



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 2

290 BROADWAY

NEW YORK, NEW YORK 10007-1866

February 15, 2011

Mr. Edward A. Gerdts
Managing Principal
TRC Environmental Corporation
1430 Broadway – 10th Floor
New York, New York 10018

Re: February 10, 2011 Proposed Amendment #18 – Ambient Air Monitoring Program Plan and February 10, 2011 Proposed Amendment #18 - Quality Assurance Project Plan (QAPP) for the Ambient Air Monitoring Program for the 130 Liberty Street Abatement and Deconstruction Project, September 7, 2005, 130 Liberty Street, New York, N.Y.

Dear Mr. Gerdts:

This is to inform you that the U.S. Environmental Protection Agency (EPA) has completed its review of the February 10, 2011 Proposed Amendment #18 to the September 7, 2005 Section 2 – Ambient Air Monitoring Program Plan of the 130 Liberty Street Abatement and Deconstruction Project and the February 10, 2011 Proposed Amendment #18 to the September 7, 2005 Quality Assurance Project Plan (QAPP) for the Ambient Air Monitoring Program of the 130 Liberty Street Abatement and Deconstruction Project submitted by TRC Environmental Corporation (TRC) on behalf of the Lower Manhattan Development Corporation for 130 Liberty Street in lower Manhattan.

Based on our review, and in consultation with the New York State Department of Labor (NYSDOL) and the New York City Department of Environmental Protection (NYCDEP), EPA accepts the above-referenced proposed amendments.

EPA's acceptance is not intended as a review and/or acceptance of structural engineering and safety matters or requirements for the protection of worker safety and health or for fire protection and safety at 130 Liberty Street. EPA is relying on the New York City Department of Building's, the U.S. Department of Labor Occupational Safety and Health Administration's and the New York City Fire Department's expertise in these areas, respectively.

EPA will continue to work with our regulatory partners to monitor the 130 Liberty Street activities throughout the execution of the project.

Sincerely,



Pat Evangelista
Director, Office of Strategic Programs

cc: Richard Mendelson, OSHA
Christopher Alonge, NYSDOL
Krish Radhakrishnan, NYCDEP
Christopher Santulli, NYCDOB
Thomas Kunkel, LMCCC
Michael Weinlein, FDNY
Suzanne Mattei, NYSDEC

QAPP AMENDMENT FORM: Amendment # 18

DATE FORM SUBMITTED: 2/10/11

QAPP Title **Quality Assurance Project Plan for the Ambient Air Monitoring Program**
130 Liberty Street Deconstruction Project
September 7, 2005

AMENDMENT #18

This Amendment presents the rationale for the location and removal of the air monitoring stations for the duration of deconstruction and site activities. These locations as described below represent the anticipated final locations for the remainder of the project.

Station #1 is currently located in the Southwest corner of the site at the sidewalk bridge level. This station will be taken out of service after completion of the following activities: removal of the 1st floor slab and Cellar A slab, the backfilling of the south coin vault and completion of the earthen ramp. In the event these activities have not been completed prior to the removal of the Albany Street Sidewalk bridge, Station #1 will be relocated to the Southwest corner of the site at ground level and renamed Station #24 on a non-working day or Station #24 will be installed and operational prior to the removal of Station #1. The remaining site activities are located in the north plaza area, north of Stations #5 and #23, which will adequately monitor the ambient air for those activities.

Station #2 is currently located in the Southeast corner of the site at the sidewalk bridge level. This station will be taken out of service after completion of the following activities: removal of the 1st floor slab and Cellar A slab and the backfilling of the south coin vault. In the event these activities have not been completed prior to the removal of the Albany Street Sidewalk bridge, Station #2 will be relocated to the Southeast corner of the site at ground level and renamed Station #25 on a non-working day or Station #25 will be installed and operational prior to the removal of Station #2. The completion of the earthen ramp is in the southwest corner of the site and Station #1 will adequately monitor the ambient air for that activity. The remaining site activities are located in the north plaza area, north of Stations #5 and #23, which will adequately monitor the ambient air for those activities. The meteorological tower which is currently located at Station #2 will be relocated to Station #23.

Station #2000 is the quality assurance location which is collocated with Station #2. Station #2000 will be removed from service at the same time as Station #2. Since the inception of the program in 2005, the quality assurance location has been in continuous operation for the collection of collocated samples. These data have been used to define the precision of the sampling and analyses methods as prescribed in the QAPP (September 2005). Based on the precision data collected to date (See Attachment A to this Amendment), there is no further need for a quality assurance location once Station #2 has been removed from service.

Station #5 is currently on the roof top of the two-story Firehouse 10-10 House on 124 Liberty Street. This station is unaffected by this amendment and will remain in this location for the remainder of the project.

Station #23 is currently in the Northwest corner of the site (Washington St./Cedar St.) at the sidewalk bridge level. Prior to the removal of the Washington Street Sidewalk bridge, Station #23 will be relocated to ground level at its current location and renamed Station #26 on a non-working day or Station #26 will

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be installed and operational prior to the removal of Station #23.

Sections of QAPP Affected:

Amendment #17, Figure 7-1 (Site Location Map and Proposed Ambient Air Monitoring Locations): This figure will change due to the future elimination of Stations #1, #2 and #23 and potential addition of Stations #24, #25 and #26. Footnotes on this figure will be revised, as appropriate. A revised Figure 7-1 is attached to this Amendment.

Amendment #17, Figure 7-3 (3-Dimensional View of Air Monitoring Stations from the South): This figure will change due to the future elimination of Stations #1 and #2 and potential addition of Stations #24 and #25. A revised Figure 7-3 is attached to this Amendment.

Amendment #17, Figure 7-4 (3-Dimensional View of Air Monitoring Stations from the North): This figure will change due to the future elimination of Station #23 and the addition of Station #26. Footnotes on this figure will be revised, as appropriate. A revised Figure 7-4 is attached to this Amendment.

Amendment #17, Table 7-3 (Phase II – Structural Deconstruction Phase Sampling and Analysis Summary): Column 1 of this table will be revised to show that one roof top location will be sampled and one ground/street level sample will be sampled. Changes regarding target parameters and sampling frequencies are addressed in Amendments #13 and #14.

Amendment #17, Table 14-1 (Locations of Monitoring Stations): The table has been updated to include footnotes for Stations #1, #2, #23, #24, #25 and #26 showing the new dates of operation. A revised Table 14-1 is attached to this Amendment.

Amendment #17, Table 7-4a (Monitoring Station Summary): The table has been updated to include revised footnotes and or dates of operation for Stations #1, #2, #23, #24, #25 and #26 and the revised locations for the meteorological ground level station. A revised Table 7-4a is attached to this Amendment.

Date Implemented: February 2011

ATTACHMENT A: AMENDMENT #18 (February 2011)

130 Liberty Street: Summary of Collocated Sample RPDs		
COPC	Number of Collocated Pairs	Average RPD*
PM10	N = 1784	17.6%
Dioxin TEQ	N = 98	17.63%
Antimony	N = 165	7.55%
Barium	N = 31	10.28%
Cadmium	N = 9	9.22%
Copper [e]	N = 173	43.42%
Lead	N = 184	12.81%
Manganese	N = 184	12.90%
Nickel	N = 179	8.50%
Zinc	N = 184	14.81%

Notes:

COPC = Contaminant of Potential Concern

TEQ = Toxicity Equivalent

*: Relative Percent Difference using the equation $\%RPD = \frac{\text{abs}(X1 - X2) * 2}{(X1+X2)} * 100\%$;
 where X1 = Original Station value, X2 = Duplicate Station value.

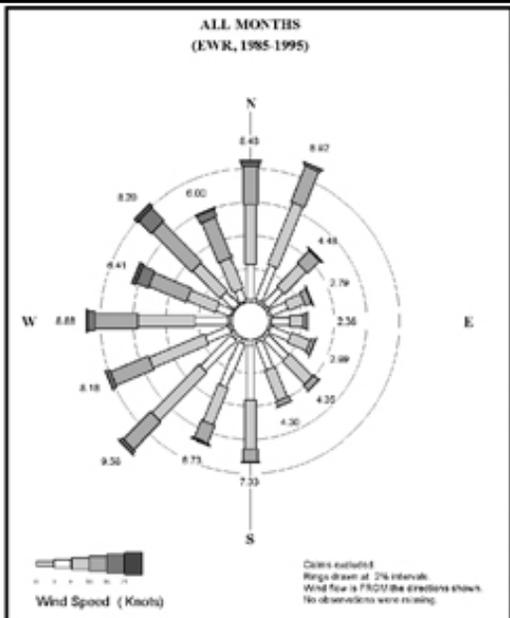
a - Results for PM 2.5, PCBs and mercury (total) not presented. Monitoring for these parameters was discontinued per Amendment # 8 (July 2009).

b - Results for beryllium, chromium, asbestos, silica and PAHs (as B(a)P equivalent) not presented. QAPP (September 7 2005) specifies that % RPD data reflect only sample pairs where results in both samples are $\geq 5x$ the QL. Results for these parameters in collocated pairs were routinely not detected and/or below these QAPP criteria.

c - Average RPD values include all collocated pair results that are $\geq 5x$ the QL.

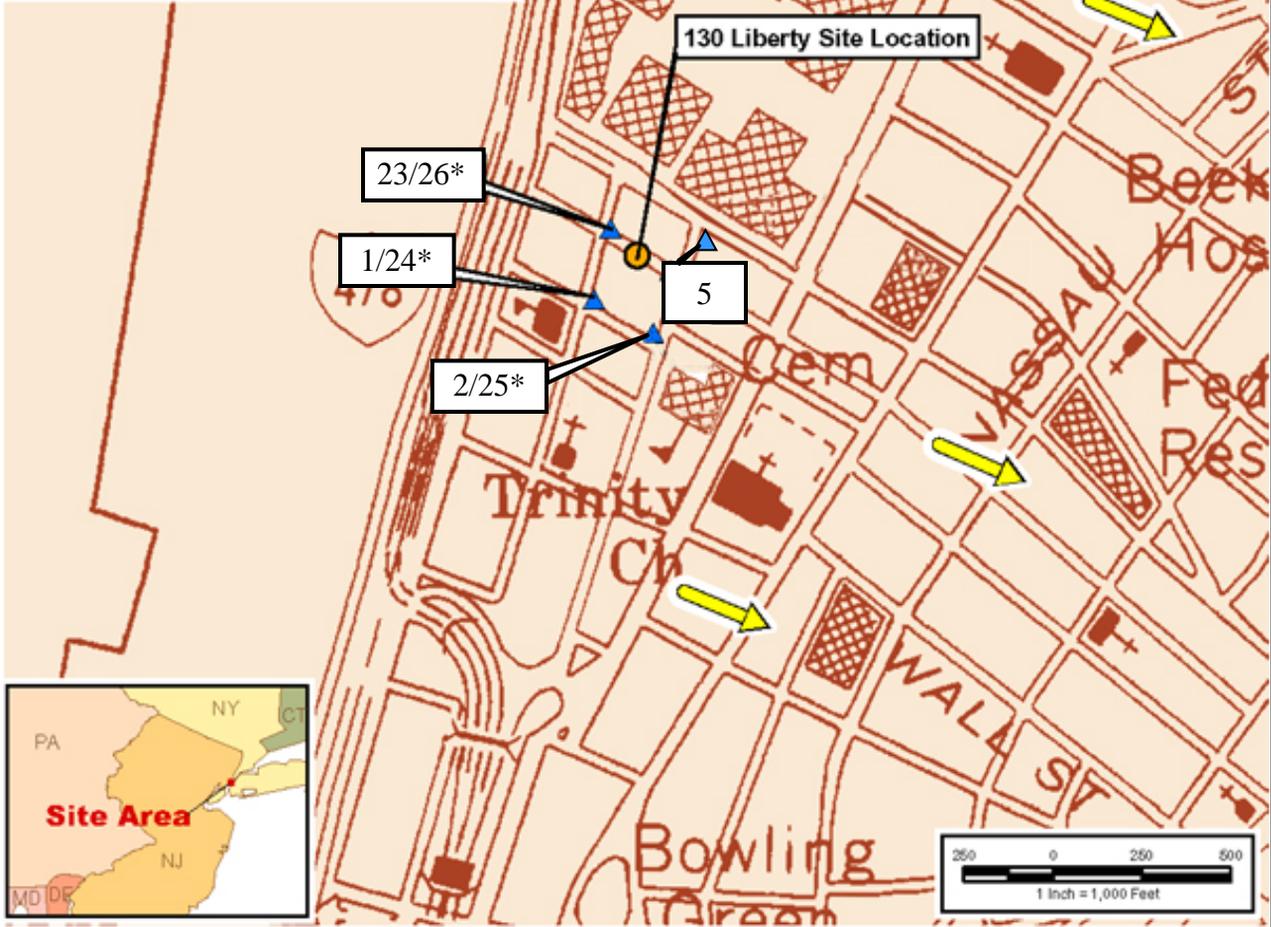
d - Performance criteria in QAPP specify a data quality objective (DQI) for % RPD of $\leq 40\%$. All of the parameters listed above meet this DQI with the exception of copper.

e - Average % RPD value for copper 43.4 % exceeds data quality objective of 40%. Variability was confirmed to be attributable to laboratory analysis at low level concentrations and not associated with the sample collection process. Copper concentrations typically measured during the term of the program were well below both Target Air Quality Levels (10,000 ng/m³) and USEPA Site Specific Trigger Levels (100,000 ng/m³). For example, the average or mean concentration of copper measured in all of the collocated pairs is 186 ng/m³. As a result, the precision of the method as defined by the % RPD was not a factor in demonstrating compliance with these levels during the term of the program. There were no exceedances of either the Target Air Quality Level or the USEPA Site Specific Trigger Level for copper during the term of the monitoring program.



Legend

▲ Monitoring Locations



LEGEND:

← AVERAGE WIND DIRECTION

SOURCE:
USGS 7.5 Minute Series (Topographic) Quadrangles: Jersey City, NJ-NY
Wind Roses for Newark International Airport, 1985-1995

PROJECT:
130 LIBERTY STREET
DECONSTRUCTION PROJECT

* Station #1 will be taken out of service after completion of the following activities: removal of the 1st floor slab and cellar A slab, the backfilling of the south coin vault and completion of the earthen ramp. In the event these activities have not been completed prior to the removal of the Albany Street Sidewalk bridge, Station #1 will be relocated to the Southwest corner of the site at ground level and renamed Station #24 on a non-working day or Station #24 will be installed and operational prior to the removal of Station #1. Station #2 will be taken out of service after completion of the following activities: removal of the 1st floor slab and Cellar A slab and the backfilling of the south coin vault. In the event these activities have not been completed prior to the removal of the Albany Street Sidewalk bridge, Station #2 will be relocated to the Southeast corner of the site at ground level and renamed Station #25 on a non-working day or Station #25 will be installed and operational prior to the removal of Station #2. Prior to the removal of the Washington Street Sidewalk bridge, Station #23 will be relocated to ground level at its current location and renamed Station #26 on a non-working day or Station #26 will be installed and operational prior to the removal of Station #23.

Site Location Map for Ambient Air Monitoring Locations 130 Liberty Street New York, New York
Updated Feb, 2011: QAPP Amendment #18

	Wannalancit Mills 650 Suffolk Street Lowell, Ma. 01854 (978) 970-5600	FIGURE 7-1
	Drawn: BP Checked: ED	



* Station #1 will be taken out of service after completion of the following activities: removal of the 1st floor slab and cellar A slab, the backfilling of the south coin vault and completion of the earthen ramp. In the event these activities have not been completed prior to the removal of the Albany Street Sidewalk bridge, Station #1 will be relocated to the Southwest corner of the site at ground level and renamed Station #24 on a non-working day or Station #24 will be installed and operational prior to the removal of Station #1. Station #2 will be taken out of service after completion of the following activities: removal of the 1st floor slab and Cellar A slab and the backfilling of the south coin vault. In the event these activities have not been completed prior to the removal of the Albany Street Sidewalk bridge, Station #2 will be relocated to the Southeast corner of the site at ground level and renamed Station #25 on a non-working day or Station #25 will be installed and operational prior to the removal of Station #2.

**3-Dimensional View of Air Monitoring Stations from The South
130 Liberty Street
New York, New York
Updated Feb, 2011: QAPP Amendment #18**



Wannalancit Mills
650 Suffolk Street
Lowell, Ma. 01854
(978) 970-5600

**FIGURE
7-3**

Drawn: BP
Checked: LD

SCALE: AS SHOWN
Date: 2/10/2011



3-Dimensional View of Air Monitoring Stations from the North
130 Liberty Street
New York, New York
 Updated Feb, 2011: QAPP Amendment #18

* Station #23 will be relocated to ground level at its current location and renamed Station #26 on a non-working day or Station #26 will be installed and operational prior to the removal of Station #23.

 Wannalancit Mills
 650 Suffolk Street
 Lowell, Ma. 01854
 (978) 970-5600

FIGURE 7-4

Drawn: BP	SCALE: None
Checked: LD	Date: 2/10/2011

Table 14-1. Sample Numbering Scheme
Updated: February 2011 (QAPP Amendment #18)

Sample Locations	Numbering Scheme
Station 1 ¹³	parameter – ST 1 – mmddyy
Station 2 ¹⁴	parameter – ST 2 – mmddyy
Station 3 ¹	parameter – ST 3 – mmddyy
Station 4 ¹¹	parameter – ST 4 – mmddyy
Station 5 ⁸	parameter – ST 5 – mmddyy
Station 6 ²	parameter – ST 6 – mmddyy
Station 7 ²	parameter – ST 7 – mmddyy
Station 8 ²	parameter – ST 8 – mmddyy
Station 9 ²	parameter – ST 9 – mmddyy
Station 10 ³	parameter – ST 10 – mmddyy
Station 11 ⁶	parameter – ST 11 – mmddyy
Station 12 ⁷	parameter – ST 12 – mmddyy
Station 13 ⁵	parameter – ST 13 – mmddyy
Station 14 ⁴	parameter – ST 14 – mmddyy
Station 15 ⁴	parameter – ST 15 – mmddyy
Station 16 ⁴	parameter – ST 16 – mmddyy
Station 17 ⁴	parameter – ST 17 – mmddyy
Station 20 ¹²	parameter – ST 20 – mmddyy
Station 21 ⁹	parameter – ST 21 – mmddyy
Station 22 ¹⁰	parameter – ST 22 – mmddyy
Station 23 ¹⁵	parameter – ST 23 – mmddyy
Station 24 ¹³	parameter – ST 24 – mmddyy
Station 25 ¹⁴	parameter – ST 25 – mmddyy
Station 26 ¹⁵	parameter – ST 26 – mmddyy
Field/Trip Blanks	parameter – FBB – mmddyy
Field Duplicates	Append “0” to original sample ID
Cooler Temperature Blank	“Cooler Temperature Blank”
Example Sample Location ID: PAH-ST1-082205	
Example Field Duplicate Pair ID: PAH-ST10-082205/PAH-ST100-082205	

- 1 – In use from 9/14/05 through 9/16/05
- 2 – In use from 9/14/05 through 9/28/05 and 7/6/06 through 9/21/06
- 3 – In use from 9/16/05 through 01/04/10
- 4 – In use from 9/14/05 through 5/30/09
- 5 – In use from 10/5/05 through 4/24/10
- 6 – In use from 10/5/05 through 7/11/2010
- 7 – In use from 10/6/05 through 7/20/2010
- 8 – In use from 9/14/05 through 11/16/10 and 12/1/10 to current
- 9 – In use from 4/25/10 through 11/16/10
- 10 – In use from 7/12/10 through 11/16/10
- 11– In use from 9/16/05 through 12/31/10
- 12– In use from 9/14/05 through 12/1/10

13- Station will be taken out of service after completion of the following activities: removal of the 1st floor slab and cellar A slab, the backfilling of the south coin vault and completion of the earthen ramp. In the event these activities have not been completed prior to the removal of the Albany Street Sidewalk bridge, Station #1 will be relocated to the Southwest corner of the site at ground level and renamed Station #24 on a non-working day or Station #24 will be installed and operational prior to the removal of Station #1.

14- Station 2 will be taken out of service after completion of the following activities: removal of the 1st floor slab and Cellar A slab and the backfilling of the south coin vault. In the event these activities have not been completed prior to the removal of the Albany Street Sidewalk bridge, Station #2 will be relocated to the Southeast corner of the site at ground level and renamed Station #25 on a non-working day or Station #25 will be installed and operational prior to the removal of Station #2.

15- Station 23 will be relocated to ground level at its current location and renamed Station #26 on a non-working day or Station #26 will be installed and operational prior to the removal of Station #23.

Table 7-4a (QAPP Amendment #18)
Monitoring Station Summary, 130 Liberty Street Deconstruction as of February 2011

Station	Location Description in Plan	Location Description in QAPP		Actual Location	Actual Level	Start-up Date
		Site Location	Direction From 130 Liberty			
Ambient Air Monitoring Stations						
Station 1	Southwest of building (Washington St./Albany St.) at ground level	Ground Level - Washington Street/Albany Street	Southwest Corner	Southwest Area	Sidewalk Bridge	9/14/2005
Station 2	Southeast of building (Albany St./Greenwich St.) at ground level	Ground Level - Albany Street/Greenwich Street	Southeast Corner	Southeast Area	Sidewalk Bridge	9/14/2005
Station 4	Northwest of building (Washington St./Cedar St.) at ground level	Ground Level - Washington Street/Cedar Street	Northwest Corner	Northwest Area	Street	9/14/2005
Station 5	Off-site roof top location (124 Liberty Street - FDNY 10-10 House)	Roof Top Off Site - 124 Liberty Street/FDNY 10-10 House	Northeast	Firehouse #10	Roof	9/14/2005
Station 10	Not suggested in Plan - Replaced Station 3	Not suggested in QAPP - Replaced Station 3		North Side	Sidewalk Bridge	9/19/2005
Station 11	Off-site roof top location (90 Trinity Place - School)	Roof Top Off Site - 90 Trinity Place - School	Southeast	90 Trinity Place	Roof	10/5/2005
Station 12	Off-site roof top location (110 Greenwich Street)	Roof Top Off Site - 110 Greenwich Street	South	110 Greenwich Street	Roof	10/6/2005
Station 13	Off-site roof top location (85 West Street - Marriott Hotel)	Roof Top Off Site - 85 West Street - Marriott Hotel	Southwest	Marriott Hotel 38th Floor	Roof	10/5/2005
Station 14	Each side at elevation on scaffolding (Phase I and II only)	Scaffolding at Building; Floating Elevation	Southwest Corner	West Face - South end at corner	Scaffolding	In effect on 10th floor as of 11/19/05; in effect on 20th floor as of 12/11/05; in effect on 30th floor on 1/10/07;
Station 15	Each side at elevation on scaffolding (Phase I and II only)	Scaffolding at Building; Floating Elevation	Southeast Corner	South Face - East end at corner	Scaffolding	in effect on 20th floor on 3/11/07 with exception of silica which remained on 30th floor until 6/14/07; silica in effect on 29th floor on 6/15/07; in effect on 15th floor on 6/25/07 through 5/30/09 with the exception of silica which floated between the 29th and 22nd floor (**)
Station 16	Each side at elevation on scaffolding (Phase I and II only)	Scaffolding at Building; Floating Elevation	Northeast Corner	East Face - North end at corner	Scaffolding	
Station 17	Each side at elevation on scaffolding (Phase I and II only)	Scaffolding at Building; Floating Elevation	Northwest Corner	North Face - West end at corner	Scaffolding	
Station 20	Not suggested in Plan - Replaced Station 10	Not suggested in QAPP - Replaced Station 10	Northeast Corner	Northeast Area	Sidewalk Bridge	1/4/2010
Station 21	Not suggested in Plan - Replaced Station 13	Not suggested in Plan - Replaced Station 13	Southwest	Marriott Hotel 4th Floor	Roof	4/25/2010
Station 22	Not suggested in Plan - Replaced Station 11	Not suggested in Plan - Replaced Station 11	East	O'Hara's -120 Cedar Street 5th Floor	Roof	7/12/2010
Station 23	Not suggested in Plan - Replaced Station 4	Not suggested in Plan - Replaced Station 4	Northwest	Northwest Area	Sidewalk Bridge	1/3/2011
Station 24	Not suggested in Plan - Replaced Station 1	Not suggested in Plan - Replaced Station 1	Southwest Corner	Southwest Area	Street	NA
Station 25	Not suggested in Plan - Replaced Station 2	Not suggested in Plan - Replaced Station 2	Southeast Corner	Southeast Area	Street	NA
Station 26	Not suggested in Plan - Replaced Station 23	Not suggested in Plan - Replaced Station 23	Northwest	Northwest Area	Street	NA
Meteorological Monitoring Stations						
Roof Station	Roof top of 130 Liberty Street until onset of deconstruction, at which point the station will be collocated with one of the off site rooftop air monitoring stations	Roof top of 130 Liberty Street until onset of deconstruction, at which point the station will be collocated with one of the off site rooftop air monitoring stations		Building Roof	Roof	In effect as of 9/14/05. Moved to the Marriott Hotel roof, 38th floor on 2/27/07. Moved to the Marriott Hotel roof, 4th floor on 4/25/10, moved to Station 20 on 11/17/10, moved to Station 2 on 12/2/10.
Ground Station	Not Suggested in Plan	Not Suggested in Plan		North Side	Sidewalk Bridge	11/2/2005 - station relocated 1/4/2010
Ground Station	Not Suggested in Plan	Not Suggested in Plan		Northeast Area	Sidewalk Bridge	1/4/2010
Ground Station	Not Suggested in Plan	Not Suggested in Plan		Southeast Area	Sidewalk Bridge	12/2/2011

Notes:

There was a minor move of the Meteorological Ground Level Station on 4/24/2007 due to construction logistics; however, the location description remains the same.

The Meteorological roof top station was taken out of service on 11/16/10.

The Meteorological Ground Level station will be relocated to Station 23 when Station 2 is taken out of service.

Stations 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21 and 22 are no longer in service.

Station #1 will be taken out of service after completion of the following activities: removal of the 1st floor slab and cellar A slab, the backfilling of the south coin vault and completion of the earthen ramp. In the event these activities have not been completed prior to the removal of the Albany Street Sidewalk bridge, Station #1 will be relocated to the Southwest corner of the site at ground level and renamed Station #24 on a non-working day or Station #24 will be installed and operational prior to the removal of Station #1. Station #2 will be taken out of service after completion of the following activities: removal of the 1st floor slab and Cellar A slab and the backfilling of the south coin vault. In the event these activities have not been completed prior to the removal of the Albany Street Sidewalk bridge, Station #2 will be relocated to the Southeast corner of the site at ground level and renamed Station #25 on a non-working day or Station #25 will be installed and operational prior to the removal of Station #2. Prior to the removal of the Washington Street Sidewalk bridge, Station #23 will be relocated to ground level at its current location and renamed Station #26 on a non-working day or Station #26 will be installed and operational prior to the removal of Station #23.

** As per the Ambient Air Monitoring Plan Amendment #5, the location of the silica monitors will move with deconstruction.

Plan - Ambient Air Monitoring Plan, Section 2 of the Deconstruction Plan submitted September 7, 2005

QAPP - Ambient Air Monitoring Quality Assurance Project Plan