



LOWER MANHATTAN
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COMMAND CENTER
Facilitate, Mitigate, Communicate

LOWER MANHATTAN CONSTRUCTION COMMAND CENTER

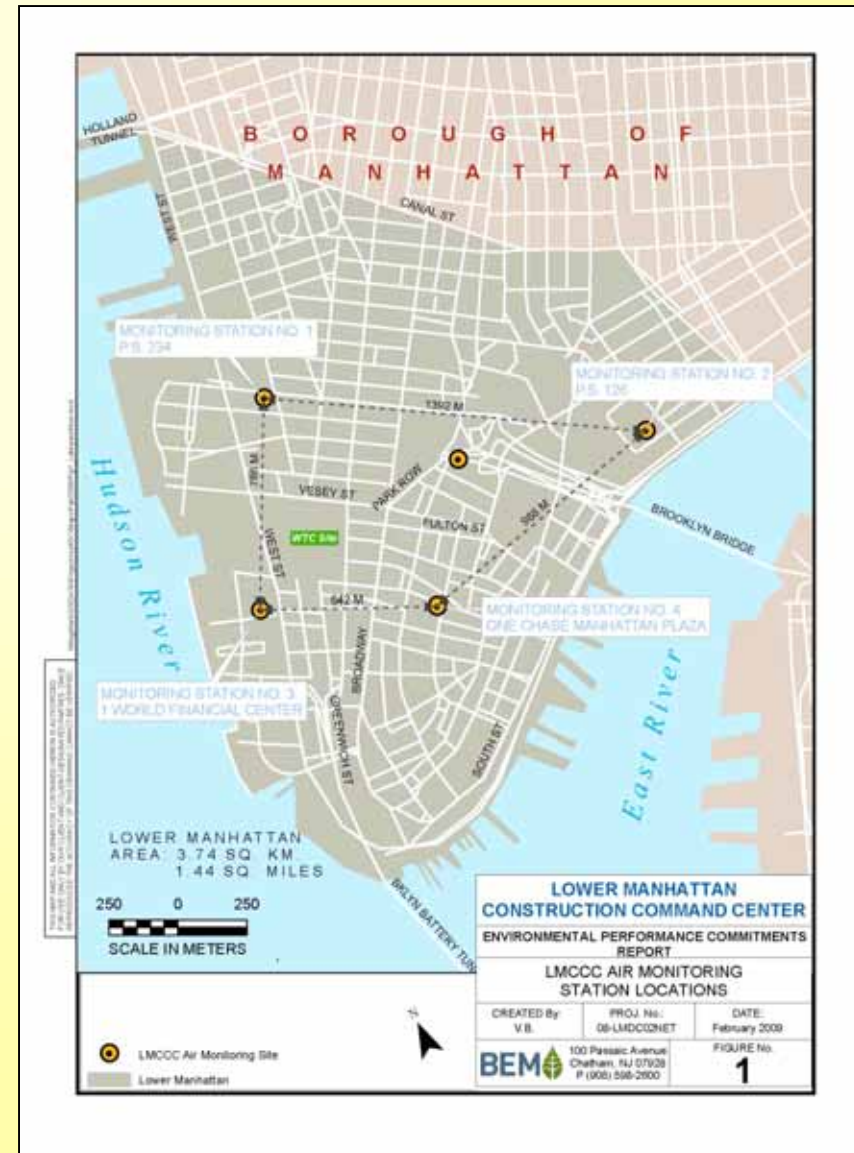
**ENVIRONMENTAL PERFORMANCE
COMMITMENT MONITORING
PROGRAMS 2009**



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AIR QUALITY MANAGEMENT PROGRAM

The LMCCC Air Quality Monitoring Program (AQMP) consists of four fixed monitoring locations surrounding the major construction projects in Lower Manhattan.





LMCCC ENVIRONMENTAL COMPLIANCE INSPECTIONS

Calendar Year 2008

- Monitoring Station Site Visits
 - 1 CMP – 77
 - 1 WFC – 70
 - PS234 – 71
 - PS126 – 77

- Site Equipment (Federal Sites)
 - 110

- Vehicle Idling
 - 355

- Dust Control
 - 270

- Mobile Monitoring (Dust and Noise)
 - 1,045



LMCCC ENVIRONMENTAL COMPLIANCE INSPECTIONS

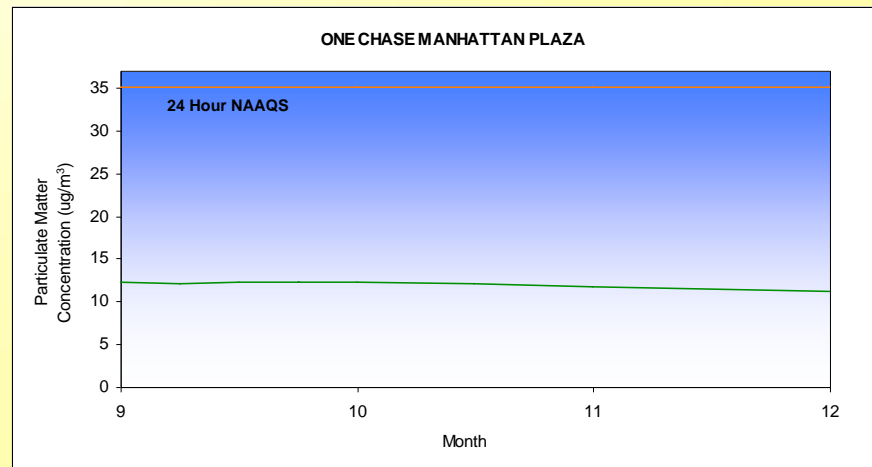
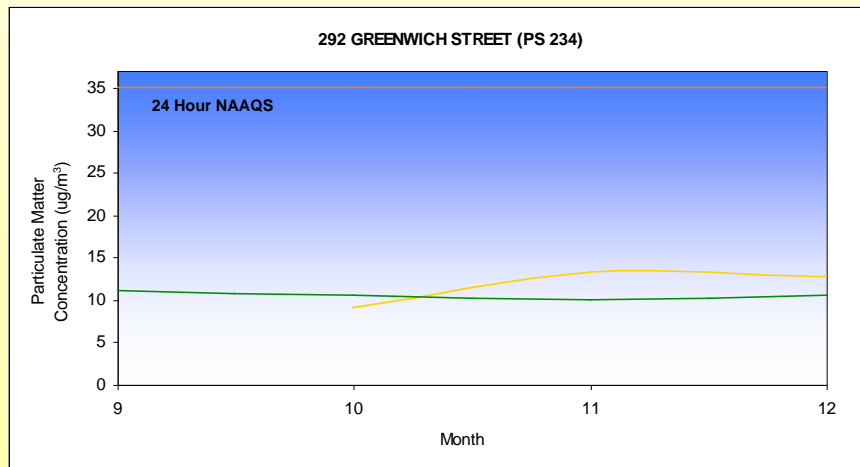
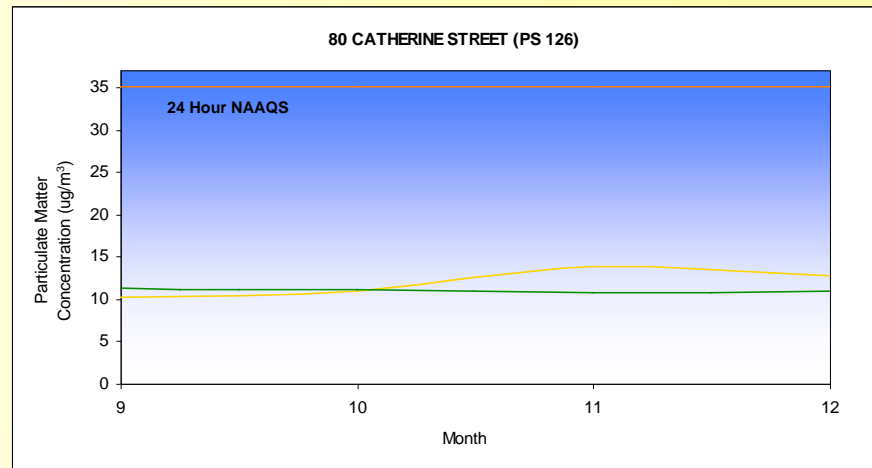
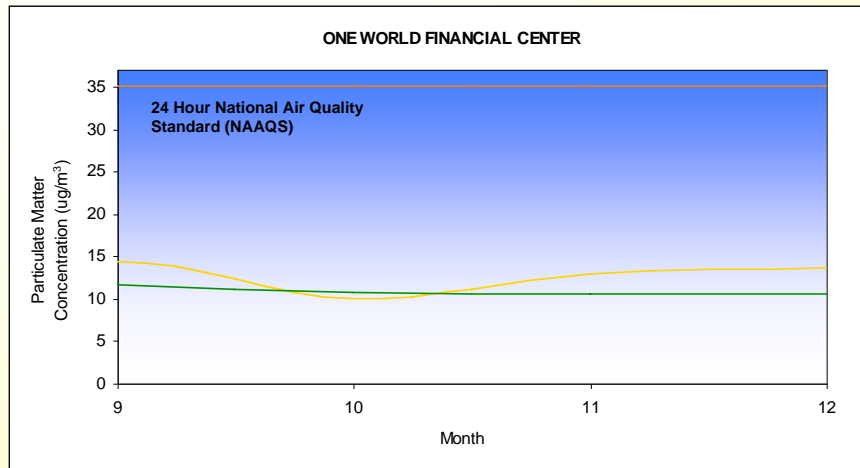
October - December 2008

- Monitoring Station Site Visits
- 75
- Site Equipment (Federal Sites)
- 23
- Vehicle Idling
- 145
- Dust Control
- 107
- Mobile Monitoring (Dust and Noise)
- 409



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LOWER MANHATTAN PARTICULATE CONCENTRATIONS October - December 2008 (PM_{2.5})

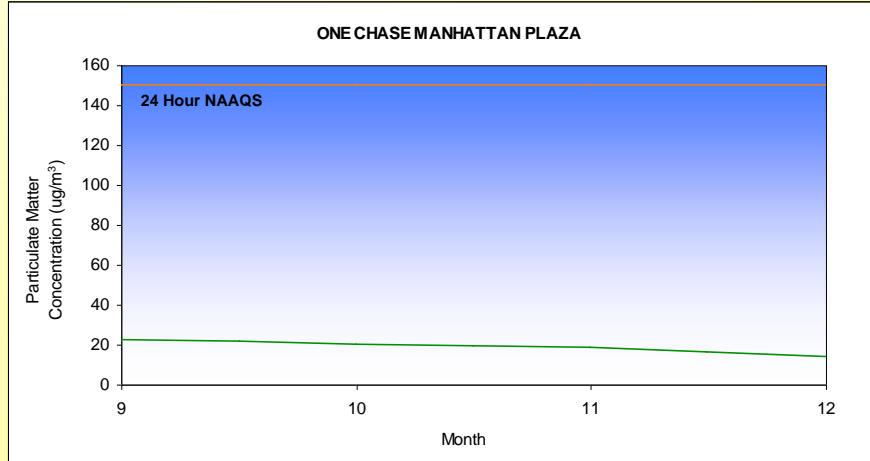
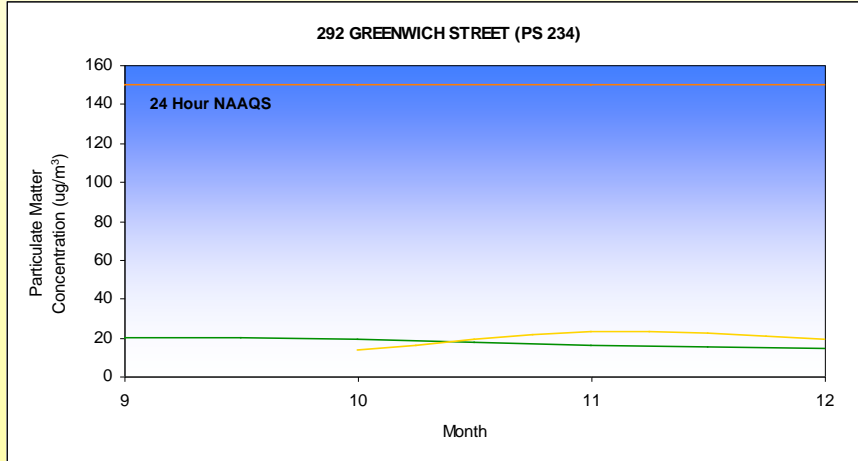
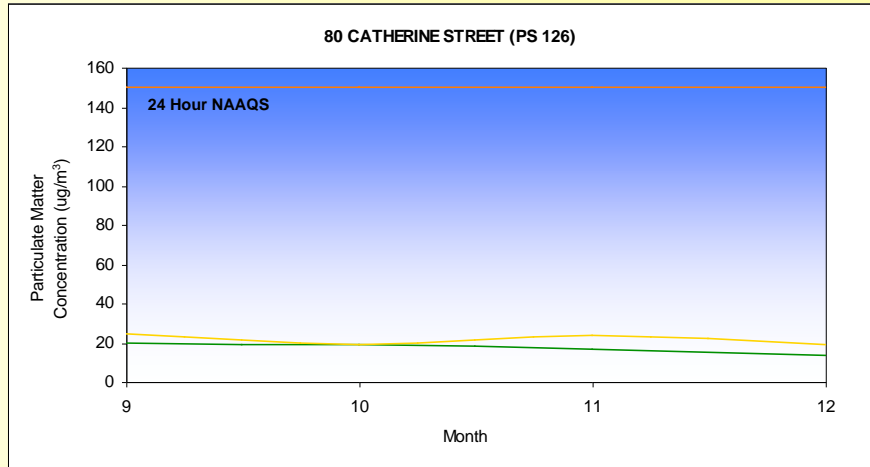
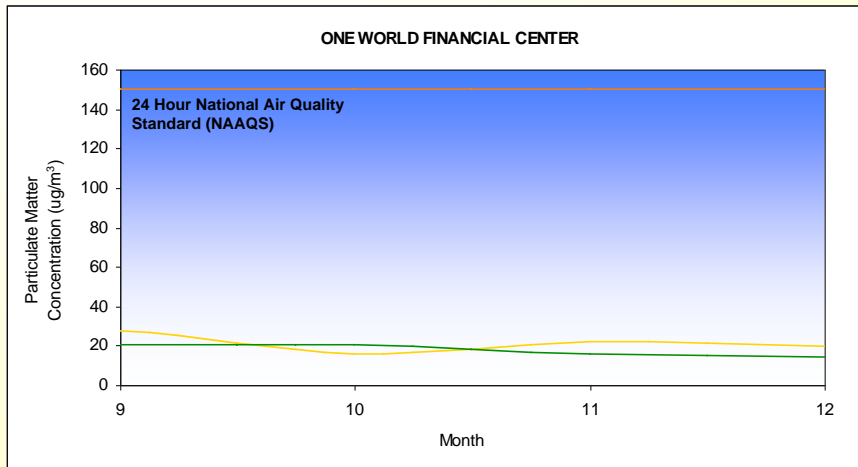


— PM 2.5 2005 (Background Monitoring Period)
— PM 2.5 2008



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LOWER MANATTAN PARTICULATE CONCENTRATIONS October - December 2008 (PM₁₀)

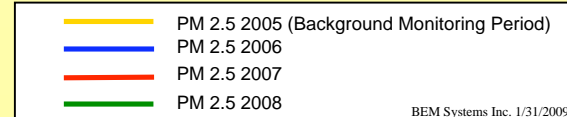
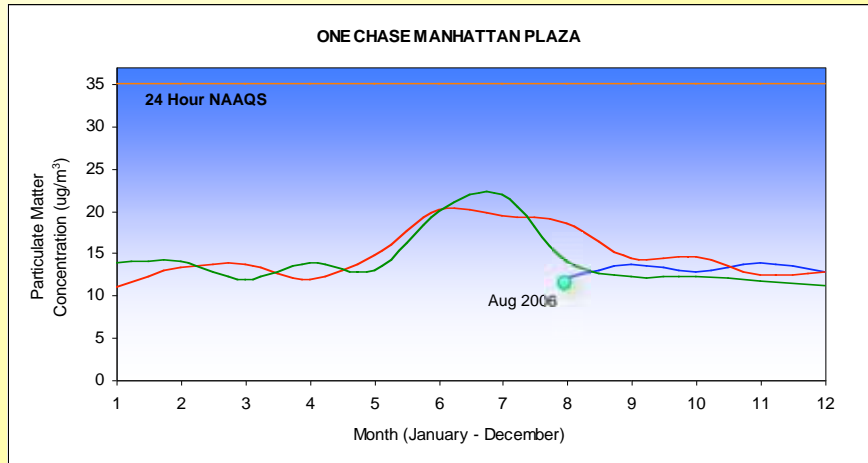
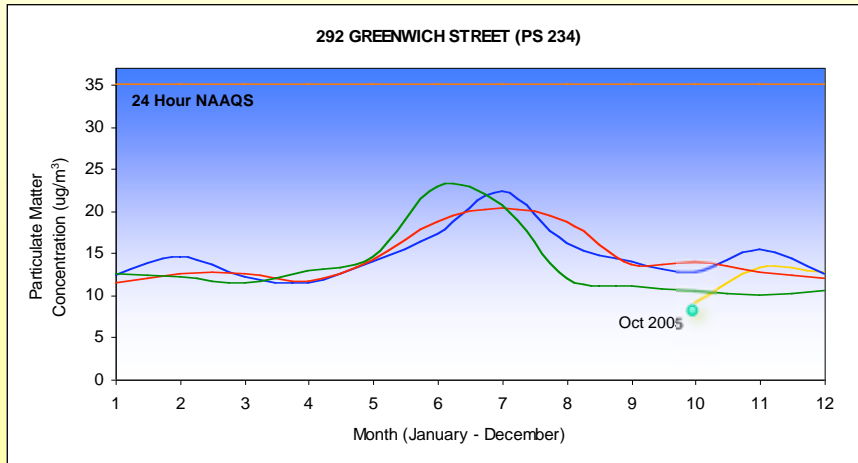
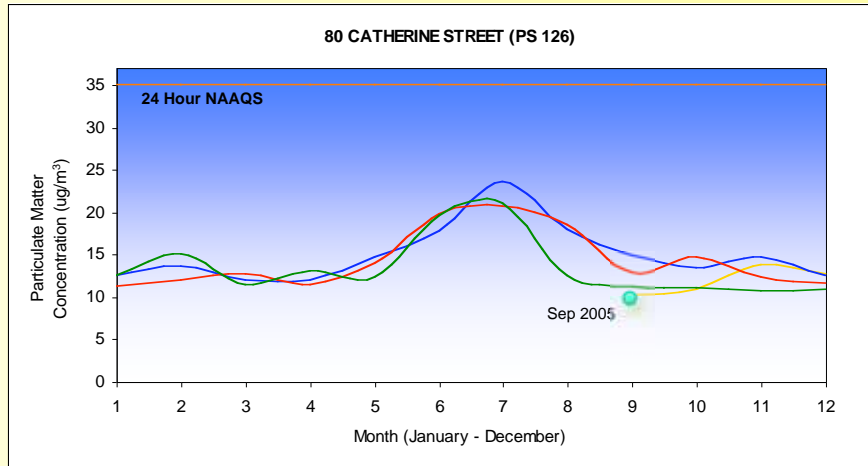
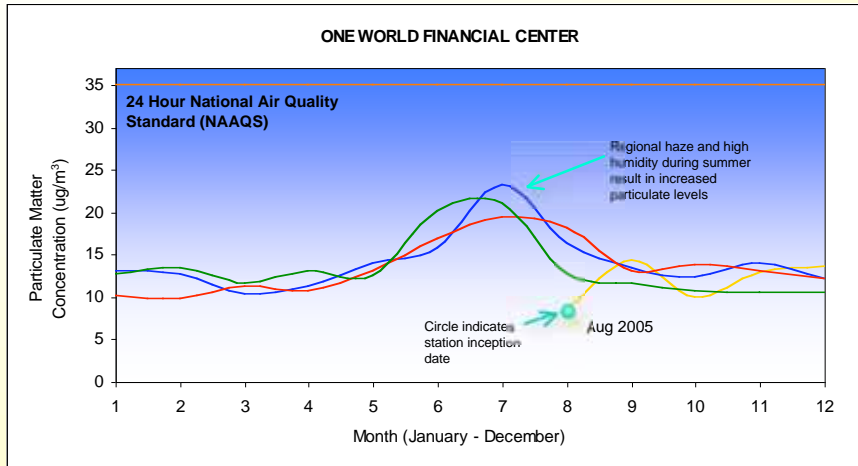


— PM 2.5 2005 (Background Monitoring Period)
— PM 2.5 2008



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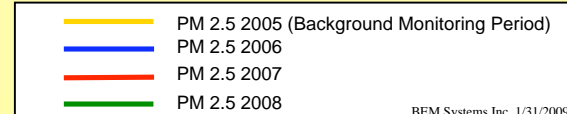
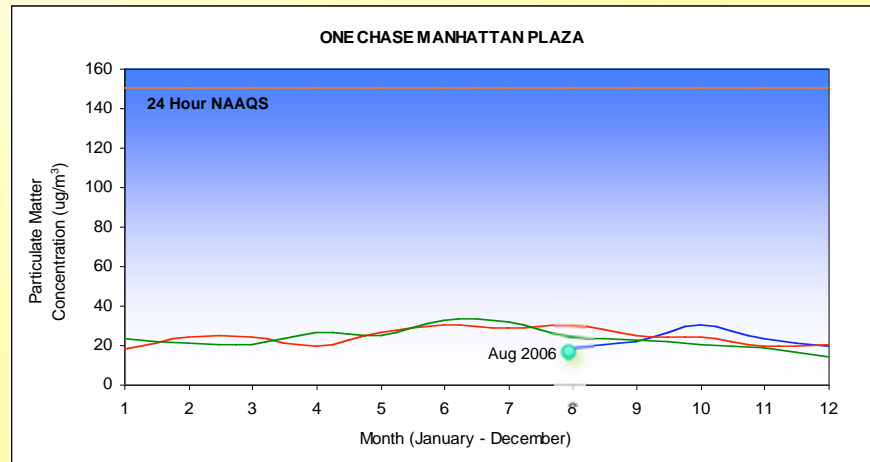
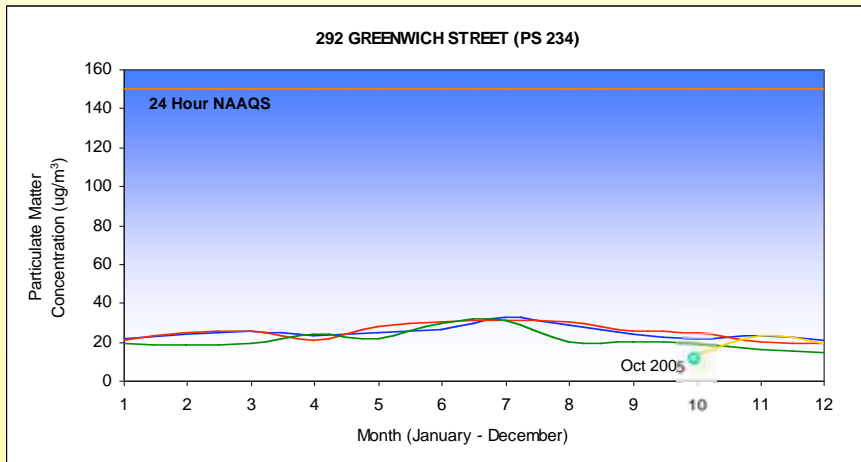
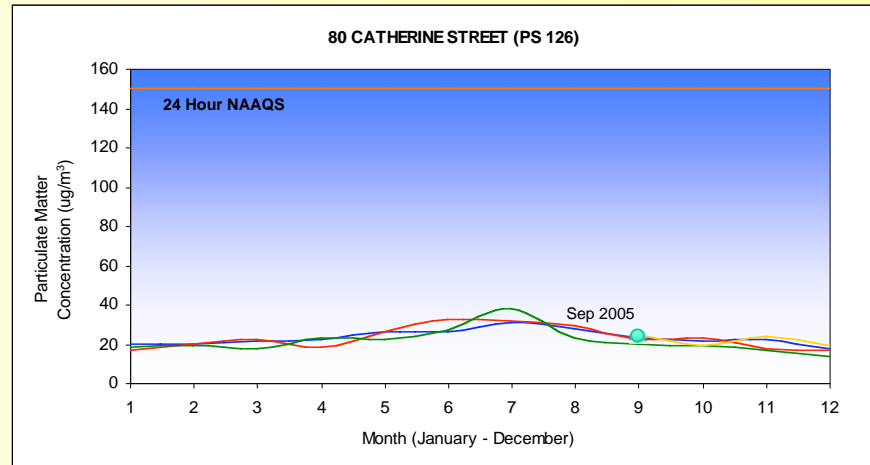
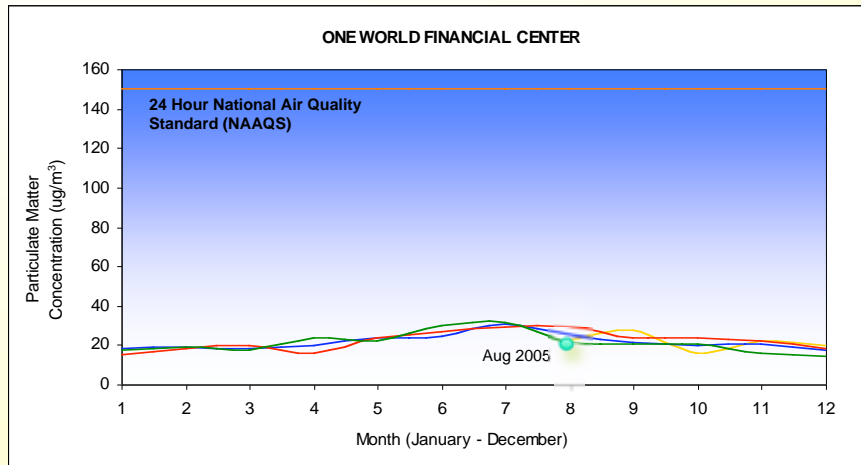
LOWER MANHATTAN PARTICULATE CONCENTRATIONS 2005 – 2008 (PM_{2.5})





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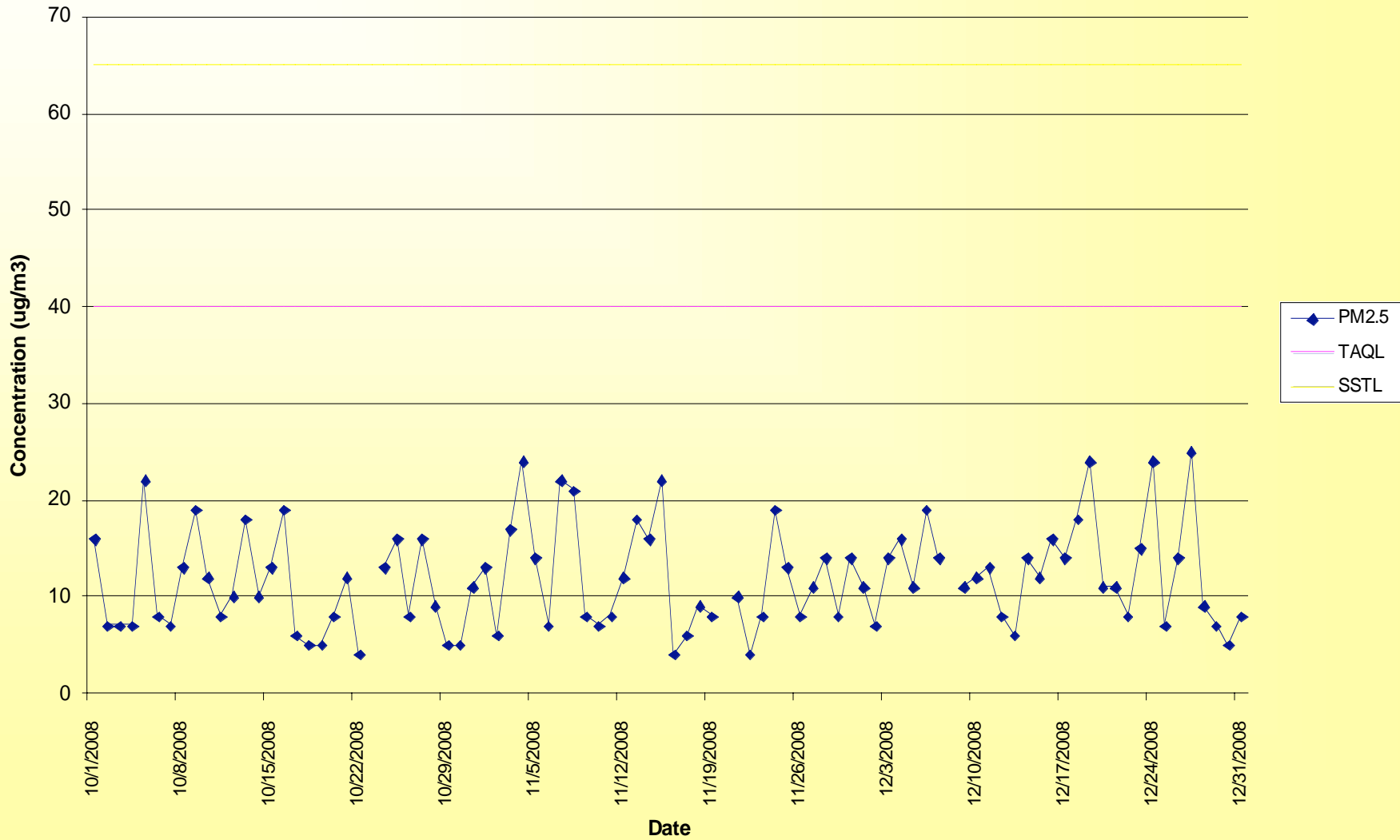
LOWER MANHATTAN PARTICULATE CONCENTRATIONS 2005 – 2008 (PM₁₀)





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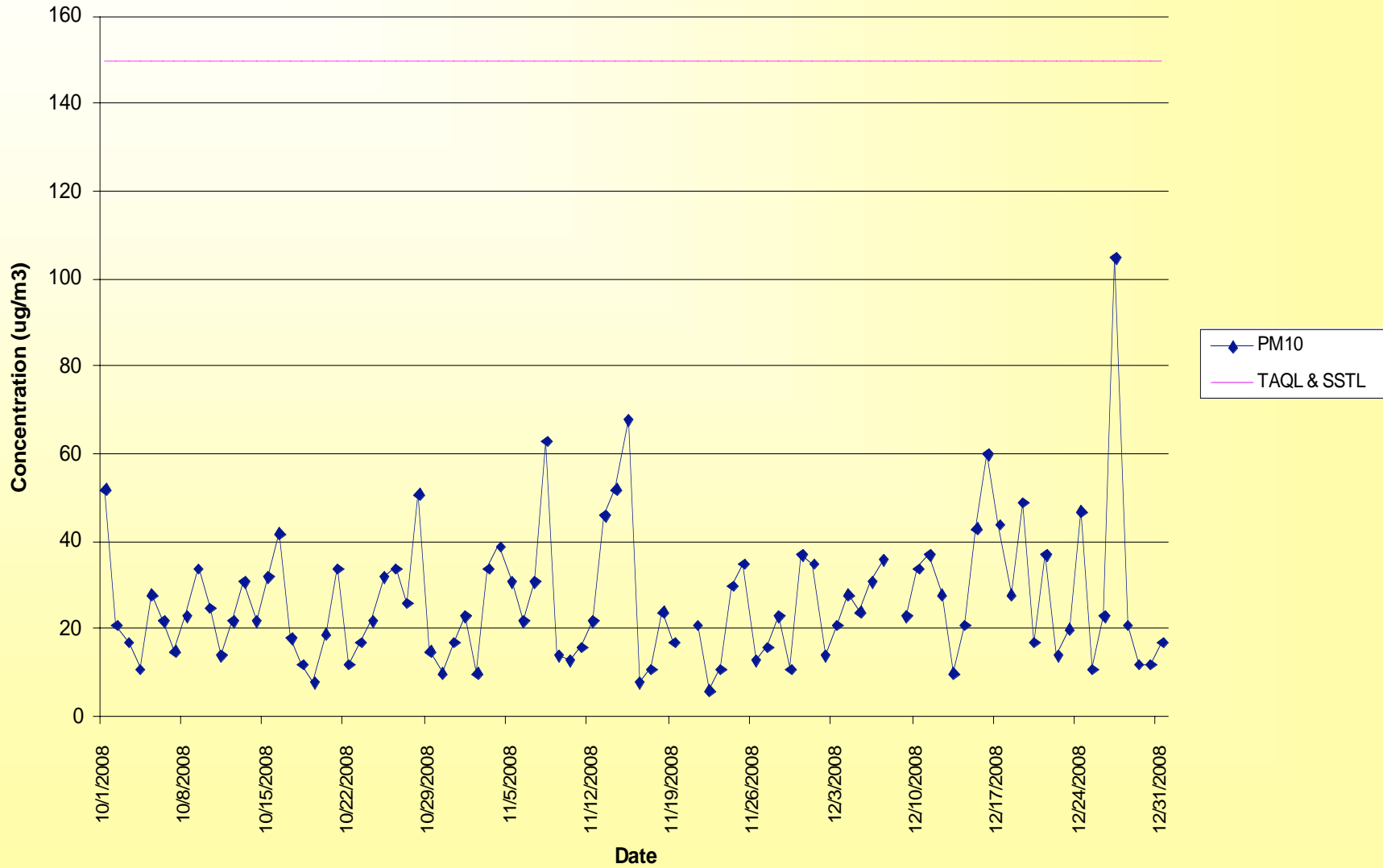
PM2.5 - Station 1 - Southwest Area (sidewalk bridge level) Oct 08 - Dec 08





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PM10 - Station 1 - Southwest Area (sidewalk bridge level) Oct 08 - Dec 08





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EPC MONITORING MONTHLY PARTICULATE EXCEEDANCE TABLES - OCTOBER 2008

Table 1 Number of Condition Level Red Exceedances

		Threshold Value ¹	PS234	PS126	1WFC	1CMP
PM ₁₀	24-Hour	150	0	0	0	0
PM _{2.5}	24-Hour	35	0	0	0	0

1. All units are in $\mu\text{g}/\text{m}^3$

Table 2 Number of Condition Level Yellow Exceedances

		Threshold Value ¹	PS234	PS126	1WFC	1CMP
PM ₁₀	5-Minute	115	2	1	1	4
PM _{2.5}	5-Minute	60	0	0	0	1
PM ₁₀	30-Minute	90	3	2	1	3
PM _{2.5}	30-Minute	55	0	0	0	0
PM ₁₀	1-Hour	80	1	1	1	2
PM _{2.5}	1-Hour	53	0	0	0	0
PM ₁₀	24-Hour	50	0	0	0	0
PM _{2.5}	24-Hour	30	0	0	0	0

1. All units are in $\mu\text{g}/\text{m}^3$



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EPC MONITORING MONTHLY PARTICULATE EXCEEDANCE TABLES - NOVEMBER 2008

Table 1 Number of Condition Level Red Exceedances

		Threshold Value ¹	PS234	PS126	1WFC	1CMP
PM ₁₀	24-Hour	150	0	0	0	0
PM _{2.5}	24-Hour	35	0	0	0	0

1. All units are in $\mu\text{g}/\text{m}^3$

Table 2 Number of Condition Level Yellow Exceedances

		Threshold Value ¹	PS234	PS126	1WFC	1CMP
PM ₁₀	5-Minute	115	1	0	0	1
PM _{2.5}	5-Minute	60	0	1	0	0
PM ₁₀	30-Minute	90	0	1	0	0
PM _{2.5}	30-Minute	55	0	1	0	0
PM ₁₀	1-Hour	80	0	1	0	1
PM _{2.5}	1-Hour	53	0	1	0	0
PM ₁₀	24-Hour	50	0	0	0	0
PM _{2.5}	24-Hour	30	0	0	0	0

1. All units are in $\mu\text{g}/\text{m}^3$



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EPC MONITORING MONTHLY PARTICULATE EXCEEDANCE TABLES - DECEMBER 2008

Table 1 Number of Condition Level Red Exceedances

		Threshold Value ¹	PS234	PS126	1WFC	1CMP
PM ₁₀	24-Hour	150	0	0	0	0
PM _{2.5}	24-Hour	35	0	0	0	0

1. All units are in $\mu\text{g}/\text{m}^3$

Table 2 Number of Condition Level Yellow Exceedances

		Threshold Value ¹	PS234	PS126	1WFC	1CMP
PM ₁₀	5-Minute	115	1	0	0	0
PM _{2.5}	5-Minute	60	0	0	0	1
PM ₁₀	30-Minute	90	0	0	0	0
PM _{2.5}	30-Minute	55	0	0	0	1
PM ₁₀	1-Hour	80	0	0	0	0
PM _{2.5}	1-Hour	53	0	0	0	1
PM ₁₀	24-Hour	50	0	0	0	0
PM _{2.5}	24-Hour	30	0	0	0	0

1. All units are in $\mu\text{g}/\text{m}^3$



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EPC MOBILE MONITORING PROGRAM

- In January & February, 2009, LMCCC conducted concentrated Total Suspended Particulates (TSP) and noise monitoring studies at selected sites to assess the representativeness of the program
- LMCCC identified ten Lower Manhattan construction sites to be monitored as part of the project
- Data was acquired using a personalDataRAM model pDR-1000AN designed to measure airborne particulate matter and a Quest Q-300 Noise Dosimeter designed to measure sound level
- Studies encompassed an entire workday including non-work periods at each site
- The results from each site are summarized below



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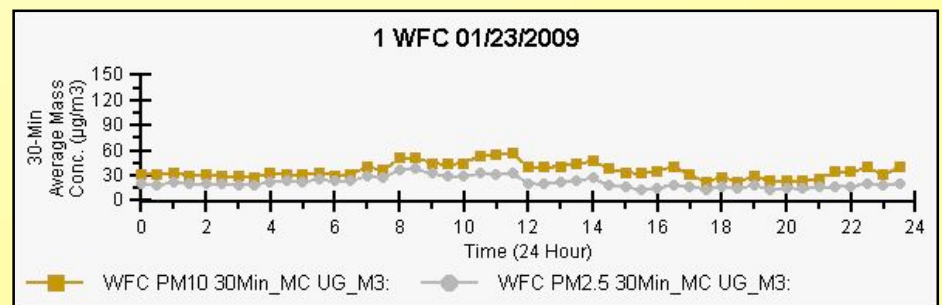
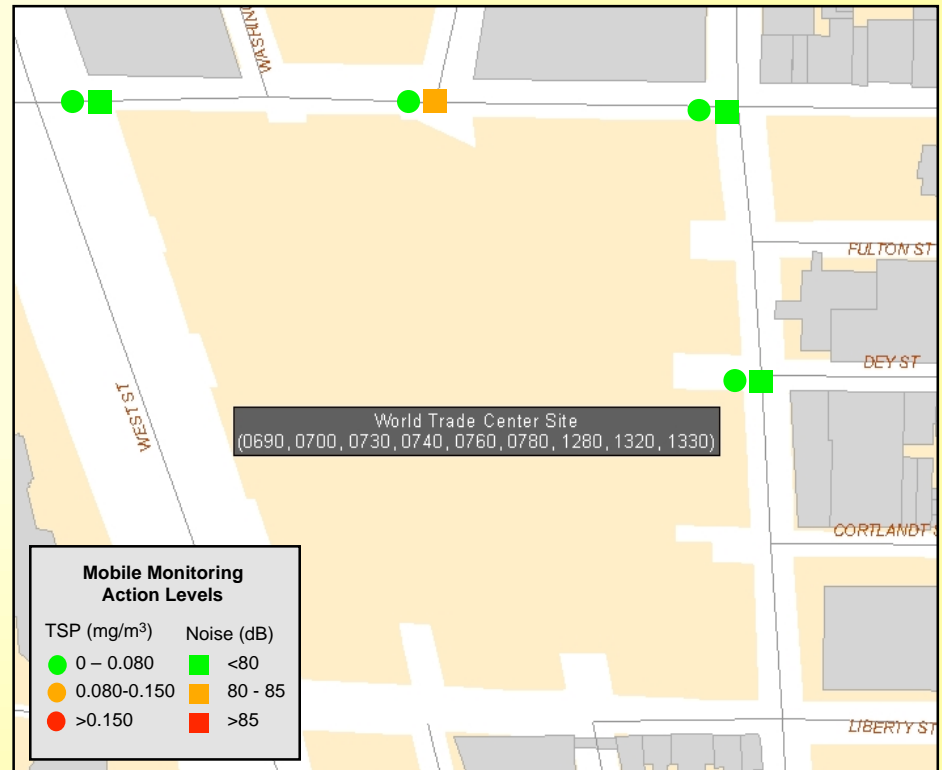
WORLD TRADE CENTER (NORTHERN)

- The northern section of the WTC Site encompasses the Freedom Tower & Towers 3 & 4
- Fugitive dust from construction entrances has been well controlled by cleaning of track out using a sweeper and wash down by construction personnel
- No TSP or noise exceedances were recorded during the study



Example of Engineering Control: Workers sweeping track-out for dust control at World Trade Center construction gate

Results of Mobile Monitoring Study Conducted on January 23, 2009



Data from nearest Stationary Air Monitor for January 23, 2009



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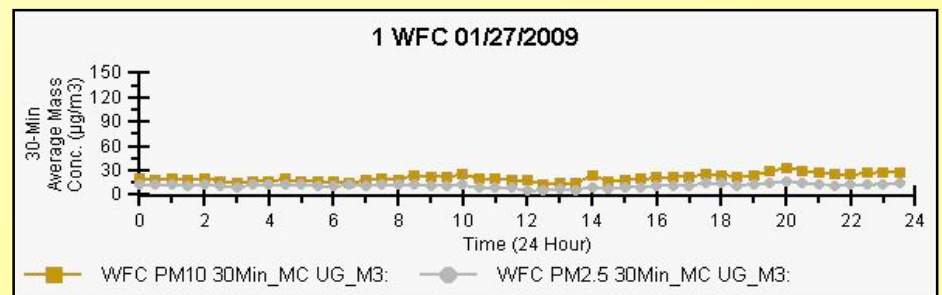
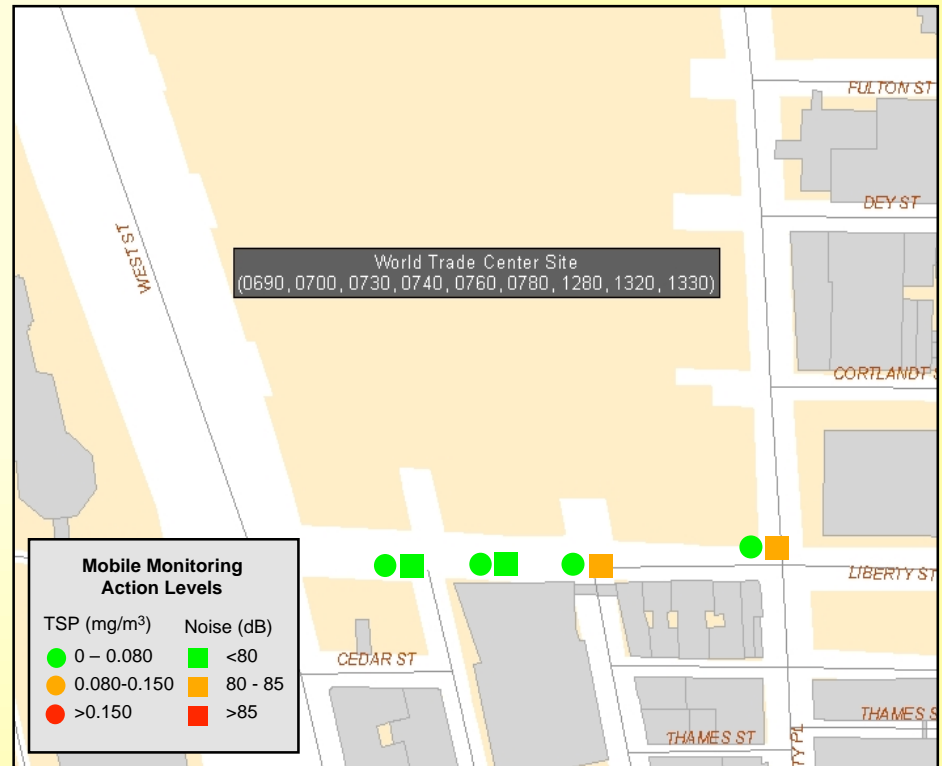
WORLD TRADE CENTER (SOUTHERN)

- The southern section of the WTC Site encompasses the Memorial and Transportation Hub
- Fugitive dust from construction entrances has also been controlled by cleaning of track out
- Increased noise recorded mainly due to equipment in close proximity to fences and gates due to limited access near bathtub



Southeastern corner of WTC Site. Arrow indicates siting of equipment close to perimeter fence contributing to increased noise. This issue was resolved through cooperation between LMCCC & PANYNJ

Results of Mobile Monitoring Study Conducted on January 27, 2009



Data from nearest Stationary Air Monitor for January 27, 2009



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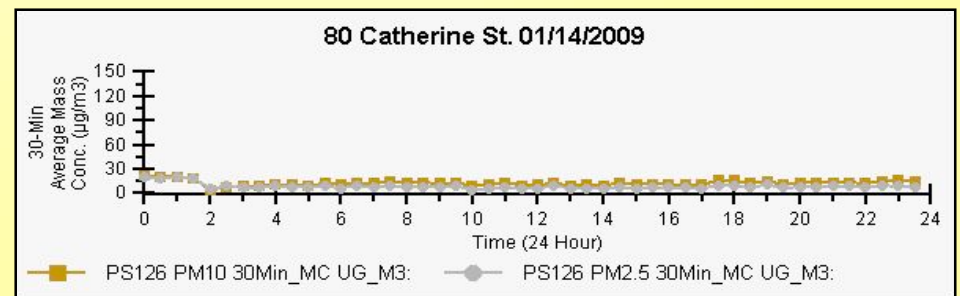
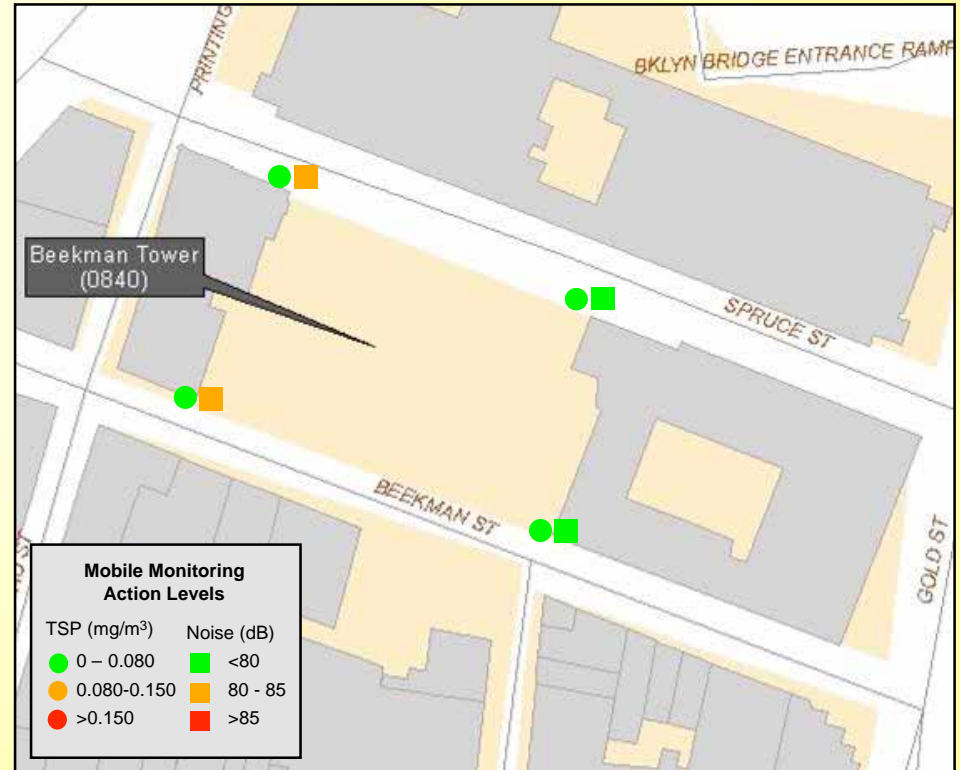
BEEKMAN TOWER (0840)



Beekman Tower has been given priority for mobile monitoring due to its close proximity to New York Downtown Hospital

- The 75 story Beekman Tower will be one of the tallest buildings in Lower Manhattan
- Priority due to proximity to Hospital
- Currently slightly elevated noise at East end of the Site
- Elevated noise associated with concrete pumps & trucks at construction entrances

Results of Mobile Monitoring Study Conducted on January 14, 2009



Data from nearest Stationary Air Monitor for January 14, 2009



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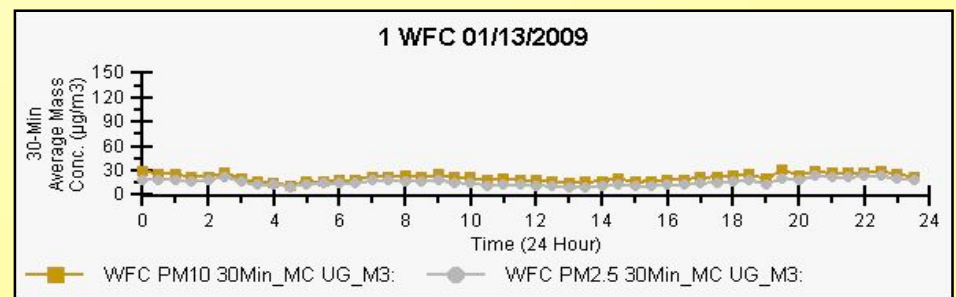
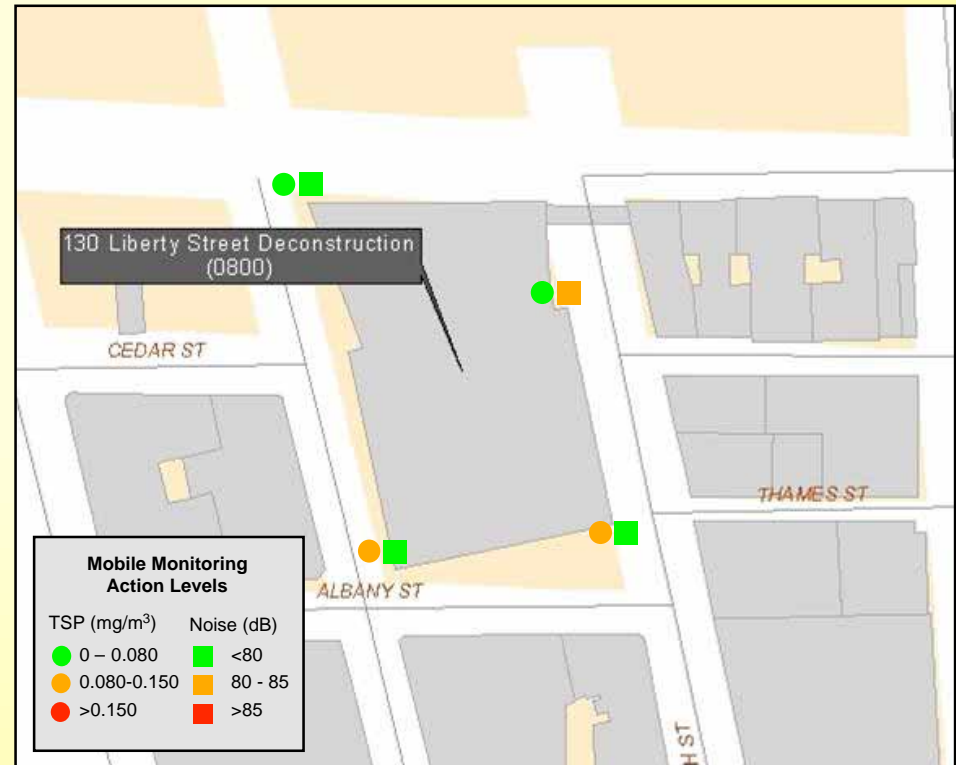
130 LIBERTY STREET DECONSTRUCTION (0800)

- Decontamination in progress, to be followed by deconstruction of structure
- Fugitive dust from construction entrances has been controlled by cleaning of track out



130 Liberty Deconstruction Site

Results of Mobile Monitoring Study Conducted on January 13, 2009



Data from nearest Stationary Air Monitor for January 13, 2009



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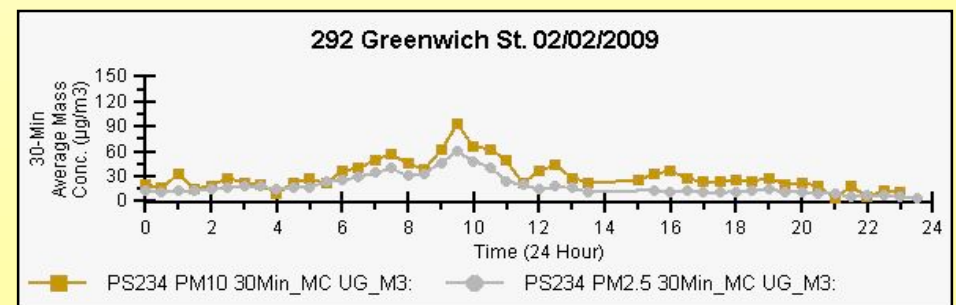
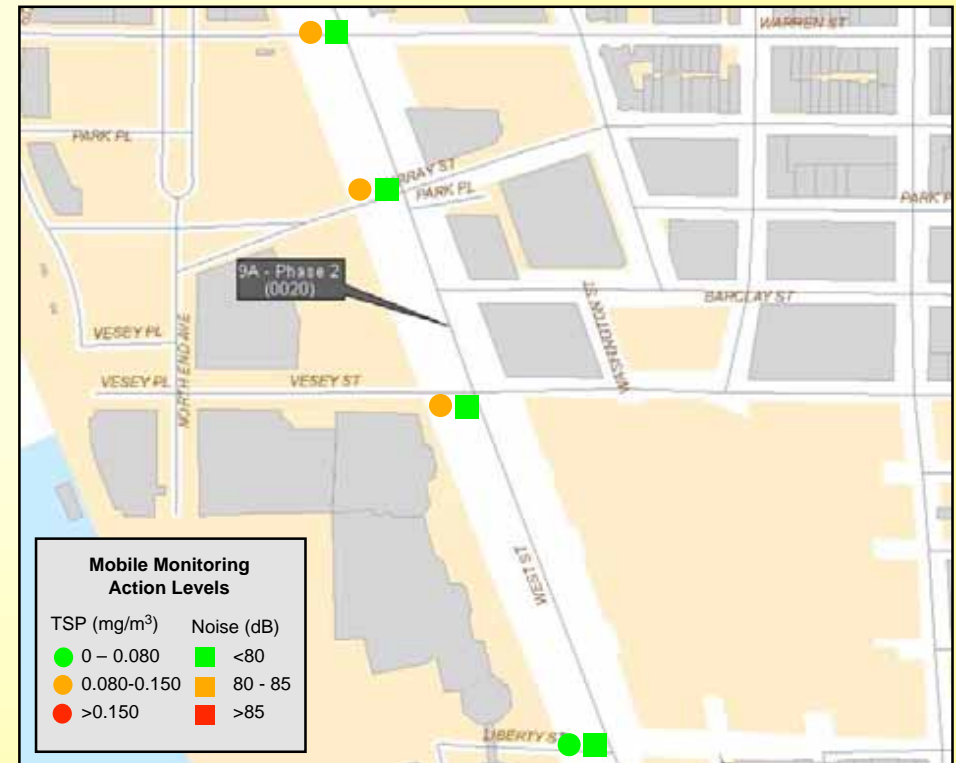
ROUTE 9A – PHASE 2

- Reconstruction of West Street between West Thames and Chambers Street
- Fugitive dust from construction entrances has been controlled by cleaning of track out
- Noise exceedances associated with heavy equipment such as backhoe mounted hammers have been recorded
- Efforts were made to distinguish between construction and traffic emissions



Route 9A Construction

Results of Mobile Monitoring Study Conducted on February 2, 2009



Data from nearest Stationary
Air Monitor for February 2, 2009



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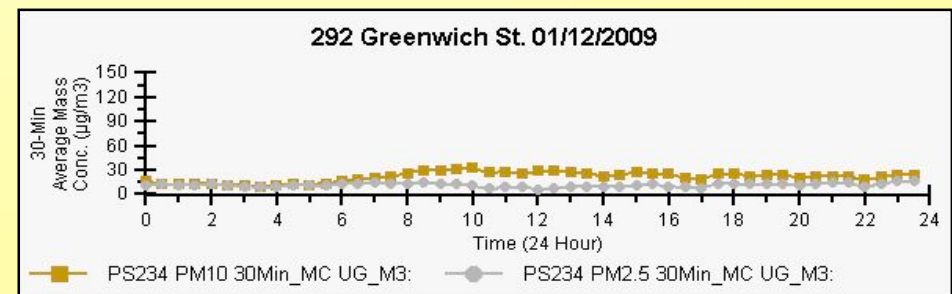
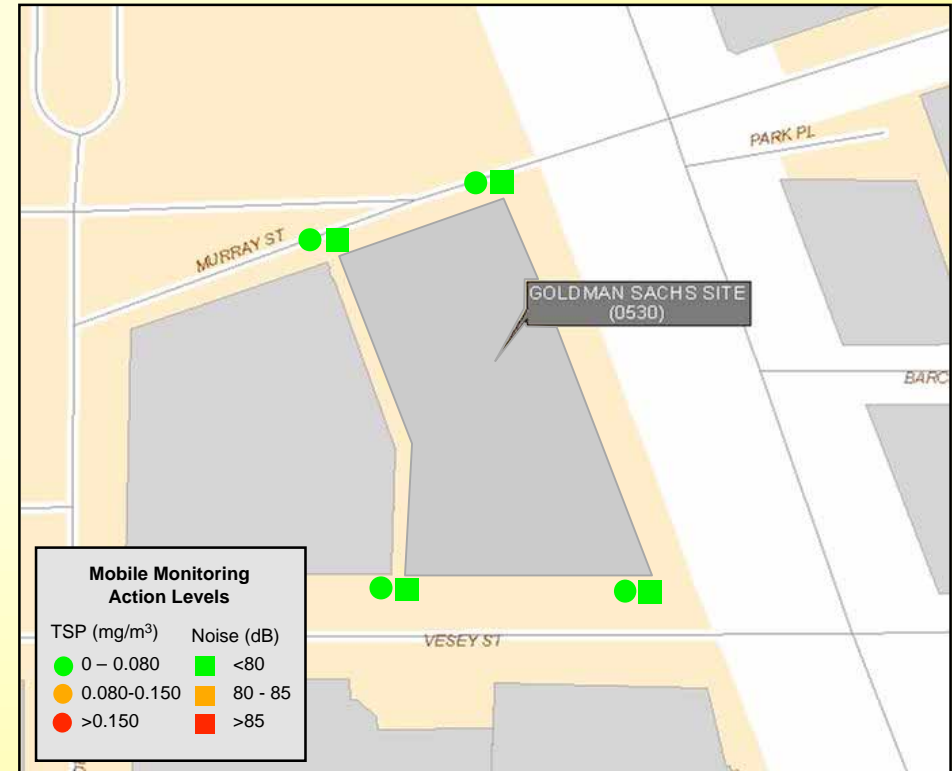
GOLDMAN SACHS WORLD HEADQUARTERS

- Goldman Sachs world headquarters. Located on West Street between Vesey and Murray Streets
- Fugitive dust from construction entrances has been controlled by cleaning of track out



Example of Engineering Control: Workers sweeping track-out for dust control at Goldman Sachs construction gate

Results of Mobile Monitoring Study Conducted on January 12, 2009



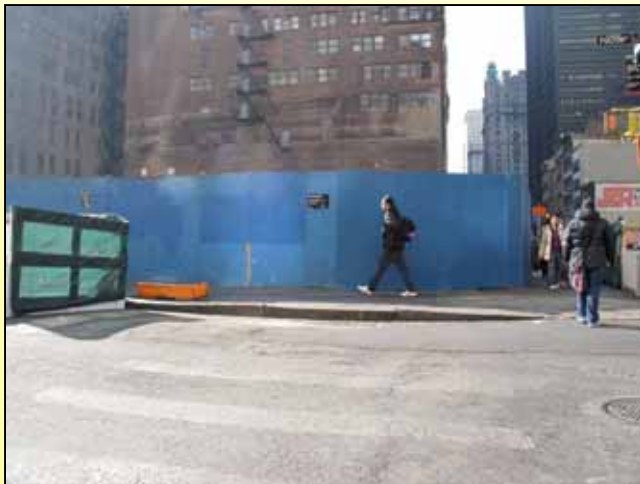
Data from nearest Stationary
Air Monitor for January 12, 2009



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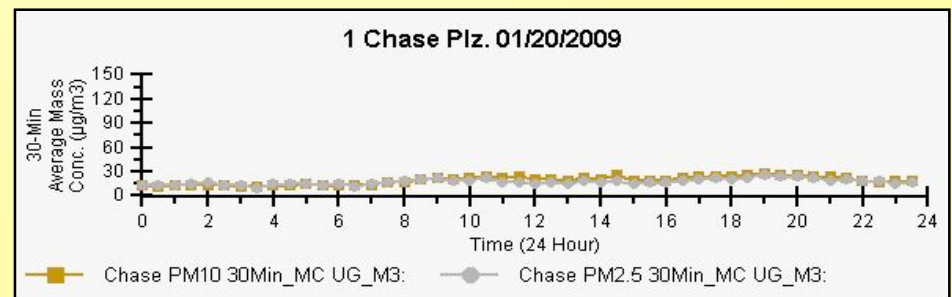
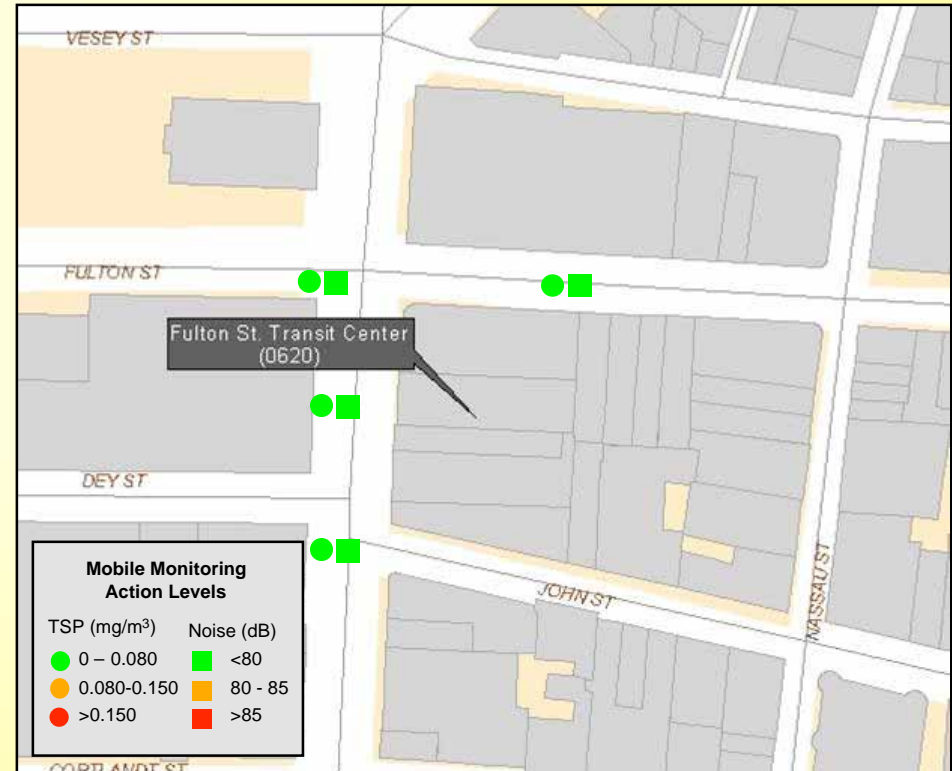
FULTON STREET TRANSIT CENTER (0610 & 0620)

- Work on the transit hub at Fulton Street began in early February 2005 -- the first steps on the way to a station that links 12 subway lines
- Close proximity to pedestrians and large amount of demolition early in project
- Construction fences and completion of demolition phase of project have impacted noise and TSP levels at this Site



Fulton Street Transit Center Construction adjacent to Broadway

Results of Mobile Monitoring Study Conducted on January 20, 2009



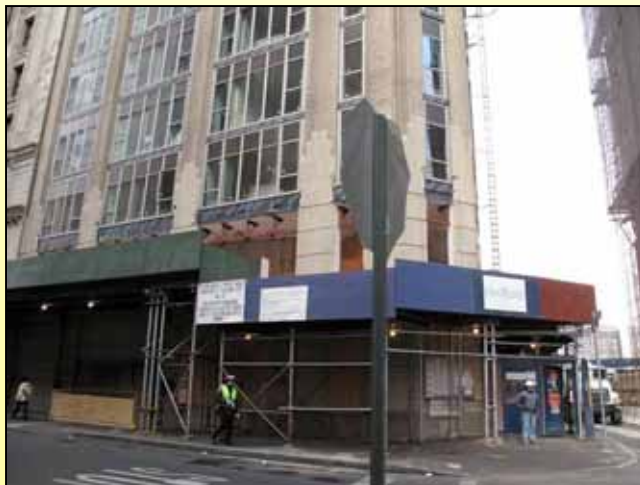
Data from nearest Stationary
Air Monitor for January 20, 2009



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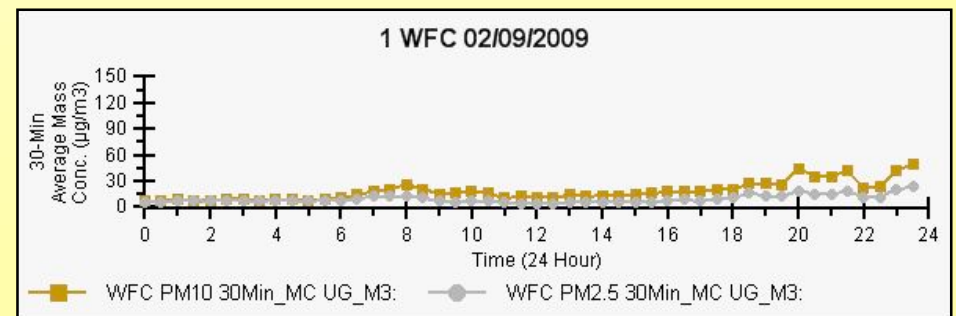
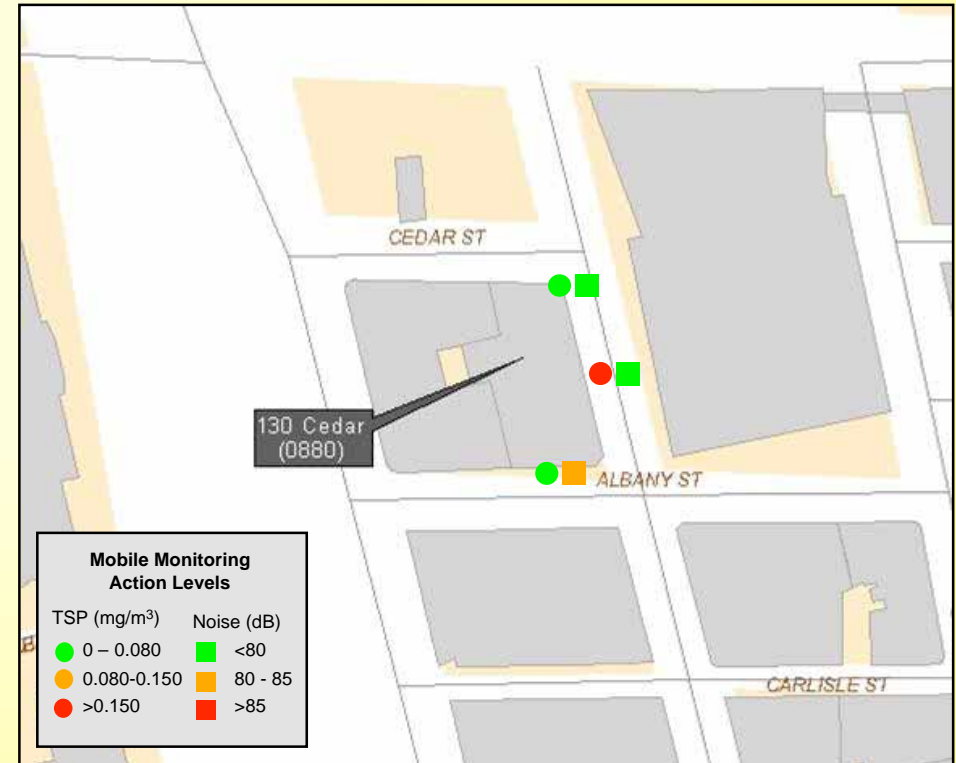
130 CEDAR (0880)

- Deconstruction down to the building's steel beams and reinforced-concrete frame wrapped up in summer 2008. Construction is active through early 2010
- Close proximity to pedestrians and large amount of demolition early in project
- Proximity to 130 Liberty
- Increased TSP level was recorded at 130 Cedar due to operation of garbage truck. Additional monitoring will be carried out at this location to establish whether dust emissions from this site are recurring



130 Cedar Street Site

Results of Mobile Monitoring Study Conducted on February 9, 2009



Data from nearest Stationary
Air Monitor for February 9, 2009



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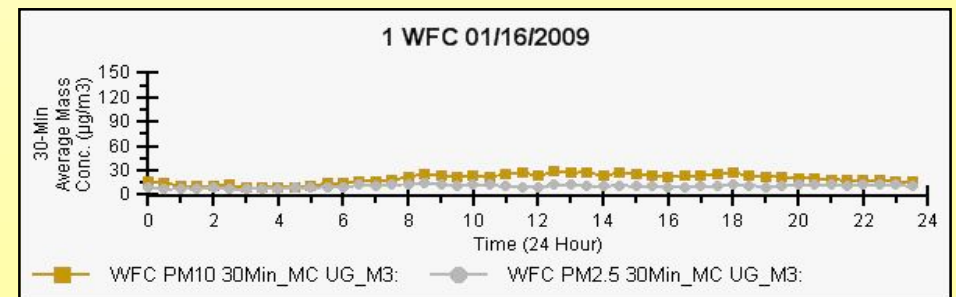
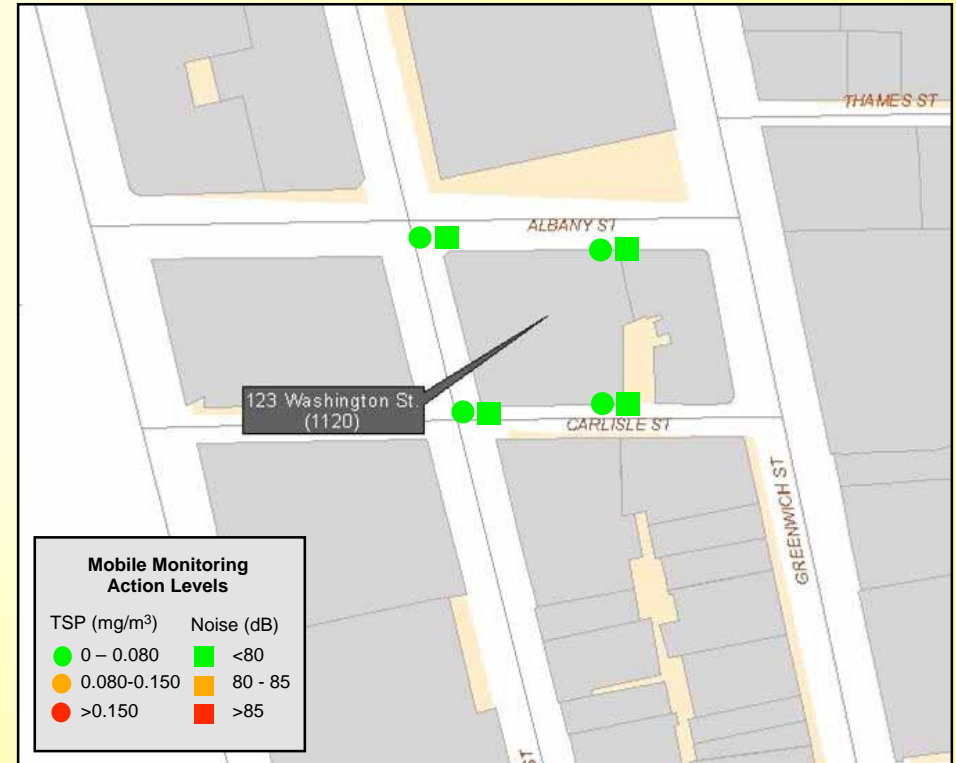
123 WASHINGTON STREET (1120)

- Construction of a mixed-use hotel and condominium that will stand 57 stories tall
- Noise during earlier phases of construction has abated with construction of superstructure



123 Washington Street Site

Results of Mobile Monitoring Study Conducted on January 16, 2009



Data from nearest Stationary
Air Monitor for January 16, 2009



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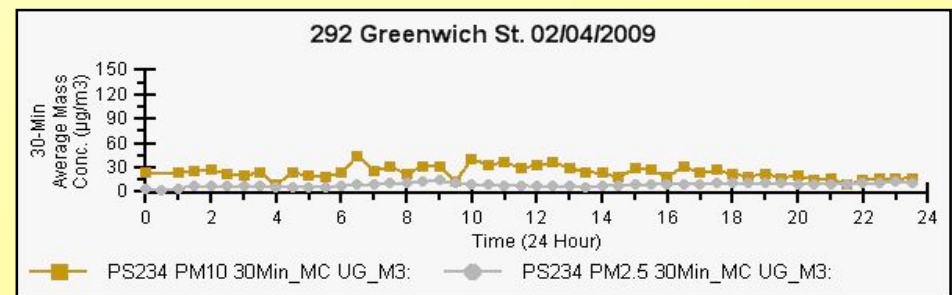
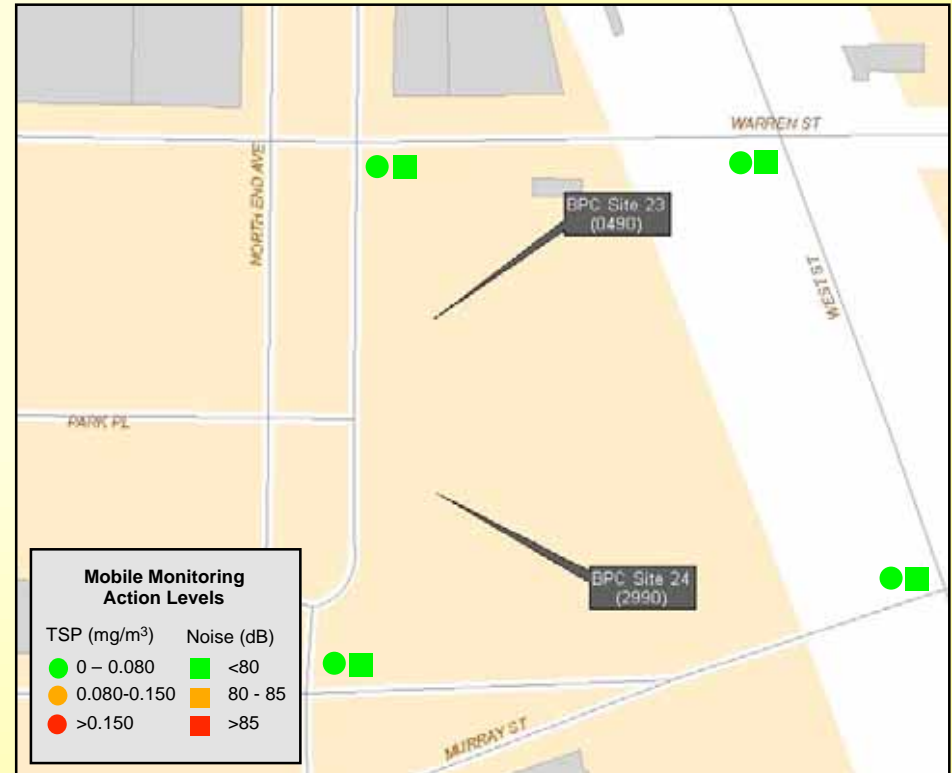
BPC SITE 23 & BPC SITE 24 (0490, 2990)

- Two residential buildings will stand at 22 and 32 stories will share a single floor plate to accommodate a parking garage and community center at their base
- Proximity to residences make dust and noise monitoring a priority at this site



Battery Park City Projects 24 & 25

Results of Mobile Monitoring Study Conducted on February 4, 2009



Data from nearest Stationary
Air Monitor for February 4, 2009



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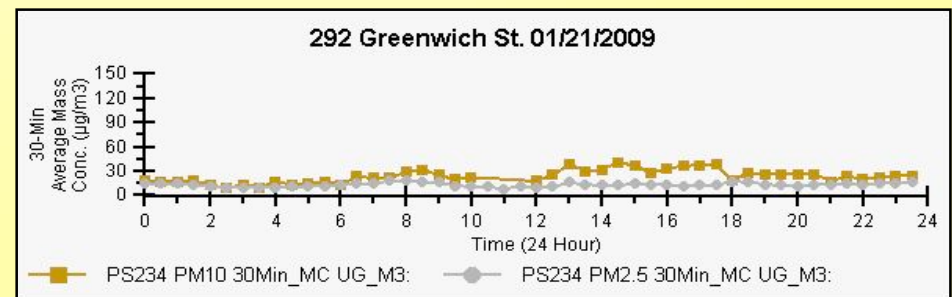
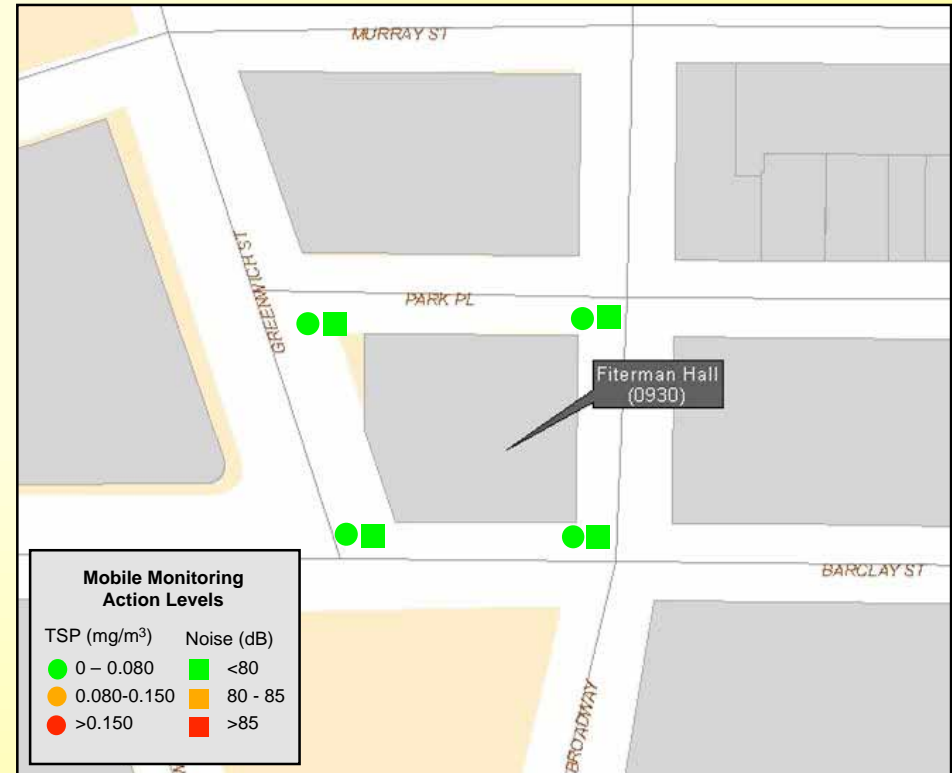
FITERMAN HALL (0930)

- Because mold and WTC dust contaminated the building and rendered it uninhabitable, Fiterman Hall must be deconstructed
- No increased dust or noise levels were recorded at this site



Fiterman Hall, located at 30 West Broadway between Barclay and Park Place

Results of Mobile Monitoring Study Conducted on January 21, 2009



Data from nearest Stationary Air Monitor for January 21, 2009



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EQUIPMENT INVENTORY TABLE (PART 1)

Site	Month	Year	Owner/Vendor	Manufacturer	Model	Class	Age	Serial #	Date Onsite
WTC HUB	February	2009	Skanska	Caterpillar	M315	Excavator		796	03/16/07
WTC HUB	February	2009	Skanska	Caterpillar	M315	Excavator		M00208	10/27/08
WTC HUB	February	2009	Skanska	Caterpillar	M315	Excavator		M00259	12/28/07
WTC HUB	February	2009	Skanska	Komatsu	228	Excavator		40160	10/07/08
WTC HUB	February	2009	Skanska	Caterpillar	345	Excavator		775	12/30/08
WTC HUB	February	2009	Skanska	Caterpillar	345	Excavator		1950	01/08/08
WTC HUB	February	2009	Pratt	Atlas Copco	ECM-590 RR	Drill Rig		11297	08/14/08
WTC HUB	February	2009	Pratt	Atlas Copco	ECM-590 RR	Drill Rig		11399	08/08/08
WTC HUB	February	2009	Bay Crane	Tadano	450XL	Crane		540389	11/10/08
WTC HUB	February	2009	Skanska	Tadano	450XL	Crane		540481	12/04/08



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EQUIPMENT INVENTORY TABLE (PART 2)

Retrofit Manufacturer	Retrofit Type	Model #	Certification	HP	Diesel Engine Tier 1 2 3 4	ULSD	Natural Gas	Unleaded Gas/Petrol	Electric/ Power Plant	EPC Tag #	Comments
DCL	DPF	DCF3	VERT	106	2	x				1011	Compliant
Huss	DPF	FS 80	CARB	135	3	x				1128	Compliant
Huss	DPF	FS 80	CARB	135	3	x				1016	Compliant
E Global	DPF	A11-0287	EPA	155	2	x				1046	Compliant
DCL	DPF	Mine-X	EPA	371	3	x				1041	Compliant
DCL	DPF	Mine-X	EPA	371	3	x				1029	Compliant
DCL	DPF	Mine-X	EPA	215	2	x				1048	Compliant
DCL	DPF	Mine-X	EPA	215	2	x				1034	Compliant
DCL	DPF	Mine-X	CARB	223	2	x				1139	Compliant
Clean Diesel Tech	DPF	MD3K2	EPA	223	3	x				1138	Compliant