

# WEEKLY AIR MONITORING REPORT

## Vo-Toys Removal Action

**Site Name:** Vo-Toys Site, Harrison, New Jersey

**CERCLA Docket No.:** 02-2019-2028

**Report No.:** 120

**Report Date:** July 28, 2023

**Reporting Period:** July 24 to July 28, 2023

## 1 Introduction

This report summarizes the Vo-Toys Removal Action (RA) air monitoring program conducted between July 24 to July 28, 2023 at the Vo-Toys site located at 400 South 5<sup>th</sup> Street, Harrison, New Jersey (the site). Air monitoring for particulates less than 10 microns in diameter (PM<sub>10</sub>) and mercury vapor was conducted in accordance with the U.S. Environmental Protection Agency (USEPA)-approved Community Air Monitoring Plan (CAMP). PM<sub>10</sub> and mercury vapor results were compared with action levels presented in the CAMP.

Air monitoring during the week of July 24, 2023, included the following monitoring tasks:

- Meteorological monitoring
- Work area perimeter air monitoring
- Site perimeter air monitoring
- Off-site/community air monitoring

A summary of the monitoring activities that were conducted is presented in Section 3.

## 2 Meteorological Monitoring

Meteorological monitoring was conducted to measure wind speed, wind direction, and air temperature. Meteorological readings were recorded on a data logging device and evaluated at least three times per day to determine the upwind and downwind boundaries of the site.

Table 2-1 presents a summary of the meteorological monitoring during the week of July 24, 2023. The attached site air monitoring figures show the locations of the meteorological sensors.

**Table 2-1  
Meteorological Monitoring Summary**

Date	Weather
July 24, 2023	Partly cloudy; High in the upper 80s °F; Winds: 5-10 mph S (Online)
July 25, 2023	Partly cloudy; Thunderstorms in the PM; High in the upper 80s °F; Winds: 5-10 mph SW (Online)
July 26, 2023	Sunny, High in the low 90s °F; Winds: 5-10 mph SW (Online)
July 27, 2023	Sunny, High in the low 90s °F; Winds: 5-10 mph SW (Online)
July 28, 2023	Sunny, High in the mid-90s °F; Winds: 5-10 mph SW (Online)

### 3 PM<sub>10</sub> and Mercury Vapor Monitoring

#### 3.1 Work Area Perimeter Air Monitoring

Air monitoring was performed at the perimeter of the RA work areas and the RA activities were modified as necessary so that particulates and mercury vapors above action levels were not migrating to the site perimeter and off-site/community air monitoring locations. The work area perimeter monitoring locations were in or adjacent to the building footprints and were determined based on the location and extent of RA activities and the prevailing wind direction. Readings were recorded and maintained on site by the Engineer.

A summary of work area perimeter air monitoring data is presented in the table below.

#### Summary of Anchor QEA's Work Area Perimeter Air Monitoring for PM<sub>10</sub> and Mercury Vapor

Date	PM <sub>10</sub> 15-Minute Average Range (ug/m <sup>3</sup> ) <i>Action Level &lt;125 ug/m<sup>3</sup></i>	Mercury Vapor 15-Minute Average Range (ug/m <sup>3</sup> ) <i>Action Level &lt;10 ug/m<sup>3</sup></i>
<b>Building A East End Removals</b>		
July 24, 2023	12.0 – 120.0 <sup>5</sup>	0.0 – 0.0
July 25, 2023	10.0 – 23.0	0.0 – 0.0
July 26, 2023	28.0 – 66.0	0.0 – 0.0
July 27, 2023	28.0 – 40.0	0.0 – 0.0
July 28, 2023	19.0 – 41.0	0.0 – 0.0

Notes:

1. ug/m<sup>3</sup>: micrograms per cubic meter.
2. PM<sub>10</sub> action levels: Normal operations if 15-minute average of PM<sub>10</sub> readings is <125 ug/m<sup>3</sup>. If readings >125 ug/m<sup>3</sup> additional actions would be required per CAMP.
3. Mercury vapor action level: Normal operations if mercury vapor for a single reading is <10 ug/m<sup>3</sup>.
4. See CAMP for further details on action levels.
5. Rental unit from Pine Environmental at Station 3 was reading high until the filter was cleaned and reset on 07/27/2023. Daily average for the stations were below 70 ug/m<sup>3</sup>.

## 3.2 Site Perimeter Air Monitoring Summary

Site perimeter monitoring was performed to document that particulates (PM<sub>10</sub>) or mercury vapor above action levels were not migrating beyond the site boundary. Four air monitoring stations were located outside the building footprints around the site perimeter: one upwind and three downwind. Figures SP-1 through SP-5 show the locations of the site perimeter stations each day. Readings were recorded and maintained on site by the Engineer.

Due to filter issues with the instrument, exceedances to the PM<sub>10</sub> action level were observed on July 24, 25, 26, and 27, 2023 at Station 3 and during those days background PM<sub>10</sub> readings were in excess of 100 ug/m<sup>3</sup>. The filter was changed and the instrument was reset. PM<sub>10</sub> readings then returned to normal ranges.

All other PM<sub>10</sub> and mercury vapor site perimeter air monitoring data were below action levels defined in the CAMP. A summary of site perimeter air monitoring data is presented in Table 3.

**Table 3-1  
Summary of PM<sub>10</sub> and Mercury Vapor Site Perimeter Air Monitoring**

Date	Air Monitoring Station/Location	Upwind/Downwind	PM <sub>10</sub> 15-Minute Average Range (ug/m <sup>3</sup> ) Action Level <100 ug/m <sup>3</sup>	Mercury Vapor 15-Minute Average Range (ug/m <sup>3</sup> ) Action Level <10 ug/m <sup>3</sup>
7/24/2023	Station 1 – West	Downwind	11.8 – 50.0	0.10 – 0.40
	Station 2 – East	Downwind	11.7 – 37.0	0.10 – 0.24
	Station 3 – Southeast	Upwind	29.2 – 142.0 <sup>4</sup>	0.10 – 0.18
	Station 4 – North	Downwind	15.0 – 37.8	0.10 – 0.33
7/25/2023	Station 1 – West	Downwind	11.8 – 30.7	0.10 – 0.37
	Station 2 – East	Downwind	9.33 – 28.0	0.11 – 0.55
	Station 3 – Southeast	Upwind	21.1 – 104.0 <sup>4</sup>	0.10 – 0.15
	Station 4 – North	Downwind	11.0 – 35.5	0.11 – 0.32
7/26/2023	Station 1 – West	Downwind	0.556 – 43.6	0.10 – 0.49
	Station 2 – East	Downwind	36.2 – 65.0	0.11 – 0.81
	Station 3 – Southeast	Upwind	10.0 – 113.0 <sup>4</sup>	0.10 – 0.19
	Station 4 – North	Downwind	2.0 – 65.1	0.11 – 0.57
7/27/2023	Station 1 – West	Downwind	27.5 – 64.7	0.10 – 0.82
	Station 2 – East	Downwind	42.7 – 78.5	0.12 – 0.37
	Station 3 – Southeast	Upwind	37.3 – 115.0 <sup>4</sup>	0.10 – 0.18
	Station 4 – North	Downwind	49.0 – 73.2	0.13 – 0.16
7/28/2023	Station 1 – West	Downwind	6.93 – 20.0	0.10 – 0.36
	Station 2 – East	Downwind	3.53 – 39.0	0.10 – 0.24
	Station 3 – Southeast	Upwind	12.3 – 52.0	0.10 – 0.14
	Station 4 – North	Downwind	5.0 – 29.1	0.12 – 0.33

Notes:

1. PM<sub>10</sub> action level: Normal operations if PM<sub>10</sub> <100 ug/m<sup>3</sup>.
2. Mercury vapor action level: Normal operations if 15-minute average of MVA readings is <10 ug/m<sup>3</sup>.
3. See CAMP for further details on action levels.

4. Rental unit from Pine Environmental at Station 3 was reading high until the filter was cleaned and reset on 07/27/2023. Daily average for the station were below 70 ug/m<sup>3</sup>.

### 3.3 Off-Site/Community Air Monitoring

Off-site/community air monitoring for mercury vapors was performed during specific phases of the RA to document that mercury vapor above action levels were not migrating beyond the site boundary. In accordance with the CAMP, each day that included a qualifying mercury vapor monitoring event, four 8-hour off-site air samples were collected for mercury vapor analysis (one upwind and three downwind). Off-site/community air monitoring for mercury vapors was performed on July 25, 2023. Figure SP-2 shows the off-site/community air sample locations for the days when sampling was performed.

A summary of off-site community air monitoring is presented in Table 3-2.

**Table 3-2  
Summary of Mercury Vapor Off-Site/Community Air Monitoring**

Date	Mercury Vapor Monitoring Event	Air Monitoring Station/Location	Upwind/ Downwind	Mercury Vapor 8-Hour Sample (ug/m <sup>3</sup> ) Action Level <4 ug/m <sup>3</sup>
7/13/2023	Courtyard Pipe Removals	Station 1 - West	Downwind	ND
		Station 2 - East	Downwind	ND
		Station 3 - South	Upwind	ND
		Station 4 - North	Downwind	ND
7/18/2023	Main Sewer Removal	Station 1 - West	Downwind	ND
		Station 2 - East	Downwind	ND
		Station 3 - South	Upwind	ND
7/20/2023	Main Sewer Removal	Station 4 - North	Downwind	ND
		Station 1 - West	Downwind	ND
		Station 2 - East	Downwind	ND
		Station 3 - South	Downwind	ND
7/25/2023	Main Sewer Removal	Station 4 - North	Upwind	ND
		Station 1 - West	Downwind	ND
		Station 2 - East	Downwind	ND
		Station 3 - South	Upwind	ND
		Station 4 - North	Downwind	ND

## 4 Monitoring Equipment

Table 4-1 presents the air monitoring devices used.

**Table 4-1  
Monitoring Equipment and Calibration**

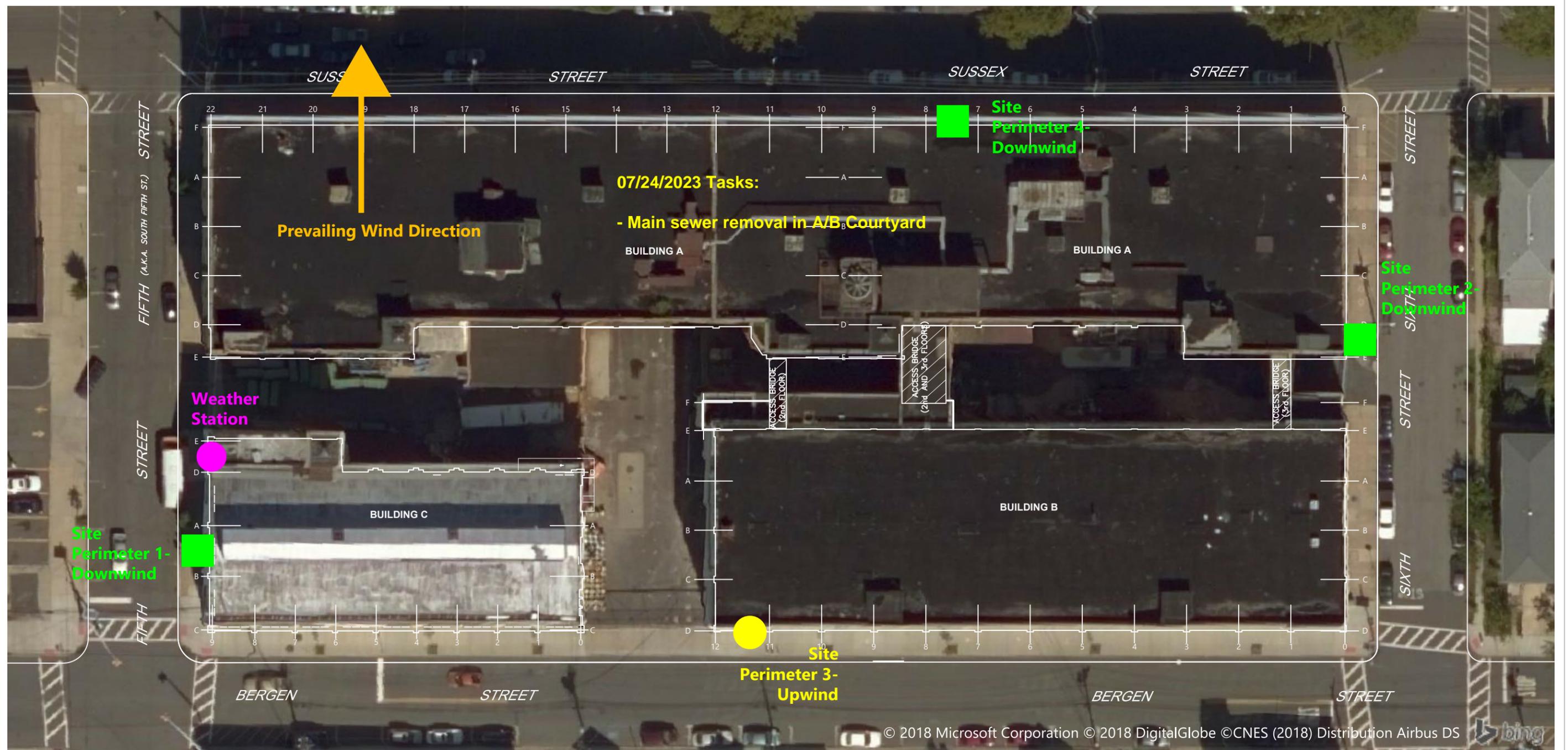
Parameter	Monitoring Equipment
Mercury Vapors – Real Time and Average Concentrations	<ul style="list-style-type: none"> <li>• Jerome Mercury Vapor Analyzer J405 – Arizona Instruments, LLC (work area monitoring, regenerated prior to daily use)</li> <li>• VM 3000 – Mercury Instruments (site perimeter stations, auto zeroed prior to daily use)</li> </ul>
Airborne Particulates	<ul style="list-style-type: none"> <li>• TSI Dusttrak Particulate Monitor (site perimeter stations, zeroed prior to daily use)</li> </ul>
Meteorological Monitoring	<ul style="list-style-type: none"> <li>• Vantage Pro 2 weather station</li> </ul>
Mercury Vapors – 8-hour Average Concentrations via NIOSH 6009	<ul style="list-style-type: none"> <li>• Sensidyne Gilian GilAir 3 air sampling pump (low flow module)</li> <li>• Mesa Labs Defender 500 series air sampling pump flow calibrator</li> <li>• Solid sorbent glass tubes containing Hopcalite</li> </ul>

## 5 Issues or Potential Modifications to the CAMP

None

# Figures

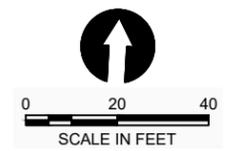
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**SOURCE:** Floor plans compiled from CAD file entitled: "FIG05-REV071615" provided by AMEC Foster Wheeler, Inc. on March 31, 2016. Subsurface utilities and features compiled from CAD file entitled: "NUMBERED\_SITEMAP\_20101" provided by General Electric Company on March 3, 2016.  
**HORIZONTAL DATUM:** New Jersey State Plane, North American Datum 1983, U.S. Feet (NJ83F).  
**VERTICAL DATUM:** (None).

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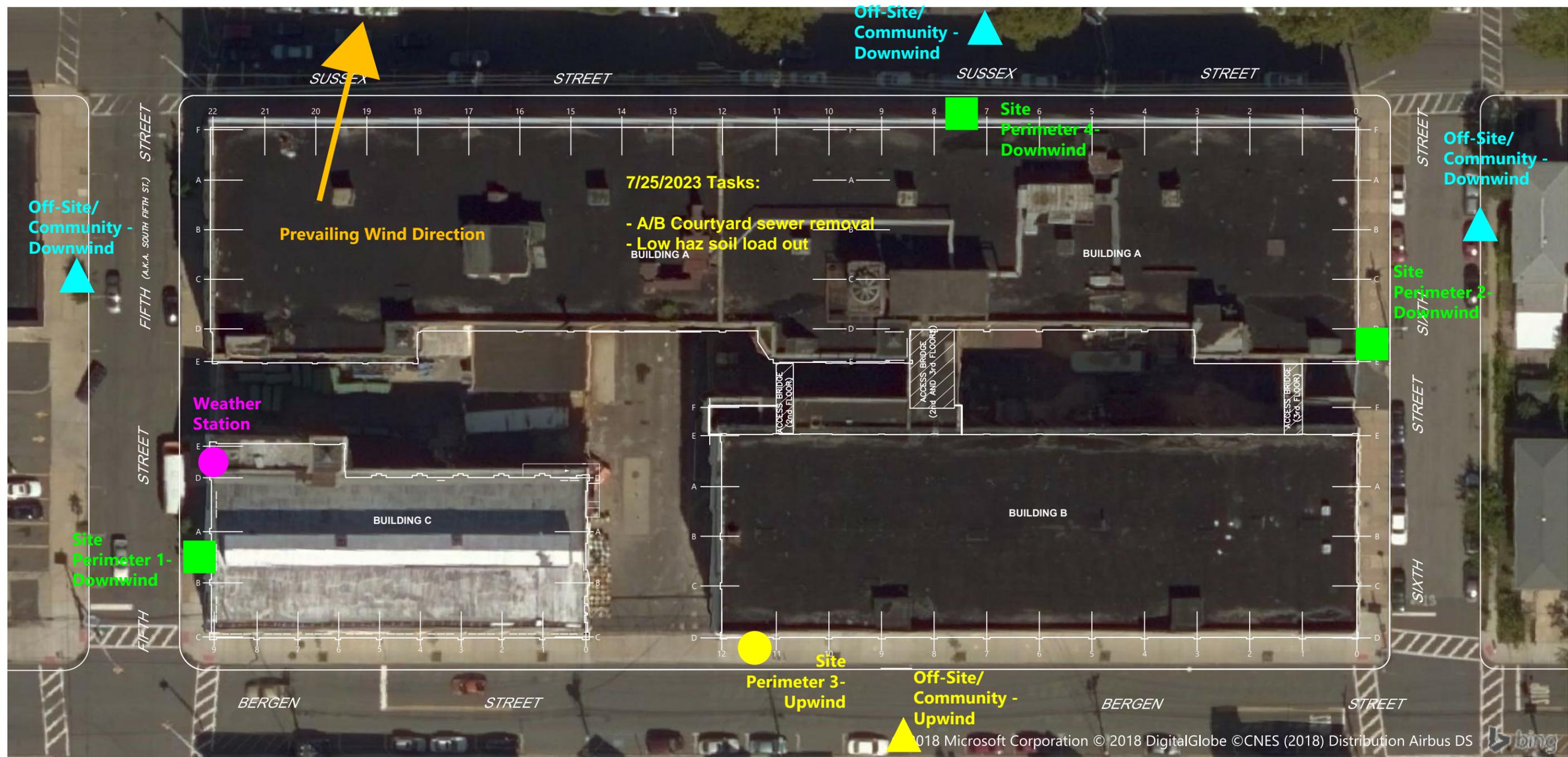
- Site Perimeter Air Monitoring Location
- Upwind Site Perimeter Monitoring Location



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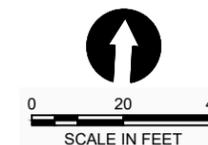
**Figure SP-1**  
**07/24/2023**  
**Air Monitoring Station Locations**  
 Vo Toys Removal Action  
 General Electric Company



**SOURCE:** Floor plans compiled from CAD file entitled: "FIG05-REV071615" provided by AMEC Foster Wheeler, Inc. on March 31, 2016. Subsurface utilities and features compiled from CAD file entitled: "NUMBERED\_SITEMAP\_20101" provided by General Electric Company on March 3, 2016.  
**HORIZONTAL DATUM:** New Jersey State Plane, North American Datum 1983, U.S. Feet (NJ83F).  
**VERTICAL DATUM:** (None).

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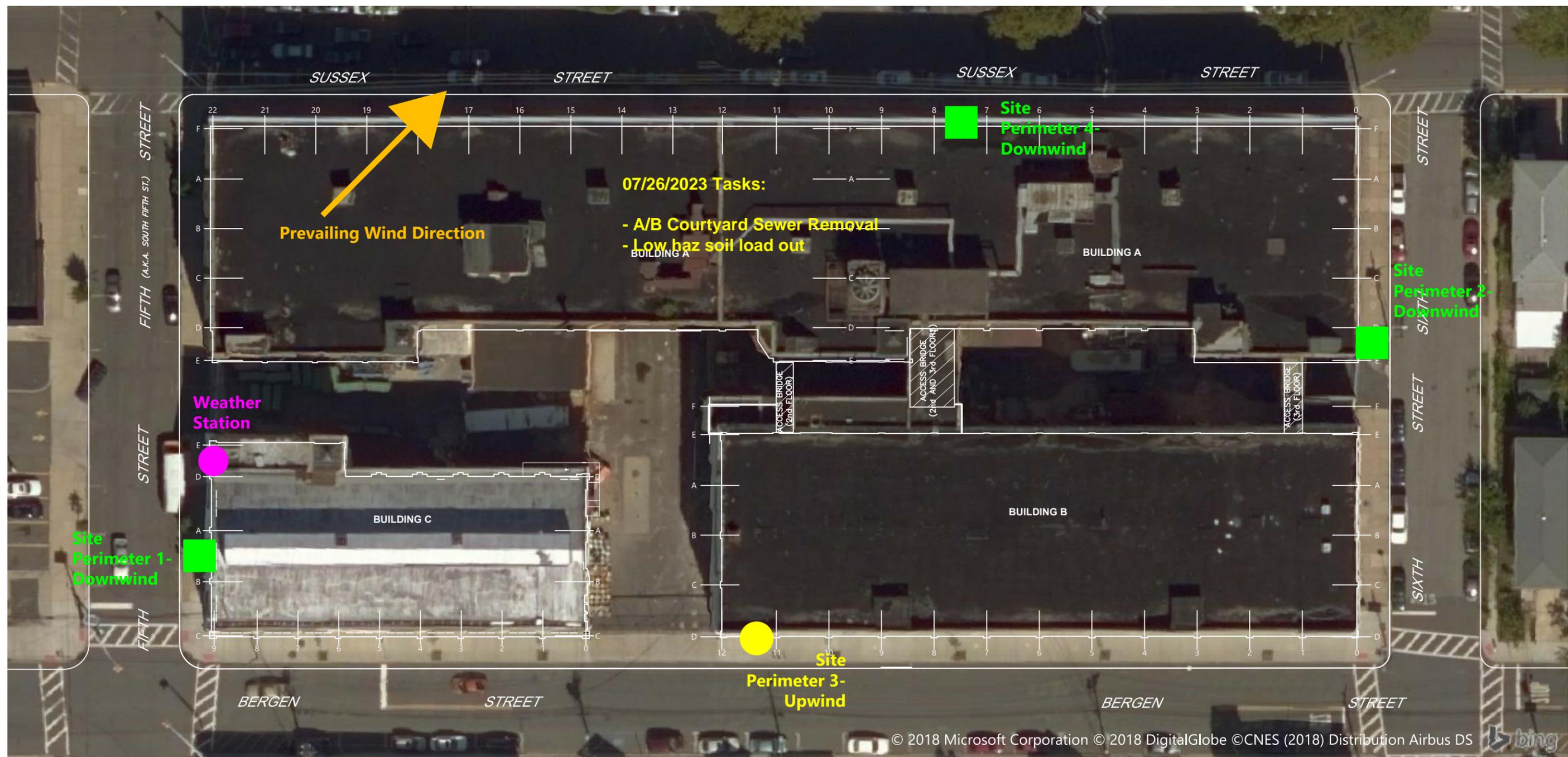
- Site Perimeter Air Monitoring Location
- Upwind Site Perimeter Monitoring Location
- ▲ Community Monitoring Location



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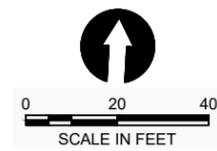
**Figure SP-2**  
**07/25/2023**  
**Air Monitoring Station Locations**  
 Vo Toys Removal Action  
 General Electric Company



**SOURCE:** Floor plans compiled from CAD file entitled: "FIG05-REV071615" provided by AMEC Foster Wheeler, Inc. on March 31, 2016. Subsurface utilities and features compiled from CAD file entitled: "NUMBERED\_SITEMAP\_20101" provided by General Electric Company on March 3, 2016.  
**HORIZONTAL DATUM:** New Jersey State Plane, North American Datum 1983, U.S. Feet (NJ83F).  
**VERTICAL DATUM:** (None).

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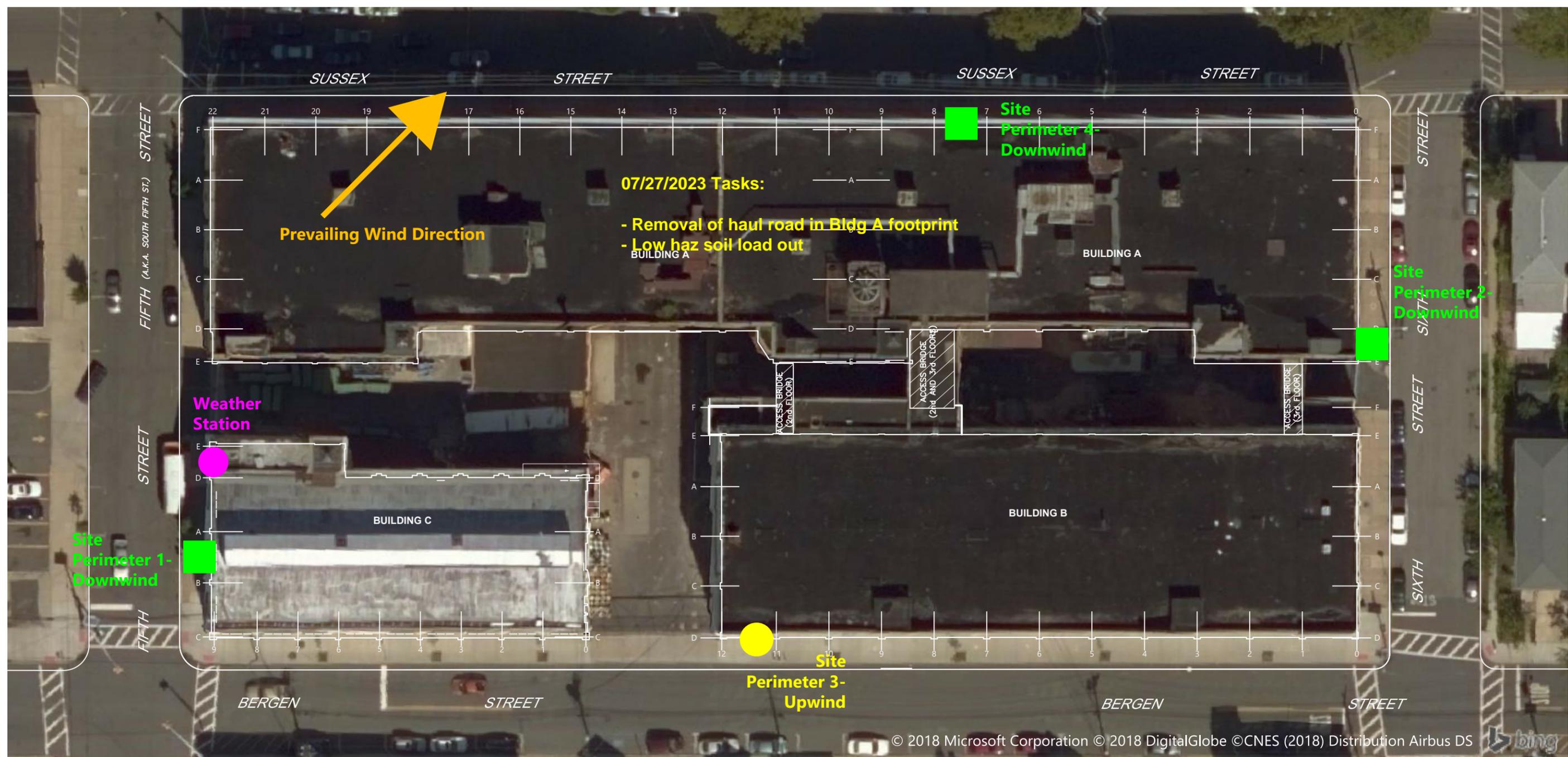
- Site Perimeter Air Monitoring Location
- Upwind Site Perimeter Monitoring Location



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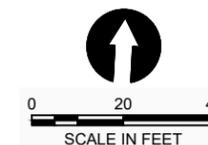
**Figure SP-3**  
**07/26/2023**  
**Air Monitoring Station Locations**  
 Vo Toys Removal Action  
 General Electric Company



**SOURCE:** Floor plans compiled from CAD file entitled: "FIG05-REV071615" provided by AMEC Foster Wheeler, Inc. on March 31, 2016. Subsurface utilities and features compiled from CAD file entitled: "NUMBERED\_SITEMAP\_20101" provided by General Electric Company on March 3, 2016.  
**HORIZONTAL DATUM:** New Jersey State Plane, North American Datum 1983, U.S. Feet (NJ83F).  
**VERTICAL DATUM:** (None).

**LEGEND**  
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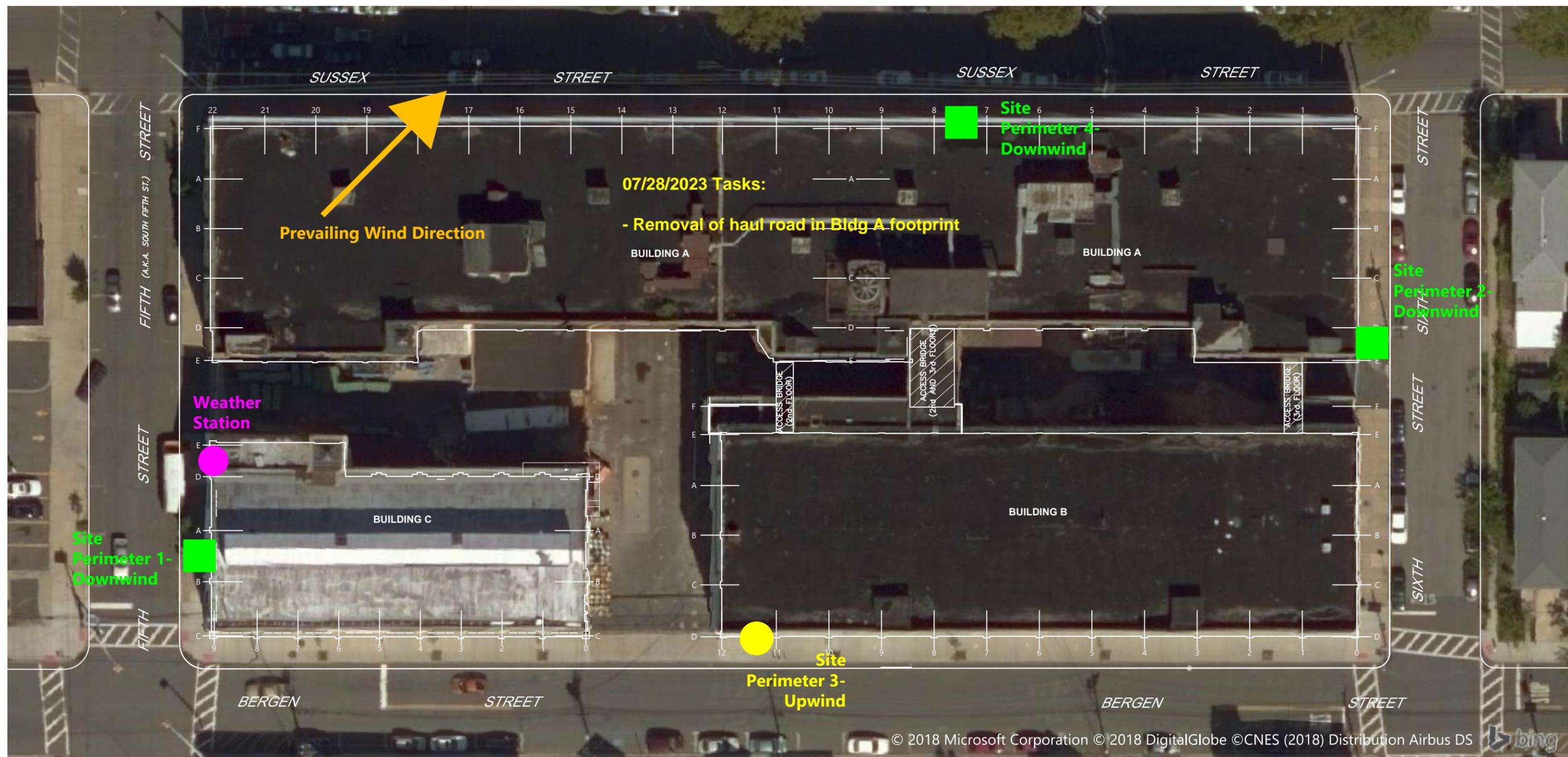
- Site Perimeter Air Monitoring Location
- Upwind Site Perimeter Monitoring Location



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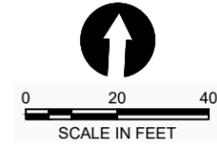
**Figure SP-4**  
**07/27/2023**  
**Air Monitoring Station Locations**  
 Vo Toys Removal Action  
 General Electric Company



**SOURCE:** Floor plans compiled from CAD file entitled: "FIG05-REV071615" provided by AMEC Foster Wheeler, Inc. on March 31, 2016. Subsurface utilities and features compiled from CAD file entitled: "NUMBERED\_SITEMAP\_20101" provided by General Electric Company on March 3, 2016.  
**HORIZONTAL DATUM:** New Jersey State Plane, North American Datum 1983, U.S. Feet (NJ83F).  
**VERTICAL DATUM:** (None).

**LEGEND**  
 A,1 ——— BUILDING COLUMN LINE

- Site Perimeter Air Monitoring Location
- Upwind Site Perimeter Monitoring Location



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**Figure SP-5**  
**07/28/2023**  
**Air Monitoring Station Locations**  
 Vo Toys Removal Action  
 General Electric Company