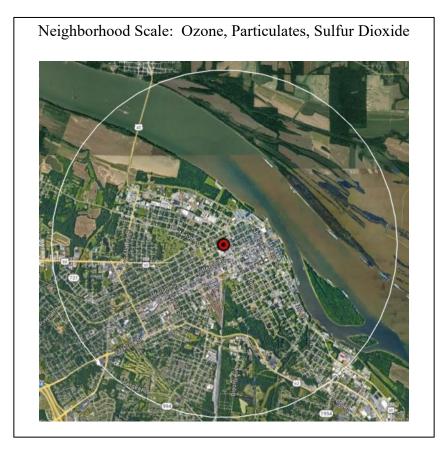
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to detect elevated pollutant levels for activation of emergency control procedures for nitrogen dioxide, ozone, and sulfur dioxide. While not required for the CBSA, the site also provides pollutant levels for daily air quality index reporting.

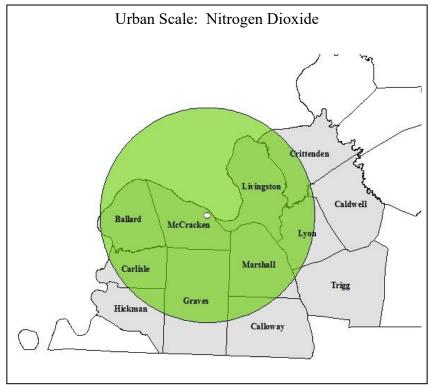
	Monitors								
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling					
AEM Nitrogen Dioxide (NO ₂ , NO, NO _x)	4.27	SLAMS EPISODE	Chemiluminescence	Continuously					
AEM Sulfur Dioxide	4.25	SLAMS EPISODE	UV fluorescence	Continuously					
AEM Ozone	4.1	SLAMS AQI EPISODE	UV photometry	Continuously March 1 – October 31					
FEM PM _{2.5} Continuous	4.77	SLAMS AQI	Broadband Spectroscopy	Continuously					

Quality Assurance Status:

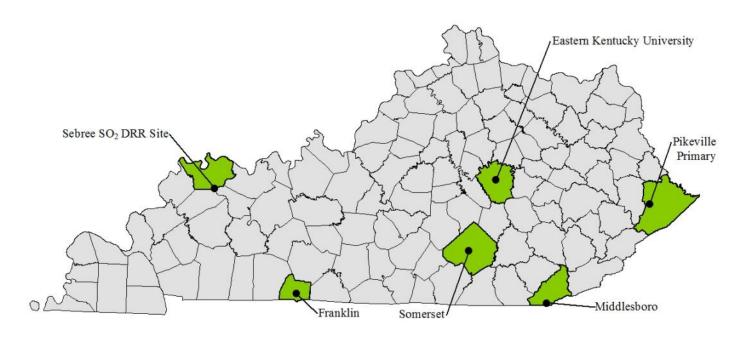
Area Representativeness:

This site represents population exposure on a neighborhood scale for ozone, particulates, and sulfur dioxide. This site also represents population exposure on an urban scale for nitrogen dioxide.





Micropolitan Statistical Areas



AQS ID / County	Site Address	PM2.5	Cont. PM2.5	PM10	Cont. PM10	SO2	NO2	NOy	СО	03	Pb	VOC	Carbonyl	PAH	PM2.5 Spec.	Carbon Spec.	Black Carbon	RadNet	Met
21-013-0002	1420 Dorchester Ave.		1 i,S							1 i									
Bell	Middlesboro																		
21-101-1011	Alcan Aluminum Rd.					1^{DRR}													
Henderson	Robards, KY 42452																		
21-151-0005	Van Hoose Drive										2 ^C								
Madison	Richmond																		
21-195-0002	109 Loraine Street		1 S,i							1 ⁱ									
Pike	Pikeville																		
21-199-0003	305 Clifty Street		1 i,S							1 i									
Pulaski	Somerset																		
21-213-0004	573 Harding Road									1 i									
Simpson	Franklin																		
Totals			3			1				4	2								

Tallies are equal to the actual number of monitors present. Superscripts represent additional information about the network.

C = Collocated

S=Continuous T640 Monitor

i=AQI Reported

DRR =SO2 Data Requirements Rule Monitor

CSA/MSA: Middlesborough-Corbin, KY CSA; Middlesborough, KY Micropolitan Statistical Area

401 KAR 50:020 Air Quality Region: Appalachian Intrastate (101)

Site Name: Middlesboro AQS Site ID: 21-013-0002

Location: Middlesboro Airport, 1420 Dorchester Avenue, Middlesboro, KY 40965

County: Bell

GPS Coordinates: 36.608475, -83.736939 (NAD 83)

Date Established: February 14, 1992 **Inspection Date:** October 3, 2024

Inspection By: Nall

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located on the grounds of the Middlesboro Airport in Middlesboro, Kentucky. The sample inlets are 96 meters from the nearest road. Upon inspection the sample lines and monitors were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices A, C, D, E and G.

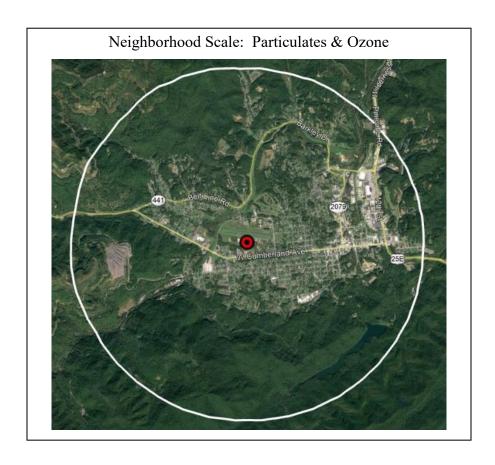
Monitoring Objective:

The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to provide information on the transport of ozone into the region.

Monitors									
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling					
AEM Ozone	3.96	SLAMS AQI	UV photometry	Continuously March 1 – October 31					
FEM PM _{2.5} Continuous	4.86	SLAMS AQI	Broadband Spectroscopy	Continuously					

Quality Assurance Status:

Area Representativeness: The site represents population exposure on a neighborhood scale for particulates and ozone.



CSA/MSA: Evansville-Henderson, IN-KY CSA; Henderson, KY Micropolitan Statistical Area 401 KAR 50:020 Air Quality Region: Evansville-Owensboro-Henderson Interstate (077)

Site Name: Sebree SO₂ DRR Site

AQS Site ID: 21-101-1011 **Location:** Alcan Aluminum Road

County: Henderson

GPS Coordinates: 37.654391, -87.511424 (NAD 83)

Date Established: January 1, 2017 **Inspection Date:** October 22, 2024

Inspection By: Nall

Site Approval Status: Site and monitor meet design criteria for the monitoring network.



On August 10, 2015, the EPA finalized requirements in 40 CFR 51, Subpart BB requiring air pollution control agencies to monitor ambient sulfur dioxide (SO₂) concentrations in areas with large sources of sulfur dioxide emissions in order to assist in the implementation for the one-hour SO₂ National Ambient Air Quality Standard (NAAQS). Known the "Data as Requirements Rule (DRR)," this action established that, at a minimum, agencies must characterize air quality around sources that emit 2,000 tons per year (tpy) or more of sulfur dioxide. The site meets the requirements of 40 CFR 58, Appendices A, C, D, and E.

As allowed by the DRR, an ambient air monitoring site has been established near Sebree, Kentucky, to characterize maximum hourly sulfur dioxide concentrations in the immediate vicinity of the Big Rivers Electric Corporation and Century Aluminum Sebree, LLC facilities. The site is located at the intersection of Alcan Aluminum Road and a facility coal-truck access road, approximately 1/2 mile south of State Route 2678.

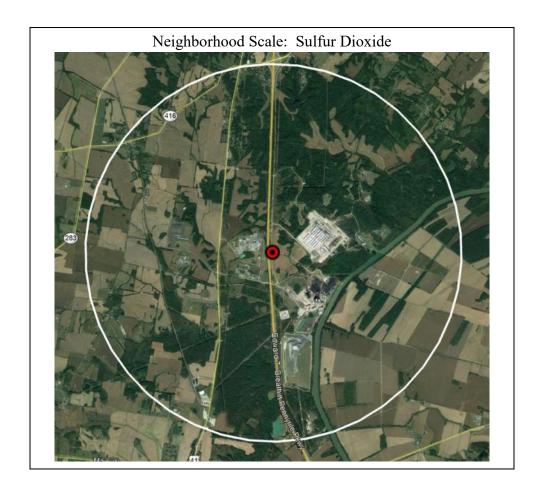
Monitoring Objective:

The monitoring objectives are to determine compliance with National Ambient Air Quality Standards.

Monitors									
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling					
AEM Sulfur Dioxide	3.82	SLAMS	UV fluorescence	Continuously					

Quality Assurance Status:

Area Representativeness: This site represents population exposure on a neighborhood scale for sulfur dioxide.



CSA/MSA: Lexington-Fayette--Richmond--Frankfort KY CSA; Richmond-Berea, KY Micropolitan

Statistical Area

401 KAR 50:020 Air Quality Region: Bluegrass Intrastate (102)

Site Name: Eastern Kentucky University (EKU)

AQS Site ID: 21-151-0005

Location: Eastern Kentucky University, Van Hoose Drive, Richmond, KY 40475

County: Madison

GPS Coordinates: 37.73636, -84.29167 (NAD 83)

Date Established: March 10, 2012 **Inspection Date:** November 21, 2024

Inspection By: Nall

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



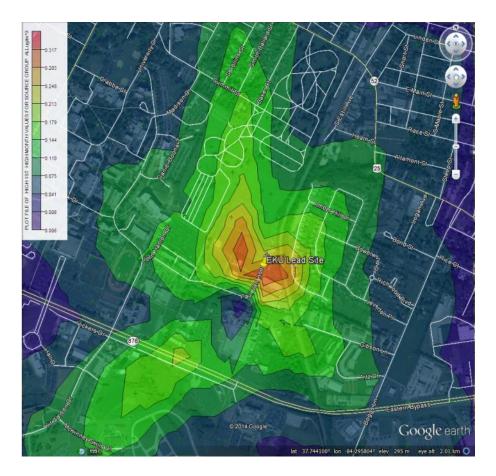
The site is located behind the Gentry Facilities Services building and is adjacent to Eastern Kentucky University's athletic fields. The sample inlets are 3.0 meters from the nearest road. Upon inspection, the sample inlet and monitor were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices A, C, D and E.

Monitoring Objective:

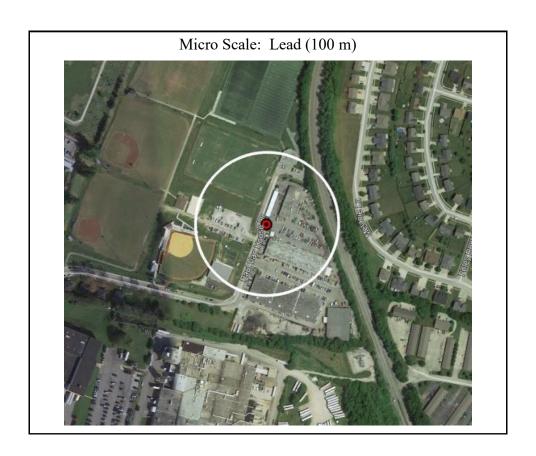
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards.

Monitors									
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling					
FRM Lead	2.22	SLAMS	High volume air sampler. Analysis via ICP-MS.	24-hours every sixth day					
Collocated FRM Lead	2.23	SLAMS	High volume air sampler. Analysis via ICP-MS.	24-hours every twelfth day					

Quality Assurance Status:



Area Representativeness: This site represents source impacts on a micro scale for lead.



CSA/MSA: Pikeville, KY Micropolitan Statistical Area

401 KAR 50:020 Air Quality Control Region: Appalachian Intrastate (101)

Site Name: Pikeville Primary **AQS Site ID:** 21-195-0002

Location: KYTC District Office, 109 Loraine Street, Pikeville, KY 41501

County: Pike

GPS Coordinates: 37.482575, -82.535319 (NAD 83)

Date Established: May 1, 1994 **Inspection Date:** October 10, 2024 **Inspection By:** Nall and Hicks

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located behind the KYTC District Office building in Pikeville, KY. The sample inlets are 96 meters from the nearest road. Upon inspection the sample lines and monitors were found to be in good condition. This site meets the requirements of 40 CFR 58, Appendices A, C, D, and E.

Monitoring Objective:

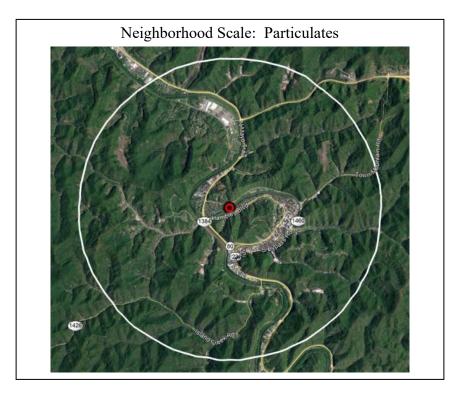
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards. While not required, the site also provides pollutant levels for daily air quality index reporting.

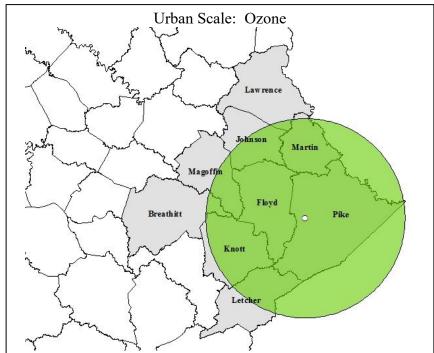
Monitors								
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling				
AEM Ozone	3.66	SLAMS AQI	UV photometry	Continuously March 1 – October 31				
FEM PM _{2.5} Continuous	4.75	SLAMS AQI	Broadband Spectroscopy	Continuously				

Quality Assurance Status:

Area Representativeness:

The site represents population exposure on a neighborhood scale for particulates. This site also represents population exposure on an urban scale for ozone.





CSA/MSA: Somerset, KY Micropolitan Statistical Area

401 KAR 50:020 Air Quality Control Region: South Central Kentucky Intrastate (105)

Site Name: Somerset AOS Site ID: 21-199-0003

Location: Somerset Gas Company Warehouse, 305 Clifty Street, Somerset, KY 42501

County: Pulaski

GPS Coordinates: 37.097952, -84.611534 (NAD 83)

Date Established: February 14, 1992 **Inspection Date:** October 3, 2024

Inspection By: Nall

Site Approval Status: A waiver request for road distance approved with renewal required in 2025.

See Appendix K. Site is obstructed by trees.



The monitoring site is a stationary equipment shelter located on the grounds of the Somerset Gas Company Warehouse on Clifty Street in Somerset, KY. The site is obstructed by trees and a waiver request for road proximity was included in the 2023 Network Plan and approved by EPA. The trees which are obstructing the site are about to be removed. Otherwise, the site meets the requirements of 40 CFR 58, Appendices A, C, D, E and G.

Monitoring Objective:

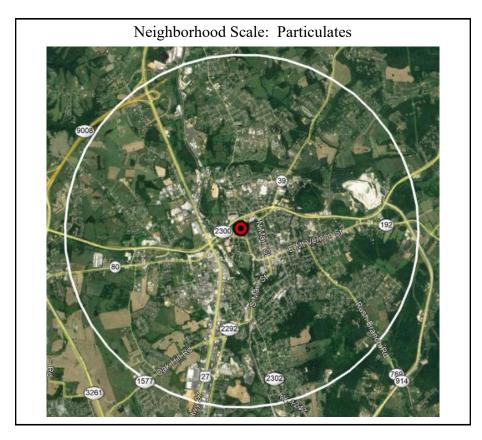
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards.

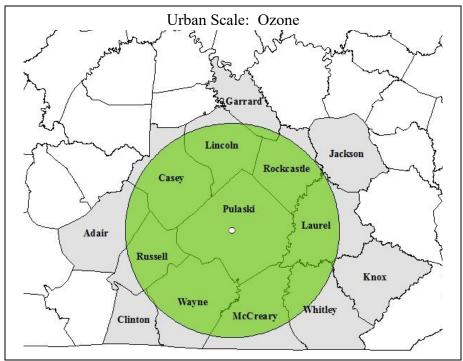
Monitors								
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling				
AEM Ozone	4.41	SLAMS AQI	UV photometry	Continuously March 1 – October 31				
FEM PM _{2.5} Continuous	4.75	SLAMS AQI	Broadband Spectroscopy	Continuously				

Quality Assurance Status:

Area Representativeness:

The site represents population exposure on an urban scale for ozone. This site also represents population exposure on a neighborhood scale for particulates.





CSA/MSA: Bowling Green-Glasgow-Franklin, KY CSA, Franklin, KY Micropolitan Statistical Area

401 KAR 50:020 Air Quality Control Region: South Central Kentucky Intrastate (105)

Site Name: Franklin

AQS Site ID: 21-213-0004

Location: KYTC Maintenance Facility, 573 Harding Road (KY1008), Franklin, KY 42134

County: Simpson

GPS Coordinates: 36.708607, -86.566284 (NAD 83)

Date Established: June 19, 1991 **Inspection Date:** December 4, 2024

Inspection By: Nall

Site Approval Status: Site and monitors meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located on the grounds of the KYTC Garage on Harding Road (KY1008) in Franklin, Kentucky. The sample inlet is 42.5 meters from the nearest road. Upon inspection, the sample line and monitor were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices A, C, D, and E.

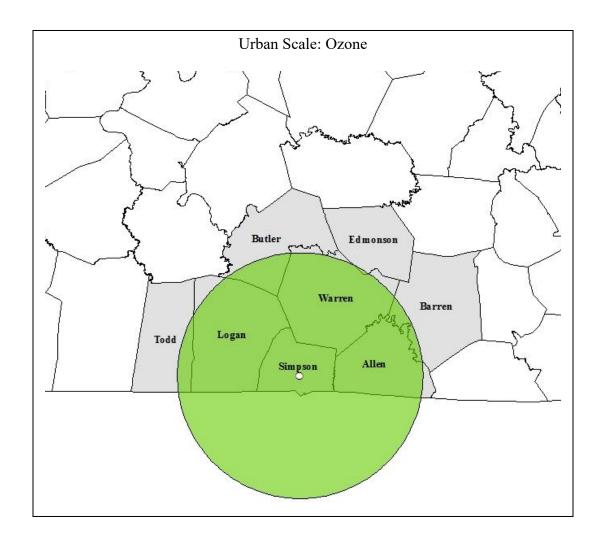
Monitoring Objective:

The monitoring objectives are to determine compliance with National Ambient Air Quality Standards; to measure ozone levels upwind of Bowling Green; and to provide data on interstate ozone transport.

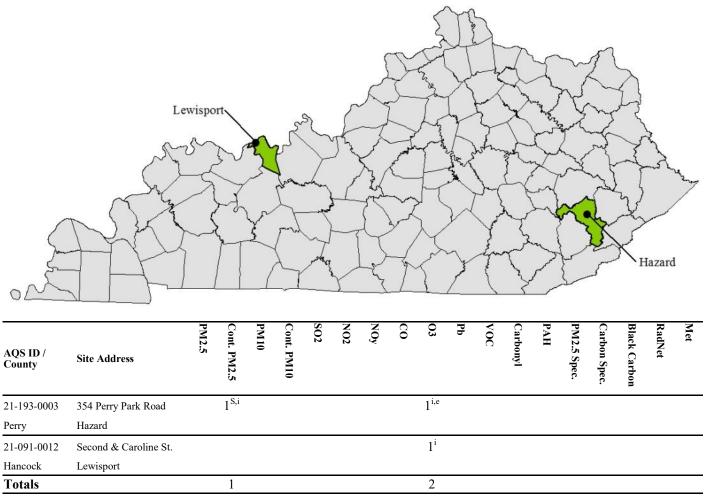
Monitors								
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling				
AEM Ozone	4.47	SLAMS AQI	1	Continuously March 1 – October 31				

Quality Assurance Status:

Area Representativeness: The site represents population exposure on an urban scale.



Not in a Metropolitan or Micropolitan Statistical Area



Tallies are equal to the actual number of monitors present. Superscripts represent additional information about the network.

S=Continuous PM T640

i=AQI Reported

e=Emergency Episode Monitor

CSA/MSA: Not in a MSA - Rural

401 KAR 50:020 Air Quality Region: Evansville-Owensboro-Henderson Interstate (077)

Site Name: Lewisport AQS Site ID: 21-091-0012

Location: Community Center Drive & First Street, Lewisport, KY 42351

County: Hancock

GPS Coordinates: 37.938316, -86.897194 (NAD 83)

Date Established: September 5, 1980 **Inspection Date:** October 22, 2024

Inspection By: Nall

Site Approval Status: Site and monitor meet all design criteria for the monitoring network.



The monitoring site is a stationary equipment shelter located on the athletic fields of the former Lewisport Consolidated Elementary School in Lewisport, Kentucky. The sample inlet is 56 meters from the nearest road. Upon inspection, the sample line and monitor were found to be in good condition. The site meets the requirements of 40 CFR 58, Appendices A, C, D, and E.

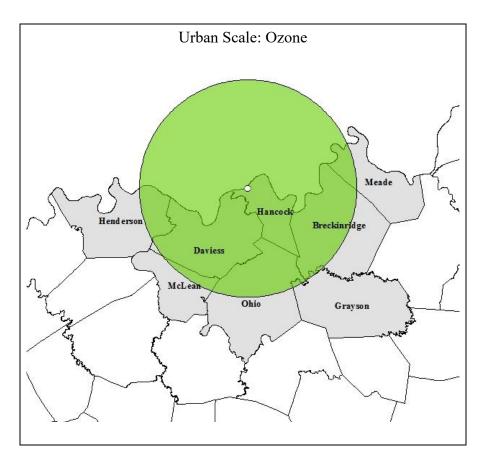
Monitoring Objective:

The monitoring objectives are to determine compliance with National Ambient Air Quality Standards.

Monitors									
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling					
AEM Ozone		SLAMS AQI	•	Continuously March 1 – October 31					

Quality Assurance Status:

Area Representativeness: This site represents maximum concentrations on an urban scale.



CSA/MSA: Not in a MSA - Rural

401 KAR 50:020 Air Quality Control Region: Appalachian Intrastate (101)

Site Name: Hazard

AOS Site ID: 21-193-0003

Location: Perry County Horse Park, 354 Perry Park Road, Hazard, KY 41701

County: Perry

GPS Coordinates: 37.283247, -83.209311 (NAD 83)

Date Established: April 1, 2000 **Inspection Date:** October 10, 2024 **Inspection By:** Nall and Hicks

Site Approval Status: A waiver request approved with renewal required in 2025. See Appendix K.



The monitoring site is a stationary equipment shelter located on the grounds of Perry County Park in Hazard, Kentucky. The sample inlets are just over 10 meters from the nearest road and a waiver request was included in the 2023 Network Plan and approved by EPA. Otherwise, this site meets the requirements of 40 CFR 58, Appendices A, C, D, E, and G. Beginning in August 2022, Perry County Park became a temporary FEMA site after historic flooding that occurred in July 2022. The park is being utilized to house displaced families from flooding that occurred in February 2025.

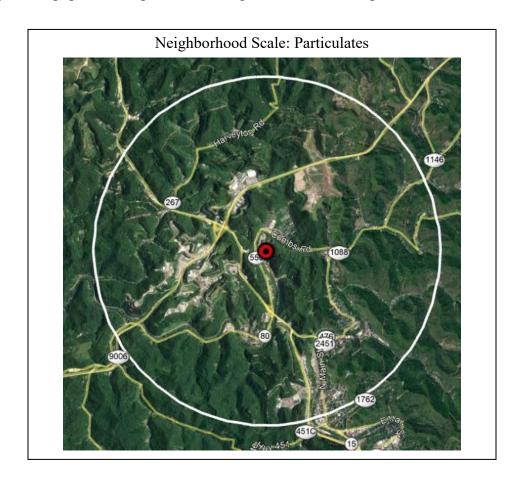
Monitoring Objective:

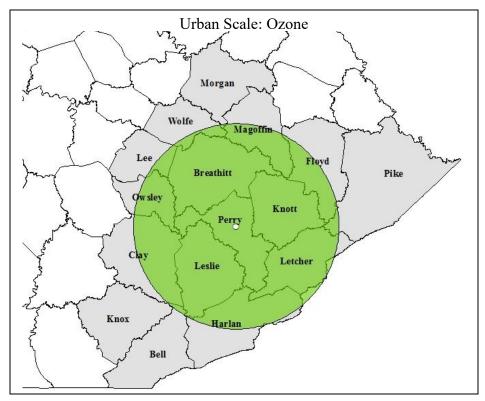
The monitoring objectives are to determine compliance with National Ambient Air Quality Standards and to detect elevated pollutant levels for activation of emergency control procedures for ozone.

Monitors								
Monitor Type	Inlet Height (meters)	Designation	Analysis Method	Frequency of Sampling				
AEM Ozone	3.7	SLAMS AQI EPISODE	UV photometry	Continuously March 1 – October 31				
FEM PM _{2.5} Continuous	4.62	SLAMS AQI	Broadband Spectroscopy	Continuously				

Quality Assurance Status:

Area Representativeness: The site represents population exposure on a neighborhood scale for particulates and urban for ozone.

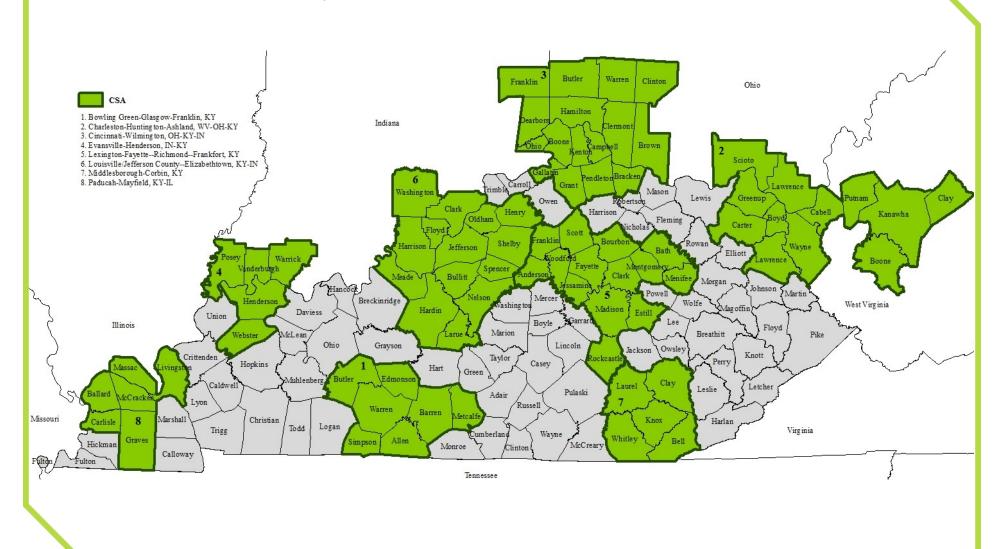


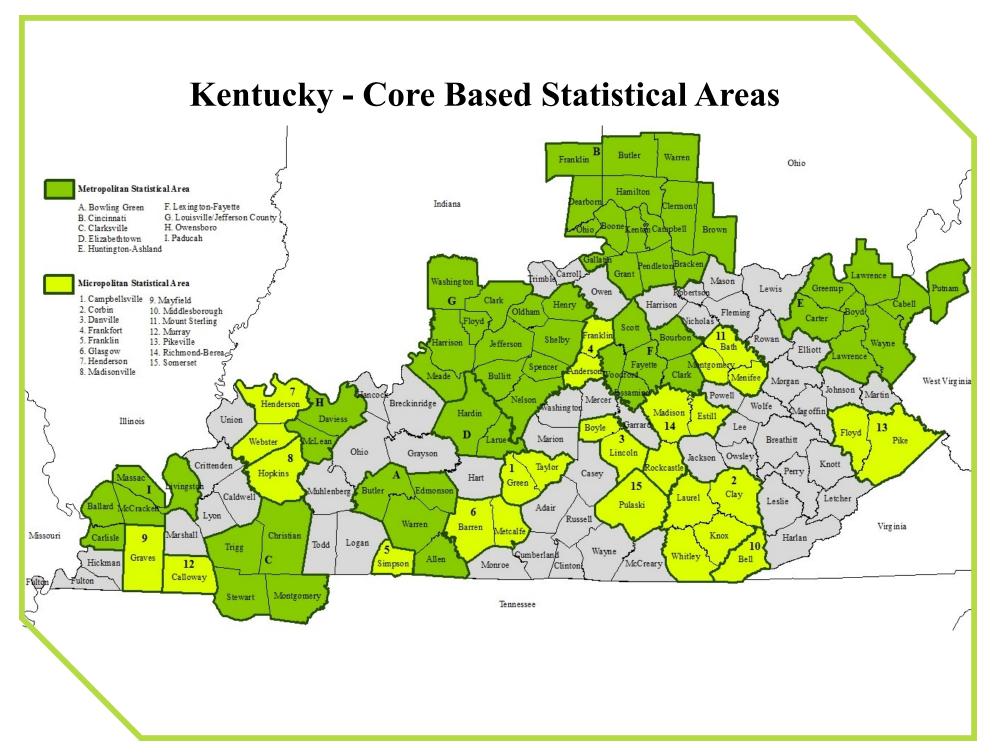


APPENDIX A

KENTUCKY CSA MAP, CBSA MAP, AND CBSA TABLES

Kentucky - Combined Statistical Areas





Bowling Green, KY	CBSA Population 195,159 2,302,815	
Bowling Green, KY	195,159	
Bowling Green, KY Butler County Kentucky 21 031 12,551 Edmonson County Kentucky 21 061 12,635 Warren County Kentucky 21 227 147,936 Dearborn County Indiana 18 029 51,435 Franklin County Indiana 18 047 23,136 Ohio County Indiana 18 115 5,996 Boone County Kentucky 21 015 144,135 Bracken County Kentucky 21 023 8,497		
Edmonson County Kentucky 21 061 12,635 Warren County Kentucky 21 227 147,936		
Warren County Kentucky 21 227 147,936 Dearborn County Indiana 18 029 51,435 Franklin County Indiana 18 047 23,136 Ohio County Indiana 18 115 5,996 Boone County Kentucky 21 015 144,135 Bracken County Kentucky 21 023 8,497	2,302,815	
Dearborn County Indiana 18 029 51,435	2,302,815	
Franklin County Indiana 18 047 23,136 Ohio County Indiana 18 115 5,996 Boone County Kentucky 21 015 144,135 Bracken County Kentucky 21 023 8,497	2,302,815	
Ohio County Indiana 18 115 5,996 Boone County Kentucky 21 015 144,135 Bracken County Kentucky 21 023 8,497	2,302,815	
Boone County Kentucky 21 015 144,135 Bracken County Kentucky 21 023 8,497	2,302,815	
Bracken County Kentucky 21 023 8,497	2,302,815	
	2,302,815	
Campbell County Kentucky 21 037 94,008	2,302,815	
Gallatin County Kentucky 21 037 34,008 Gallatin County Kentucky 21 077 8,805	2,302,815	
	2,302,013	
Kenton County Kentucky 21 117 174,862		
Pendleton County Kentucky 21 117 174,802 Pendleton County Kentucky 21 191 14,844		
Brown County Ohio 39 015 44,292		
Butler County Ohio 39 017 399,542		
Clermont County Ohio 39 025 214,123		
Hamilton County Ohio 39 061 837,359		
Warren County Ohio 39 165 256,059		
Christian County Kentucky 21 047 71,006		
Trigg County Ventucky 21 221 14 550		
Clarksville, TN-KY 17300 Montgomery County Tennessee 47 125 246,025	345,955	
Stewart County Tennessee 47 161 14,365		
Hardin County Kentucky 21 003 112 826		
Elizabethtown, KY 21060 Larue County Kentucky 21 093 112,020 Larue County Kentucky 21 123 15,128	127,954	
Boyd County Kentucky 21 019 47,777		
Carter County Kentucky 21 043 26,098		
Greenup County Kentucky 21 089 35,273		
Huntington Achland Lawrence County Kentucky 21 127 15 708		
WV-KY-OH 26580 Lawrence County Ohio 39 087 55,829	366,920	
Cabell County West Virginia 54 011 91,489		
Putnam County West Virginia 54 079 57,067		
Wayne County West Virginia 54 099 37,589		
Bourbon County Kentucky 21 017 20,333		
Clark County Kentucky 21 049 37,673		
Favette County Kentucky 21 067 329 437		
Lexington-Fayette, KY 30460 Fayette County Kentucky 21 007 323,737 Jessamine County Kentucky 21 113 56,495	533,366	
Scott County Kentucky 21 209 61,700		
Woodford County Kentucky 21 239 27,728		
Clark County Indiana 18 019 127,479		
Floyd County Indiana 18 043 81,931		
Harrison County Indiana 18 061 39,978		
Washington County Indiana 18 175 28,345		
Bullitt County Kentucky 21 029 85,802		
Louisville/Lefferson Henry County Kentucky 21 103 16 108	1 204 224	
County, KY-IN 31140 County County	1,394,234	
Meade County Kentucky 21 163 30,442		
Nelson County Kentucky 21 179 48,706		
Oldham County Kentucky 21 185 70,525		
Shelby County Kentucky 21 211 50,124		
Spencer County Kentucky 21 215 20,823		
Daviess County Kentucky 21 059 104 457	112 502	
Owensboro, KY 36980 Davies County Rentacky 21 039 104,397	113,583	
Massac County Illinois 17 127 13,627		
Ballard County Kentucky 21 007 7,626	102,395	
Paducah, KY-IL 37140 Carlisle County Kentucky 21 039 4,777		
Livingston County Kentucky 21 139 8,815		
McCracken County Kentucky 21 145 67,550		

		CBSAs - Micropo	olitan Statistica	l Areas				
CBSA Title	CBSA Code	County	State	State Code	County Code	County Population	CBSA Population	
Campbellsville, KY	15820	Green County	Kentucky	21	087	11,552	38,361	
Campoensvine, K1	13620	Taylor County	Kentucky	21	217	26,809	50,501	
	18340	Clay County	Kentucky	21	051	19,592	149,835	
Corbin, KY		Knox County	Kentucky	21	121	29,657		
Coroni, Kr	10340	Laurel County	Kentucky	21	125	63,353	149,633	
		Whitley County	Kentucky	21	235	37,233		
Danville, KY	19220	Boyle County	Kentucky	21	021	31,394	56,304	
Danvine, K i	19220	Lincoln County	Kentucky	21	137	24,910	30,304	
Frankfort, KY	23180	Anderson County	Kentucky	21	005	24,883	77 225	
Fiankion, Ki	23160	Franklin County	Kentucky	21	073	52,442	77,325	
Franklin, KY	23190	Simpson County	Kentucky	21	213	20,350	20,350	
Glasgow, KY	23980	Barren County	Kentucky	21	009	45,609	56,167	
Glasgow, K i		Metcalfe County	Kentucky	21	169	10,558		
Henderson, KY	25775	Henderson County	Kentucky	21	101	44,175	57,029	
Heliderson, K i	25775	Webster County	Kentucky	21	233	12,854		
Madisonville, KY	31580	Hopkins County	Kentucky	21	107	45,218	45,218	
Mayfield, KY	32460	Graves County	Kentucky	21	083	36,821	36,821	
Middlesborough, KY	33180	Bell County	Kentucky	21	013	23,051	23,051	
		Bath County	Kentucky	21	011	12,951		
Mount Sterling, KY	34460	Menifee County	Kentucky	21	165	6,341	48,063	
		Montgomery County	Kentucky	21	173	28,771		
Murray, KY	34660	Calloway County	Kentucky	21	035	38,975	38,975	
D:1:11- VX	38210	Floyd County	Kentucky	21	071	34,532	00.062	
Pikeville, KY		Pike County	Kentucky	21	195	55,430	89,962	
	40080	Estill County	Kentucky	21	065	14,002	129,810	
Richmond-Berea, KY		Madison County	Kentucky	21	151	99,582		
		Rockcastle County	Kentucky	21	203	16,226		
Somerset, KY	43700	Pulaski County	Kentucky	21	199	66,842	66,842	

CBSA 2024 population estimate data obtained from the US Census Bureau. Annual Resident Population Estimates and Estimated Components of Resident Population Change for Metropolitan and Micropolitan Statistical Areas and Their Geographic Components for the United States: April 1, 2020 to July 1, 2024 (CBSA-EST2024-ALLDATA). Accessed 3/20/25.

APPENDIX B

MEMORANDUM OF AGREEMENT CINCINNATI, OH-KY-IN MSA

MEMORANDUM OF AGREEMENT ON AIR QUALITY MONITORING FOR CRITERIA POLLUTANTS FOR THE CINCINNATI OH-KY-IN METROPOLITAN STATISTICAL AREA (MSA)

Participating Agencies:

Kentucky Department for Environmental Protection (KDEP) Division for Air Quality (DAQ)

Hamilton County Department of Environmental Services (HCDOES)

Indiana Department of Environmental Management (IDEM)
Office of Air Quality (OAQ)

PURPOSE/OBJECTIVES/GOALS

The purpose of this Memorandum of Agreement (MOA) is to establish the Cincinnati OH-KY-IN Metropolitan Statistical Area (MSA) Criteria Pollutant Air Quality Monitoring Agreement among KDEP, IDEM, and HCDOES to collectively meet United States Environmental Protection Agency (EPA) minimum monitoring requirements for particles of an aerodynamic diameter of 10 micrometers and less (PM10), particles of an aerodynamic diameter of 2.5 micrometers and less (PM2.5), and ozone; as well as other criteria pollutant air quality monitoring deemed necessary to meet the needs of the MSA as determined reasonable by all parties. According to 40 CFR Part 58, Appendix D, the Cincinnati OH-KY-IN MSA minimum monitoring requirements (based on a population of 2,172,000) are (2) ozone monitors, (2-4) PM-10 monitors, (3) FRM PM-2.5 monitors, and (2) collocated continuous PM-2.5 monitors with the FRM PM-2.5 monitors. This MOA will formalize and reaffirm the collective agreement in order to provide adequate criteria pollutant monitoring for the Cincinnati OH-KY-IN MSA as required by 40 CFR 58 Appendix D, Section 2(e).

PM2.5 MSA monitoring network includes:

County	Federal Reference Method PM2.5	Continuous PM2.5	Speciation PM2.5	Collocated PM2.5
Campbell County, KY KDEP	1	1	0	0
Boone County, KY KDEP	0	0	0	0
Hamilton County, OH HCDOES	4	2	1	1
Butler County, OH HCDOES	2	0	0	1
Clermont County, OH HCDOES	1	1	0	0
Warren County, OH HCDOES	1	1	0	0
Franklin County, IN IDEM	0	0	0	0
Dearborn County, IN IDEM	0	Ō	0	0
Ohio County, IN IDEM	0	0	0	0

Criteria Air Pollutant MSA monitoring network includes:

County.	PMIO	O.	NO./NO/NO2-	CO	SO
Campbell County, KY	0	1	1	0	1
KDEP					
Boone County, KY	0	1	0	0	0
KDEP					
Hamilton County, OH	3	3	1	1	1
HCDOES				:	
Butler County, OH	2	2	0	0	0
HCDOES					
Clermont County, OH	0	1	0.	0	0
HCDOES					
Warren County, OH	0	1	0	0	0
HCDOES				,	
Franklin County, IN	0	0	0	0	0
IDEM .					
Dearborn County, IN	0	0	0	0	0
IDEM					
Ohio County, IN	0	0	0	0	0
IDEM					

RESPONSIBLITIES/ACTIONS

Each of the parties to this Agreement is responsible for ensuring that its obligations under the MOA are met. As conditions warrant, the affected agencies may conduct telephone conference calls, meetings, or other communications to discuss monitoring activities for the MSA. Each affected agency shall inform the other affected agencies via telephone or email of any monitoring changes occurring within its jurisdiction of the MSA at its earliest convenience, after learning of the need for the change or making the changes. Such unforeseen changes may include evictions from monitoring sites, destruction of monitoring sites due to natural disasters, or any occurrences that result in an extended (greater than one quarter) or permanent change in the monitoring network.

LIMITATIONS

- All commitments made in this MOA are subject to the availability of appropriated funds and each agency's budget priorities. Nothing in this MOA obligates KDEP, IDEM, or HCDOES to expend appropriations or to enter into any contract, assistance agreement, interagency agreement or other financial obligation.
- This MOA is neither a fiscal nor a funds obligation document. Any endeavor
 involving reimbursement or contribution of funds between parties to this
 agreement will be handled in accordance with applicable laws, regulations, and
 procedures, and will be subject to separate agreements that will be affected in
 writing by representatives of the parties.
- This MOA does not create any right or benefit enforceable by law or equity against KDEP, IDEM, or HCDOES, their officers or employees, or any other person. This MOA does not apply to any entity outside KDEP, IDEM, or HCDOES.
- No proprietary information or intellectual property is anticipated to arise out of this MOA.

TERMINATION

This Memorandum of Agreement may be revised upon the mutual consent of KDEP, IDEM, and HCDOES. Each party reserves the right to terminate this MOA. A thirty (30) day written notice must be given prior to the date of termination.

APPROVALS

We agree with the provisions outlined in this Memorandum of Agreement and commit our agencies to implement them in a spirit of cooperation and mutual support.

Remarky Department for Environmental Protection	•
Division for Air Quality	
BY: John Lyons Arth & MyCr	·
TITLE: <u>Director</u> , Division for Air Quality	The block of the second of the
DATE: 5/13/10	
	7 2 4 4 4
Hamilton County Department of Project 18	4
Hamilton County Department of Environmental Services	
BY: Cory Chadwick Cory R. Chus	dille
<i>f</i>	
TITLE: Director	
DATE: 5/13/10	•
	·
Indiana Daniel and Art 1	
Indiana Department of Environmental Management Office of Air Quality	
	•
BY: Keith Baugues Kink Banque	
O .	
TITLE: Assistant Commissioner, Office of Air Quality	
DATE: 5/14/10	

APPENDIX C

MEMORANDUM OF AGREEMENT EVANSVILLE, IN-KY MSA

MEMORANDUM OF AGREEMENT ON AIR QUALITY MONITORING FOR CRITERIA POLLUTANTS FOR THE EVANSVILLE, IN-HENDERSON, KY METROPOLITAN STATISTICAL AREA (MSA)

Participating Agencies:

Kentucky Department for Environmental Protection (KDEP) Division for Air Quality (DAQ)

Indiana Department of Environmental Management (IDEM) Office of Air Quality (OAQ)

PURPOSE/OBJECTIVES/GOALS

The purpose of this Memorandum of Agreement (MOA) is to establish the Evansville, IN-Henderson, KY Metropolitan Statistical Area (MSA) Criteria Pollutant Air Quality Monitoring Agreement among KDEP and IDEM to collectively meet United States Environmental Protection Agency (EPA) minimum monitoring requirements for particles of an aerodynamic diameter of 10 micrometers and less (PM 10), particles of an aerodynamic diameter of 2.5 micrometers and less (PM2.5), and ozone; as well as other criteria pollutant air quality monitoring deemed necessary to meet the needs of the MSA as determined reasonable by all parties. According to 40 CFR Part 58, Appendix D, the Evansville, IN-Henderson, KY MSA minimum monitoring requirements (based on a population of 350,000) are (2) ozone monitors, (0-1) PM-10 monitors, (1) FRM PM-2.5 monitor, and (1) collocated continuous PM-2.5 monitor with the FRM pm-2.5 monitor. This MOA will formalize and reaffirm the collective agreement in order to provide adequate criteria pollutant monitoring for the Evansville, IN-Henderson, KY MSA as required by 40 CFR 58 Appendix D, Section 2, (e).

PM 2.5 MSA monitoring network includes:

Gounty	Latern	-Continuous		Collocated
	iki neme	PWPS	PYD5	ERVE/S
Henderson County,	l	1	0	U
KY				
KDEP			·	
Vanderburgh County,	3	1	1	1
IN .		·		
IDEM				

Criteria Air Pollutant MSA monitoring network includes:

E County	PMIO	0,	ENGAVANO/ANO)2	éО	S0 _z
	1	1	0	0	1
Henderson County, KY KDEP			·		
Vanderburgh County, IN IDEM	1	2	1	1	1

RESPONSIBLITIES/ACTIONS

Each of the parties to this Agreement is responsible for ensuring that its obligations under the MOA are met. As conditions warrant, the affected agencies may conduct telephone conference calls, meetings, or other communications to discuss monitoring activities for the MSA. Each affected agency shall inform the other affected agencies via telephone or email of any monitoring changes occurring within its jurisdiction of the MSA at its earliest convenience, after learning of the need for the change or making the changes. Such unforeseen changes may include evictions from monitoring sites, destruction of monitoring sites due to natural disasters, or any occurrences that result in an extended (greater than one quarter) or permanent change in the monitoring network.

LIMITATIONS

- All commitments made in this MOA are subject to the availability of appropriated funds and each agency's budget priorities. Nothing in this MOA obligates KDEP or IODEM to expend appropriations or to enter into any contract, assistance agreement, interagency agreement or other financial obligation.
- This MOA is neither a fiscal nor a funds obligation document. Any endeavor
 involving reimbursement or contribution of funds between parties to this
 agreement will be handled in accordance with applicable laws, regulations, and
 procedures, and will be subject to separate agreements that will be affected in
 writing by representatives of the parties.
- This MOA does not create any right or benefit enforceable by law or equity against KDEP or IDEM, their officers or employees, or any other person. This MOA does not apply to any entity outside KDEP or IDEM.
- No proprietary information or intellectual property is anticipated to arise out of this MOA.

TERMINATION

This Memorandum of Agreement may be revised upon the mutual consent of KDEP and IDEM. Each party reserves the right to terminate this MOA. A thirty (30) day written notice must be given prior to the date of termination.

APPROVALS

We agree with the provisions outlined in this Memorandum of Agreement and commit our agencies to implement them in a spirit of cooperation and mutual support.

Kentucky Department for Environmental Protection \
Division for Air Quality \(\)\(\)\(\)
BY: John. S. Lyons The L. WyCow
TITLE: Director, Division for Air Quality
DATE: 5/14/10
Indiana Department of Environmental Management Office of Air Quality
BY: Keith Baugues Keith Baugus
TITLE: Assistant Commissioner, Office of Air Quality
DATE: Slandia

APPENDIX D

MEMORANDA OF AGREEMENT CLARKSVILLE, TN-KY MSA



April 7, 2025

Mr. Michael Kennedy, PE
Director
Kentucky Division for Air Quality
Kentucky Department for Environmental Protection
300 Sower Boulevard
2nd Floor
Frankfort, KY 40601

Dear Mr. Kennedy:

The United States Environmental Protection Agency's (EPA) monitoring regulations found in 40 CFR Part 58, Appendix D states in part "The EPA recognizes that there may be situations where the EPA Regional Administrator and the affected State or local agencies may need to augment or divide the overall MSA/CSA monitoring responsibilities and requirements among these various agencies to achieve an effective network design. Full monitoring requirements apply separately to each affected State or local agency without an agreement between the affected agencies and the EPA Regional Administrator." This revision of the CFR also describes the minimum monitoring requirements for the NAAQS pollutants. Tennessee and Kentucky share the Clarksville, TN-KY MSA, which is comprised of Trigg and Christian counties in Kentucky, and Montgomery and Stewart counties in Tennessee.

CBSA Code	Geographic Area	Legal/Statistical Area Description	2023 Pop Estimate	2020 Census
17300	Clarksville, TN-KY	Metropolitan Statistical Area	340495	320518

The Tennessee Division of Air Pollution Control (TDAPC) currently operates one (1) PM2.5 FEM continuous monitor at the Clarksville site (47-125-2001) in Montgomery County, TN. This site provides sufficient characterization of the particulate air quality in the entire Clarksville, TN-KY MSA and complies with the population and concentration-based monitoring requirements identified in the regulations found at 40 CFR 58, Appendix D.

The Kentucky Division for Air Quality (KDAQ) currently operates one (1) continuous PM2.5 FEM monitor and one (1) seasonal ozone monitor at the Hopkinsville site (21-047-0006) in Christian County, KY. This site is being relocated within the MSA with a proposed start date of July 1, 2025. The new location at Pennyrile Forest (21-047-0007) in Christian County, KY, will continue to operate one (1) continuous PM2.5 FEM monitor and one (1) seasonal ozone monitor. This site characterizes the air quality in the entire Clarksville, TN-KY MSA and complies with the requirements for both population concentration-based monitoring identified in 40 CFR Part 58, Appendix D.

Division of Air Pollution Control
Davy Crockett Tower • 7th Floor
500 James Robertson Parkway • Nashville, TN 37243
Tel: 615-532-0554
Air.Pollution.Control@tn.gov



The Tennessee Division of Air Pollution Control invites the Kentucky Division for Air Quality to participate in Tennessee's annual ambient air monitoring network review. Tennessee commits to notifying Kentucky in advance of any proposed monitor relocations or shutdowns in the Clarksville, TN-KY MSA. We respectfully request that Kentucky provide similar advanced notice to Tennessee regarding any proposed changes to monitoring sites within the Clarksville, TN-KY MSA. If you have technical questions, contact Bradley King at 615-417-1254 or Bradley.King@tn.gov. I may be contacted at 615-426-9250 or Michelle.B.Walker@tn.gov.

Sincerely,

Michelle Walker Owenby

Director

Division of Air Pollution Control

Michelle W. Owenby

Tennessee Department of Environment and Conservation



Andy Beshear
GOVERNOR

ENERGY AND ENVIRONMENT CABINET

DEPARTMENT FOR ENVIRONMENTAL PROTECTION

300 Sower Boulevard Frankfort, Kentucky 40601 Phone: (502) 564-2150 Fax: 502-564-4245

May 5, 2025

Rebecca Goodman

Anthony R. Hatton

Ms. Michelle Walker Owenby
Director
Division of Air Pollution Control
Tennessee Department of Environment and Conservation
Davy Crockett Tower, 7th Floor
500 James Robertson Parkway
Nashville, TN 37243

Dear Ms. Owenby:

In a letter from your office dated April 7, 2025, the Tennessee Division of Air Pollution Control (TDAPC) operates a continuous PM_{2.5} monitor in order to meet the minimum network design requirements stated in 40 CFR 58, Appendix D for the Clarksville, TN-KY metropolitan statistical area (MSA). The Kentucky Division for Air Quality (KDAQ) appreciates TDAPC's cooperation and appreciates the invitation to participate in TDAPC's annual air monitoring review.

KDAQ currently operates one (1) continuous $PM_{2.5}$ FEM monitor and one (1) continuous ozone monitor at the Hopkinsville site (21-047-0006) in Christian County, KY. This site is being relocated within Christian County with a proposed start date of July 1, 2025. The new location at Pennyrile Forest (21-047-0007) will continue to operate one (1) continuous $PM_{2.5}$ FEM monitor and one (1) continuous ozone monitor.

In accordance with Table D-2 and D-5 of 40 CFR 58, Appendix D, one (1) ozone monitor and one (1) PM_{2.5} monitor is required to be operated in the Clarksville, TN-KY MSA, based upon currently available population estimates from the US Census Bureau, as well as 2022-2024 ozone and PM_{2.5} design values.

Geographic Area	Code	2024	2022-2024	2022-2024
		USCB Population Est.	3-Year O₃ DV	3-Year PM _{2.5} DV
Christian County, KY	21-047	71,006	0.065	7.9
Trigg County KV	21-221		0.059	-
Trigg County, KY		14,559	(CASTNET)*	
Montgomery County, TN	47-125	246,025	-	6.7
Stewart County, TN	47-161	14,365	-	-
Clarksville, TN-KY MSA	17300	345,955	0.065	7.9

^{*}Does not meet data completeness requirements



Ms. Michelle Walker Owenby May 5, 2025 Page 2

To satisfy regulatory requirements, KDAQ operates one (1) ozone monitor and one (1) PM_{2.5} monitor at the Pennyrile site. KDAQ appreciates and accepts TDAPC's offer to participate in its annual ambient air monitoring network review. KDAQ will provide advanced notice of any changes to the two (2) Kentucky monitors included in the Clarksville, TN-KY MSA. If you have further questions or concerns, please contact Jenna Nall at <u>jenna.nall@ky.gov</u>.

Sincerely,

Michael Kennedy,

Michael Kennedy

Director

MK/jln

Electronic cc:

- -Bradly King, TDAPC
- -Wayne Bray, KDAQ

APPENDIX E

LMAPCD AMBIENT AIR MONITORING NETWORK 2025



Louisville Metro Air Pollution Control District's Proposed Changes to the Ambient Air Quality Monitoring Network

May 2025

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Meteorological Measurements, Low-Cost Sensors, and Special Projects	4
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Rubbertown Air Toxics & Health Action Project	4
Low Cost Sensor Projects & Meteorological Measurements	4
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LMAPCD Proposed Network Changes – Overview

The Louisville Metro Air Pollution Control District (LMAPCD) is not proposing any significant changes to the criteria pollutant ambient monitoring network during the 2025 Network Planning period (July 2025 through June 2026). The air monitoring network used to determine compliance with the National Ambient Air Quality Standards (NAAQS) is expected to remain stable for the next 12-18 months. However, some changes / modifications may occur for instrumentation that is used for non-NAAQS monitoring. This document serves to provide general information about LMAPCD's ambient air monitoring network, updates on proposed changes mentioned in prior network plans, and anticipated changes for the next 12-18 months. Additional details and clarifications on various aspects of the monitoring network are presented below.

Particulate Matter Network Update & Intended Use of PM_{2,5} Monitors

As discussed in prior network plans, LMAPCD continues to use *Teledyne API T640 or T640x PM_{2.5} FEM monitors as the primary method for determining compliance with the PM_{2.5} NAAQS.* LMAPCD also operates two filter-based samplers, but these samplers serve as collocated monitors to assess and evaluate the comparability between continuous methods and filter-based methods. Table 1 serves to clarify the intended use of LMAPCD's PM_{2.5} data. It should be noted that LMAPCD applied and enabled the 'Network Data Alignment' option for the T640 and T640x monitors in November and December of 2023. During the Spring and Summer of 2024, EPA performed recalculations of historic T640/T640x PM_{2.5} data to align with EPA's Network Data Alignment project. In doing so, EPA created new 'monitors' in AQS to house the recalculated data. These new AQS monitors utilized a parameter occurrence code (POC) of 23 (versus POC 3 that has traditionally been used). After the EPA PM_{2.5} data recalculations were completed, some PM_{2.5} monitor metadata cleanup / updates were needed in AQS. These AQS metadata updates were performed by APCD staff throughout 2024 to ensure that PM_{2.5} data and associated QA/QC metrics were being reported and summarized properly. So while PM_{2.5} calculations and statistics utilized POC 23 data for a period of time, POC 3 parameters have resumed as the official PM_{2.5} monitors in AQS.

	PM _{2.5} Monitors Operated by LMAPCD – Current									
Site Name	AQS ID	Parameter Code	POC	Monitor Type	Method	Primary Monitor?	Compare to NAAQS?	Eligible for AQI?		
Watson Lane	21-111-0051	88101	3	SLAMS	API T640	Yes	Yes	Yes		
Cannons Lane	21-111-0067	88101	3	SLAMS	API T640x	Yes	Yes	Yes		
Cannons Lane	21-111-0067	88101	1	Colloc	Thermo 2025i	No	Yes	NA		
Carrithers Middle School	21-111-0080	88101	3	SLAMS	API T640	Yes	Yes	Yes		
Durrett Lane	21-111-0075	88101	3	SLAMS	API T640	Yes	Yes	Yes		
Durrett Lane	21-111-0075	88101	1	Colloc	Thermo 2025i	No	Yes	NA		
Algonquin Parkway	21-111-1041	88101	3	SLAMS	API T640x	Yes	Yes	Yes		

Table 1 - List of LMAPCD PM_{2.5} monitors that are currently in place and will remain in place for the foreseeable future.

Photochemical Assessment Monitoring Station (PAMS)

Based on updated monitoring regulations in 40 CFR Part 58, Appendix D, state and local air monitoring agencies were to begin PAMS monitoring at their NCore location by June 1, 2021. Due to delays in the procurement of equipment, several of the PAMS required parameters were not ready to be collected at the start of the 2021 PAMS season. While most PAMS instrumentation was physically in place by July 1, 2021, the procurement delays did not provide sufficient time to perform adequate acceptance testing to ensure that quality data could be obtained for the 2021 PAMS season. This was particularly true for mixing height, carbonyls, and continuous VOC monitoring. As such, APCD did not find it appropriate to report the 2021 PAMS data to EPA's AQS database. While procurement, staffing, and technical challenges remain for APCD's PAMS program, APCD intends to report available and valid PAMS data beginning with the 2022 PAMS season. Recently, APCD staff have made progress on reporting of previously unavailable PAMS data. Carbonyls data have been reported to AQS for the 2022 and 2023 PAMS season, with 2024 PAMS season data soon to be reported. Hourly VOC data for 2022 and 2023 PAMS seasons are expected to be reported to AQS by May 31, 2025, while 2024 VOC data need additional review before being reported. Ceilometer data for 2021, 2022, 2023, and part of 2024 were successfully reported to the UCN team via the manual file upload process. Table 2 provides a listing of all required PAMS parameters and their status as of May 2025. LMAPCD continues to work as diligently as possible to operate the PAMS instrumentation and evaluate the data so that meaningful, valid data can be collected and reported to EPA's AQS database.

	Status of PAMS Parameters at A	PCD's Cannons	Lane NCore Site
Required PAMS Measurement	Instrumentation	Instrument Status	Data Reporting Status
Hourly VOCs	CAS / Chromatotec Auto GC	Operational	Delayed
Carbonyls	ATEC 8000-2 Carbonyl Sampler	Operational	Delayed
Hourly Ozone	Teledyne API T400 or N400	Operational	Current
True NO2	Teledyne API T500U	Operational	Current
NOy	Teledyne API T200U NOy	Operational	Current
Ambient Temp	RM Young 41382 Temp/RH Probe	Operational	Current
Wind	RM Young 85000 Ultrasonic	Operational	Current
Ambient Pressure	RM Young 61302V	Operational	Current
Precipitation	Met One 370 Tipping Bucket	Operational	Current
Hourly Mixing Height	Vaisala Ceilometer CL51	Operational	Intermittent via Manual Upload Method
Solar Radiation	Eppley PS Pyranometer	Operational	Current
UV Radiation	Eppley TUVR Radiometer	Operational	Current

Table 2 - List of PAMS parameters required by 40 CFR Part 58 Appendix D and the status of those parameters at APCD's Cannons Lane NCore site.

Air Toxics Monitoring

LMAPCD also performs Air Toxics monitoring at the Algonquin Parkway site using similar technology to that of the Consolidated Analytical System's (CAS) Chromatotec Auto GC that is used for PAMS monitoring of hourly VOCs. The Auto GC at Algonquin Parkway underwent numerous upgrades in previous years and significant effort has been put forth to improve the system and sync it with

LMAPCD's central data collection system and database. Routine collection and validation of a subset of Volatile Organic Compounds (VOCs) began in July 2020. The Auto GC system technology continues to experience some limitations in assessing all Toxics compounds of interest. Furthermore, LMAPCD continues to experience some data management challenges due to the combined volume of data from the Algonquin Parkway Auto GC and Cannons Lane Auto GC. This data management challenge along with the significant time and resources needed to produce data of sufficient quality have resulted in some gaps and delays in the reporting of these data.

Black Carbon Monitoring at Durrett Lane Near Road Site

The Magee Scientific AE33 Aethalometer was installed at the Durrett Lane Near Road site in June 2022 and the instrument underwent initial evaluation and performance testing. Development of QA/QC procedures and necessary data post processing procedures occurred throughout 2023 and a preliminary determination of valid data commenced in September 2023. While SOPs are still in development, along with refinements to the QA/QC process and data post processing techniques, the confidence in the quality of the data continues to increase. When it has been determined that the data collection and data validation process is providing quality data, the data will be made more widely available.

Meteorological Measurements, Low-Cost Sensors, and Special Projects

LMAPCD continues to explore and evaluate air quality monitoring needs of the Louisville community beyond the regulatorily required monitoring. While LMAPCD believes additional monitoring may be necessary at times to better characterize air quality throughout Louisville, projects such as these are dependent on available funding, staffing, and necessary monitoring resources. Below is a summary/update of some air monitoring projects that LMAPCD has pursued in the past or plans to pursue in the near future.

Hydrogen Sulfide Monitoring at Algonquin Parkway Site

LMAPCD installed a continuous Hydrogen Sulfide (H_2S) monitor at the Algonquin Parkway site in June 2024 to characterize H_2S concentrations in the vicinity of the Morris Forman Water Quality Treatment Center in West Louisville. LMAPCD utilizes the Teledyne API T101 H_2S analyzer which provides hourly averaged H_2S concentrations. This H_2S monitor is considered a special purpose monitor (SPM) and has been helpful in relating odors to quantifiable H_2S concentrations.

Rubbertown Air Toxics & Health Action Project

As part of the EPA EJG2G Grant Program and in coordination with other partners, LMAPCD planned to collect additional air quality samples in the vicinity of Rubbertown to further characterize air quality conditions in this area beginning in early 2025 for a 12-month study. Pollutants targeted to be measured included VOCs, formaldehyde, and speciated metal components from particulate samples. In March 2025, EPA terminated the funding, a decision which LMAPCD is disputing per 2 CFR 1500.15.

Low Cost Sensor Projects & Meteorological Measurements

LMPACD was granted a Sensor Collocation Shelter by EPA Region 4 that can be used to collocate low-cost sensors with federally approved methods at the Cannons Lane NCore site. This collocation shelter was installed in May 2022 and has remained in place. LMAPCD has also installed some low-cost sensors

at the Durrett Lane Near Road site for general evaluation purposes. The Durrett Lane and Cannons Lane sites allow for collocation of low-cost sensors with federally approved methods to help assess the accuracy of low-cost sensors. LMAPCD will continue to pursue or support low-cost sensor opportunities, as resources and funding allow, to help respond to community needs or to screen areas for future air monitoring network needs or source specific hot spots.

As time and resources allow, LMAPCD continues to evaluate the accuracy and robustness of meteorological measurements that are used to support air quality measurements at LMAPCD's sites. Some of the meteorological instrumentation is aging and may require replacement or repair. The LMAPCD air monitoring team also continues to evaluate quality control / quality assurance procedures associated with meteorological measurements.

Since many of these meteorological instruments and low-cost sensors are not required State and Local Air Monitoring Station (SLAMS) monitors for NAAQS compliance, these networks will be evaluated, upgraded, and improved upon as time and resources allow.

Conclusion

Much of the information presented in this document is intended to provide clarifications on minor network modifications and updates on previously proposed changes. Table 3 provides a summary of the number of ambient air quality monitoring sites in operation for each pollutant group within the Louisville MSA. As indicated in Table 3, the Louisville MSA continues to meet/exceed the EPA minimum monitoring requirements through the collective efforts of the Indiana Department of Environmental Management (IDEM), KDAQ, and the LMAPCD. It should also be noted that the operation of ambient air quality monitors by the LMAPCD alone meets the EPA minimum monitoring requirements for the Louisville MSA.

Louisville / Jefferson County MSA Monitoring Requirements												
	03	PM _{2.5}	PM ₁₀	PM_c	PM_BC	CSN	SO ₂	NO ₂	CO	Toxics	PAMS	H ₂ S
# Sites Required by CFR	2	3	2-4	1	0	0	1	2	2	0	1	0
# Current Sites	8(4)	7(5)	3(2)	1(1)	2(1)	2(1)	4(3)	2(2)	2(2)	2(1)	1(1)	1(1)
# Sites After proposed Changes	8(4)	7(5)	3(2)	1(1)	2(1)	2(1)	4(3)	2(2)	2(2)	2(1)	1(1)	1(1)

Table 3 - Summary of monitoring requirements in Louisville / Jefferson County MSA compared to number of monitors / sites before and after proposed network changes. Numbers in parenthesis represents number of sites that APCD operates (versus total number in MSA).

APPENDIX F

Appendix F KDAQ Intended Use of Continuous PM_{2.5} FEMs

Historically, continuous PM_{2.5} monitors that are designated as Federal Equivalent Methods (FEMs) have been excluded from comparisons to the NAAQS, as long as these monitors were specified as special-purpose monitors (SPMs). Data from these monitors were used for reporting of the AQI. Monitors could remain designated as SPMs for a period of two years of operation at each site. However, after that two-year period, the data were eligible for comparison to the NAAQS, regardless of monitor type designation.

In December 2012, a new PM NAAQS and set of monitoring rules were finalized. These new monitoring rules amended the previous requirement to compare all data from FEMs collected after a period of two-years to the NAAQS. Instead, agencies could operate a continuous PM_{2.5} FEM for longer than two years and could elect to exclude the data from NAAQS-comparisons, provided that the monitor did not meet certain performance specifications. Data from monitors established for less than two years and designated as SPM remain ineligible for attainment decisions.

Specifically, the final rule allows certain continuous PM_{2.5} FEM data to be excluded if:

- the monitor does not meet performance criteria when compared to the data collected from collocated Federal Reference Methods (FRMs);
- the monitoring agency requests exclusion of data; and,
- the EPA Regional Office approves exclusion of the data.

Regardless of whether an exclusion is sought, each agency must address the use of all continuous $PM_{2.5}$ FEMs in the network. Each monitor must be properly referenced by a set of parameter codes, primary monitor designations, and monitor types.

KDAQ will operate 15 FEM PM_{2.5} continuous T640 monitors in the field; of which, all 15 are eligible for NAAQS comparisons. The following sites have T640 monitors:

- Freeman Lake
- Northern Kentucky University
- Ashland Primary
- Grayson Lake
- Meadow Lands
- Paducah Transit
- Pikeville
- Smiths Grove (Primary and Collocated)
- Lexington Primary
- Nicholasville
- Hazard
- Pennyrile Forest
- Somerset
- Middlesboro

$\frac{Appendix \ F}{KDAQ \ Intended \ Use \ of \ Continuous \ PM_{2.5} \ FEMs}$

KDAQ will operate a total of 15 FEM $PM_{2.5}$ continuous T640 monitors in the field during the 2025-2026 monitoring year, all of which, will be usable for NAAQS determinations. All NAAQS-eligible monitors are designated as SLAMS. The tables that follow provide a summary of KDAQ's use of the T640 continuous $PM_{2.5}$ FEMs, collocation scenarios, and dates of operation.

Scenario	Northern Kentucky University (21-037-3002) Scenario: Continuous PM _{2.5} FEM is eligible for NAAQS comparisons and is collocated with a filter-based FRM.									
FEM Parameter	FEM Pollution Occurrence Code (POC)	FEM Monitor Type	Primary Monitor	Collocated Monitor	FEM used for substitutions of missing primary data?	FEM used for NAAQS compari- sons?	FEM eligible for AQI?	Date FEM Installed at Site	Date FEM Eligible for NAAQS Comparisons	
PM2.5 Local Conditions (88101)	POC 3	SLAMS	Filter-Based FRM (POC 1)	Continuous FEM (POC 3)	Yes	Yes	Yes	2/12/2018	2/13/2020	

<u>Scenario</u>	Freeman Lake (21-093-0007) <u>Scenario</u> : Continuous PM _{2.5} FEM is eligible for NAAQS comparisons and is collocated with a filter-based FRM.										
FEM Parameter	FEM Pollution Occurrence Code (POC)	FEM Monitor Type	Primary Monitor	Collocated Monitor	FEM used for substitutions of missing primary data?	FEM used for NAAQS compari- sons?	FEM eligible for AQI?	Date FEM Installed at Site	Date FEM Eligible for NAAQS Comparisons		
PM2.5 Local Conditions (88101)	POC 3	SLAMS	Continuous FEM (POC 3)	Filter-Based FRM (POC 2)	Yes	Yes	Yes	3/3/2025	3/3/2025		

	Smiths Grove and Smiths Grove Collocated (21-227-0009) Scenario: Continuous PM _{2.5} FEMs are collocated and are eligible for NAAQS comparisons.									
FEM Parameter	FEM Pollution Occurrence Code (POC)	FEM Monitor Type	Primary Monitor	Collocated Monitor	FEM used for substitutions of missing primary data?	FEM used for NAAQS compari- sons?	FEM eligible for AQI?	Date FEM Installed at Site	Date FEM Eligible for NAAQS Comparisons	
PM2.5 Local Conditions (88101)	POC 3 (Primary) POC 4 (Collocated)	SLAMS	Continuous FEM (POC 3)	Continuous FEM (POC 4)	Yes	Yes	Yes	Primary: 2/17/2019 Collocated: 10/29/2019	Primary: 1/1/2021 Collocated: 1/1/2021	

Appendix F KDAQ Intended Use of Continuous PM_{2.5} FEMs

Multiple Sites

Scenari	o. Continuot	19 1 1412.5 1	EMS WIII be el PM ₂		ocated on site		s monit	oring year.	140 other
FEM Parameter	FEM Pollution Occurrence Code (POC)	FEM Monitor Type	Primary Monitor	Collocated Monitor	FEM used for substitutions of missing primary data?	FEM used for NAAQS compari- sons?	FEM eligible for AQI?	Date FEM Installed at Site	Date FEM Eligible for NAAQS Comparisons
								Middlesboro (21-013-0002)	
								1/1/2021	1/1/2021
									l Primary 9-0017)
								7/26/2017	7/27/2019
									on Lake 3-0500)
								1/1/2022	1/1/2022
									le Forest 7-0007)
	s POC 3		Continuous FEM (POC 3)	n/a				TBD	TBD
									w Lands 9-0015)
								11/21/2024	11/21/2024
PM _{2.5} Local		SLAMS			n/a	Yes	Yes		n Primary 7-0012)
Conditions (88101)								12/4/2018	1/1/2021
									lasville 3-0001)
								1/1/2025	1/1/2025
								(21-14	h Transit 5-1027)
								1/10/2023	1/10/2023
									zard 3-0003)
								2/28/2019	1/1/2021
									eville 5-0002)
								2/8/2018	2/9/2020
									nerset 9-0003)
								1/1/2021	1/1/2021

APPENDIX G

CALVERT CITY SPECIAL-PURPOSE MONITORING

Appendix G Calvert City Special-Purpose Monitoring

With the cooperation of EPA, KDAQ has established a special-purpose monitoring study of volatile organic compounds (VOCs) near Calvert City, KY. The measurement goal of the study was to estimate the 24-hour concentrations of VOCs in ambient air, over the course of one-year of sampling, with a focus on five pollutants of interest:

- Ethylene Dichloride
- Vinyl Chloride
- 1,3-Butadiene
- Acrylonitrile
- Benzene

VOC sampling consisted of twenty-four hour samples collected in a 6-liter stainless steel canisters (sub-atmospheric) on a predetermined sampling frequency. Samples were analyzed for the full-suite of Tier I and Tier II VOCs by EPA's national contract laboratory, Eastern Research Group. Monitoring and analysis of samples were conducted in-accordance with EPA Method TO-15. Data collected for the one year sampling period was used to conduct a health-risk assessment by EPA.

To determine the best potential locations for ambient monitoring sites near the Calvert City Industrial Complex, KDAQ and EPA utilized air dispersion modeling conducted by EPA Region 4. The modeling was performed with KDAQ emissions data from 2013-2017 for ethylene dichloride and vinyl chloride. Ultimately, it was determined, that the study would necessitate that three sites be established in the vicinity of Calvert City. Additionally, EPA and KDAQ agreed that the study would incorporate meteorological instrumentation and collocated VOC sampling for precision estimates.

KDAQ began collecting VOC samples on October 24, 2020. Since the QAPP required one full year of sampling, with at least 12 complete months, EPA and KDAQ agreed that the risk assessment should encompass data collected between October 24, 2020, and December 31, 2021. However, the meteorological instrumentation was shut down on December 31, 2021, due to safety concerns. KDAQ currently has no plans to collect meteorological data but will continue to monitor VOCs in the Calvert City area. Information about the risk study conduced by EPA can be found at https://www.epa.gov/ky/calvert-city-kentucky-air-monitoring.

Study sites are summarized below:

	Calve	rt City Study	y: Site & Moi	nitor Summ	ary	
Site/AQS ID/ Coordinates	Objective	Sampling Instru- ments	Sampling Media	Monitor Type	Sampling Schedule	Monitor Purpose
LWD Collocated & Meteorological Site	Maximum Expected Ethylene Dichloride Concentration and Meteorology	Xonteck 911a	6-Liter stainless steel canister	Primary and collocated	Primary-Every 6 days; Collocated- Every 12 days	Characterization of maximum EDC concentration
(LWD) 21-157-0021 37.047906, -88.338347		RM Young 05305V	n/a	n/a	Continuous	Characterization of wind speed/direction, representative of entire study area (Terminated 12/31/21)
Johnson-Riley Road (JRR) 21-157-0020 37.041179, -88.351889	Maximum Expected Vinyl Chloride Concentration	Xonteck 911a	6-Liter stainless steel canister	Primary	Every 6 days	Characterization of maximum vinyl chloride concentration
Calvert City Elementary (CCE) 21-157-0018 37.026746, -88.343747	High Air Toxics Concentration in Area of Expected Population Exposure	Xonteck 911a	6-Liter stainless steel canister	Primary	Every 6 days	Characterization of air quality in more heavily populated area

APPENDIX H

NEAR-ROAD MONITORING

Appendix H Near-Road Monitoring

Appendix D 40 CFR Part 58 requires one near-road monitor in CBSAs with a population of 1,000,000 or more. A second near-road monitor is required in CBSAs that have a population greater than 2,500,000, or have a population of 500,000 or greater and have a traffic segment with an AADT of 250,000 or more.

Based upon population estimates and AADT counts, near-road monitors are required in two CBSAs. Neither require a second near-road monitor at this time.

CBSA Name (500,000 or more people)	2024 CBSA Population Estimate*	Highest Road Segment 2- Way AADT for CBSA**	Number of Monitors Required in CBSA
Cincinnati-Middletown, OH-KY-IN	2,302,815	196,929	1
Louisville-Jefferson County, KY-IN	1,394,234	175,095	1

CBSA 2024 population estimate data obtained from the US Census Bureau. Annual Resident Population Estimates and Estimated Components of Resident Population Change for Metropolitan and Micropolitan Statistical Areas and Their Geographic Components for the United States: April 1, 2020 to July 1, 2024 (CBSA-EST2024-ALLDATA). Accessed 3/20/25.

The determination of the final locations of near-road monitoring locations within these CBSAs was a cooperative effort between multiple State and Local Agencies. The exact location of each site was determined using the following criteria:

- Fleet mix
- Roadway design
- Traffic congestion patterns
- Local topography

- Meteorology
- Population exposure
- Employee and public safety
- Site logistics

The requirement for a near-road site in the Cincinnati, OH-KY-IN MSA is fulfilled by a Memorandum of Agreement (MOA). The site is located in Ohio and is operated by the Southwest Ohio Air Quality Agency.

The near-road site in the Louisville/Jefferson County, KY-IN MSA has been established and is operated by the Louisville Metro Air Pollution Control District (LMAPCD). Specifics regarding this site are included in the site detail pages of this Annual Network Plan.

^{**}Source: KYTC Traffic Database. http://datamart.business.transportation.ky.gov/EDSB SOLUTIONS/CTS/.

APPENDIX I

KENTUCKY SO₂ PWEI VALUES

Appendix I Kentucky SO₂ PWEI Values

Section 4.4 of Appendix D to 40 CFR Part 58, requires that a population weighted emissions index (PWEI) be calculated by States for each core based statistical area (CBSA) in order to determine the minimum number of SO₂ monitors required. Monitors satisfy minimum requirements if the monitor is sited within the boundaries of the CBSA and is one of the following site types: population exposure, maximum concentration, source-oriented, general background, or regional transport. PWEI based monitors were originally required to be established in the Annual Network Plan (ANP), which was to be submitted to the EPA no later than July 1, 2011. New monitors were to be operational no later than January 2013.

The PWEI is calculated by multiplying the population of each CBSA and the total amount of SO₂, in tons per year, that is emitted within the CBSA, based upon aggregated county level emissions data from the National Emissions Inventory (NEI). The result is then divided by one million to provide the PWEI value, which is expressed in a unit of million persons-tons per year.

The minimum number of monitors required are:

- 3 monitors in CBSAs with index values of 1,000,000 or more;
- 2 monitors in CBSAs with index values less than 1,000,000 but greater than 100,000; and
- 1 monitor in CBSAs with index values greater than 5,000.

Additionally, the EPA Regional Administrator (RA) may at their discretion require additional SO₂ monitors, beyond the minimum number required by PWEI calculations. Additional monitors may be required in situations where an area has the potential to violate or contribute to a violation, in areas that are impacted by sources that cannot be modeled, and in areas with sensitive populations. Kentucky currently does not have any Regional Administrator required SO₂ monitors.

Based upon Kentucky's calculated PWEI values, the following CBSAs require SO₂ monitors:

Kentucky CBSAs	PWEI* (10 ⁶ personstons per year)	Number of SO ₂ Monitors Required	Number of SO ₂ Monitors Present	Kentucky Site Name	Site ID
Cincinnati-Middletown, OH-KY-IN	78,560.5	1	6**	Northern Kentucky University	21-037-3002
Louisville-Jefferson County, KY-IN	8,550.3	1	4***	Algonquin Parkway (LMAPCD) Watson Lane (LMAPCD) Cannons Lane (LMAPCD)	21-111-1041 21-111-0051 21-111-0067

^{*} PWEI calculated from 2024 USCB Population Estimates and 2020 NEI.

^{**} Additional monitors operated by SWOAQA in Ohio.

^{***}Monitors operated by the Louisville Metro Air Pollution Control District and by IDEM in Indiana.

APPENDIX J

EPA CASTNET STATIONS IN KENTUCKY

Appendix J EPA CASTNET Stations in Kentucky

The Clean Air Status and Trends Network (CASTNET) is a nation-wide, long-term monitoring network designed to measure acidic pollutants and ambient ozone concentrations in rural areas. CASTNET is managed collaboratively by the Environmental Protection Agency – Clean Air Markets Division (EPA), the National Park Service – Air Resources Division (NPS), and the Bureau of Land Management – Wyoming State Office (BLM-WSO). In addition to EPA, NPS, and BLM-WSO, numerous other participants provide network support including tribes, other federal agencies, States, private land owners, and universities. More information about CAST-NET can be found at: https://www.epa.gov/castnet

KDAQ does not operate nor serve as the Primary Quality Assurance Organization for any site in the CASTNET network. However, KDAQ does maintain a cooperative relationship with the staff of Mammoth Cave National Park. At the request of KDAQ, the NPS has designated the ozone monitor as the "Maximum O₃ Concentration" site for the Bowling Green, KY MSA. More information about the Mammoth Cave site can be found in the site detail pages of the Annual Network Plan.

Clean Air Status & Trends Network (CASTNET)

Kentucky Ozone Monitors

Monitor ID		County/ Metropolitan Statistical Area	Designation	Monitoring Scale
21-061-0501		Edmonson/ Bowling Green, KY MSA	CASTNET Non-EPA Federal Maximum O ₃ Concentration*	Regional
21-175-9991		Morgan/ Not in a MSA	CASTNET EPA	Regional
21-229-9991	Mackville (POC 1)	Washington/ Not in a MSA	CASTNET EPA	Regional
21-229-9991		Washington/ Not in a MSA	CASTNET- QA Collocated** EPA	Regional

^{*} Maximum Ozone Concentration Site for the Bowling Green, KY MSA

^{**}Not usable for NAAQS comparisons

APPENDIX K

WAIVER REQUESTS

Hazard (21-193-0003)

The Hazard site is equipped with ozone and a continuous PM_{2.5} FEM (T640). The ozone and T640 are both housed inside a shelter with inlets extending above the roof of the shelter (Figure 1). The shelter is slightly elevated from the ground on blocks, which sits on a mixture of gravel and vegetative ground cover. The site is located near the horse ring on the grounds of the Perry County Park located at 354 Perry Park Road, Hazard, KY. Horse Park Road, an access road to the horse ring, approximately 100m in length, runs west of the site (Figure 2). The T640 and ozone inlets are, respectively, 11.8m and 12.2m, from the edge of Horse Park Road. Road distance limits can be found in 40 CFR Part 58, Appendix E, Figure E-1 and Table E-1. Distances from the road for both inlets, monitor designation, spatial scale, and allowable road distance is shown in Table 1. The T640 violates the distance limits specified in Appendix E.

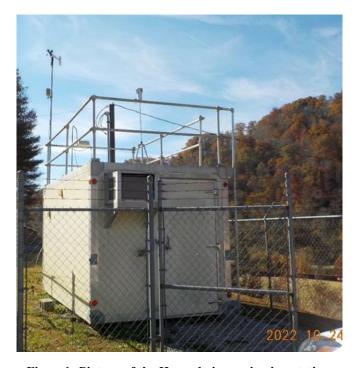


Figure1: Picture of the Hazard air monitoring station.



Figure 2: Google Earth image of the Hazard site in relation to Horse Park Road.

Monitor	Designation	Spatial Scale	Road Distance	Minimum Road Distance Requirement
Ozone	SLAMS AQI Episode	Urban	12.2m	10m
T640	SLAMS AQI	Neighborhood	11.8m	15m

Table 1: Monitor information for the Hazard site.

Hazard (21-193-0003)

A traffic count is not available for Horse Park Road. Until recently, traffic on Horse Park Road was minimal, as it only leads to a pavilion and the horse ring. At the end of August 2022, trailers were installed near the shelter, as the park had become a temporary FEMA site after the historic flooding that occurred in July 2022. The area was occupied from August 2022 until March 2024. The site is being utilized again to house displaced families from flooding that occurred in February 2025.

The closest road with a traffic count is Park Avenue (138m) with a traffic count of 3,674 (Figure 3). Appendix E does not clearly define what is considered a road. Upon site setup and until recently, what is now known as Perry Park Road (previously West Davidson Road), was considered the closest road to the site at around 32m. Perry Park Road runs the length of the park, giving people access to its amenities. Horse Park Road is a small offshoot of Perry Park Road, giving access to a small area at the northernmost end of the park. After discussion with EPA Region 4, it was concluded that a waiver request should be submitted with the 2023 Network Plan as a precaution. EPA granted the request in 2023 with a renewal required in the 2025 Network Plan.



Figure 3: Traffic counts for roads near the Hazard site. Obtained from the Kentucky Transportation Cabinet website.

Hazard (21-193-0003)

The shelter cannot be relocated on the property due to limited space, siting from obstructions, complex geography, and pre-established used. The T640 cannot be repositioned in the shelter to meet the 15m minimum distance requirement. Establishment of a new site would take considerable time, resources, and would be costly. Hazard has been in operation since April 1, 2000, and it would be unfortunate to lose a well established site with two and half decades of data. While KDAQ is not in the process of relocating the site, this option is under consideration as it appears that the area might continue to be utilized in the event of large scale natural disasters. Questions have been raised about the impact from traffic and the trailers, however, the only notable impacts have been during the initial set up of the trailers and a burning event where a representative of the Hazard Field Office talked to the residents. Therefore, KDAQ is requesting a waiver for minimum road distance requirements stated in 40 CFR Part 58, Appendix E Figure E-1 of the continuous PM_{2.5} FEM (T640) monitor.

Somerset (21-199-0003)

The Somerset site is equipped with ozone and a continuous PM_{2.5} FEM (T640) monitor. Both monitors are housed inside a shelter with inlets extending above the roof (Figure 1). The shelter is stationed on a concrete pad located on the property edge of the Somerset Gas Service Storage Building located at 305 Clifty Street, Somerset, KY. A dead end road that is approximately 100m in length, Johnson Street, runs east of the site (Figure 2). The T640 and ozone inlets are, respectively, 10.05m and 11m from the edge of Johnson Street. Road distance limits can be found in 40 CFR Part 58, Appendix E, Figure E-1 and Table E-1. Distances from the road for both inlets, monitor designation, spatial scale, and allowable road distance is shown in Table 1. The T640 violates the distance limits specified in Appendix E.



Figure 1: Picture of the Somerset air monitoring station.



Figure 2: Google Earth image of the Somerset site in relation to Johnson Street. The road dead ends just past two houses located northeast of the site.

Monitor	Designation	Spatial Scale	Road Distance	Minimum Road Distance Requirement
Ozone	SLAMS AQI	Urban	11m	10m
T640	SLAMS AQI	Neighborhood	10.05m	15m

Table 1: Monitor information for the Somerset site.

Somerset (21-199-0003)

A traffic count is not available for Johnson Street; however, since it does not have an outlet and there are only two houses on the street, the traffic count is negligible. Realistically, traffic in and out of the warehouse compound is higher than the traffic on Johnson Street. The closest road with a traffic count is Ogden Street (177m) with a traffic count of 7,102 (Figure 3). Appendix E does not clearly define what is considered a road. KDAQ has considered Johnson Street to act as a driveway since it dead-ends and only leads to two houses. Historically, the closest road was considered Clifty Street at around 47m. After discussion with EPA Region 4, it was concluded that a waiver request should be submitted with the 2023 Network Plan as a precaution. EPA granted the request in 2023 with a renewal required in the 2025 Network Plan.

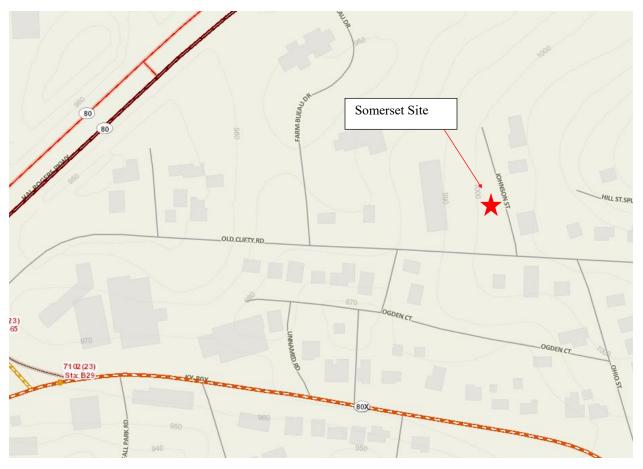


Figure 3: Traffic counts for roads near the Somerset site. Obtained from the Kentucky Transportation Cabinet website.

The shelter cannot be relocated on the property due to other use and low-lying ground. The inlets are already positioned on the side of the shelter opposite the road and cannot be moved to increase road distance. Establishment of a new site would take considerable time, resources, and would be costly. Of greater significance would be the loss of a well-established site, as Somerset began operation on February 14, 1992. Impact from Johnson Street is minimal to negligible, as such, KDAQ is requesting a waiver for minimum road distance requirements stated in 40 CFR Part 58, Appendix E Figure E-1 for the continuous PM_{2.5} FEM (T640) monitor.

APPENDIX L

PUBLIC COMMENTS

Appendix L Notice of Public Comment Period

NOTICE OF PUBLIC COMMENT PERIOD KENTUCKY DIVISION FOR AIR QUALITY AMBIENT AIR MONITORING NETWORK

In accordance with 40 C.F.R. 58.10(a)(1), the Kentucky Energy and Environment Cabinet will make the annual monitoring network plan available for public inspection for at least 30 days prior to submission to the U.S. EPA. The annual monitoring network plan details the operation and location of ambient air monitors operated by the Kentucky Division for Air Quality, Louisville Metro Air Pollution Control District (LMAPCD), and the National Park Service.

The public comment period relating to the annual monitoring network will begin May 21, 2025 and will conclude on June 20, 2025. Copies of the annual monitoring plan are available for public inspection at the locations listed below. Any individual requiring copies may submit a request to the Division for Air Quality in writing, by telephone, or by electronic mail. Requests for copies should be directed to the contact person. In addition, an electronic version of the proposed annual monitoring network plan and relevant attachments can be downloaded from the Division for Air Quality's website at:

https://eec.ky.gov/Environmental-Protection/Air/Pages/Public-Notices.aspx

Again, to be considered part of the record, comments must be received by June 20, 2025. Comments should be sent directly to the contact person.

CONTACT PERSON: Ms. Jenna Nall, Environmental Scientist Advisor, Division for Air Quality, 300 Sower Boulevard, 2nd Floor, Frankfort, Kentucky 40601. Phone: (502) 782-7353; Email: jenna.nall@ky.gov

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LMAPCD
701 W. Ormsby Ave., Suite 303
Louisville, KY 40203

Frankfort Regional Office 300 Sower Boulevard, 1st Floor Frankfort, KY 40601

Paducah Regional Office 130 Eagle Nest Drive Paducah, KY 42003 Ashland Regional Office 1550 Wolohan Drive, Suite 1 Ashland, KY 41102

Hazard Regional Office 1332 S. KY Hwy 115, Suite 100 Hazard, KY 41701

Florence Regional Office 8020 Veterans Mem Dr., Suite 110 Florence, KY 41042 Bowling Green Regional Office 2642 Russellville Road Bowling Green, KY 42101

London Regional Office 875 S. Main Street London, KY 40741

Owensboro Regional Office 3032 Alvey Park Dr., Suite 700 Owensboro, KY 42303

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KDAQ AIR MONITORING STATIONS BY REGIONAL OFFICE

2025 KDAQ Monitoring Network Stations by Regional Office

AQS ID	SITE NAME	COUNTY	PAGE				
Region 1 - Hazard Regional Office							
21-193-0003	Hazard	Perry	93				
21-195-0002	Pikeville Primary	Pike	84				
Region 2 - Frankfort Regional Office (Bluegrass Area)							
21-067-0012	Lexington Primary (Newtown)	Fayette	49				
21-113-0001	Nicholasville	Jessamine	51				
21-151-0005	Eastern Kentucky University (EKU)	Madison	82				
	Region 3 - Florence Regional Office						
21-015-0008	Nature Center	Boone	29				
21-037-3002	Northern Kentucky University (NKU)	Campbell	31				
	Region 4 - Owensboro Regional Office						
21-059-0015	Meadow Lands (Owensboro)	Daviess	70				
21-091-0012	Lewisport	Hancock	91				
21-101-1011	Sebree SO ₂ DRR Site	Henderson	80				
	Region 5 - Ashland Regional Office						
21-019-0002	21st and Greenup	Boyd	40				
21-019-0017	Ashland Primary (FIVCO)	Boyd	42				
21-043-0500	Grayson Lake	Carter	44				
21-089-0007	Worthington	Greenup	46				
	Region 7 - Frankfort Regional Office (North Cent	ral Area)					
21-029-0006	Shepherdsville	Bullitt	54				
21-093-0007	Freeman Lake	Hardin	37				
21-185-0004	Buckner	Oldham	56				
	Region 8 - Paducah Regional Office						
21-047-0007	Pennyrile Forest	Christian	34				
21-139-0003	Smithland	Livingston	73				
21-145-1027	Paducah Transit	McCracken	75				
Region 9 - Bowling Green Regional Office							
21-213-0004	Franklin	Simpson	88				
21-227-0009	Ed Spear Park (Smiths Grove)	Warren	26				
Region 10 - London Regional Office							
21-013-0002	Middlesboro	Bell	78				
21-199-0003	Somerset	Pulaski	86				