

**State of Illinois**  
**Ambient Air Monitoring**  
**2025 Network Plan**

**Illinois Environmental Protection Agency**  
**Bureau of Air**  
**July 2024**

## **Introduction**

In 1970, Congress enacted the Clean Air Act (CAA), empowering the United States Environmental Protection Agency (USEPA) to develop and implement National Ambient Air Quality Standards (NAAQS) for pollutants shown to threaten human health.

NAAQS exist for six criteria pollutants – carbon monoxide (CO), ozone (O<sub>3</sub>), lead (Pb), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and particulate matter (PM). Particulate matter is measured both with a diameter less than or equal to 10 micrometers (PM<sub>10</sub>) and a diameter less than or equal to 2.5 micrometers (PM<sub>2.5</sub>). There are primary and secondary NAAQS. Primary standards protect public health, whereas secondary standards protect public welfare including the environment.

The Illinois operates an air monitoring network that includes monitors for the six criteria pollutants: CO, O<sub>3</sub>, Pb, NO<sub>2</sub>, SO<sub>2</sub>, and PM. The Illinois air monitoring network meets or, in most cases, exceeds the applicable minimum network requirements.

A predominant goal of the air monitors within Illinois' network is to collect data with which to assess compliance with the NAAQS. A listing of these NAAQS can be found at <https://www.epa.gov/criteria-air-pollutants/naaqs-table>.

Illinois has designed its ambient air monitoring network to accomplish more than this primary goal, including to provide timely air pollution data to the public, support compliance with ambient air quality standards and emissions strategy development, and support air pollution research studies. Data gathered from the Illinois EPA's monitoring network is used to produce a daily Air Quality Index (AQI) report, compile daily air quality forecast reports, support short- and long-term health risk assessments, identify localized health concerns, and track long-term trends in air quality that could potentially threaten Illinois citizen's quality of life.

Monitor siting takes into consideration: peak (the highest concentration of pollution in a given area), population (presence of pollutants in areas with high population densities), sources (pollution resulting from significant sources or source categories), background (general pollutant levels), and transport (extent of regional pollutant transport between populated areas). Federal regulations prescribe requirements for monitor and probe siting to ensure that the ambient air quality data is accurately representative. The criteria for the placement and operation of each monitor and probe vary. Site surveys ensure that each requirement is satisfied.

Federal regulations require each State to submit to USEPA an air monitoring annual network plan (ANP) for the prospective year. Additionally, a five-year network assessment must be completed by USEPA Region 5 monitoring organizations. The last five-year network assessment was completed in 2020 and found the criteria pollutant monitoring network was adequate in meeting USEPA's minimum criteria. The next network assessment will be completed in 2025 with assistance from LADCO. The ANP takes into consideration findings of these assessments. The ANP provides a description of the monitoring network for each criteria

pollutant including proposed changes. The ANP is subject to public review and comment prior to its submission to the USEPA.

### **Monitoring Designations**

The following designations describe the various types of monitors at the sites within Illinois' air monitoring network:

- **NCore** - National Core multi-pollutant monitoring station. Illinois is required by federal regulations to operate one NCore site, which includes monitors for CO, nitric oxide/reactive nitrogen (NO/NO<sub>y</sub>), SO<sub>2</sub>, O<sub>3</sub>, speciated PM<sub>2.5</sub>, PM<sub>2.5</sub>, PM<sub>10-2.5</sub>, wind speed, wind direction, relative humidity, and ambient temperature. Illinois operates an NCore site in Northbrook and provides support for the federal rural NCore site located in Bondville measuring PM<sub>2.5</sub>.
- **Near-road** - Placed near busy roadways, near-road sites measure hourly concentrations of NO<sub>2</sub> and sometimes CO or PM<sub>2.5</sub> in urban areas. Illinois EPA operates two near-road locations, one in Chicago and one in Lansing. The Lansing near-road location began operating off the Kingery Expressway on March 1, 2019. The Chicago near-road location, along the Kennedy Expressway, began operating July 26, 2019.
- **PAMS** - Photochemical Assessment Monitoring Station. In addition to monitoring of criteria pollutants, Illinois also participates in a regional Photochemical Assessment Monitoring Station (PAMS) network in the Chicago MSA. These sites are dedicated to obtaining more information about ozone and its precursors. The Illinois sites participating in the 2024 regional PAMS network will include enhanced monitoring in Schiller Park as well as regulatorily-required monitoring in Northbrook. Illinois' regional PAMS sites will collect and monitor some or all of the following: speciated volatile organic compounds (VOCs), carbonyls, NO<sub>2</sub>, NO/NO<sub>y</sub>, O<sub>3</sub>, CO, and meteorological data in order to monitor potential threats of nonattainment. Required PAMS meteorological data that are not part of the NCORE requirements are: atmospheric pressure, precipitation, solar radiation, and ultra-violet radiation.
- **SLAMS** - State or Local Ambient Monitoring Station. SLAMS monitoring is for comparison to the NAAQS.
- **SPM** - Special Purpose Monitor. Monitoring in an agency's monitoring network that the agency has designated as a special purpose monitor station in its annual monitoring network plan and in the AQS, does not count when showing compliance with the minimum requirements for the number and siting of monitors of various types. Any SPM operated by an air monitoring agency must be included in the periodic assessments and annual monitoring network plan.

Siting and operation, including collocation requirements, of each monitor meets the requirements of Part 58 Appendices A, B, C, D, and E.

### **Monitoring Objectives**

Monitoring objectives describe the various purposes of the monitors within Illinois' air monitoring network:

- **General Concentration (Background)** - These sites are positioned to measure the general background concentration of pollutants in an area.
- **Highest Concentration (Highest Conc.)**- These sites are located to determine the expected peak concentrations of pollutants in an area.
- **Max O3 Concentration (Highest Conc.)**- These sites are located to determine the expected peak O3 concentrations of pollutants in an area.
- **Population** - Located in areas categorized by high population density, these sites are used to determine the typical pollutant concentrations in a specific area.
- **Regional Transport (Transport)** - These sites are located to monitor the level of regional pollution transport from one area to the next.
- **Source-Oriented Source (Source)** - As certain sources contribute to pollution more significantly than others, source-oriented monitors are placed in order to identify the impact of these sources.

### **Spatial Scale Designations**

Sites are not only characterized by type and by the objective, but also according to spatial scale. These scales are used to categorize siting areas and link them with the specific monitoring objectives. Spatial scales as outlined by the USEPA include:

- **Micro** - Concentrations in air volumes associated with area dimensions ranging from several meters up to about 100 meters.
- **Middle** - Concentrations typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometer.
- **Neighborhood** - Concentrations within some extended area of the city that has relatively uniform land use with dimensions in the 0.5 to 4.0 kilometers range.
- **Urban** - Overall, citywide conditions with dimensions on the order of four to 50 kilometers.
- **Regional** - A rural area of reasonably homogenous geography without large sources, extending from tens to hundreds of kilometers.

### **Sampling Methodology**

Every ambient air monitor can be classified by a specific method number which identifies sample collection and analysis methods. A comprehensive list of these numbers can be found at: <https://www.epa.gov/aqs/aqs-code-list>.

Federal regulations specify that monitoring methods used for comparison to the NAAQS must be Federal Reference or Equivalent Methods (FRM or FEM). Almost all monitors listed in Illinois' network plan use either FRM or FEM with only a few exceptions. Locations hosting continuous PM<sub>2.5</sub> samplers solely for AQI purposes are not operated as FRM or FEM. The long-term goal, as resources permit, is to phase out these solely AQI PM<sub>2.5</sub> samplers in favor of FEM samplers capable of both meeting NAAQS and AQI status.

## **Quality Assurance**

Guidance, policies, and federal regulations establish quality system requirements for data submitted to USEPA. Currently, there are two Primary Quality Assurance Organizations under this network plan – the Illinois EPA and the Cook County Department of Environment and Sustainability (CCDES).

## **Proposed Network for 2025**

### **Site Relocations**

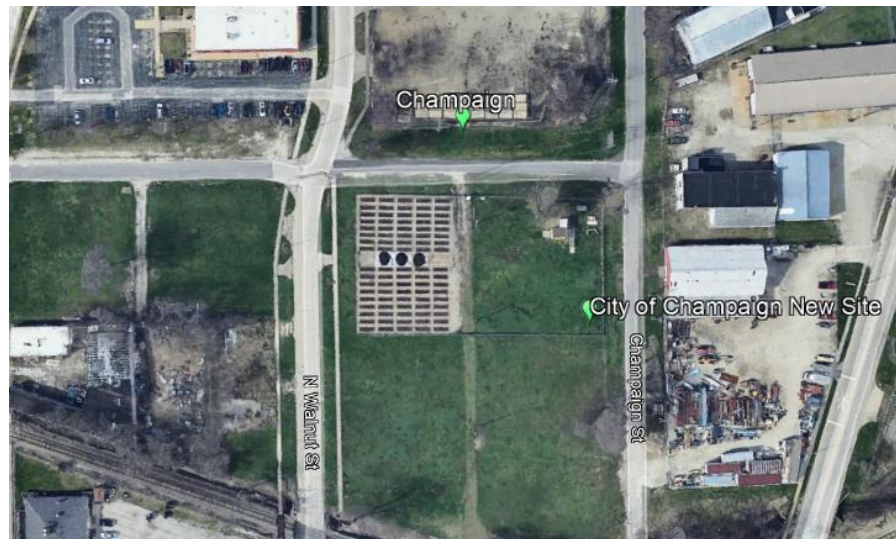
Zion: Before the 2024 O3 season Illinois EPA received approval from USEPA to vacate an aging trailer in favor of a building as the site for the Zion monitoring location. The AQS site identifier is unchanged and GPS coordinates have been updated. Figure 1 below illustrates the move.

Figure 1:



Champaign: USEPA approved a site move across the street for the Champaign PM2.5 monitoring site. The new location is better suited for power and a transition to continuous FEM monitoring. The AQS site identifier is unchanged and GPS coordinates have been updated. This change took place Q2 2024. Figure 2 below illustrates the move.

Figure 2:



Jerseyville: At the start of the 2024 O3 season and end of Quarter 1 of PM2.5 monitoring, the City of Jerseyville notified Illinois EPA that we needed to move our air monitor trailer immediately to accommodate new plans for the property. With the aid of the City of Jerseyville, Illinois EPA investigated various other sites throughout the city. After an interruption in monitoring, it was mutually decided that Illinois EPA could keep the trailer at this site and move the trailer to the northeast 47.9 meters. USEPA approved the coordinate change with continued use of current AQS site identifier. Figure 3 below illustrates the move.

Figure 3:





Elgin: Illinois EPA is exploring the benefits of combining the 2 Elgin sites (ID 17-089-0003 PM2.5 and ID 17-089-0005 O3) into one monitoring location for both PM2.5 and O3. Illinois EPA plans seek approval from USEPA for a location well suited from an upgrade from PM2.5 FRM to continuous PM2.5 FEM during this process.

## **Ozone**

Illinois is required to operate a minimum of 14 O<sub>3</sub> monitoring sites across the state to meet SLAMS O<sub>3</sub> requirements. NCore requires the operation of one of these O<sub>3</sub> monitors year-round. Additionally, 19 other O<sub>3</sub> monitors are operated for purposes of supporting the basic monitoring objectives of public data reporting, air quality mapping, compliance, enhanced monitoring, and supporting air pollution research studies. In 2024, Illinois operated 33 O<sub>3</sub> monitors. Additionally, USEPA operated two ozone monitors as part of the Clean Air Status and Trends Network (CASTNET). See Appendix B for O3 Enhanced Monitoring Plan (EMP).

### **Minimum O<sub>3</sub> Monitoring Sites Requirement (CFR 40 Part 58):**

<b>MSA population<sup>1, 2</sup></b>	<b>Most recent 3-year design value concentrations <math>\geq 85\%</math> of any O<sub>3</sub> NAAQS<sup>3</sup></b>	<b>Most recent 3-year design value concentrations <math>&lt; 85\%</math> of any O<sub>3</sub> NAAQS<sup>3, 4</sup></b>
>10 million	4	2
4-10 million	3	1
350,000-<4 million	2	1
50,000-<350,000 <sup>5</sup>	1	0

<sup>1</sup> Minimum monitoring requirements apply to the Metropolitan statistical area (MSA).

<sup>2</sup> Population based on latest available census figures.

<sup>3</sup> The ozone (O<sub>3</sub>) National Ambient Air Quality Standards (NAAQS) levels and forms are defined in [40 CFR part 50](#).

<sup>4</sup> These minimum monitoring requirements apply in the absence of a design value.

<sup>5</sup> Metropolitan statistical areas (MSA) must contain an urbanized area of 50,000 or more population.

### Illinois O3 Sites by MSA population requirements:

MSA/(μSA) Name	Population (Census Bureau 2022 est.)	Maximum 2021-2023 8-Hour DV as % of Standard (70 ppb)	Minimum Required Sites	IL Sites in MSA
Chicago-Naperville-Elgin, IL-IN	9,441,957	110%*	3	15**
St. Louis, MO-IL ***	2,801,319	106%*	2	6
Peoria, IL	396,466	99%	2	2
Davenport-Moline-Rock Island, IA-IL	379,374	97%*	2	1**
Rockford, IL	335,342	101%	1	1
Champaign-Urbana, IL	223,265	97%	1	2
Springfield, IL	206,655	94%	1	1
Bloomington, IL	171,141	99%	1	1
Ottawa, IL	146,478	-	0	0
Carbondale-Marion, IL	132,693	-	0	0
Kankakee, IL	106,074	-	0	0
Decatur, IL	101,483	99%	1	1
Quincy, IL-MO (μSA)	74,616	93%	0	1
Effingham, IL (μSA)	34,325	97%	0	1
Outside MSA/(μSA) (Stockton, Knight Prairie, Houston)	N/A	101%	0	3

\*Out of state monitors not included in calculation.

\*\*Required sites met or further exceeded by monitors run outside of Illinois boundaries, but within MSA/μSA. No MOU between Indiana and Illinois required so long as number of IL sites alone meets minimum requirements.

\*\*\* Missouri DNR works with EPA Region 7 to verify St. Louis MSA meets monitoring requirements. In doing so, Missouri DNR annually contacts Illinois EPA to make sure any changes in monitoring do not result in requirement not being met. No MOU between Missouri and Illinois required so long as number of IL sites alone meets minimum requirements.

### Fine Particulate Matter (PM<sub>2.5</sub>)

Without accounting for sites within an MSA that are across state lines, Illinois is required to operate a minimum of 14 FRM or FEM PM<sub>2.5</sub> monitors. Within the Illinois PM<sub>2.5</sub> network, NCore requires one continuous and one filter based PM<sub>2.5</sub> monitor, and one near-road monitoring site with one FRM or FEM PM<sub>2.5</sub> monitor is also required. Illinois must operate at least one FRM or FEM PM<sub>2.5</sub> site monitoring regional background and at least one FRM or FEM PM<sub>2.5</sub> site to monitor regional transport. Additionally, 20 other PM<sub>2.5</sub> monitoring sites are operated for purposes of supporting the basic monitoring objectives of public data reporting, air quality mapping, compliance, and supporting air pollution research studies. In 2024, 34 PM<sub>2.5</sub> sites were operating in Illinois. In 2025, the number of PM<sub>2.5</sub> sites is not expected to change.

Included in these totals are 2 source orientated PM<sub>2.5</sub> sites, Granite City Gateway and Lyons Township. Granite City Gateway is a middle scale site situated in an industrial area with multiple sources. Another PM<sub>2.5</sub> site not far away at 23<sup>rd</sup> and Madison in Granite City is sited for neighborhood scale to help satisfy area monitoring requirements. The Lyons Township site is a middle scale site also measuring PM<sub>10</sub> that is adjacent to industrial areas and an active quarry.



Neighborhood scale monitoring takes place at a nearby Summit monitoring site. No changes are anticipated for these source designations given the intended purpose of these sites.

**Minimum PM<sub>2.5</sub> Monitoring Sites Requirement (CFR 40 Part 58):**

MSA population <sup>1, 2</sup>	Most recent 3-year design value concentrations $\geq$ 85% of any PM <sub>2.5</sub> NAAQS <sup>3</sup>	Most recent 3-year design value concentrations <85% of any PM <sub>2.5</sub> NAAQS <sup>3, 4</sup>
>1 million	3	2
500,000-1,000,000	2	1
50,000-<500,000 <sup>5</sup>	1	0

<sup>1</sup> Minimum monitoring requirements apply to the Metropolitan statistical area (MSA).

<sup>2</sup> Population based on latest available census figures.

<sup>3</sup> The PM<sub>2.5</sub> National Ambient Air Quality Standards (NAAQS) levels and forms are defined in [40 CFR part 50](#).

<sup>4</sup> These minimum monitoring requirements apply in the absence of a design value.

<sup>5</sup> Metropolitan statistical areas (MSA) must contain an urbanized area of 50,000 or more population.

**Illinois PM<sub>2.5</sub> Sites by MSA population requirements:**

MSA Name	Population (Census Bureau 2022 est.)	Maximum 2021-2023 Annual DV as % of Standard (9 $\mu\text{g}/\text{m}^3$ )	Maximum 2021-2023 Daily DV as % of Standard (35 $\mu\text{g}/\text{m}^3$ )	Minimum Required Sites	IL Sites
Chicago-Naperville-Elgin, IL-IN	9,441,957	121%*	74%*	3	18**
St. Louis, MO-IL	2,801,319	118%*	67%*	3	6***
Peoria, IL	396,466	107%	64%	1	1
Davenport-Moline-Rock Island, IA-IL	379,374	108%*	71%*	1	1
Rockford, IL	335,342	109%	77%	1	1
Champaign-Urbana, IL	223,265	95%	57%	1	2****
Springfield, IL	206,655	102%	60%	1	1
Bloomington, IL	171,141	109%	67%	1	1
Ottawa, IL	146,478	-	-	0	0
Carbondale-Marion, IL	132,693	-	-	0	0
Kankakee, IL	106,074	-	-	0	0
Decatur, IL	101,483	109%	66%	1	1
Regional Background (Knight Prairie, Houston)	N/A	99%	59%	1	2

\*Out of state monitors and EPA T640 data alignment not included in calculation.

\*\* Addition PM<sub>2.5</sub> NCore site requirement met at Northbrook (1 NCore site with 2 required PM<sub>2.5</sub> monitors) and addition PM<sub>2.5</sub> Near-Road requirement met at Kingery site and 1 source monitor included in this total.

\*\*\* Missouri DNR works with EPA Region 7 to verify St. Louis MSA meets monitoring requirements including PM<sub>2.5</sub> near-road requirement. In doing so, Missouri DNR also annually contacts Illinois EPA to make sure any changes in monitoring do not result in requirement not being met. Included in total is 1 source monitor.

\*\*\*\* Of the 2 listed sites 1 site meets PM<sub>2.5</sub> regional transport monitoring requirement.

USEPA will be providing funding to convert the remaining FRM PM<sub>2.5</sub> monitors in the network to continuous FEM monitors. This funding will also help convert FRM PM<sub>2.5</sub> monitors operated by Cook County Department of Environment and Sustainability to continuous FEM monitors. The sites that currently are planned to have FEM monitors between 2024 and 2025 are listed in Table 3. At the following locations a Teledyne T640 may replace filter-based FRMs: Alsip, Alton, Aurora, Chicago - Springfield Pumping Station, Cicero, Elgin, Granite City – Gateway Medical, Lawndale (ComEd), Mayfair, and Summit. A Teledyne T640x may replace filter-based FRM at Chicago – George Washington High School.

### **Sulfur Dioxide**

Illinois is required to operate six SO<sub>2</sub> monitors. One SO<sub>2</sub> monitor is required at each of the Northbrook and Bondville NCore sites to fulfill NCore requirements (The Illinois State Water Survey operates the Bondville SO<sub>2</sub> monitor). The population weighted emissions index (PWEI) shall be calculated by States for each core based statistical area (CBSA) they contain or share with another State or States for use in the implementation of or adjustment to the SO<sub>2</sub> monitoring network. For any CBSA with a calculated PWEI value equal to or greater than 1,000,000, a minimum of three SO<sub>2</sub> monitors are required within that CBSA. For any CBSA with a calculated PWEI value equal to or greater than 100,000, but less than 1,000,000, a minimum of two SO<sub>2</sub> monitors are required within that CBSA. For any CBSA with a calculated PWEI value equal to or greater than 5,000, but less than 100,000, a minimum of one SO<sub>2</sub> monitor is required within that CBSA. This results in four required SO<sub>2</sub> monitoring sites (2 in the Chicago MSA and 2 in the Saint Louis MSA) supporting the basic monitoring objectives of public data reporting, air quality mapping, compliance, and supporting air pollution research studies.

MSA Name	Population (Census 2022 est.)	Total SO <sub>2</sub> Emissions (2020 NEI)	PWEI (SO <sub>2</sub> )	SO <sub>2</sub> PWEI Monitors Required
Chicago-Naperville-Elgin, IL-IN	9,441,957	29901.59	282329.55	2
St. Louis, MO-IL	2,801,319	62563.61	175260.64	2
Peoria, IL	396,466	7847.63	3111.32	0
Davenport-Moline-Rock Island, IA-IL	379,374	963.63	365.57	0
Rockford, IL	335,342	241.92	81.13	0
Champaign-Urbana, IL	223,265	116.98	26.12	0
Springfield, IL	206,655	597.85	123.55	0
Bloomington, IL	171,141	22.37	3.83	0
Ottawa, IL	146,478	1110.96	162.73	0
Decatur, IL	101,483	9863.06	1000.93	0
Paducah, KY-IL	97,999	17667.89	1731.44	0

Additionally, SO<sub>2</sub> data requirements established by USEPA require either modeling or monitoring to characterize current air quality in areas with large sources of SO<sub>2</sub> (40 CFR 51 Subpart BB). Primient – Primary Products Ingredients (formerly known as Tate & Lyle) is contracting with Environmental Resources Management, Inc. operating two SO<sub>2</sub> monitors under this rule. A total of 12 SO<sub>2</sub> monitors are operating in Illinois in 2024. In 2025, the number of SO<sub>2</sub> sites is expected to remain at twelve.

### **Nitrogen Dioxide**

Illinois is required to operate two near-road NO<sub>2</sub> monitors. In addition to area-wide monitors, federal regulations require the Regional Administrator to collaborate with each State in determining the need for additional NO<sub>2</sub> monitoring requirements beyond the minimum, with a primary focus on siting monitors in locations to protect susceptible and vulnerable populations. In Illinois, two NO<sub>2</sub> monitoring sites are designated, East St. Louis and ComEd, as susceptible and vulnerable population monitoring sites. Illinois operates one NO/NO<sub>y</sub> monitor in Northbrook. Additionally, the Illinois State Water Survey operates an NO/NO<sub>y</sub> monitor at the rural NCore site in Bondville.

In 2024, the monitoring network consisted of eight NO<sub>2</sub> monitoring sites. Two NO/NO<sub>y</sub> monitors will continue to be operated by Illinois EPA and the State Water Survey. In 2025, the number of NO<sub>2</sub> sites is expected to remain at eight.

### **Carbon Monoxide**

Illinois must operate one CO monitor in conjunction with one near-road NO<sub>2</sub> monitor. In addition, it must operate one CO monitor at each NCore site, Northbrook and Bondville (Illinois State Water Survey operates the Bondville CO monitor at the rural NCore site). In 2024, three CO monitors are in operation. The number of CO monitors is not expected to change in 2025.

### **Particulate Matter (PM<sub>10</sub>)**

Illinois operates three PM<sub>10</sub> monitors to aid in satisfying MSA requirements. One PM<sub>10</sub> monitor must also be operated for NCore purposes. Additionally, Illinois operates one PM<sub>10-2.5</sub> (PM coarse) monitor at the Northbrook location to fulfill NCore requirements. The National Park Service operates one PM<sub>10</sub> monitor at the Bondville NCore location. In 2024, Illinois EPA is operating a total of four PM<sub>10</sub> monitoring sites. In 2025, Illinois EPA or a combination of Illinois EPA and Cook County Department of Environment and Sustainability (CCDES) will continue to operate four PM<sub>10</sub> monitoring sites and one PM<sub>10-2.5</sub> monitoring site. As discussed in the PM<sub>2.5</sub> section, due to funding provided by USEPA, filter or tape-based PM<sub>10</sub> monitors may be replaced with continuous FEM T640x monitors. As of 2024 the locations at Lyons Township (McCook) and Granite City – 23<sup>rd</sup> & Madison are operating T640x monitors. There are plans for a T640x monitor at George Washington High School to be operated by CCDES.

### Minimum PM10 Monitoring Sites Requirement (CFR 40 Part 58):

Population category	High concentration <sup>2</sup>	Medium concentration <sup>3</sup>	Low concentration <sup>4 5</sup>
>1,000,000	6–10	4–8	2–4
500,000–1,000,000	4–8	2–4	1–2
250,000–500,000	3–4	1–2	0–1
100,000–250,000	1–2	0–1	0

<sup>1</sup> Selection of urban areas and actual numbers of stations per area will be jointly determined by EPA and the State agency.

<sup>2</sup> High concentration areas are those for which ambient PM10 data show ambient concentrations exceeding the PM10 NAAQS by 20 percent or more.

<sup>3</sup> Medium concentration areas are those for which ambient PM10 data show ambient concentrations exceeding 80 percent of the PM10 NAAQS.

<sup>4</sup> Low concentration areas are those for which ambient PM10 data show ambient concentrations less than 80 percent of the PM10 NAAQS.

<sup>5</sup> These minimum monitoring requirements apply in the absence of a design value.

### Illinois PM10 Sites by MSA population requirements:

MSA Name	Population (Census Bureau 2022 est.)	2021-2023 site days exceeding the NAAQS by 20% or more (max 3 days over 180 ug/m3 at a site)	2021-2023 site days greater than 80% of the NAAQS (max 3 days over 120 ug/m3 at a site)	Required Sites	Sites in MSA
Chicago-Naperville-Elgin, IL-IN	9,441,957	3 days	6* days	4 - 8	8*
St. Louis, MO-IL **	2,801,319	2 days	13 days	4 - 8	4**
Peoria, IL	396,466	-	-	0 - 1	0
Davenport-Moline-Rock Island, IA-IL ***	379,374	0 days	2 days	0 - 1	2***
Rockford, IL	335,342	-	-	0 - 1	0
Champaign-Urbana, IL (NCore)	223,265	0 days	0 days	1 NCore	1
Springfield, IL	206,655	-	-	0	0
Bloomington, IL	171,141	-	-	0	0
Ottawa, IL	146,478	-	-	0	0
Carbondale-Marion, IL	132,693	-	-	0	0
Kankakee, IL	106,074	-	-	0	0
Decatur, IL	101,483	-	-	0	0
Outside MSA/(µSA) (Knight Prairie, Houston)	N/A				

\*3 sites in IL, 5 in IN. Data flagged "IF" or "IT" for wildfires contributed to the 6 days over 120ug/m3

\*\* 1 site in IL, 3 in MO. Missouri DNR works with EPA Region 7 to verify St. Louis MSA meets monitoring requirements. In doing so, Missouri DNR annually contacts Illinois EPA to make sure any changes in monitoring do not result in a requirement not being met.

\*\*\* IA runs 2 of 0-1 required PM10 monitoring under the direction of EPA Region 7. No MOU anticipated as Illinois EPA operating 0 sites still meets the 0-1 site requirement.

## **Lead**

Illinois is required to operate source-oriented monitors near facilities emitting 0.5 tons/year of lead that also have maximum lead concentrations in ambient air in excess of 50 percent of the NAAQS unless a waiver for that site has been approved. Lead monitoring waivers are currently in place with USEPA for Kincaid Generation Power Plant, Keystone Steel & Wire Corporation, Sterling Steel Corporation, and Gateway Energy and Coke Company. The waivers were approved by USEPA in 2023 for Keystone Steel and Sterling Steel, in 2020 for Gateway Energy and Coke Company, and in 2022 for Kincaid. Waivers must be renewed every five years. Modeling and/or monitoring results for these facilities demonstrated that they do not have the potential to contribute to a maximum lead concentration greater than 50 percent of the NAAQS.

In 2025, Illinois EPA will operate three lead monitoring sites - one located in Granite City and two in Chicago (Perez Elementary School and George Washington High School).

## **Photochemical Assessment Monitoring**

Illinois was required to collect and report additional PAMS measurements at the Northbrook monitoring location by June 1, 2021. Existing year round NCore monitoring at Northbrook that also meets PAMS requirements include hourly O<sub>3</sub>, NO/NO<sub>y</sub>, ambient temperature, relative humidity, atmospheric pressure, vector wind speed, and vector wind direction. In 2021, Illinois added to the existing NCore/PAMS measurements the following items:

Three eight-hour carbonyls samples on a one-in-three day schedule, true nitrogen dioxide (NO<sub>2</sub>), hourly precipitation, solar radiation, ultraviolet radiation, averaged mixing height, and hourly average speciated volatile organic compounds (gas chromatograph). This additional PAMS monitoring is expected to continue to be operational for the PAMS 2025 season. At a minimum, Illinois will run these additional items during the PAMS season months of June, July, and August.

**Table 1: Illinois Monitoring Network by Criteria Pollutant**

AQS ID	County	City	Address	Site Description	Owner	CO	NO <sub>2</sub>	NO <sub>y</sub>	SO <sub>2</sub>	O <sub>3</sub>	PM <sub>10</sub> / Coarse	PM <sub>2.5</sub>	Pb
17-001-0007	Adams	Quincy	1301 S. 48th St	John Wood Community College	IEPA					X			
17-019-0006	Champaign	Champaign	709 N Champaign St.	Champaign City	IEPA							X	
17-019-0007	Champaign	Thomasboro	North Thomas St.	Resident's Building	IEPA					X			
17-019-1001	Champaign	Bondville	Twp. Rd. 500 E.	State Water Survey Climate Station	SWS	X		X	X				
17-019-1001	Champaign	Bondville	Twp. Rd. 500 E.	State Water Survey Climate Station	IEPA							X	
17-019-1001	Champaign	Bondville	Twp. Rd. 500 E.	CASTNET Station	USEPA					X			
17-019-1001	Champaign	Bondville	Twp. Rd. 500 E.	IMPROVE Station	NPS						PM <sub>10</sub> / Coarse		
17-031-0001	Cook	Alsip	4500 W. 123rd St.	Village Garage	CCDES					X		X	
17-031-0022	Cook	Chicago	3535 E. 114th St	Washington High School	CCDES						X*	X*	X
17-031-0032	Cook	Chicago	3300 E. Cheltenham Pl.	South Water Filtration Plant	CCDES					X			
17-031-0052	Cook	Chicago	4850 Wilson Ave.	Mayfair Pump Station	CCDES							X	
17-031-0057	Cook	Chicago	1745 N. Springfield Ave.	Springfield Pump Station	CCDES							X	
17-031-0076	Cook	Chicago	7801 Lawndale	Com Ed Maintenance Bldg. Trailer	CCDES		X		X	X		X	
17-031-0110	Cook	Chicago	1241 19th St.	Perez Elementary School	CCDES								X
17-031-1003	Cook	Chicago	6545 W. Hurlbut St.	Taft High School	CCDES					X			
17-031-0119	Cook	Lansing	Kingery Expy & Torrence Ave.	Kingery Near-road #1	IEPA	X	X					X	
17-031-0219	Cook	Chicago	Kennedy Expy & W. Webster Ave.	Kennedy Near-road #2	IEPA		X						
17-031-1016	Cook	Lyons Township	50th St. & Glencoe	Village Hall	IEPA						X	X	

AQS ID	County	City	Address	Site Description	Owner	CO	NO <sub>2</sub>	NOy	SO <sub>2</sub>	O <sub>3</sub>	PM <sub>10</sub> / Coarse	PM <sub>2.5</sub>	Pb
17-031-1601	Cook	Lemont	729 Houston	Lemont Trailer	CCDES				X	X			
17-031-3103	Cook	Schiller Park	4743 Mannheim Rd.	Schiller Park Trailer	IEPA		X			X		X	
17-031-3301	Cook	Summit	60th St. & 74th Ave.	Graves Elementary School	CCDES							X	
17-031-4002	Cook	Cicero	1820 S. 51st Ave.	Cicero Trailer	CCDES		X			X			
17-031-4007	Cook	Des Plaines	9511 W. Harrison St.	Regional Office Bldg.	IEPA					X		X	
17-031-4201	Cook	Northbrook	750 Dundee Rd.	Northbrook Water Plant	IEPA	X	X	X	X	X	PM <sub>10</sub> / Coarse	X	
17-031-6005	Cook	Cicero	13th St. & 50th Ave.	Liberty School	CCDES							X	
17-031-7002	Cook	Evanston	531 E. Lincoln	Evanston Water Plant	IEPA					X			
17-043-4002	DuPage	Naperville	400 S. Eagle St.	City Hall	IEPA							X	
17-043-6001	DuPage	Lisle	Route 53	Morton Arboretum	IEPA					X			
17-049-1001	Effingham	Effingham	10421 N. US Hwy. 45	Central Grade School	IEPA					X			
17-065-0002	Hamilton	Knight Prairie Twp	Route 14	Knight Prairie Trailer	IEPA					X		X	
17-083-0117	Jersey	Jerseyville	1320 Maple Summit Rd.	Jerseyville Trailer	IEPA					X		X	
17-085-9991	Jo Daviess	Stockton	10952 E. Parker Rd.	CASTNET Station	USEPA					X			
17-089-0003	Kane	Elgin	258 Lovell St.	McKinley School	IEPA							X	
17-089-0005	Kane	Elgin	665 Dundee Rd.	Larsen Junior High School	IEPA					X			
17-089-0007	Kane	Aurora	1240 N. Highland	Health Department	IEPA							X	
17-097-1007	Lake	Zion	Illinois Beach State Park	IDNR Building	IEPA					X			
17-099-0007	La Salle	Oglesby	308 Portland Ave.	Oglesby Trailer	IEPA				X				



AQS ID	County	City	Address	Site Description	Owner	CO	NO <sub>2</sub>	NO <sub>y</sub>	SO <sub>2</sub>	O <sub>3</sub>	PM <sub>10</sub> / Coarse	PM <sub>2.5</sub>	Pb
17-111-0001	McHenry	Cary	First St. & Three Oaks Rd.	Cary Grove High School	IEPA					X		X	
17-113-2003	McLean	Normal	Main & Gregory	Normal-ISU Physical Plant Trailer	IEPA					X		X	
17-115-0013	Macon	Decatur	2200 N. 22nd St.	Decatur Trailer	IEPA				X	X		X	
17-115-0217	Macon	Decatur	Folk & E. Marietta Sts.	Primient Northwest	ERM Inc.				X				
17-115-0317	Macon	Decatur	El Dorado St.	Primient Southeast	ERM Inc.				X				
17-117-0002	Macoupin	Nilwood	Heaton & Dubois	Nilwood Trailer	IEPA		X		X	X			
17-119-0120	Madison	Alton	2708 Edwards St.	Horace Mann School	IEPA					X		X	
17-119-0010	Madison	Granite City	15th & Madison	Air Products	IEPA								X
17-119-0024	Madison	Granite City	2100 Madison	Gateway Medical Center	IEPA							X	
17-119-1007	Madison	Granite City	23rd. & Madison	Fire Station # 1	IEPA						X	X	
17-119-0122	Madison	Maryville	8B Schiber Court	Village of Maryville	IEPA					X			
17-119-3007	Madison	Wood River	54 N. Walcott	Wood River Water Treatment Plant	IEPA				X	X		X	
17-143-0024	Peoria	Peoria	Hurlburt & MacArthur	Fire Station #8	IEPA					X			
17-143-0037	Peoria	Peoria	613 N.E. Jefferson	City Office Bldg.	IEPA							X	
17-143-1001	Peoria	Peoria Heights	508 E. Glen Ave.	Peoria Heights High School	IEPA					X			
17-157-0001	Randolph	Houston	Hickory Grove & Fallview	Houston Trailer	IEPA					X		X	
17-161-3002	Rock Island	Rock Island	32 Rodman Ave.	Rock Island Arsenal	IEPA					X		X	
17-163-0010	St. Clair	East St. Louis	13th & Tudor	ESTL Trailer	IEPA		X		X	X		X	
17-167-0012	Sangamon	Springfield	State Fair Grounds	Agriculture Bldg.	IEPA							X	

AQS ID	County	City	Address	Site Description	Owner	CO	NO <sub>2</sub>	NO <sub>y</sub>	SO <sub>2</sub>	O <sub>3</sub>	PM <sub>10</sub> / Coarse	PM <sub>2.5</sub>	Pb
17-167-0014	Sangamon	Springfield	Illinois Building	State Fairgrounds Shelter	IEPA					X			
17-179-0004	Tazewell	Pekin	272 Derby	Pekin Fire Station #3	IEPA				X				
17-197-1002	Will	Joliet	Midland & Campbell St.	Pershing Elementary School	IEPA							X	
17-197-1011	Will	Braidwood	36400 S. Essex Rd.	Com Ed Training Ctr. Trailer	IEPA					X		X	
17-201-0118	Winnebago	Rockford	204 South 1 <sup>st</sup> St.	Fire Department Admin. Bldg.	IEPA							X	
17-201-2001	Winnebago	Loves Park	1405 Maple Ave.	Maple Elementary School	IEPA					X			
					IEPA	2	6	1	7	27	4	27	1
					CCDES	0	2	0	2	6	0	7	2
					NPS/SWS	1	0	1	1	0	1	0	0
					ERM Inc.	0	0	0	2	0	0	0	0
					USEPA	0	0	0	0	2	0	0	0
					Total	3	8	2	12	35	5	34	3

\* Indicates continuous PM10 monitor run by Illinois EPA at a CCDES site with PM2.5 FRM run by CCDES. Once the PM10 BAM 1020 is upgraded to a T640x, this monitor run by CCDES will also meet PM2.5 FRM/FEM requirements for the site.

**Table 2: Ozone Sites**

AQS ID	POC	Site	Latitude Longitude	Area Represented	Primary Objective	Secondary Objective	Spatial Scale	Station Type	Monitor Type	Sampling Schedule
17-001-0007	1	Quincy	+39.91540937 -91.33586832	Quincy, IL-MO	Population	Max O3 Conc.	Urban	SLAMS	T400	Hourly/S
17-019-0007	1	Thomasboro	+40.244913 -88.188519	Champaign-Urbana, IL	Population	Max O3 Conc.	Urban	SLAMS	T400	Hourly/S
17-019-1001	1	Bondville	+40.052780 -88.372510	Champaign-Urbana, IL	Welfare Impacts	Transport	Regional	NCORE	49i	Hourly/Y
17-031-0001	1	Alsip	+41.6709919 -87.7324569	Chicago-Naperville-Elgin, IL-IN	Population	N/A	Urban	SLAMS	T400	Hourly/S
17-031-0032	1	South Water Filtration Plant	+41.75583241 -87.54534967	Chicago-Naperville-Elgin, IL-IN	Population	Max O3 Conc.	Neighborhood	SLAMS	T400	Hourly/S
17-031-0076	1	Com Ed.	+41.75139998 -87.71348815	Chicago-Naperville-Elgin, IL-IN	Population	N/A	Urban	SLAMS	T400	Hourly/S
17-031-1003	2	Taft High School	+41.98433233 -87.7920017	Chicago-Naperville-Elgin, IL-IN	Population	N/A	Urban	SLAMS	T400	Hourly/S
17-031-1601	1	Lemont	+41.66812034 -87.99056969	Chicago-Naperville-Elgin, IL-IN	Population	N/A	Urban	SLAMS	T400	Hourly/S
17-031-3103	2	Schiller Park	+41.96519348 -87.87626473	Chicago-Naperville-Elgin, IL-IN	Population	N/A	Neighborhood	PAMS/SLAMS	T400	Hourly/S
17-031-4002	1	Cicero	+41.85524313 -87.7524697	Chicago-Naperville-Elgin, IL-IN	Population	N/A	Neighborhood	SLAMS	T400	Hourly/S
17-031-4007	1	Des Plaines	+42.06028469 -87.86322543	Chicago-Naperville-Elgin, IL-IN	Population	N/A	Urban	SLAMS	T400	Hourly/S
17-031-4201	1	Northbrook	+42.13999619 -87.79922692	Chicago-Naperville-Elgin, IL-IN	Population	NA	Urban	PAMS/NCORE	T400	Hourly/Y
17-031-7002	1	Evanston	+42.062053 -87.675254	Chicago-Naperville-Elgin, IL-IN	Population	N/A	Neighborhood	SLAMS	T400	Hourly/S
17-043-6001	1	Lisle	+41.81304939 -88.0728269	Chicago-Naperville-Elgin, IL-IN	Population	N/A	Urban	SLAMS	T400	Hourly/S
17-049-1001	2	Effingham	+39.06715932 -88.54893401	Effingham, IL	Transport	N/A	Regional	SLAMS	T400	Hourly/S
17-065-0002	1	Knight Prairie	+38.08215516 -88.6249434	Mt Vernon, IL	Background	N/A	Regional	SLAMS	T400	Hourly/S
17-083-0117	1	Jerseyville	+39.101757 -90.344119	St Louis, IL-MO	Transport	Population	Urban	SLAMS	T400	Hourly/S
17-085-9991	1	Stockton	+42.2869 -89.9997	Stockton, IL	Welfare Impacts	Transport	Regional	SLAMS	49i	Hourly/S
17-089-0005	1	Elgin	+42.04914776 -88.27302929	Chicago-Naperville-Elgin, IL-IN	Population	N/A	Urban	SLAMS	T400	Hourly/S
17-097-1007	1	Zion	+42.465971 -87.809581	Chicago-Naperville-Elgin, IL-IN	Transport	Max O3 Conc.	Urban	SLAMS	T400	Hourly/S
17-111-0001	1	Cary	+42.22144166 -88.24220734	Chicago-Naperville-Elgin, IL-IN	Population	N/A	Urban	SLAMS	T400	Hourly/S

AQS ID	POC	Site	Latitude Longitude	Area Represented	Primary Objective	Secondary Objective	Spatial Scale	Station Type	Monitor Type	Sampling Schedule
17-113-2003	1	Normal	+40.51873537 -88.99689571	Bloomington-Normal, IL	Population	Max O3 Conc.	Urban	SLAMS	T400	Hourly/S
17-115-0013	1	Decatur	+39.866933 -88.925452	Decatur, IL	Population	Max O3 Conc.	Urban	SLAMS	T400	Hourly/S
17-117-0002	1	Nilwood	+39.39607533 -89.80973892	St Louis, IL-MO	Transport	Population	Regional	SLAMS	T400	Hourly/S
17-119-0120	1	Alton	+38.901316 -90.146211	St Louis, IL-MO	Transport	Max O3 Conc.	Urban	SLAMS	T400	Hourly/S
17-119-0122	1	Maryville	+38.730263 -89.950053	St Louis, IL-MO	Population	N/A	Urban	SLAMS	T400	Hourly/S
17-119-3007	1	Wood River	+38.86066947 -90.10585111	St Louis, IL-MO	Population	N/A	Urban	SLAMS	T400	Hourly/S
17-143-0024	1	Peoria	+40.68742038 -89.60694277	Peoria, IL	Population	N/A	Neighborhood	SLAMS	T400	Hourly/S
17-143-1001	1	Peoria Heights	+40.74550393 -89.58586902	Peoria, IL	Population	Max O3 Conc.	Urban	SLAMS	T400	Hourly/S
17-157-0001	1	Houston	+38.17627761 -89.78845862	N/A	Background	N/A	Regional	SLAMS	T400	Hourly/S
17-161-3002	1	Rock Island	+41.51472697 -90.51735026	Davenport-Moline-Rock Island, IA-IL	Population	Max O3 Conc.	Neighborhood	SLAMS	T400	Hourly/S
17-163-0010	2	East St. Louis	+38.61203448 -90.16047663	St Louis, IL-MO	Population	N/A	Neighborhood	SLAMS	T400	Hourly/S
17-167-0014	1	Springfield	+39.831522 -89.640926	Springfield, IL	Population	Max O3 Conc.	Urban	SLAMS	T400	Hourly/S
17-197-1011	1	Braidwood	+41.22153707 -88.19096718	Chicago-Naperville-Elgin, IL-IN	Background	N/A	Regional	SLAMS	T400	Hourly/S
17-201-2001	1	Loves Park	+42.33498222 -89.0377748	Rockford, IL	Population	Max O3 Conc.	Urban	SLAMS	T400	Hourly/S

T400 – Teledyne (method 087); 49i – ThermoScientific (method 047)

Ozone parameter code – 44201

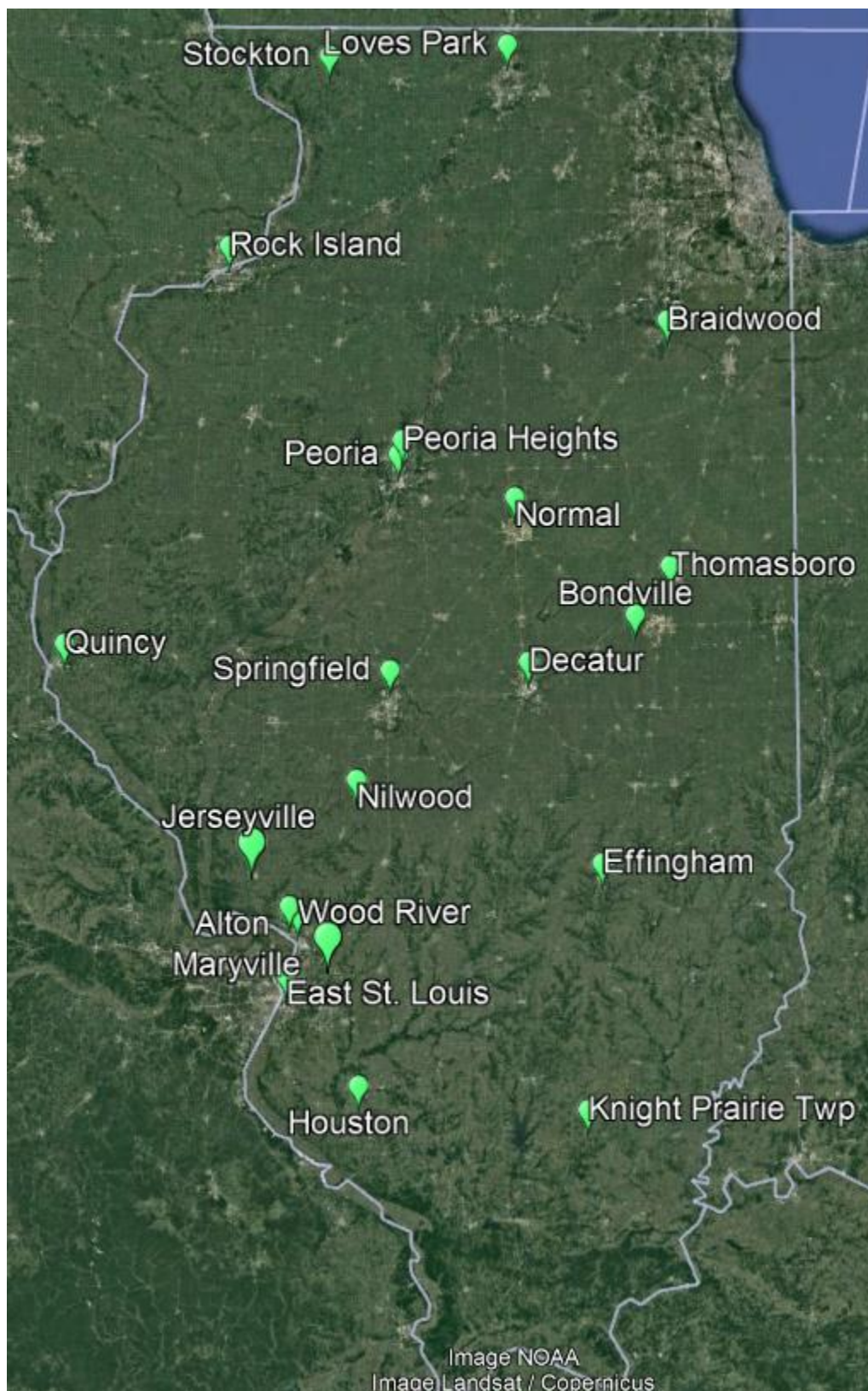
S = Seasonal – March through October ozone monitoring season

Y = Year-round monitoring

\* indicates monitor proposed for removal or has been removed

\*\* indicates monitor proposed for installation or has been installed

**Figure 3a: Ozone Sites – Illinois**





**Figure 3b: Ozone Sites – Illinois Chicago Area**



**Table 3: PM<sub>2.5</sub> Sites**

AQS ID	POC	Site	Latitude Longitude	Area Represented	Primary Objective	Secondary Objective	Spatial Scale	Standard	Station Type	Monitor Type (Primary)	Sampling Schedule	Collocated	Chemical Speciation	Frequency
17-019-0006	3	Champaign	+40.123066 -88.240172	Champaign-Urbana, IL	Population	Highest Conc.	Neighborhood	Annual/24	SLAMS	FEM Teledyne T640	H			
17-019-1001	3, 1	Bondville	+40.052780 -88.372510	Champaign-Urbana, IL	Transport	Population	Regional	Annual/24	RURAL NCORE	FEM Teledyne T640	H	THRM (1/3 day)	YES	1/3
17-031-0001	3	Alsip	+41.6709919 -87.7324569	Chicago-Naperville-Elgin, IL-IN-WI	Population	N/A	Neighborhood	Annual/24	SLAMS, SPM***	FEM Teledyne T640****	H			
17-031-0022	3, 9	Washington High School	+41.68716544 -87.53931548	Chicago-Naperville-Elgin, IL-IN-WI	Population	Source	Neighborhood	Annual/24	SLAMS	FEM Teledyne T640X****	H	Met One (1/12 day)		
17-031-0052	3, 9	Mayfair Pump Station	+41.96548483 -87.74992806	Chicago-Naperville-Elgin, IL-IN-WI	Highest Conc.	Population	Neighborhood	Annual/24	SLAMS	FEM Teledyne T640****	H	Met One (1/12 day)		



AQS ID	POC	Site	Latitude Longitude	Area Represented	Primary Objective	Secondary Objective	Spatial Scale	Standard	Station Type	Monitor Type (Primary)	Sampling Schedule	Collocated	Chemical Speciation	Frequency
17-031-0057	3	Springfield Pump Station	+41.912739 -87.722673	Chicago- Naperville- Elgin, IL-IN-WI	Population	N/A	Neighborhood	Annual/24	SLAMS, SPM***	FEM Teledyne T640****	H		YES	1/6
17-031-0076	3	Com Ed	+41.75139998 -87.71348815	Chicago- Naperville- Elgin, IL-IN-WI	Population	N/A	Neighborhood	Annual/24	SLAMS, SPM***	FEM Teledyne T640****	H		YES	1/3
17-031-1016	3	Lyons Township	+41.801180 -87.832349	Chicago- Naperville- Elgin, IL-IN-WI	Source	Population	Middle	24	SLAMS	FEM Teledyne T640X****	H			
17-031-3103	3, 9	Schiller Park	+41.96519348 -87.87626473	Chicago- Naperville- Elgin, IL-IN-WI	Highest Conc.	N/A	Middle	Annual/24	SLAMS	FEM Teledyne T640	H	THRM (1/12 day)		
17-031-3301	3	Summit	+41.78276601 -87.80537679	Chicago- Naperville- Elgin, IL-IN-WI	Population	N/A	Neighborhood	Annual/24	SLAMS	FEM Teledyne T640****	H			
17-031-4007	3	Des Plaines	+42.06028469 -87.86322543	Chicago- Naperville- Elgin, IL-IN-WI	Population	N/A	Urban	Annual/24	SLAMS	FEM Teledyne T640	H			

AQS ID	POC	Site	Latitude Longitude	Area Represented	Primary Objective	Secondary Objective	Spatial Scale	Standard	Station Type	Monitor Type (Primary)	Sampling Schedule	Collocated	Chemical Speciation	Frequency
17-031-4201	3, 1	Northbrook	+42.140204 -87.798989	Chicago- Naperville- Elgin, IL-IN-WI	Population	N/A	Urban	Annual/24	URBAN NCORE	FEM Teledyne T640X	H	THRM 1 (1/3day)	YES	1/3
17-031-6005	3	Cicero	+41.86442642 -87.74890238	Chicago- Naperville- Elgin, IL-IN-WI	Population	N/A	Neighborhood	Annual/24	SLAMS, SPM***	FEM Teledyne T640****	H			
17-031-0119	3	Lansing Kingery near- road #1	+41.578603 -87.557392	Kingery high traffic near- road segment	Highest Conc.	N/A	Micro	Annual/24	SLAMS	FEM Teledyne T640	H			
17-043-4002	3	Naperville	+41.77107094 -88.15253365	Chicago- Naperville- Elgin, IL-IN-WI	Population	N/A	Urban	Annual/24	SLAMS	FEM Teledyne T640	H			
17-065-0002	3	Knight Prairie	+38.08215516 -88.6249434	Mt Vernon, IL	Background	Population	Regional	Annual/24	SLAMS	FEM Teledyne T640	H			
17-083-0117	3	Jerseyville	+39.101757 -90.344119	St Louis, IL- MO	Population	Transport	Urban	Annual/24	SLAMS	FEM Teledyne T640	H			
17-089-0003	3	Elgin	+42.050403 -88.28001471	Chicago- Naperville- Elgin, IL-IN-WI	Population	N/A	Urban	Annual/24	SLAMS	FEM Teledyne T640****	H			
17-089-0007	3	Aurora	+41.78471651 -88.32937361	Chicago- Naperville- Elgin, IL-IN-WI	Population	N/A	Urban	Annual/24	SLAMS	FEM Teledyne T640****	H			
17-111-0001	3	Cary	+42.22144166 -88.24220734	Chicago- Naperville- Elgin, IL-IN-WI	Population	N/A	Urban	Annual/24	SLAMS	FEM Teledyne T640	H			

AQS ID	POC	Site	Latitude Longitude	Area Represented	Primary Objective	Secondary Objective	Spatial Scale	Standard	Station Type	Monitor Type (Primary)	Sampling Schedule	Collocated	Chemical Speciation	Frequency
17-113-2003	3, 9	Normal	+40.51873537 -88.99689571	Bloomington- Normal, IL	Population	Highest Conc.	Neighborhood	Annual/24	SLAMS	FEM Teledyne T640	H	FEM Teledyne T640		
17-115-0013	3	Decatur	+39.86683389 -88.92559445	Decatur, IL	Highest Conc.	Source	Neighborhood	Annual/24	SLAMS	FEM Teledyne T640	H			
17-119-0024	3	Granite City Gateway	+38.7006315 -90.14476267	St Louis, IL- MO	Source	Population	Middle	24	SLAMS	FEM Teledyne T640****	H		YES	1/6
17-119-1007	3	Granite City	+38.70453426 -90.13967484	St Louis, IL- MO	Highest Conc.	Population	Neighborhood	Annual/24	SLAMS	FEM Teledyne T640X	H			
17-119-0120	3	Alton	+38.901316 -90.146211	St Louis, IL- MO	Population	N/A	Urban	Annual/24	SLAMS	FEM Teledyne T640****	H			
17-119-3007	3	Wood River	+38.86066947 -90.10585111	St Louis, IL- MO	Population	N/A	Neighborhood	Annual/24	SLAMS	FEM Teledyne T640	H			
17-143-0037	3	Peoria	+40.697007 -89.58473722	Peoria, IL	Population	Highest Conc.	Neighborhood	Annual/24	SLAMS	FEM Teledyne T640	H			
17-157-0001	3	Houston	+38.17627761 -89.78845862	N/A	Background	Population	Regional	Annual/24	SLAMS	FEM Teledyne T640	H			
17-161-3002	3	Rock Island	+41.51472697 -90.51735026	Davenport- Moline-Rock Island, IA-IL	Population	Highest Conc.	Urban	Annual/24	SLAMS	FEM Teledyne T640	H			

AQS ID	POC	Site	Latitude Longitude	Area Represented	Primary Objective	Secondary Objective	Spatial Scale	Standard	Station Type	Monitor Type (Primary)	Sampling Schedule	Collocated	Chemical Speciation	Frequency
17-163-0010	3, 9	East St. Louis	+38.61203448 -90.16047663	St Louis, IL- MO	Population	Source	Neighborhood	Annual/24	SLAMS	FEM Teledyne T640	H	FEM Teledyne T640		
17-167-0012	3	Springfield	+39.83192087 -89.64416359	Springfield, IL	Population	Highest Conc.	Urban	Annual/24	SLAMS	FEM Teledyne T640	H			
17-197-1002	3	Joliet	+41.52688509 -88.11647381	Chicago- Naperville- Elgin, IL-IN-WI	Population	N/A	Neighborhood	Annual/24	SLAMS	FEM Teledyne T640	H			
17-197-1011	3	Braidwood	+41.22153707 -88.19096718	Chicago- Naperville- Elgin, IL-IN-WI	Background	Population	Regional	Annual/24	SLAMS	FEM Teledyne T640	H			
17-201-0118	3	Rockford	+42.2670002 -89.089170	Rockford, IL	Population	Highest Conc.	Neighborhood	Annual/24	SLAMS	FEM Teledyne T640	H			

Met One - MetOne sequential (method 545); THRM – ThermoScientific (method 143); FEM Teledyne T640 – Federal Equivalent Method Teledyne T640 Continuous (method 636); FEM Teledyne T640X – Federal Equivalent Method Teledyne T640x Continuous (method 638); H = Hourly.

PM<sub>2.5</sub> parameter code – 88101 (FRM/FEM), 88502 (non FRM/FEM)

Sites that are part of the Chemical Speciation Network are listed in the Chemical Speciation column.

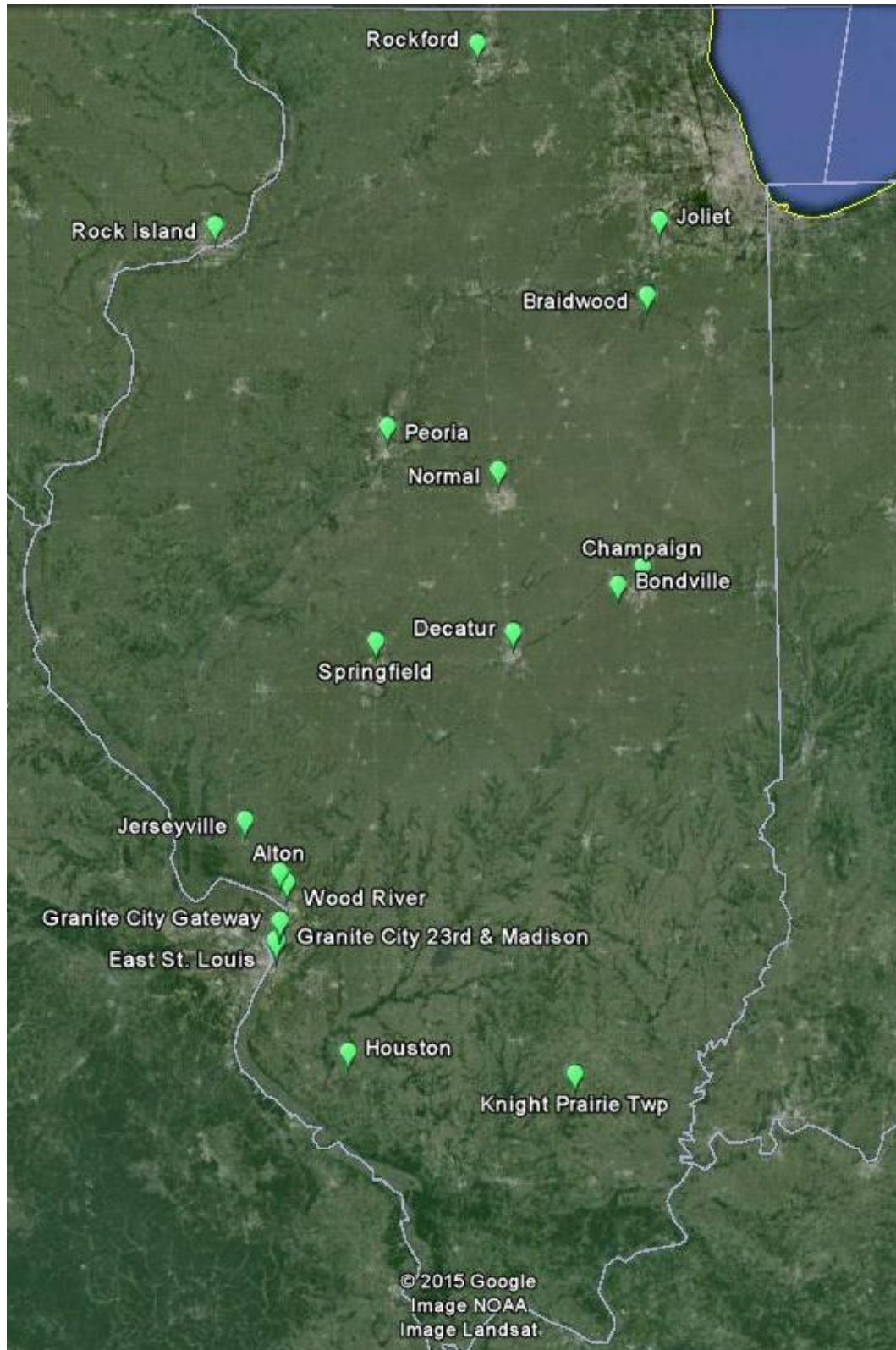
\* indicates monitor proposed for removal

\*\* indicates monitor proposed for installation

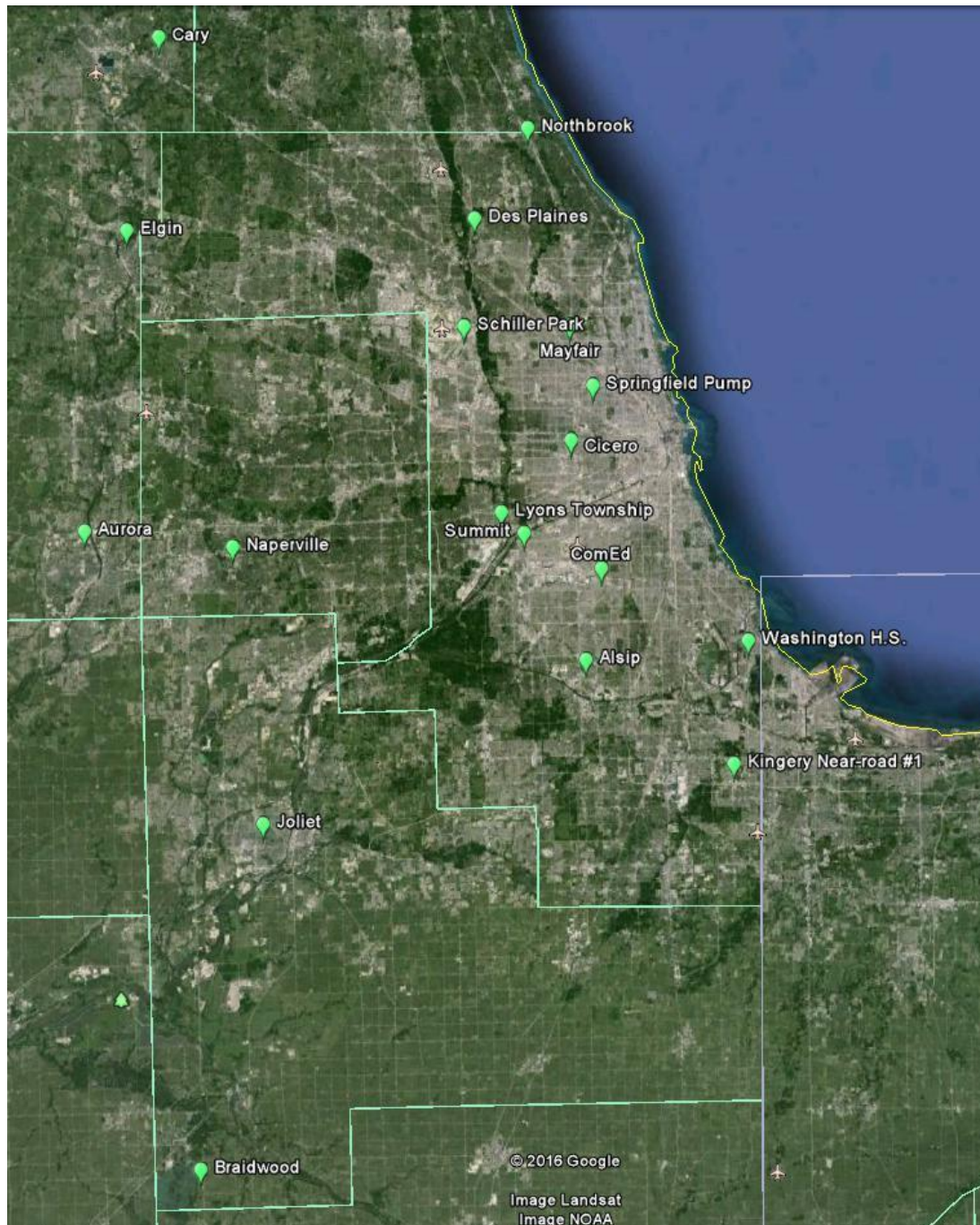
\*\*\* indicates continuous Special Purpose Monitor currently run as non-regulatory for AQI in conjunction with SLAMS FRM sampler. Plan is to gradually phase in SLAMS FEM continuous monitors listed in the table above that will replace both the SPM monitor and the site FRM sampler.

\*\*\*\* indicates current FRM 3 day sampling or 6 day sampling planned to transition to FEM monitoring pending grant funding and equipment availability

**Figure 4a: PM<sub>2.5</sub> Sites – Illinois**



**Figure 4b: PM<sub>2.5</sub> Sites – Illinois Chicago Area**





**Table 4: SO<sub>2</sub> Sites**

AQS ID	POC	Site	Latitude Longitude	Area Represented	Primary Objective	Secondary Objective	Spatial Scale	Station Type	Monitor Type	Sampling Schedule
17-019-1001	2	Bondville	+40.052780 -88.372510	Champaign-Urbana, IL	Regional Transport	Welfare Related	Regional	NCORE	T100U	Hourly
17-031-0076	1	Com Ed	+41.75139998 -87.71348815	Chicago-Naperville- Michigan City, IL-IN-WI	Population	N/A	Urban	SLAMS	T100	Hourly
17-031-1601	1	Lemont	+41.66812034 -87.99056969	Chicago-Naperville- Michigan City, IL-IN-WI	Population	N/A	Neighborhood	SLAMS	T100	Hourly
17-031-4201	2	Northbrook	+42.13999619 -87.79922692	Chicago-Naperville- Michigan City, IL-IN-WI	Population	N/A	Urban	NCORE	T100U	Hourly
17-099-0007	1	Oglesby	+41.29301454 -89.04942498	Ottawa-Streator, IL	Highest Conc.	Source	Neighborhood	SLAMS	T100	Hourly
17-115-0013	1	Decatur	+39.86683389 -88.92559445	Decatur, IL	Population	N/A	Neighborhood	SLAMS	T100	Hourly
17-115-0217	1	Primient NW	+39.850712 -88.933635	Primient (former Tate & Lyle)	Source	N/A	Neighborhood	SLAMS	43i	Hourly
17-115-0317	1	Primient SE	+39.846856 -88.923323	Primient (former Tate & Lyle)	Source	N/A	Neighborhood	SLAMS	43i	Hourly
17-117-0002	1	Nilwood	+39.39607533 -89.80973892	St Louis, IL-MO	Background	Population	Regional	SLAMS	T100	Hourly
17-119-3007	3	Wood River	+38.86066947 -90.10585111	St Louis, IL-MO	Population	N/A	Neighborhood	SLAMS	T100	Hourly
17-163-0010	3	East St. Louis	+38.61203448 -90.16047663	St Louis, IL-MO	Population	N/A	Neighborhood	SLAMS	T100	Hourly
17-179-0004	2	Pekin	+40.55646017 -89.65402807	Peoria, IL	Highest Conc.	Source	Neighborhood	SLAMS	T100	Hourly

T100 – Teledyne (method 100); T100U – Teledyne Trace Level (method 600); 43i – Thermo Scientific Model 43i (method 060)

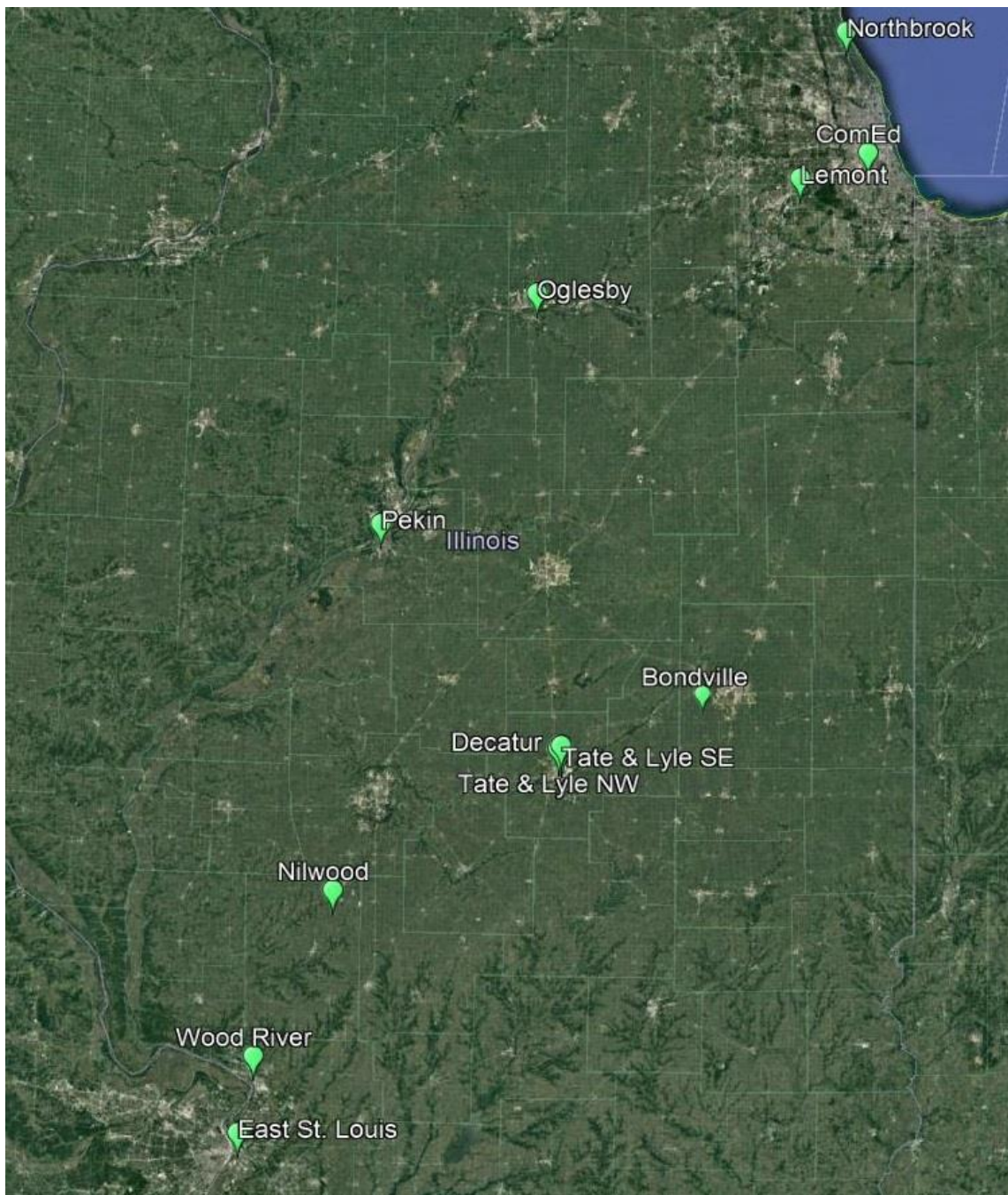
SO<sub>2</sub> parameter code – 42401

\* indicates monitor proposed for removal

\*\* indicates monitor proposed for installation



**Figure 5: SO<sub>2</sub> Sites – Illinois**



**Table 5: NO<sub>2</sub> Sites**

AQS ID	POC	Site Description	Latitude Longitude	Area Represented	Monitoring Type	Primary Objective	Secondary Objective	Spatial Scale	Station Type	Monitor Type	Sampling Schedule
17-019-1001	1	Bondville (NOy)	+40.052780 -88.372510	Champaign-Urbana, IL	Area-wide	Regional Transport	Welfare Related	Regional	NCORE	T200EU/ 501Y	Hourly
17-031-0076	1	Com Ed	+41.75139998 -87.71348815	Chicago-Naperville-Michigan City, IL-IN	Susceptible Population	Population	N/A	Neighborhood	SLAMS	T200	Hourly
17-031-3103	1	Schiller Park	+41.96519348 -87.87626473	Chicago-Naperville-Michigan City, IL-IN	Area-wide	Highest Conc.	Source	Middle	PAMS/SLAMS	T500U	Hourly
17-031-4002	1	Cicero	+41.85524313 -87.7524697	Chicago-Naperville-Michigan City, IL-IN	Area-wide	Population	Highest Conc.	Neighborhood	SLAMS	T200	Hourly
17-031-4201	1	Northbrook	+42.13999619 -87.79922692	Chicago-Naperville-Michigan City, IL-IN	Area-wide	Population	N/A	Urban	PAMS	T500U	Hourly
17-031-4201	1	Northbrook (NOy)	+42.13999619 -87.79922692	Chicago-Naperville-Michigan City, IL-IN	Area-wide	Population	N/A	Urban	PAMS/NCORE	42i-y	Hourly
17-031-0119	1	Lansing Kingery near-road #1	+41.578603 -87.557392	Kingery high traffic road segment	Near-road	Highest Conc.	Source	Micro	SLAMS	T500U	Hourly
17-031-0219	1	Chicago Kennedy near-road #2	+41.920681 -87.674425	Kennedy high traffic road segment	Near-road	Highest Conc.	Source	Micro	SLAMS	T500U	Hourly
17-117-0002	1	Nilwood	+39.39607533 -89.80973892	St Louis, IL-MO	Area-wide	Background	Population	Regional	SPM	T500U	Hourly
17-163-0010	2	East St. Louis	+38.61203448 -90.16047663	St Louis, IL-MO	Susceptible Population	Population	N/A	Neighborhood	SLAMS	T500U	Hourly

T200 – Teledyne (method 099); TE 42i – ThermoScientific (method 074); T500U – Teledyne (method 212); 42i-y – ThermoScientific (NOy method 674)

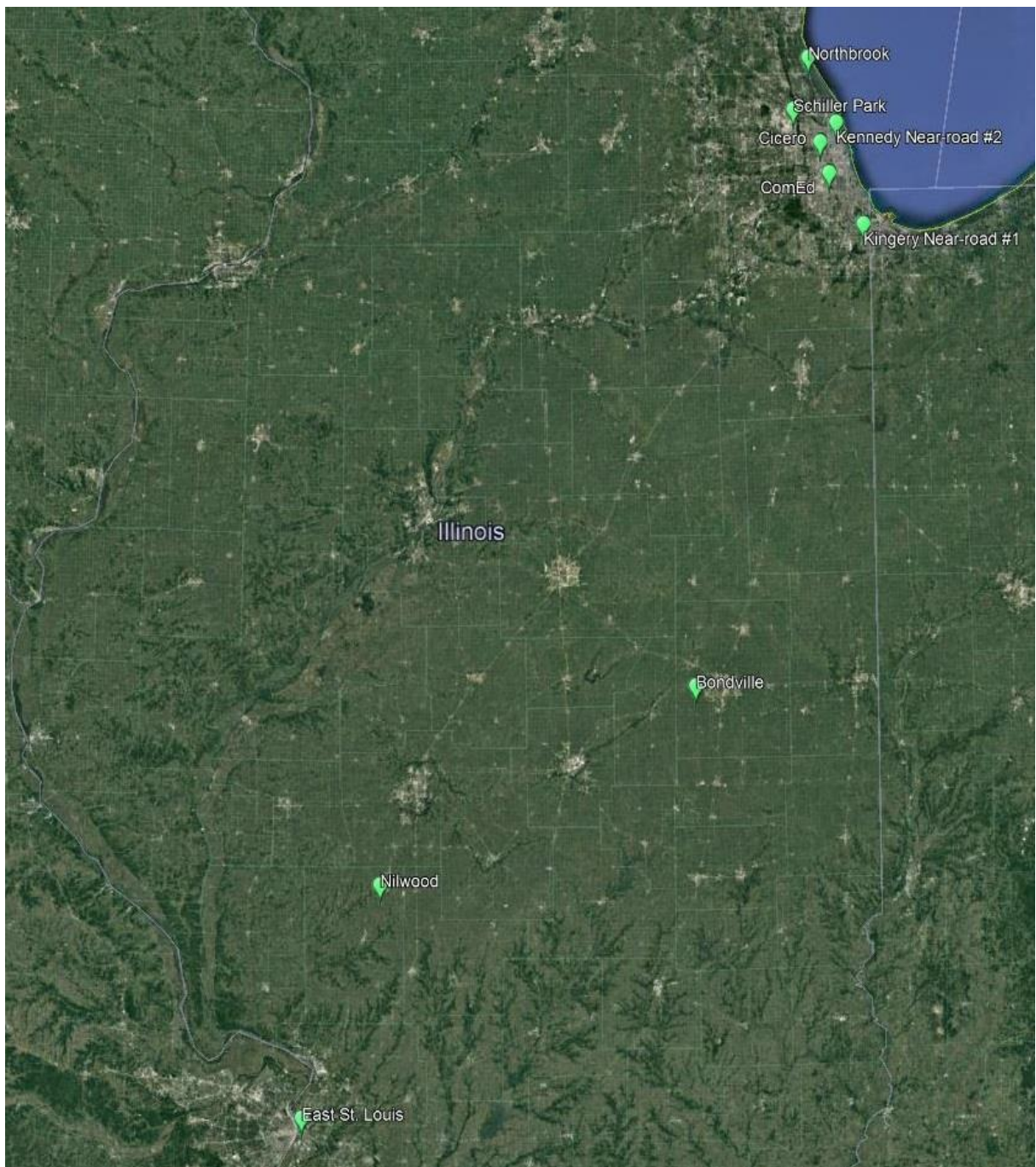
NO<sub>2</sub> parameter code – 42602

NO<sub>y</sub> parameter code - 42600

\* indicates monitor proposed for removal

\*\* indicates monitor proposed for installation

**Figure 6: NO<sub>2</sub> Sites – Illinois**



**Table 6: CO Sites**

AQS ID	POC	Site Description	Latitude Longitude	Area Represented	Primary Objective	Secondary Objective	Spatial Scale	Station Type	Monitor Type	Sampling Schedule
17-019-1001	1	Bondville	+40.052780 -88.372510	Champaign-Urbana, IL	Regional Transport	Welfare Related	Regional	NCORE	API 300EU	Hourly
17-031-4201	1	Northbrook	+42.13999619 -87.79922692	Chicago-Naperville-Michigan City, IL-IN-WI	Population	N/A	Neighborhood	PAMS/NCORE	48iTLE	Hourly
17-031-0119	1	Lansing Kingery near-road #1	+41.578603 -87.557392	Kingery high traffic road segment	Highest Conc.	Source	Micro	SLAMS	API 300	Hourly

48iTLE – ThermoScientific Trace Level (method 554); API 300EU – Teledyne Trace Level (method 593) API 300 – Teledyne/API non-trace level (method 093)

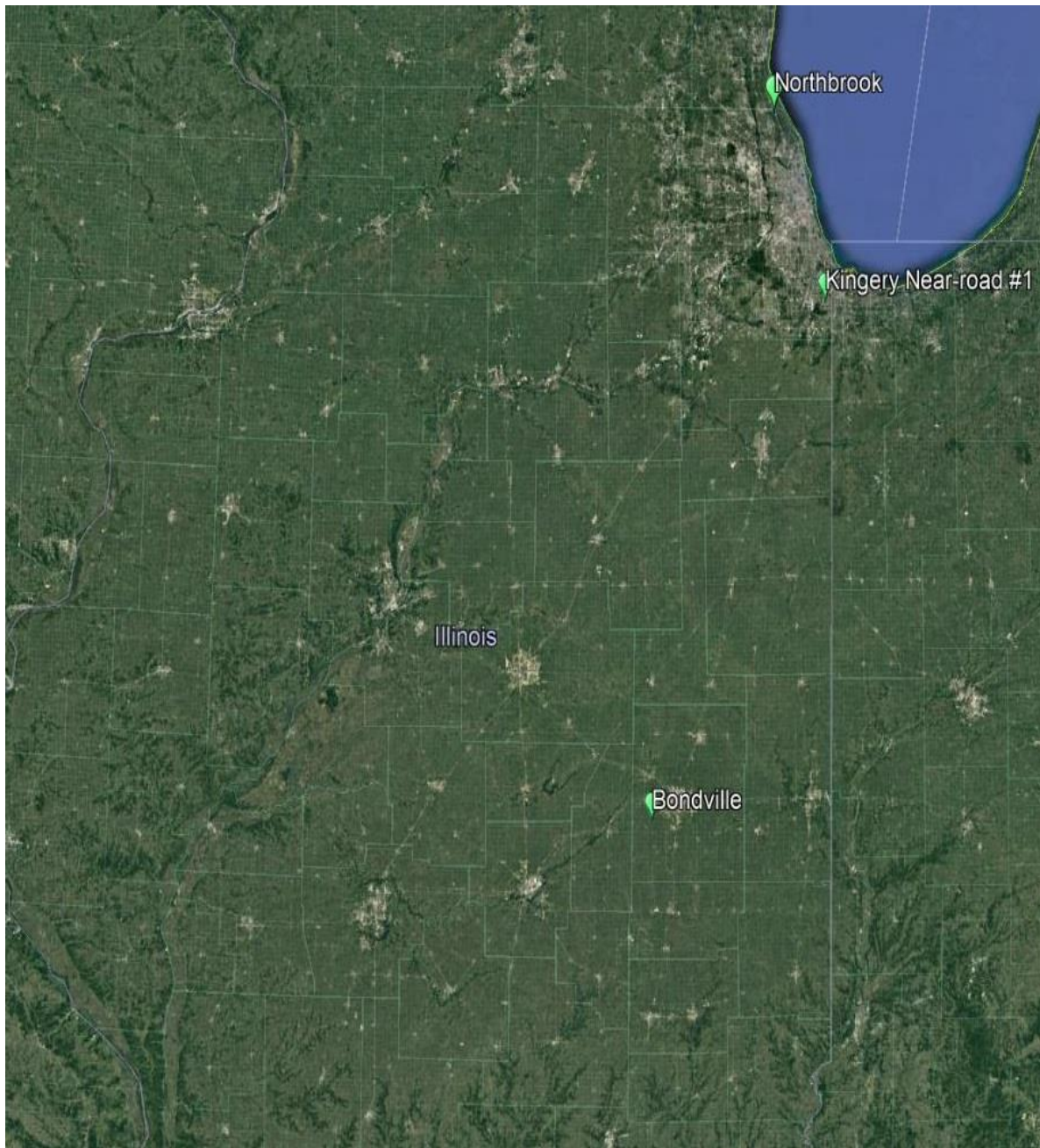
CO parameter code – 42101

\* indicates monitor proposed for removal

\*\* indicates monitor proposed for installation



**Figure 7: CO Sites – Illinois**



**Table 7: PM<sub>10</sub> and PM<sub>10-2.5</sub> Sites**

AQS ID	POC	Site Description	Latitude Longitude	Area Represented	Primary Objective	Secondary Objective	Spatial Scale	Station Type	Monitor Type (Primary)	Sampling Schedule	Collocated
17-031-0022	4	Washington High School (PM <sub>10</sub> )	+41.68716544 -87.53931548	Chicago-Naperville-Michigan City, IL-IN-WI	Highest Conc.	Source	Neighborhood	SLAMS	Teledyne T640x*	Hourly	
17-031-1016	3	Lyons Township (PM <sub>10</sub> )	+41.801180 -87.832349	Chicago-Naperville-Michigan City, IL-IN-WI	Highest Conc.	Source	Middle	SLAMS	Teledyne T640x	Hourly	
17-031-4201	1, 9	Northbrook (PM <sub>10</sub> )	+42.13999619 -87.79922692	Chicago-Naperville-Michigan City, IL-IN-WI	Population	N/A	Urban	NCORE	SA/GMW**	1/6	YES (1/12 day)
17-031-4201	3	Northbrook (PM coarse)	+42.13999619 -87.79922692	Chicago-Naperville-Michigan City, IL-IN-WI	Population	N/A	Urban	NCORE	Teledyne T640X	Hourly	
17-119-1007	3	Granite City (PM <sub>10</sub> )	+38.70453426 -90.13967484	St Louis, IL-MO	Highest Conc.	Source	Neighborhood	SLAMS	Teledyne T640X	Hourly	

Teledyne T640x – Federal Equivalent Method Teledyne T640x Continuous (method 639 PM<sub>10</sub>/method 640 PMcourse);

SA/GMW - Sierra Anderson/General Metal Works Hi-Volume Sampler, Standard Conditions (method 063);

The National Park Service operates an additional PM<sub>10</sub> monitor in Bondville as part of the IMPROVE network.

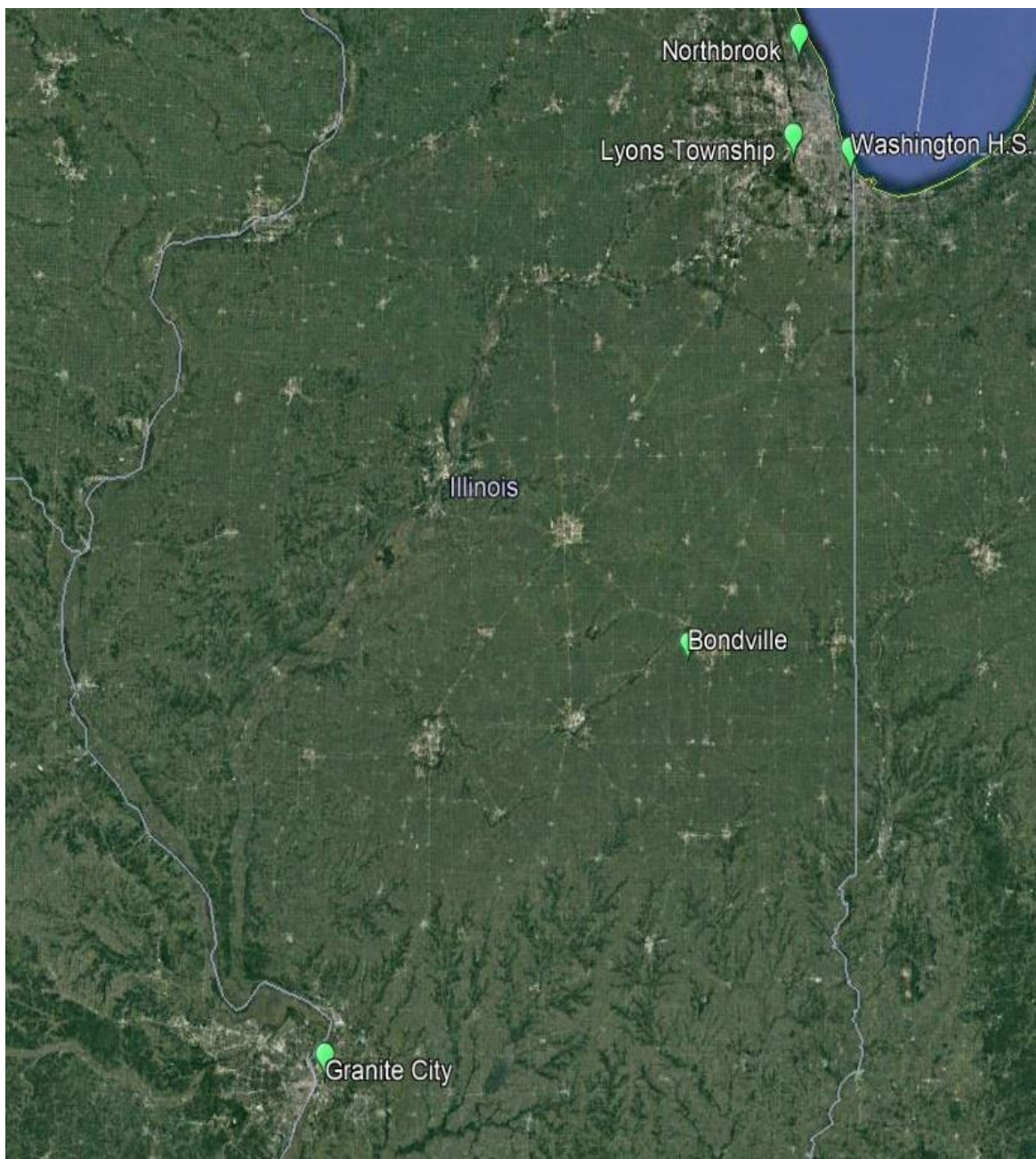
PM<sub>10</sub> parameter code – 81102

PM coarse parameter code – 86101

\* Indicates monitor proposed for installation, current PM<sub>10</sub> monitoring BAM 1020 - Met One 1020 Beta Attenuation Monitor (method 122).

\*\* Indicates PM<sub>10</sub> sampling may optionally be switch to continuous FEM T640x. SA/GMW sampling would continue to support NATTS PM<sub>10</sub> metals monitoring.

**Figure 8: PM<sub>10</sub> Sites – Illinois**





**Table 8: Lead Sites**

AQS ID	POC	Site Description	Latitude Longitude	Area Represented	Primary Objective	Secondary Objective	Spatial Scale	Station Type	Monitor Type (Primary)	Frequency	Collocated
17-031-0022	2	Washington High School	+41.68716544 -87.53931548	Chicago- Naperville- Michigan City, IL-IN-WI	Highest Conc.	N/A	Neighborhood	SLAMS	Tisch 5170	1/6	
17-031-0110	1, 9	Perez	+41.855917 -87.658419	H. Kramer	Source	N/A	Middle	SLAMS	Tisch 5170	1/6	YES (1/12 day)
17-119-0010	1, 9	Granite City	+38.69443831 -90.15395426	Mayco / US Steel	Highest Conc.	Source	Middle	SLAMS	Hi-Vol	1/6	YES (1/12 day)

Hi-Vol - Environmental Products Hi-Volume Sampler, Local Conditions (laboratory method 045);

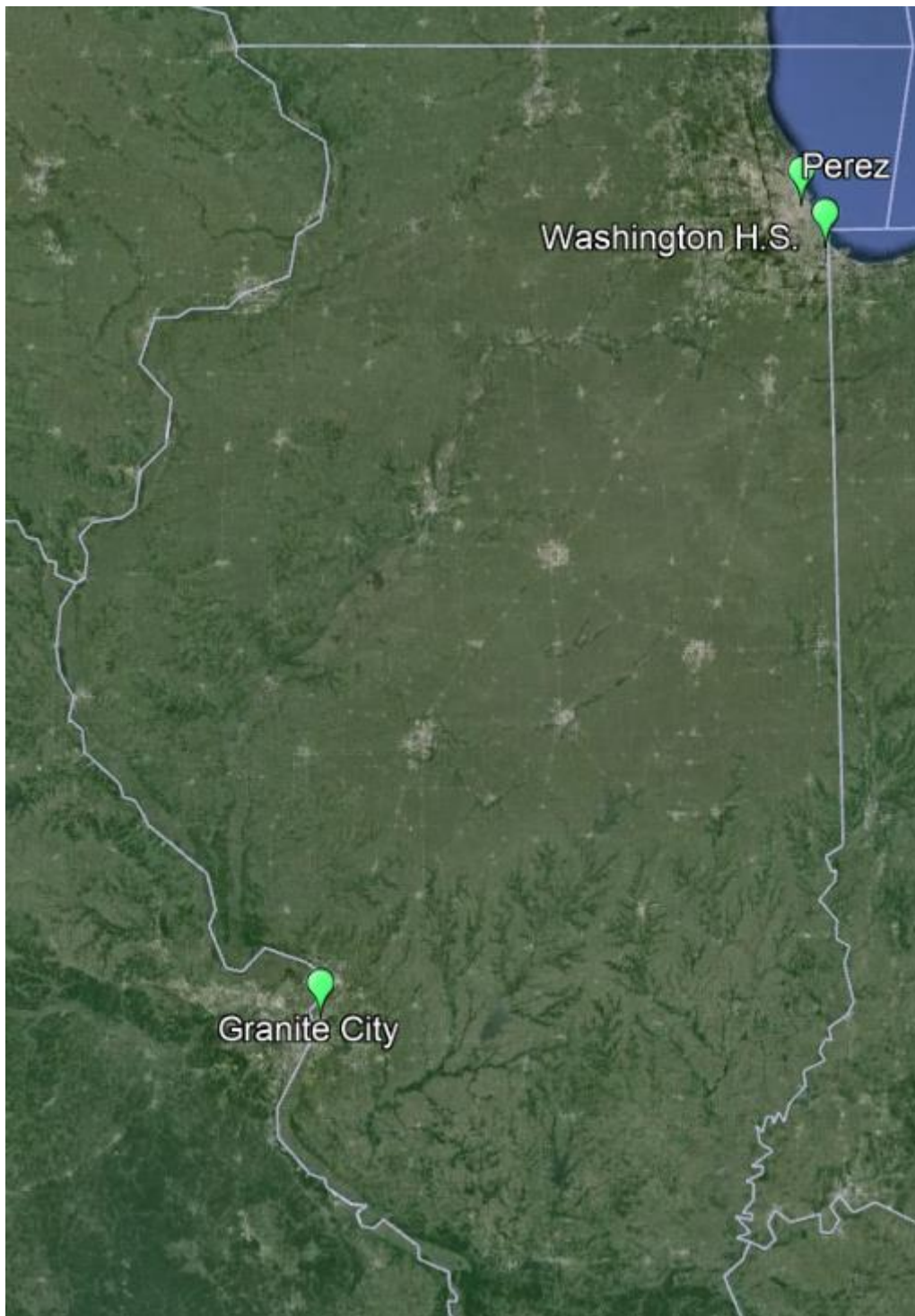
Tisch 5170 – Tisch Model 5170-D Hi-Volume Sampler, Local Conditions (laboratory method 045)

Lead parameter code – 14129

\* indicates monitor proposed for removal or has been removed

\*\* indicates monitor proposed for installation or has been installed

**Figure 9: Lead Sites – Illinois**



## **Appendix A**

### **Data Requirements Rule SO<sub>2</sub> Emissions Assessment for Illinois Areas Modeled to be in Attainment with the 2010 1-hour SO<sub>2</sub> NAAQS**

#### **Background**

Pursuant to Section 51.1205(b) of the Data Requirements Rule (DRR) (40 CFR 51 Subpart BB), Illinois EPA is required to submit an annual report to the Regional Administrator that documents the annual SO<sub>2</sub> emissions of each subject source in each area previously modeled to be attaining the 2010 1-hour SO<sub>2</sub> NAAQS. Subject sources refer to stationary sources that are not located in designated nonattainment areas and either have actual annual SO<sub>2</sub> emissions data of 2,000 tons or more or have been identified as requiring further air quality characterization. This report is to be submitted to the Regional Administrator by July 1 of each year and must provide an assessment of the cause of any emissions increases from the previous year and a recommendation regarding the need for additional modeling to determine if the areas are still meeting the 1-hour SO<sub>2</sub> NAAQS.

Multiple areas in Illinois have been designated by USEPA as attaining the 1-hour SO<sub>2</sub> NAAQS, based upon a technical analysis by USEPA that considered, in part, modeling results submitted by Illinois EPA pursuant to the DRR or the 2015 SO<sub>2</sub> Consent Decree. Six of the attainment areas have both active subject DRR sources and model design values greater than 50% of the 1-hour SO<sub>2</sub> NAAQS (see Table A-1). These six areas remain subject to the ongoing data requirements listed under Section 51.1205(b).

**Table A-1: SO<sub>2</sub> Attainment/Unclassifiable Areas in Illinois Subject to Ongoing Data Requirements Pursuant to Section 51.1205(b)**

<b>Attainment/Unclassifiable Area</b>	<b>Subject Source(s)</b>	<b>Modeled Period</b>	<b>Initial Model Design Value</b>	<b>Percent of 1-hour SO<sub>2</sub> NAAQS*</b>
Jasper County	Newton Power Station	2012-2014	138.89 µg/m <sup>3</sup>	70.75%
Crawford County	Rain CII Carbon	2015-2017	118.2 µg/m <sup>3</sup>	60.21%
Lake County	Midwest Generation LLC -Waukegan	2013-2015	98.91 µg/m <sup>3</sup>	50.38%
Granite City Area	U.S. Steel-Granite City Works; Gateway Energy & Coke Company	2013-2015	190.93 µg/m <sup>3</sup>	97.25%
Williamson County	Southern Illinois Power Coop	2013-2015	194.92 µg/m <sup>3</sup>	99.29%

\*Based on 1-hour SO<sub>2</sub> NAAQS value of 196.32 ug/m<sup>3</sup>

## **2018-2023 SO<sub>2</sub> Emission Trends Data and Recommendations**

Table A-2 presents the relevant annual SO<sub>2</sub> emissions data for the period 2018 through 2023. Annual SO<sub>2</sub> emissions are listed for the subject DRR source in each area, along with all the background sources that were included in the DRR and SO<sub>2</sub> Consent Decree modeling.

USEPA's implementation of the primary SO<sub>2</sub> NAAQS occurred in phases and continues with ongoing annual emissions assessment requirements. As a result, progressively more recent years of emissions data have been used in modeling demonstrations that have been the basis of some area designations and in verification modeling. The year with the maximum annual emissions in each three-year modeled period was determined for each area and then compared with the area emission totals for 2023. These data were then compared with USEPA's recommended guidelines for additional modeling presented in the Preamble to the DRR (80 FR 51052). Emissions data for 2012-2014 were used in the SO<sub>2</sub> Consent Decree modeling, whereas emissions data for 2013-2015 were used in the DRR modeling. The Crawford County area modeling was updated using emissions data for 2015-2017 due to the 2017 emissions increase. The results of these analyses are presented below:

**Jasper County** – This area includes a single source. The highest modeled annual SO<sub>2</sub> emissions total for the Jasper County attainment/unclassifiable area was 16,533.83 tons, which occurred in 2012. These emissions resulted in a modeled design value of 138.89 µg/m<sup>3</sup> or 70.75% of the SO<sub>2</sub> NAAQS. Emissions from the Newton Power Station (ID: 079808AAA), the only subject SO<sub>2</sub> source for this area, decreased to 7,421.60 tons in 2023 (-55.1%). Given the emissions decrease in 2023, Illinois EPA recommends no additional modeling for the Jasper County attainment/unclassifiable area at this time.

**Crawford County** – This area includes two sources (and a third source in Sullivan County, IN). The highest modeled annual SO<sub>2</sub> emissions total for the Crawford County attainment/unclassifiable area was 9,625.37 tons, which occurred in 2017. These emissions resulted in a modeled design value of 118.2 µg/m<sup>3</sup> or 60.21% of the SO<sub>2</sub> NAAQS. Emissions from SO<sub>2</sub> sources in the area decreased to 3,688.65 tons in 2023 (-61.7%). Given the emission decrease in 2023, Illinois EPA recommends no additional modeling for the Crawford County attainment/unclassifiable area at this time.

**Lake County** – This area originally included nine sources (one in Kenosha County, WI); however, Bio Energy (Illinois) LLC and Pleasant Prairie Generating Station are no longer operational. The highest modeled annual SO<sub>2</sub> emissions total for the Lake County attainment/unclassifiable area was 9,205.90 tons, which occurred in 2013. These emissions resulted in a modeled design value of 98.91 µg/m<sup>3</sup> or 50.38% of the SO<sub>2</sub> NAAQS. Emissions from SO<sub>2</sub> sources in the area decreased to 119.74 tons in 2023 (-98.7%). Given the emissions decrease in 2023, Illinois EPA recommends no additional modeling for the Lake County attainment/unclassifiable area at this time.

**Granite City Area** – This area includes seven sources, five of which are in Madison County, IL and two of which are in St. Clair County, IL. The highest modeled annual SO<sub>2</sub> emissions total for the Granite City attainment/unclassifiable area was 2,345.30 tons, which occurred in 2014. These

emissions resulted in a modeled design value of 190.93  $\mu\text{g}/\text{m}^3$  or 97.25% of the  $\text{SO}_2$  NAAQS. Emissions from  $\text{SO}_2$  sources in the area decreased to 1,231.03 tons in 2023 (-47.5%). Given the emissions decrease in 2023, Illinois EPA recommends that no additional modeling be performed for the Granite City attainment/unclassifiable area at this time.

**Williamson County** – This area includes two sources. The highest modeled annual  $\text{SO}_2$  emissions total for the Williamson County attainment/unclassifiable area was 8,651.62 tons, which occurred in 2014. These emissions resulted in a modeled design value of 194.92  $\mu\text{g}/\text{m}^3$  or 99.29% of the  $\text{SO}_2$  NAAQS. Emissions from  $\text{SO}_2$  sources in the area decreased to 2,346.02 tons in 2023 (-72.9%). Given the emissions decrease in 2023, Illinois EPA recommends no additional modeling for the Williamson County attainment/unclassifiable area at this time.

**Table A-2: Annual SO<sub>2</sub> Emissions Data for Attainment/Unclassifiable Areas**

Attainment Area	ID Number	Facility Name	2018 Emissions	2019 Emissions	2020 Emissions	2021 Emissions	2022 Emissions	2023 Emissions	Modeled Maximum	2023 Area Total
Jasper County	079808AAA	Newton Power Station	4,638.60	5,000.30	4,632.20	6,453.10	6,815.90	7,421.60	16,533.83	7,421.60
Crawford County	033025AAJ	Rain CII Carbon	4,162.60	5,451.60	4,067.00	1,759.90	700.10	653.40	9,625.37	3,688.65
	033808AAB	Marathon Petroleum	114.07	146.16	138.78	170.53	169.62	197.00		
	1815300005	Merom Generating Station	<i>3,802.70</i>	<i>2,897.90</i>	<i>1,587.90</i>	<i>3,866.80</i>	<i>4,004.90</i>	<i>2,838.25</i>		
Lake County	097190AAC	Midwest Generation LLC – Waukegan	1,173.77	754.15	416.40	1,264.35	813.13	2.00	9,205.90	119.74
	097190AAP	Gold Bond Building Products LLC	0.12	0.13	0.13	0.14	0.15	0.14		
	097025AAR	Countryside Genco LLC	50.73	51.76	43.00	0.00	0.00	2.62		
	097806AAG	Countryside Landfill	17.20	16.20	37.50	63.40	46.50	19.00		
	097809AAD	Abbott Laboratories	0.31	0.31	0.31	0.31	0.32	0.30		
	097125AAA	AbbVie Inc.	1.57	0.40	0.36	0.39	0.24	0.21		
	097200AAV	Zion Landfill Inc	47.80	81.83	98.09	84.39	94.59	95.47		
	097200ABC	Bio Energy (Illinois) LLC	25.30	32.54	16.89	<i>Shutdown</i>	<i>Shutdown</i>	<i>Shutdown</i>		
	230006260	Pleasant Prairie Generating Station	<i>258.30</i>	<i>Shutdown</i>	<i>Shutdown</i>	<i>Shutdown</i>	<i>Shutdown</i>	<i>Shutdown</i>		
Granite City Area	119813AAI	U.S. Steel – Granite City Works	350.30	418.67	375.25	260.54	284.85	151.61	2,345.30	1,231.03
	119040ATN	Gateway Energy & Coke	2,542.82	1,171.37	976.71	1,118.61	959.92	1,022.50		
	119465AAG	Green Plains Madison LLC	1.72	0.96	0.60	0.33	2.87	2.90		
	119040AAC	Amsted Rail Co. Inc.	5.10	4.00	1.00	1.10	1.70	1.30		
	163121AAB	Afton Chemicals	71.18	73.40	58.02	57.95	57.06	46.75		
	163050AAD	Milam Recycling & Disposal	24.10	32.87	31.85	29.35	13.85	5.20		
	119801AAK	Chain of Rocks Recycling & Disposal	0.77	0.80	0.76	0.59	0.52	0.77		
Williamson County	199856AAC	Southern Illinois Power Coop	5,112.70	5,843.70	2,927.40	1,657.90	2,810.00	2,346.00	8,651.62	2,346.02
	199862AAD	United States Penitentiary	0.02	0.02	0.02	0.01	0.02	0.02		

Source: Illinois EPA Annual Emissions Reports, except for those values listed in *red italics*, which were obtained from USEPA's Clean Air Markets database

### **SO<sub>2</sub> Attainment Demonstration for Alton Township**

In the initial 2018 attainment demonstration for Alton Township, Alton Steel was a primary contributor to modeled violations of 1-hour SO<sub>2</sub>. The attainment demonstration modeling initially included four horizontal stack releases for the Ladle Metallurgy Furnace (LMF) baghouse at the Alton Steel facility as the vents were angled downwards at the time of the demonstration modeling. In subsequent modeling for the 2018 attainment demonstration, the LMF baghouse was modeled with a singular hypothetical vertical stack release. With the vertical stack, Alton Steel was no longer a primary contributor to the modeled violations. In response to the attainment demonstration modeling, Alton Steel was issued construction permit #18020009 on March 14, 2019, which authorized construction of a new vertical stack for the LMF baghouse to replace the four existing downward angled vents and improve dispersion of the LMF emissions. The agency was notified by Alton Steel on August 26, 2019, of completion of the LMF baghouse vertical stack installation.

The attainment demonstration modeling was based upon allowable SO<sub>2</sub> emissions of 274.85 tons per year (tpy). In 2023, the facility reported actual SO<sub>2</sub> emissions of 14.83 tpy. Given the actual emissions are 5.4% of the total modeled emissions, Illinois EPA recommends no additional modeling of the Alton Steel facility.

## **Appendix B**

### **2025 O3 Enhanced Monitoring Plan**

Rulemaking for the final 2015 ozone National Ambient Air Quality Standard included several revisions to PAMS requirements. The first revision was to require PAMS monitoring at NCore sites in CBSAs with a population of one million or more, regardless of attainment status. For Illinois, this requirement affects the amount and type of monitoring at the Northbrook NCore site in Chicago. Missouri is responsible for NCore/PAMS monitoring in the St. Louis CBSA. The second revision requires that States with Moderate and above 8-hour ozone nonattainment areas develop and implement an Enhanced Monitoring Plan (EMP) detailing enhanced ozone and ozone precursor monitoring activities to be performed. Since the Chicago CBSA and St. Louis CBSA is currently classified as a Moderate ozone nonattainment area, an EMP is required.

These EMPs are intended to provide monitoring organizations with the flexibility to implement additional monitoring to suit the needs of their area. Guidance for elements of an EMP include additional ozone sites; additional nitrogen dioxide, nitrogen oxide, and/or nitric oxide sites; additional volatile organic compound measurements; and enhanced upper air measurements.

Illinois has determined that the EMP measurement options will include (but are not limited to) the continuation of additional ozone monitoring and nitrogen oxide monitoring in the Chicago CBSA, which are well above federally required minimum amounts. As seen in Table B-1, Illinois operates 14 of the 19 monitors in the Chicago CBSA, well over the 3 minimally required monitors. The additional monitors operated in the Chicago CBSA are used to support the basic monitoring objectives of public data reporting, air quality mapping, compliance, and understanding of ozone-related atmospheric processes. For nitrogen oxides monitoring (NO<sub>x</sub>, NO<sub>2</sub> direct measure, NO<sub>y</sub>), Table B-2 shows the current locations of monitoring sites. Three monitors are required by federal rules with additional monitors required by the Regional Administrator. Illinois operates 7 of the 8 nitrogen oxides monitors in the Chicago CBSA. Illinois is also planning to continue year-round carbonyl and volatile organic compound monitoring outside of the NATTS and PAMS required monitoring at the Schiller Park site on a one-in-six day schedule. Table B-3 shows the current toxic monitoring network in the Chicago CBSA including enhanced toxic monitoring at Northbrook. Lastly, Illinois will continue to measure additional meteorological parameters at the Northbrook site, including a ceilometer.

Illinois has determined that the EMP measurement options will include (but are not limited to) the continuation of additional ozone monitoring and nitrogen oxide monitoring in the Illinois portion of the St. Louis CBSA, which are well above federally required minimum amounts. As seen in Table B-4, Illinois operates 6 of the 13 monitors currently operating in the St. Louis CBSA, triple the 2 minimally required monitors. The additional monitors operated in the St. Louis CBSA are used to support the basic monitoring objectives of public data reporting, air quality mapping, compliance, and understanding of ozone-related atmospheric processes. For nitrogen oxides monitoring, Table B-5 shows the current of monitoring sites. Three monitors are required by federal rules with additional monitors required by the Regional Administrator. Illinois operates 2 of the 6 nitrogen oxides monitors in the St. Louis CBSA. Missouri Department of Natural Resources (Missouri DNR) currently conducts NCore/NATTS/PAMS



monitoring with toxics related objectives for the St. Louis MSA. Missouri DNR will outline the continued extent of toxics monitoring in their own annual network plan and will also submit an enhanced monitoring plan to EPA Region 7. Tables below may not include all out of state monitors.

**Table B-1: Chicago CBSA Ozone Monitoring**

<b>Monitor Count</b>	<b>State</b>	<b>County</b>	<b>Site</b>	<b>AQS ID</b>	<b>Scale</b>
1	Illinois	Cook	Alsip	17-031-0001	Urban
2	Illinois	Cook	Chicago SWFP	17-031-0032	Neighborhood
3	Illinois	Cook	Chicago Lawndale	17-031-0076	Urban
4	Illinois	Cook	Chicago Taft	17-031-1003	Urban
5	Illinois	Cook	Lemont	17-031-1601	Urban
6	Illinois	Cook	Schiller Park	17-031-3103	Neighborhood
7	Illinois	Cook	Cicero	17-031-4002	Neighborhood
8	Illinois	Cook	Des Plaines	17-031-4007	Urban
9	Illinois	Cook	Northbrook	17-031-4201	Urban
10	Illinois	Cook	Evanston	17-031-7002	Neighborhood
11	Illinois	DuPage	Lisle	17-043-6001	Urban
12	Illinois	Kane	Elgin	17-089-0005	Urban
13	Illinois	Lake	Zion	17-097-1007	Urban
14	Illinois	McHenry	Cary	17-111-0001	Urban
15	Illinois	Will	Braidwood	17-197-1011	Regional
16	Indiana	Lake	Gary	18-089-0022	Neighborhood
17	Indiana	Lake	Hammond	18-089-2008	Neighborhood
18	Indiana	Porter	Ogden Dunes	18-127-0024	Urban
19	Indiana	Porter	Valparaiso	18-127-0026	Urban

**Table B-2: Chicago CBSA Nitrogen Oxides Monitoring**

<b>Monitor Count</b>	<b>State</b>	<b>County</b>	<b>Site</b>	<b>AQS ID</b>	<b>Scale</b>	<b>Monitor</b>
1	Illinois	Cook	Chicago Lawndale	17-031-0076	Neighborhood	NO-NO <sub>2</sub> -NO <sub>x</sub>
2	Illinois	Cook	Schiller Park	17-031-3103	Middle	NO <sub>2</sub>
3	Illinois	Cook	Cicero	17-031-4002	Neighborhood	NO-NO <sub>2</sub> -NO <sub>x</sub>
4	Illinois	Cook	Northbrook	17-031-4201	Urban ( <b>PAMS Season</b> )	NO <sub>2</sub>
5	Illinois	Cook	Northbrook	17-031-4201	Urban	NO-NO <sub>y</sub>
6	Illinois	Cook	Kingery	17-031-0118	Near-road	NO <sub>2</sub>
7	Illinois	Cook	Kennedy	17-031-0218	Near-road	NO <sub>2</sub>
8	Indiana	Lake	Gary	18-089-0022	Neighborhood	NO <sub>2</sub>

**Table B-3: Chicago CBSA Toxics Monitoring**

Monitor Count	State	County	Site	AQS ID	Pollutant Class
1	Illinois	Cook	Northbrook	17-031-4201	Carbonyls
2	Illinois	Cook	Northbrook	17-031-4201	Enhanced Carbonyls ( <b>PAMS Season</b> )
3	Illinois	Cook	Northbrook	17-031-4201	Volatile Organic Compounds
4	Illinois	Cook	Northbrook	17-031-4201	Semi-Volatile Organic Compounds
5	Illinois	Cook	Northbrook	17-031-4201	Enhanced Speciated Volatile Organic Compounds ( <b>PAMS Season</b> )
6	Illinois	Cook	Northbrook	17-031-4201	PM10 metals
7	Illinois	Cook	Schiller Park	17-031-3103	Carbonyls
8	Illinois	Cook	Schiller Park	17-031-3103	Volatile Organic Compounds
9	Indiana	Lake	East Chicago	18-089-0006	Volatile Organic Compounds
10	Indiana	Lake	Gary	18-089-0022	Volatile Organic Compounds
11	Indiana	Lake	East Chicago Marina	18-089-0034	Volatile Organic Compounds
12	Indiana	Lake	Hammond	18-089-2008	Volatile Organic Compounds
13	Indiana	Porter	Ogden Dunes	18-127-0024	Volatile Organic Compounds

**Table B-4: Saint Louis CBSA Ozone Monitoring**

Monitor Count	State	County	Site	AQS ID	Scale
1	Illinois	Jersey	Jerseyville	17-083-0117	Urban
2	Illinois	Macoupin	Nilwood	17-117-0002	Regional
3	Illinois	Madison	Alton	17-119-0120	Urban
4	Illinois	Madison	Maryville	17-119-0122	Urban
5	Illinois	Madison	Wood River	17-119-3007	Urban
6	Illinois	St. Clair	East St. Louis	17-163-0010	Neighborhood
7	Missouri	Jefferson	Arnold West	29-099-0019	Neighborhood
8	Missouri	Lincoln	Foley West	29-113-0004	Neighborhood
9	Missouri	St. Charles	West Alton	29-183-1002	Urban
10	Missouri	St. Charles	Orchard Farm	29-183-1004	Urban
11	Missouri	St. Louis	Pacific	29-189-0005	Neighborhood
12	Missouri	St. Louis	Maryland Heights	29-189-0014	Neighborhood
13	Missouri	St. Louis City	Blair Street	29-510-0085	Neighborhood

**Table B-5: Saint Louis CBSA Nitrogen Oxides Monitoring**

Monitor Count	State	County	Site	AQS ID	Scale	Monitor
1	Illinois	Macoupin	East St. Louis	17-163-0010	Regional (SPM)	NO <sub>2</sub>
2	Illinois	St. Clair	East St. Louis	17-163-0010	Neighborhood	NO <sub>2</sub>
3	Missouri	St. Louis	Rider Trail I-70	29-189-0016	Near-road (NO/NO <sub>x</sub> SPM)	NO-NO <sub>2</sub> -NO <sub>x</sub>
4	Missouri	St. Louis City	Blair Street	29-510-0085	Neighborhood	NO-NO <sub>2</sub> -NO <sub>x</sub>
5	Missouri	St. Louis City	Blair Street	29-510-0085	Neighborhood	NO-NO <sub>y</sub>
6	Missouri	St. Louis City	Forest Park	29-510-0094	Near-road (NO/NO <sub>x</sub> SPM)	NO-NO <sub>2</sub> -NO <sub>x</sub>