

Regulatory Submittal Part IV(R)
Remediation Phase
Waste Sampling and Management Plan

**Remediation and Deconstruction of
Fiterman Hall
30 West Broadway
New York, New York**

Prepared for:

Dormitory Authority of the State of New York
&
City University of New York

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1.0 General

1.1 Background

Pei Cobb Freed & Partners, Architects, LLP (PCF-P) has engaged the Environmental Consultant, Airtek Environmental Corp. (Airtek) on behalf of the Dormitory Authority of the State of New York (DASNY) and the City University of New York (CUNY) to prepare a Waste Sampling and Management Plan (WSMP) in support of the remediation and deconstruction of Fiterman Hall, located at 30 West Broadway, New York, NY (the Building). This plan is intended to be applied to the Remediation Phase of the project, and is in response to a request by the WTC Regulators for a documented approach to the project, and is Part IV(R) of the Regulatory Submittal Package. A separate document addressing waste management during the subsequent Deconstruction Phase of the project will be developed along with the Deconstruction Phase Work Plan.

1.2 Objective

The objective of the WSMP is to characterize, manage, containerize and legally transport and dispose of waste streams that will be generated as part of the Fiterman Hall Remediation and Deconstruction Project. The Building was severely impacted by fallout from the events of September 11, 2001. It is the Owner's intent to conduct remediation of WTC-related contamination and abatement of in-place asbestos (ACM) and other regulated building components so that conventional deconstruction of the Building can be completed. Waste characterization in support of this effort is an ongoing process that involves active inspection on the part of the Owner's Environmental Consultant of the work conducted and the waste generated by the Contractor.

1.3 Remediation Phase

The Remediation Phase of the project includes the Scaffold Erection Operation detailed in a previous submittal, and the removal of all interior non-structural elements within the building under an environmental containment system. The remediation will be conducted so that the building can be safely deconstructed to allow for redevelopment of the Site. In general, all interior building components and fixtures and furnishings are considered to be asbestos-contaminated and will be handled, packaged, stored and disposed as ACM waste. Certain non-porous items may be cleaned and disposed of as conventional waste if they can be demonstrated to be cleanable. The Remediation Phase of the project will occur under a negative pressure containment and includes the following general categories: (a) the general area cleanup of WTC dust and debris; (b) removal and disposal of installed porous and certain non-porous building materials, furnishings and components; (c) cleaning and salvage of certain installed non-porous building equipment and components; (d) removal of building materials containing asbestos which were present in the Building prior to September 11th, 2001; (e)

packaging of asbestos and other regulated waste including, but not limited to, light bulbs, lighting ballasts, mercury-containing thermostats, etc. at generation points and (f) movement of containers to the decontamination unit and movement of decontaminated containers to waste loading areas.

1.4 Deconstruction Phase

The Deconstruction Phase of the project includes the structural deconstruction of the building after environmental clearance inspections and clearance testing have released the structure for conventional deconstruction. The term “conventional deconstruction” is defined for the purposes of this document as deconstruction conducted without the use of the special engineering controls typical of environmental remediation projects. The term “conventional waste” is defined for the purposes of this document as waste that is not environmentally regulated (i.e., construction and demolition “C&D” waste, recyclable waste). A separate WSMP will be developed to address waste management during the Deconstruction Phase.

1.5 WTC Dust Waste Characterization

As detailed in the Preliminary Regulatory Submittal for the Fiterman Hall project, dated January 10, 2006, waste characterization sampling and analysis of dust throughout the structure was conducted. The purpose of this testing was to assess the potential impact of WTC dust incursion on the waste classification of conventional building materials and contents.

For purposes of this document, the terms “conventional building materials” and “conventional contents” refer to items within the building that would not be classified as suspect ACM/LBP, suspect hazardous waste, suspect Resource Conservation and Recovery Act (RCRA)-regulated waste, or suspect PCB-regulated waste. As an example, sheetrock and wood desks would be considered respectively as conventional building materials and conventional contents. As a converse examples, window caulk and older pipe elbows would not be considered conventional materials due to the potential PCB content of the window caulk, and the potential asbestos content of the pipe elbows.

The results of the dust characterization study indicate that the dust throughout the structure is not hazardous waste, RCRA-regulated waste or PCB-regulated waste. Therefore, conventional building materials and conventional contents are not suspected to be regulated just by their contact with the WTC dust. As such, no further waste characterization of these conventional material classes will be conducted. Notwithstanding these results, all interior building components are assumed to be contaminated with asbestos and will be treated as ACM-contaminated as detailed in this document.

Further waste determinations, as necessary, will be made by the Owner’s Environmental Consultant as described in this document and the associated

Quality Assurance Project Plan (QAPP). The Contractor or its authorized representative will ensure proper handling and disposal activities as described in this Plan.

2.0 Primary Material Categories

This WSMP has been developed to address the handling, packaging, storage, transport and disposal of all waste materials generated by the Remediation Phase of the project.

Anticipated waste streams for the project are listed below:

2.1 Contaminated Materials and ACM/LBP Building Materials

- Interior Surface Dust
- Asbestos-containing Building Materials (ACBM)
- Lead-Painted Components (LBP)
- Sprayed-on Fireproofing
- All interior non-structural building components and furnishings

2.2 PPE and Remediation Process Consumables

- Personal Protective Equipment (suits/filters/gloves/booties)
- Abatement Materials (rags, bags, poly sheeting)
- HEPA Vacuum Bags/Negative Air Filters
- Miscellaneous Contaminated Disposables

2.3 Remediation Process Liquids

- Cleaning Process Liquids
- Decontamination Unit Liquids

2.4 Universal Wastes (40 CFR Part 273 and 6 NYCRR Section 374.3)

- Light Ballasts and Potting Material (PCBs)
- Fluorescent Light Bulbs (Mercury)
- Switches and Thermostats (Mercury)

2.5 Refrigerant-containing Equipment

- HVAC Equipment
- Refrigerators

2.6 Shreddable Materials

- Sheetrock
- Duct Work

- Ceiling Tile
- Wood
- Non-Asbestos Floor Tile
- Metal Studs
- Black Iron
- Porcelain
- Ceiling Grid

2.7 Non-Porous Waste

- Duct Work
- Ceiling Grid
- Electrical Conduit
- Doors
- Piping

2.8 Roofing Materials

- Stone Ballast
- Ballast Fines
- Roof Membrane
- ACM Roof Membrane (14th Floor North)
- Cooling Tower

2.9 Heavy Equipment

- Generator
- Air Handlers
- Chillers
- Cooling Tower
- Elevator Cars
- Motors

2.10 Unanticipated Waste Materials

Materials, if any, encountered during the work that are suspect regulated waste and have not been previously categorized for waste handling and disposal will be identified, quantified, and characterized by the Owner's Environmental Consultant. Representative testing will be conducted as discussed in Section 4.0 below. Solid materials will be tested for RCRA/PCB compliance, liquids intended for filtration and disposal to the NYC Sewer will be tested for RCRA/PCB compliance and also for NYCDEP sewer discharge parameters.

The classification of building components will be an ongoing effort and will be conducted by the Owner's Environmental Consultant in accordance with applicable New York City, New York State and federal laws, rules and regulations. This Plan is intended

as a working document to be used during ongoing operations at the Site, and will be updated as necessary as new information becomes available.

3.0 Remediation Phase Waste Characterization

Waste testing conducted to date is discussed below. In brief, dust collected from throughout the structure, PPE and process consumables used throughout the structure, and cleaning process and decon shower water were tested. None of the results exceeded levels at which the tested materials would be classified as RCRA or PCB regulated waste, and the water tested also met NYC Sewer discharge criteria. As a result, conventional building materials and contents of similar WTC impact would not be sampled for RCRA/PCB parameters unless there is an independent concern that they might be so regulated due to the inherent composition of the component, subcomponent or waste stream.

3.1 Previously Characterized Waste

3.1.1 Dust

Preliminary testing of WTC dust within the building was conducted to identify areas of the building where concentrations of RCRA – regulated contaminants within WTC dust may exist. Dust was collected with HEPA vacuums from at least five distinct areas of each floor of the building. As the sampling team moved down through the building, a geographic zone was selected for each floor (east, north, south, west, center, or throughout), and sampling as concentrated in that zone. The purpose of this bias was to allow geographic trends to be identified for further investigation in the event of detections and/or exceedances of RCRA/TSCA criteria. Samples (including the HEPA vacuum bag used to collect the samples, were submitted for full TCLP, total PCB and RCRA characteristic analyses. Based on observation of site conditions and the number of samples taken, the sampling conducted is considered to be representative of the site dust loading conditions. Results are included in Attachment D.

Note on RCRA Ignitability: Review of the dust characterization results will reveal that some of the dust samples are characterized as “Ignitable” by the laboratory. Under RCRA, ignitability is a characteristic assigned to liquids with a low flashpoint that could ignite during handling, transport or disposal creating a hazardous situation. In this particular case, the samples were noted as ignitable due to the paper components of the HEPA vacuum-cleaner bag used to collect the samples. Under RCRA hazardous waste definitions, these materials are not characterized as “Ignitable.”

3.1.2 PPE and Process Consumables

PPE and process consumables (plastic, filters, etc.) used throughout the building during the characterization phase have been subject to waste characterization testing. None of the PPE or process consumables analyzed to date have tested above the applicable regulatory limits.

3.1.3 Cleaning Liquids

Decontamination Unit wash water and all other water collected during the cleaning operations that supported the characterization phase was drummed and tested for RCRA/PCB waste characterization parameters and for NYCDEP Sewer discharge parameters. None of the cleaning/decon water analyzed to date has tested above the RCRA/PCB limits or the NYC Sewer Discharge Limits.

3.1.4 Caulking Materials

In addition to testing for asbestos content, caulking materials were sampled and analyzed for total PCBs. None of the caulking materials tested over the 50 ppm limit for PCB content.

3.1.5 Roofing Materials

Although the roof ballast on the building was cleaned as a part of the NYC DEP Exterior Cleaning Program, the materials were re-tested for waste characterization. Ballast stone was moved and ballast fines were collected from each roof and roof setback. As the ballast fines tested below the RCRA/PCB limits in all cases, the ballast stone and roof membranes are not considered suspect RCRA/PCB waste. Due to the potential for re-contamination over the time since the NYC DEP cleaning, the roofing materials are considered ACM-contaminated. As detailed in Part I(R), the ballast stone and roof membrane will be cleaned, and the ballast fines and cleaning materials will be managed as ACM waste. Water from this cleaning effort will be handled as a “remediation process liquid” as detailed in this document. ACM testing of roof materials indicates that the north section of the 14th floor setback roof is ACM, and it will be treated as such per Part I(R), and disposed as such per Part IV(R). Likewise, the cooling tower fill is considered to be ACM-contaminated and will be treated as such.

3.1.6 Shreddable Waste

All waste processed through the shredder is assumed to be ACM waste and will be handled, packaged, stored, transported and disposed as such. No waste categorized under any other regulated waste category (universal

waste, hazardous waste, et al) will be processed through the shredder. Likewise, no asbestos-containing building materials (manufactured building materials with asbestos content of greater than 1% by weight) will be processed through the shredder.

3.2 Uncharacterized Waste

Any uncharacterized material suspected to be hazardous waste or other RCRA/PCB-regulated waste will be tested and evaluated based on its composition. For materials requiring sampling, a representative sampling strategy will be used as detailed in Section 4.0, and composite samples representative of the suspect waste streams will be collected. The locations and frequency of samples to be combined into composite samples shall be determined by the Environmental Consultant such that a representative sample of the waste type has been obtained. All sampling personnel shall be familiar with sample collection and waste storage protocols and shall have been trained appropriately per the Health and Safety Plan.

The waste classification samples will be sent to laboratories accredited by the NYS Department of Health under the ELAP Program, certified under 6 NYCRR Section 370.1(f), and qualified for waste classification analysis (e.g., TCLP, total PCBs and RCRA characteristics). Testing will determine waste classification and handling requirements (40 CFR Section 262.11). Liquid to be filtered to the NYC Sewer will also be tested for NYC Sewer Discharge Criteria. Other sampling and laboratory analysis may be required by the disposal facility prior to waste acceptance. The laboratory subcontracted to perform the analysis will also be certified through NYSDOH ELAP for the analytical parameters being analyzed.

All potentially hazardous waste will be managed as hazardous waste until analytics prove otherwise. If greater than 100 kg/month of hazardous waste is generated during the deconstruction process, Contractor will comply with, among other things, 6 NYCRR Part 373, Subpart 373-3, section 373-3.3(b).

If results of waste characterization sampling and analysis dictate that waste material must be managed and disposed of as both an asbestos and another regulated waste (i.e., hazardous, RCRA-regulated, or PCB-regulated waste) both asbestos and hazardous/RCRA/PCB waste management and disposal requirements as applicable will be met. If there are conflicts between the requirements for asbestos and another regulated hazardous waste that preclude compliance with both, then the hazardous waste requirements will dictate specific management and disposal requirements.

If 50 ppm or more PCBs are detected in any waste stream the materials will be classified as both federal Toxic Substances Control Act (TSCA) waste and New York State hazardous waste.

4.0 Sampling Frequencies

4.1 ACM Building Materials

Prior, extensive ACM surveys and testing have been conducted on the building. Any additional Suspect-ACM materials encountered during the work will be sampled by the Owner's Environmental Consultant according to Asbestos Emergency Response Act (AHERA) protocols and analyzed by a laboratory accredited under the NYSDOH ELAP program and the US Dept. of Commerce NVLAP program.

4.2 PPE and Remediation Process Consumables

Dust throughout the building has been tested and confirmed to be below RCRA/TSCA limits. PPE and remediation process consumables from throughout the building were sampled during the Characterization Phase and have been tested and confirmed to be below RCRA/TSCA limits. Further testing of these materials is not planned. If conditions are noted during the Remediation and Deconstruction Phases that indicate a site condition or waste source that is determined by the Owner's Environmental to be as yet uncharacterized, further testing may be conducted. In that event, representative samples will be tested for waste characterization per Section 5.0. Three Composite samples of these materials will be collected. Composite samples will be comprised of a minimum of five grab samples. These materials will be treated as ACM waste at a minimum, and according to the results of waste characterization testing.

4.3 Remediation Process Liquids

Characterization Phase remediation process liquids from throughout the building and the decontamination unit shower water were tested and confirmed to be below RCRA/TSCA limits and determined to meet NYC Sewer Discharge Criteria. Further testing of these materials is not planned.

Any cleaning process liquids determined to be of an uncharacterized source will be captured, drummed, and stored in the secure waste storage facility with secondary containment until analytical testing is complete. Liquids intended for filtration and disposal to the NYC Sewer will be tested for RCRA/TSCA compliance and also for NYCDEP sewer discharge parameters. Aliquots will be collected from every five drums of water and composited into one sample. If fewer than five drums are available, one aliquot from each subject container will be collected for compositing.

Drums will be standard 55-gallon waste drums. Every ten drums of cleaning and decon liquids will be composited for analysis. Liquid in each container will be agitated through stirring, and one grab sample will be collected from each of the ten drums with a disposable plastic bailer. Sampling bailers collect a sample that

is a water column representative of the various strata in a liquid container. If the liquids do not exceed RCRA/TSCA limits, they will be assumed to be ACM–contaminated and will be filtered per NYC DEP Title 15 to the NYC Sewer.

4.4 Universal Waste/PCB Waste

Universal waste as defined by 40 CFR Part 273 and 6 NYCRR Section 374.3 is anticipated to be generated by the Remediation Phase. These materials (light ballasts, potting material, fluorescent bulbs, thermostats, etc.) will be assumed to be Universal Waste, will be cleaned of surface dust by HEPA vacuuming and wet wiping and will be drummed for disposal as Universal Waste.

Any mechanical/electrical equipment suspected of containing PCBs, other than Universal Waste discussed above, will be investigated and tested for total PCB content. Each suspect PCB source will be tested individually for total PCBs per section 5.0. Given that all mechanical/electrical equipment in the building was newly installed in 2001, it is unlikely that equipment containing PCB compounds will be identified.

4.5 Refrigerant-Containing Equipment

Refrigerant-Containing Equipment will be identified by the Contractor and scheduled for controlled refrigerant removal by a professional refrigerant collection service. Personnel engaged to conduct the removal of the refrigerant will enter the building as occasional visitors as provided for in the site HASP and NYSDOL Variance for the work.

4.6 Shreddable Waste

Most interior non-structural building components, including those listed in Section 2.1.5 will be processed through an industrial grade shedding machine as detailed in Regulatory Submittal Part I(R) – Remediation Work Plan. All shreddable waste will be assumed to be ACM waste and will not be tested further.

4.7 Non-Porous Waste

Non-Porous Deconstruction Waste may be managed by either of two options. The Abatement Subcontractor may choose to clean the non-porous surfaces in accordance with procedures outlined in the Part I(R) - Work Plan. The resulting cleaned material will not be sampled unless it is painted; in that instance, sampling will be performed as described below. Alternatively, based on field conditions and decisions regarding the use of its labor force, the Abatement Subcontractor may choose to not clean the surfaces and instead manage those uncleaned non-porous materials as asbestos waste at a minimum or otherwise, if required, as determined by the RCRA characteristics sampling.

For cleaned (wet-wiped/HEPA-vacuumed) non-porous deconstruction waste, TCLP RCRA Metals samples will not be collected unless the non-porous components are painted and to be disposed of (i.e., not recycled). Cleaned painted scrap metals that are recycled are exempt from the below described waste characterization sampling and analysis. For non-porous components that are painted, one composite sample made up of a minimum of four grab samples of each distinct painted non-porous building component (based on paint color, building component type and zone in which the component is located) will be collected for TCLP RCRA Metals analysis. Each grab sample will be collected as a core sample (i.e., both painted surface and building component matrix) and sent to the lab under chain-of-custody procedures for analysis.

Cleaned, painted, non-porous deconstruction waste with TCLP RCRA Metals results of less than applicable standards would also be classified, managed and recycled/disposed of as non-hazardous C&D debris.

Cleaned, painted, non-porous deconstruction waste with TCLP RCRA Metals results greater than applicable standards would be classified, managed and disposed of as hazardous waste with the toxicity characteristic of the exceeded RCRA Characteristic.

Cleaned, unpainted, non-porous deconstruction waste will be visually inspected by the Environmental Consultant in general accordance with the procedures outlined in ASTM Guideline E 1368: Standard Practice for Visual Inspection of Asbestos Abatement Projects, and may be recycled and/or disposed as C&D waste. The Environmental Consultant will make determinations on representativeness of waste sampling based on the quantity and nature of such wastes encountered. In general, the protocols followed for representativeness of other site waste sampling will be followed.

4.8 Roofing Materials

Ballast stone was moved and ballast fines were collected from each roof and roof setback. As the ballast fines tested below the RCRA/PCB limits in all cases, the ballast stone and roof membranes are not considered suspect RCRA/PCB waste. The materials are considered ACM-contaminated and no further testing will be conducted.

4.9 Heavy Equipment

Heavy equipment is considered ACM-contaminated as are all other interior components. No further testing will be conducted.

4.10 Unanticipated (Other) Waste

Materials, if any, encountered during the work that have not been previously categorized for waste handling and disposal will be identified, quantified, and characterized by the Owner's Environmental Consultant as detailed in Section 5.0. Based on the type, quantity and location of any unanticipated materials, the Owner's Environmental Consultant will develop a representative sampling protocol. If a sampling protocol needs to be developed, it will be provided to the regulators for review and approval prior to final disposal of the unanticipated waste streams.

5.0 Analytical Methodologies

Analyses conducted to support waste characterization will be performed according to the following methodologies. Where more than one method is identified, each analytical method is valid per the regulations.

5.1 Toxicity

Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 as follows:

- Volatile organic compounds (VOCs) - Method 8260B of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846. VOC toxic constituents include benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), chloroform (D022), 1,4-dichlorobenzene (D027), 1,2-dichloroethane (D028), 1,1-dichloroethylene (D029), methyl ethyl ketone (D035), tetrachloroethylene (D039), trichloroethylene (D040), and vinyl chloride (D043).
- Semivolatile organic compounds (SVOCs) - Method 8270C of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846. SVOC toxic constituents include 2,4-dinitrotoluene (D030), hexachlorobenzene (D032), hexachlorobutadiene (D033), hexachloroethane (D034), o-cresol (D023), m-cresol (D024), p-cresol (D025), cresol (D026), nitrobenzene (D036), pentachlorophenol (D037), pyridine (D038), 2,4,5-trichlorophenol (D041), and 2,4,6-trichlorophenol (D042).
- Pesticide toxic constituents - Method 8081A of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846. Pesticide toxic constituents include chlordane (D020), endrin (D012), heptachlor and its epoxide (D031), lindane (D013), methoxychlor (D014), and toxaphene (D015).
- Herbicide toxic constituents - Method 8151A of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-

846. Herbicide toxic constituents include 2,4-D (D016) and 2,4,5-TP (also known as Silvex, D017).

– Mercury (D009) - Method 7470A (aqueous samples) of “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846.

– Metals/inorganics other than mercury - Method 6010B, or Method 6020 of “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846. These constituents include arsenic (D004), barium (D005), cadmium (D006), chromium (D007), lead (D008), selenium (D010), and silver (D011).

5.2 RCRA Characteristics

5.2.1 Ignitability

American Society of Testing Materials (ASTM) method D-93-79 or D-93-80 or D-3278-78.

5.2.2 Corrosivity

Method 9045D or 9040C as set forth in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846. National Association of Corrosion Engineers (NACE) Standard TM-01-69 as standardized in SW-846 shall be utilized to evaluate corrosion rate if the suspected corrosive hazardous waste is a liquid.

5.2.3 Reactivity

7.3.3.2 or 7.3.4.2 of “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846.

5.3 Total PCBs

SW-846 Method 8082, Analysis of Polychlorinated Biphenyls by Gas Chromatography is specified by regulation for determining the concentration of PCBs in wastes.

5.4 NYC Sewer Discharge Parameters

For any project liquids intended for filtration and disposal to the NYC Sewer, the following testing methodologies will apply:

EPA Method 624:	Volatiles – NYCDEP Target list
SW 846-3510C/8082:	PCBs

SW 846-1311/8270C:	TCLP Base/Neutral/Acids
SW 846/8151:	TCLP Herbicides
SW 846-1311/6010:	TCLP RCRA Metals
SW 846-1311/7470:	TCLP Mercury
SW 846-1311/8081:	TCLP Pesticides
SW 846-1311/8260:	TCLP Volatiles
EPA Method 200.7:	Cadmium, Copper, Lead, Nickel and Zinc
SW 846-7196A:	Hexavalent Chromium
EPA 245.1:	Mercury
SW 846 7.3:	Reactivity-Cyanide and Sulfide
SW 846 1010	Flashpoint
EPA 1664a:	Non-polar Material
EPA 150.1:	pH
EPA 420.1/2:	Total phenols

6.0 Waste Packaging and Storage

Locked waste storage areas will be established on the west side of the main floor to accommodate both categorized waste awaiting transport, and suspect waste awaiting analyses (See Attachment B). The waste storage facility will be located in the first floor clean zone to allow for regulatory inspection without entering containment. Storage areas will be plasticized, segregated, and any liquid storage will have secondary containment. An inspection will be conducted to identify any NYC Sewer access points proximate to the waste storage facility. Any access points will be sealed. Incompatible waste streams will be segregated, and waste labeling and signage will be in strict accordance with regulations. Within the storage area, posted signs, labeled accumulation start dates, labeled description of the waste, aisle space, proper segregation of incompatible and or/ignitable waste, etc. will be inspected on a daily basis by the Environmental Consultant. Statutory waste volume and holding times shall not be exceeded.

All containers on site will have proper labeling, which includes information such as waste type and accumulation date.

6.1 Asbestos Waste

Waste containing asbestos, containerized and labeled per NYS ICR 56 may be stored in an area maintained under a negative pressure ventilation system. ACM packaging and waste decontamination procedures will be in accordance with NYS Industrial Code Rule 56. Containers holding asbestos waste will be inspected daily to ensure no visible emissions of asbestos dust in the air or breaks in the container.

Storage of asbestos waste will exceed 50 cubic yards. A 100-yard sealed waste trailer will be housed in the regulated waste loading dock until filled for transport. Notification of the 100-yard storage plan will be made to the New York City

Department of Sanitation (NYCDOS) in writing. The written notification will include details on the amount to be stored, and the location.

6.2 PPE and Remediation Process Consumables

PPE and Remediation Process Consumables will be packaged, labeled and stored as ACM waste as a minimum, and based on the results of the dust characterization study. In addition, packaging and storage of these wastes will be subject to the results of representative sampling conducted according to Section 4.2.

6.3 Remediation Process Liquids

Decontamination water, wash-down liquids and any other liquid waste will be drummed, labeled and segregated from all other waste for filtration to the NYC Sewer. All liquid waste will be stored in a separate locked storage area with secondary containment sufficient to contain the total volume of stored liquid. If remediation process liquids from an uncharacterized location or source are encountered, they will be drummed, labeled and segregated from all other waste until analytical results determine the waste categorization.

6.4 Universal Waste

After having been cleaned of dust with HEPA-vacuuming and wet-wiping procedures, universal waste will be handled, packaged, and stored pending transport according to all regulations governing universal wastes. The requirements for handling, packaging and storage of hazardous waste apply, and are discussed below.

Universal waste will be placed in containers made of or lined with materials that will not react with, and are otherwise compatible with, the hazardous waste to be stored so that the ability of the container to contain the waste is not impaired (e.g., USDOT approved drums, bags, roll-off containers) and transferred to the waste storage area pending transport. While being accumulated on-site, each container shall be labeled or marked clearly with the words, “Universal Waste”. Containers will be inspected at least weekly (and more often if the area is active, as determined by the Owner’s Environmental Consultant) to identify any leaks, and/or deterioration caused by erosion or other factors, and to ensure containers are not over-packed. Universal waste will not be placed in an unwashed container that previously held an incompatible waste. Any disposal container holding a universal waste that is incompatible with any waste or other materials contained nearby will be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

6.5 Refrigerant-containing Equipment

Refrigerant-containing equipment will be purged in place by mechanical technicians wearing PPE per the site HASP, entering the building as occasional visitors per the site-specific variance. Once purged, this equipment will be handled in the same manner as all other building contents.

6.6 Shreddable Waste

Shreddable waste will be packaged in Gaylord Boxes as described in detail in Part I(R). Boxes will then be processed through the decontamination facility and will be transferred directly to the regulated waste loading dock and into a 100-yard sealed ACM waste trailer.

6.7 Non-porous Materials

Non-porous materials cleaned and inspected per Part I(R) will be transferred directly to the conventional waste loading dock and live-loaded into compactor trucks for compaction and transport to a C&D waste facility. Non-porous materials determined to be non-cleanable and/or non-inspectable will be wrapped and handled as ACM waste.

6.8 Roofing Materials

Ballast fines and ballast cleaning materials will be packaged and handled as ACM waste, and will be transferred to the ACM waste trailer in the regulated waste loading dock. Cleaned roof ballast stone will be vacuumed off the roof with a vacuum truck, and transported to a recycling facility to be determined by the vacuum subcontractor. The 14th floor ACM roofing will be bagged, decontaminated at the roof level, and brought down the scaffolding to a sealed ACM waste container. The remainder of the cleaned non-ACM roof will be left for removal during the Deconstruction Phase.

6.9 Heavy Machinery and Equipment

As detailed in Part I(R), heavy machinery and equipment such as generators, elevator motors and cooling tower components will be removed during the Deconstruction Phase because these items will require some structural demolition be performed prior to their removal. This procedure will be detailed in full in Regulatory Submittal Part I(D) – Deconstruction Operations. Heavy machinery and equipment will be dismantled to the degree possible for decontamination of non-porous cleanable parts. Components that cannot be fully cleaned, and are too large and/or heavy to move without rigging will be wrapped in two layers of 6-mil plastic sheeting and left for removal and disposal as ACM waste during the Deconstruction Phase.

6.10 Unanticipated (Other) Waste

Materials, if any, encountered during the work that have not been previously categorized for waste handling and disposal will be identified, quantified, and characterized by the Owner's Environmental Consultant as detailed in Section 4.10. An area of the waste storage facility has been set aside for temporary storage of materials awaiting pending characterization results.

7.0 Transportation Requirements

All waste materials will be transported in accordance with applicable local, state and federal DOT regulations including, but not limited to, bills of lading, manifests, placards, etc. All wastes will be shipped using properly permitted vehicles operated by drivers with Commercial Drivers Licenses (CDLs) and Hazardous Materials endorsements. All universal waste will be shipped using transporters with RCRA identification numbers. The actual modes of transportation to be utilized will be determined following the identification of all anticipated waste streams and will take into account the location and distance to the selected disposal facility as well as cost considerations. All off-site shipments of waste will adhere to the site-specific transportation requirements. As required by NYSDEC (6 NYCRR Part 364) all hazardous and asbestos wastes will be transported using Part 364 permitted haulers.

Shipments of PCB waste (none anticipated for this operation) will be in properly labeled and marked containers, the waste must be shipped under a properly executed manifest and Land Disposal Restriction (LDR) form, and the transporter must have a valid EPA Identification number and a valid New York State Part 364 transporter permit, as well as the latest version of U.S. Department of Transportation's Emergency Response Guide (2004). The vehicle in which PCB wastes are being shipped must be properly placarded and marked to reflect that it is transporting PCBs and must also be marked with the New York State waste transporter permit number on its sides and rear.

8.0 Travel Routes

The proposed waste route for the Remediation Phase will be from the west side of the site (Greenwich Street) south on Greenwich Street, right onto Barclay Street, and right onto the West Side Highway north and/or from the east side of the site (West Broadway) south on West Broadway to Barclay Street, and right onto the West Side Highway north.

Travel route(s) will be finalized following discussion with the appropriate regulatory agencies (e.g., New York City Department of Transportation), and the Lower Manhattan Construction Command Center (LMCCC). The selected waste transporter(s) will follow the designated travel routes. Proposed routes are illustrated in Attachment A. These routes cannot be finalized until EPA approval of the project, as the timing and routing are interdependent on other project occurring in the area. If any change is made to the routes proposed, this plan will be amended in writing and subject the review of the Regulators.

9.0 Disposal Facilities

Waste recycling/disposal facilities will be selected based on several factors including waste types, facility acceptance criteria, regulatory compliance history, etc.

Facilities to be used include:

- Asbestos: Minerva Enterprises
9000 Minerva Road SE, Waynesburg, OH 44688
Permit # 1576001700
- C&D Waste: Waldorf Carting – 50 East Palisades Avenue – Englewood, NJ 07631. Disposal Site: Royal Rail – 3700 West Side Avenue – North Bergen, NJ 07407.
Transporter: Liberty Carting – 25-31 94th Street – North Bergen, NJ 07407. Disposal Site: 25-31 94th Street Rail Transfer – 25-31 94th Street – North Bergen, NJ 07407.
- Lead: Disposal: Clean Earth of New Jersey
105 Jacobus Avenue
Kearny, NJ 07032
EPA ID 991291105
- RCRA Exceedance: Republic Environmental Systems
2269 Sandstone Dr., Hatfield, PA 19440
EPA ID 085690592

Only those facilities that have valid federal/state/local permits to accept the waste type proposed for recycling/disposal at the facility will be used.

10.0 Documentation

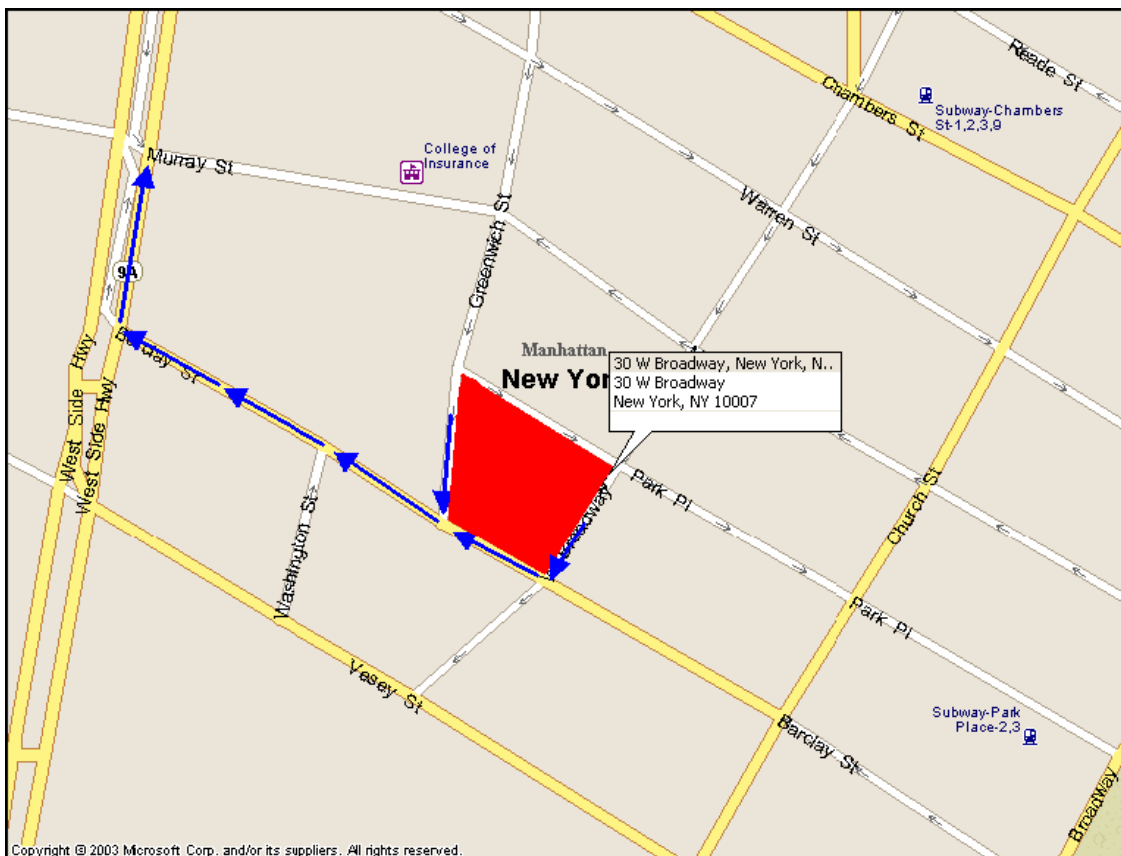
All applicable local, state and federal documentation and record keeping requirements/guidelines will be followed. Documentation for hazardous waste disposal includes hazardous waste determination documentation including all analytical results, Hazardous Waste Manifesting, EPA Generator ID, EPA transporter ID, EPA ID for waste disposal facility and waste storage locations and capacities. Also documented will be emergency notification and operating procedures, organizational chart, unexpected waste procedures, contractor involvement list and copies of the regulatory requirement certifications of transporters, disposal facilities, etc. Specific regulatory documentation may change depending on the types and amounts of waste to be generated. The Contractor shall be responsible for document management.

All documentation noted under this Section shall be retained for a period of not less than three years after the completion of the project.

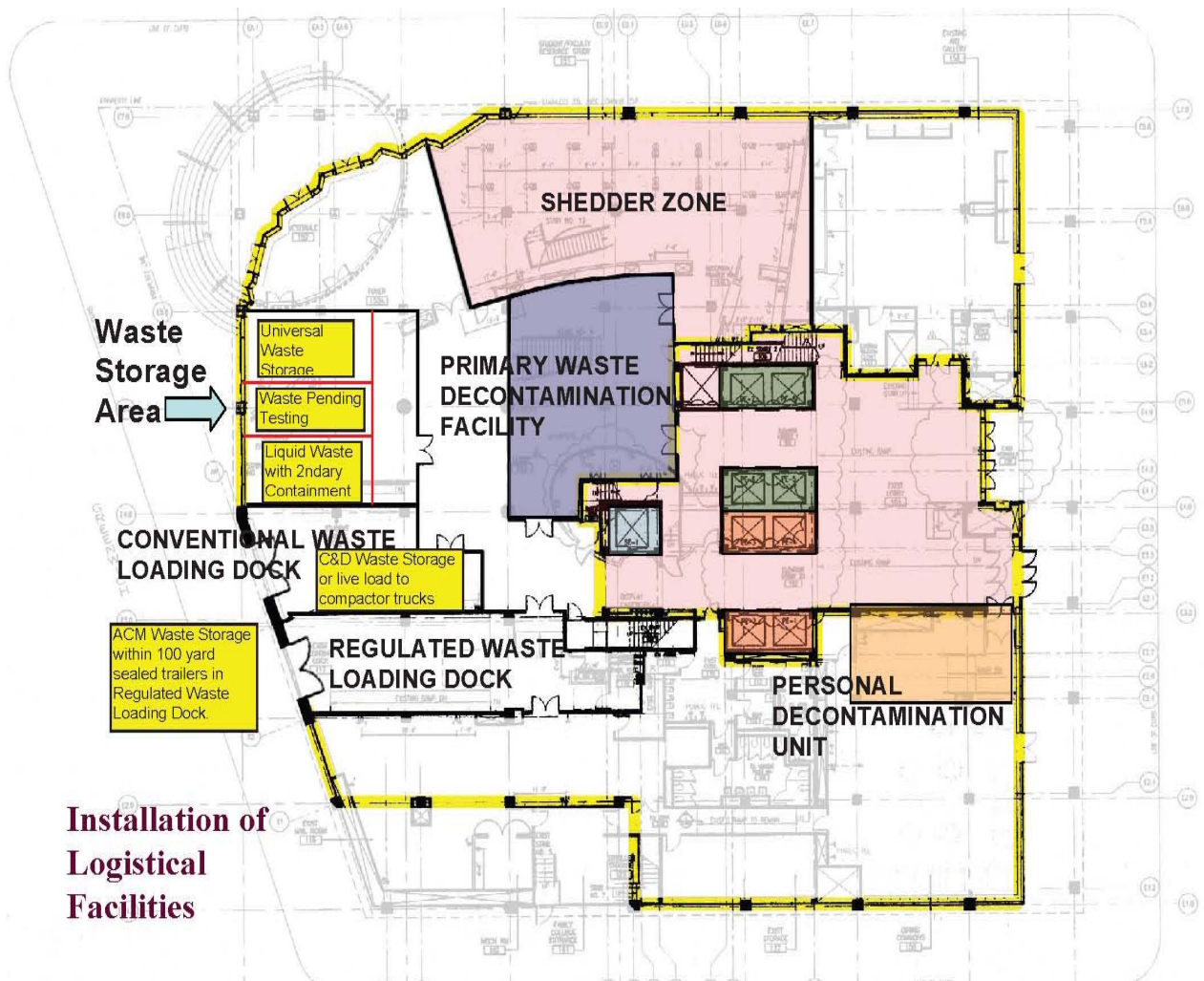
Attachment A:

Waste Routes

Waste route for the Remediation Phase will be from the west side of the site (Greenwich Street), or the east side of the site (West Broadway) south to Barclay Street, right onto Barclay Street, and then right onto West Side Highway.



Attachment B: Waste Storage Areas



Attachment C:

Quality Assurance Project Plan

(Currently under regulatory review with Regulatory Submittal Part IV(S))

**Attachment D:
Previous Waste Sampling Data**