



**WASTE SAMPLING AND MANAGEMENT PLAN
FOR THE
130 LIBERTY STREET
PHASE I DECONSTRUCTION PROJECT**

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ATTACHMENTS

Attachment	Title
1	Sample Management, Labeling and QA/QC
2	Current Inventory of Miscellaneous Building Components
3	Preliminary List of Potential Disposal Facilities



1. OBJECTIVE

The objective of the Waste Sampling and Management Plan (Plan) is to classify waste streams that will be generated as part of the 130 Liberty Street Phase I Deconstruction Project.

This Initial phase of deconstruction (Phase I) includes the necessary interior, non-structural deconstruction and related work and will occur in two sub-phases referred to as Phase IA and Phase IB. Phase IA consists of dust cleaning, abatement of identified asbestos-containing building materials (ACBMs) and removal of interior building components as necessary to complete the cleaning and abatement. Phase IB will then include the removal of most of the remaining interior, non-structural building elements – gypsum wall board (GWB), small scale mechanical, electrical and piping (MEP), sprayed-on fireproofing, built-in shelving, bathroom fixtures and other interior, non-structural soft strip/interior gut materials not removed during Phase IA. The exception to this will be the building’s perimeter (exterior) gypsum wallboard (GWB) walls, fireproofing located behind this GWB, the window convactor units and risers within the column enclosures in place. These items will be removed during Phase II.

Phase II will include the exterior wall associated GWB, MEP and fireproofing as stated above systematic deconstruction and removal of the remaining “clean” building (system and structural) components (large scale MEP, roofing, exterior skin and all structural components).

This information will be utilized by the Contractor and its Subcontractors to determine the proper disposal routing for the generated wastes. The Environmental Consultant will characterize the generated waste streams and update this Plan once analytical results are received. The Contractor or its authorized representative will ensure proper handling and disposal activities as described in this Plan.

1.1. ROLES AND RESPONSIBILITIES

Involved entities are identified in this Plan by title/responsibility. The roles and responsibilities identified below are provided for the generically identified organization rather than for specific corporate entities. It should be noted that these roles and responsibilities are provided for informational purposes herein, and should not be construed as being representative of contractual obligations, responsibilities or liabilities.



Within this Plan, the “Owner” is the Lower Manhattan Development Corporation (LMDC).

The “Deconstruction Team” for the Phase I Deconstruction Project is made up of the Contractor and the Contractor’s subcontractors, including the Environmental Consultant.

The “Contractor” is Gilbane Building Company, which is responsible for ensuring that the 130 Liberty Street Building Phase I Deconstruction Project is accomplished in a safe manner that also complies with applicable federal, state and local laws and regulations. In addition, the Contractor is responsible for meeting the various waste management and disposal requirements of the Contract. The Contractor bears overall responsibility for implementing the Phase I Deconstruction Project.

The “Environmental Consultant” is responsible for providing technical support to the Deconstruction Team relating to regulatory environmental and health and safety aspects of the deconstruction.

The “Abatement Subcontractor” is responsible for abating asbestos-containing and contaminated materials within 130 Liberty Street Building from areas included in the Phase IA Deconstruction Project. The Abatement Subcontractor will conduct a dust clean-up, limited soft strip and interior gut (includes suspended ceiling tiles, carpeting, fiberglass insulation, loose cabling/wiring above ceilings and under raised floors, etc.) and removal of ACBM throughout the 130 Liberty Street building in accordance with Section 6 of the Phase I Deconstruction Plan entitled Asbestos Abatement Plan. The Abatement Subcontractor is also responsible for proper disposal of wastes generated during these Phase IA activities. The “Abatement Subcontractor” shall be a New York State Department of Labor (NYSDOL) and New York City Department of Environmental Protection (NYCDEP) licensed asbestos handler. The Abatement Subcontractor may also have responsibility for handling the certain potentially hazardous and/or regulated miscellaneous building components.

The “Demolition Subcontractor” is responsible for removing the remaining soft strip, interior gut items of Phase IB (interior GWB partitions [except exterior wall GWB], fiberglass insulation, fireproofing that is accessible once the suspended ceilings are removed, and small scale MEP components including fixed cabling and piping that had been above the ceiling [except exterior



wall associated MEP components]). The Demolition Subcontractor may also have responsibility for handling the certain potentially hazardous and/or regulated miscellaneous building components.

2. BUILDING COMPONENTS

This Plan has been developed to address the components within the Building that will be cleaned and/or removed during Phase I activities (i.e., cleaning of the dust, asbestos abatement and soft strip/interior gut). At this time, the following list of anticipated waste streams has been identified and will be addressed in this Plan:

- Settled Dust
- ACBM
- Deconstruction-Generated Waste including:
 - Suspended ceiling tiles and support grid
 - Carpeting
 - GWB and associated metal studs
 - Sprayed-on fireproofing
 - Fiberglass insulation
 - Doors and frames
 - Raised flooring
 - Small scale MEP components (heating, ventilation and air conditioning [HVAC] duct, plumbing, wiring, etc.)
 - Minor exterior building components (limited window units and a small amount of column covering) to facilitate man-hoist and crane connections
 - Exterior mesh/netting currently covering the building façade
- Miscellaneous Other Building Related Regulated Components including:
 - Light ballasts
 - Lamps
 - Mercury switches
 - UPS, Exide and other batteries
 - Used oil/lubricant oils
 - Refrigerants
 - Bagged accumulated waste
 - Diesel fuel
 - Fire extinguishers
 - Halon fire suppression systems
 - Miscellaneous stored containers of product and/or waste (e.g., antifreeze, cleaning solutions, paint, corrosion inhibitor, neutralizing acid, coolant water treatment, oxidizer, joint compound, absorbent material)
 - Oxygen and propane tanks/bottles



[A more comprehensive inventory of currently identified materials in this category is provided in Attachment 2 to this Section]

The following sections will outline the proposed steps for characterization, removal and recycling or disposal of the above-mentioned components. The classification of building components and its contents is an ongoing effort and has been/will be conducted in accordance with applicable New York City, New York State and federal regulations. This Plan is intended as a working document to be used during ongoing operations at the Building and will be updated as necessary as new information becomes available to the Deconstruction Team.

3. GENERAL WASTE CHARACTERIZATION STRATEGY

Of the waste types identified above, some will require sampling and analysis to determine disposal routing while, for others, sufficient information already exists to determine disposal routing. In general:

- Settled WTC dust below and above the ceiling will be treated as an “asbestos material”.
- The dust will be characterized for waste classification relative to other identified contaminants (contaminants of potential concern [COPCs] as specified in the Louis Berger Group, Inc. [Berger] report entitled *130 Liberty Street Initial Building Characterization Study Report Volume I, September 14, 2004* [Berger Study]) to determine if it must be handled as a hazardous waste in addition to being handled as an asbestos waste. The COPCs tested for in the Berger study were designated by the United States Environmental Protection Agency (EPA) as being associated with WTC dust (i.e., asbestos, dioxins, lead, polycyclic aromatic hydrocarbons [PAHs], and crystalline silica), as well as other contaminants suspected of being present in the building including polychlorinated biphenyls (PCBs) and heavy metals (barium, beryllium, cadmium, chromium, copper, manganese, mercury, nickel, and zinc).
- Dust sampling for hazardous waste characteristics will be performed in advance of sampling of materials impacted by the dusts. If the dust classification sampling indicates that the dust is not a characteristic hazardous waste, then by extension, materials impacted by dusts would also not be hazardous. Those materials would then not be sampled for Resource Conservation and Recovery Act (RCRA) characteristics unless there is a concern that they could be hazardous waste due to the inherent composition of the component, subcomponent or waste stream (e.g., coated with lead-based paint).
- Porous Deconstruction-Generated Waste (including any associated dust remaining on it) will be sampled and tested for waste characterization relative to identified contaminants (COPCs other than asbestos) through the collection of representative bulk and/or core samples of the materials as well as any settled/entrained dust as described in Section



4.2.3, only if the dust samples described in the above bullet indicate that the bulk dust meets any of the RCRA characteristics. Porous Deconstruction-generated waste will be managed as described in Section 4.2 as well as consistent with any other waste classification that is identified by the analytical results of the waste classification sampling, if needed.

- ACBMs by their nature and definition will be disposed of via ACBM disposal requirements as outlined in Section 3.09, “Disposal and Transportation of Asbestos-Contaminated Waste”, of the Asbestos Abatement Plan. Asbestos-containing materials that are both ACBM and hazardous waste will be managed in accordance with the requirements for both types of waste stream.
- Non-Porous Deconstruction-Generated 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 Asbestos Abatement Plan, Section 6 of the 130 Liberty Street Phase 1 Deconstruction Plan. The resulting cleaned material will not be sampled unless it is painted; in that instance, sampling will be performed as described in Section 4.3.3 of this Plan. 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.
- Miscellaneous Other Building Related Components can be characterized based on inherent composition and corresponding applicable waste standards.

For materials requiring sampling, a random sampling strategy will be used and composite samples representative of the final 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 undergone Hazard Communication training in accordance with 29 CFR 1910.1200 as well as being trained appropriately per the Health and Safety Plan.

The waste classification samples will be sent to a licensed, qualified laboratory for waste classification analysis (e.g., toxicity characteristic leaching procedure [TCLP] and RCRA characteristics) to determine appropriate waste classification and handling requirements (40 CFR 262.11). There are no regulatory-required certification requirements for waste characterization analysis; however, the laboratory subcontracted to perform the analysis will be certified through the National Environmental Laboratory Accreditation Program (NELAP) for the analytical



parameters being analyzed, so there is assurance that the laboratory has passed a nationally recognized quality assurance program that includes audits, analysis of blind performance samples to check data quality and meeting certain minimum technical standards for the qualifications of testing personnel.

Upon receipt of analytical results, determination of waste classification and identification of disposal facilities, the Environmental Consultant will identify applicable regulatory requirements for waste handling, worker training and protection (e.g., specific training/certifications, personal protection equipment [PPE], etc.), packaging (e.g., type of packaging, marking, labeling, etc.), transporting (e.g., placarding, shipping papers, etc.), waste routing and disposing of these wastes. Since waste classification samples will be collected of in-place materials, on-site storage of deconstruction wastes will not be required; all removed materials will be placed into their applicable disposal containers/vehicles for direct off-site shipment.

Further detail for each of the anticipated categories of waste is provided below.

4. WASTE CHARACTERIZATION SPECIFICS

The LMDC retained Berger to conduct an Initial Building Characterization Study for the Building. These results were subsequently presented and discussed in the September 14, 2004 Initial Building Characterization Study Report.

In keeping with the procedures utilized during the Berger study, the Environmental Consultant will divide the Building into six zones for the purposes of waste characteristic sampling:

- Zone 1 - Mechanical Rooms on the 5th, 6th, 40th, and 41st Floors to include the air intakes, fan rooms, and air handling units of the HVAC system.
- Zone 2 - Office Space located at or below the 24th Floor that may have been subjected to dust entering the Building through an external breach (Gash Area), HVAC system (and possibly circulated through the HVAC system), vertical shafts, or broken windows.
- Zone 3 - Office Space located above the 24th Floor that may have been impacted by dust distributed through the HVAC system, vertical shafts, or broken windows.
- Zone 4 - Gash Area that was cleaned by Deutsche Bank subsequent to September 11, 2001 to permit structural work to be performed.



- Zone 5 - Roof Area that may have been impacted by the settling or adhesion of dust to the exterior surfaces.
- Zone 6 - Exterior Facade building materials.

Since the scope of Phase I work addresses interior Building issues, waste characterization will not occur at this time on materials/components associated with the exterior of the Building (Zones 5 and 6) or will occur only to a limited extent as necessary to facilitate Phase I work (e.g., exterior mesh/netting may require removal in some areas to facilitate some aspects of the Phase I deconstruction work).

These zones will be carried through the sampling scheme described in this Plan for wastes that are ubiquitous to the Phase I deconstruction activities (e.g., settled dust, ACBM, deconstruction generation waste). For materials that are less prevalent throughout the 130 Liberty Street Building (e.g., transformers, propane/oxygen cylinders), waste management sampling/evaluation/management will not be performed. Instead, these materials will be segregated, handled, handled, and disposed in accordance with the applicable requirements for each specific material.

4.1. ASBESTOS-CONTAINING/CONTAMINATED WASTE

The Berger study states that settled dust with visible accumulations of less than 0.25 inch was identified throughout the Building in locations such as the top of radiator covers, carpets, concrete floors, horizontal surfaces on door frames, reception desks and HVAC units. Above the suspended ceiling (plenum), visible dust was identified on top of ceiling tiles, ceiling grids, HVAC ductwork, electrical lighting fixtures and sheetrock ceilings. In addition, the Berger study identified various building materials that contain asbestos above the regulatory threshold of 1 percent by weight; these materials are classified as ACBM.

4.1.1. Definition

The results of the Berger study indicated that settled dusts had detectable levels of COPC's which included: asbestos, crystalline silica, PAHs, dioxins, PCBs and heavy metals (e.g., barium, beryllium, cadmium, copper, lead, manganese, mercury, nickel and zinc) The concentration of the COPCs found within the settled dust samples varies throughout the Building.



For the purposes of Phase I Deconstruction, WTC dust will be handled as an “asbestos material” along with the other ACBM identified in the Berger study and verified by TRC on 26 October, 29 October, 2 November, and 3 November 2004. Therefore, waste characterization sampling will not include asbestos, but will include analysis for TCLP and RCRA characteristics of ignitability, corrosivity, reactivity, and toxicity to determine if these materials must be managed as hazardous wastes as well as asbestos containing or contaminated.

4.1.2. Components

Asbestos-containing/contaminated waste may be classified as either settled dust or asbestos containing building materials.

4.1.2.1 *Settled Dust*

As part of the waste characterization process and prior to collection of waste classification samples from building materials impacted by settled dust, samples of the settled dust will be collected throughout the Building to determine the proper waste disposal options. Sample analysis will be limited to RCRA characteristics and exclude asbestos. The Contractor will manage all settled dust as asbestos, at a minimum. Analytical results for RCRA characteristics will be used to determine if the dust must also be classified and subsequently managed as hazardous waste due to the influence of COPCs.

4.1.2.2 *Asbestos-Containing Building Materials*

The Berger study performed sampling of suspect ACBM found within the Building. The results of this study indicate the majority of samples tested negative, including spray-on fire-proofing, wallboard, roofing materials and most thermal insulation for piping and ducts. Other building materials tested and listed below contained greater than one percent asbestos and are considered ACBM by regulation. Refer to the Berger study for quantities and locations.

- Floor tiles
- Sealant at cable entrances
- Mastic
- Thermal pipe insulation
- Transite wallboard
- Linoleum flooring and mastic



- Pipe insulation (various sizes)
- HVAC duct joint caulking
- Window caulking material
- Wall and joint tar paper
- Transite wall material
- Wall insulation material
- Baseboard mastic
- Sealant material over weather stripping
- Exterior caulking materials

Since these materials have previously been determined to contain asbestos at greater than one percent by weight, the Contractor will manage these wastes as ACBM, at a minimum. If settled dust sample results indicate the dust will be classified as RCRA characteristic waste, then waste classification samples will be collected from ACBM for analysis of RCRA characteristics that were detected above regulatory limits in the dust. The results of the bulk ACBM/dust waste classification samples will be used to determine if the ACBM must also be classified and subsequently managed as hazardous waste due to the influence of COPCs.

It is noted that samples of fire doors throughout the building have not been collected to determine if they are asbestos packed/containing. Until further information is provided, it is assumed that these doors are not asbestos-containing and will be handled in accordance with the cleaning procedures outlined in the Asbestos Abatement Plan and the disposal requirements described in Section 4.3 of this plan. There may be other suspect ACBMs within the building that have yet to be tested. Should the Contractor or Subcontractors come upon any materials for which proper bulk material sampling does not exist, the LMDC and Gilbane shall be immediately contacted to arrange for appropriate testing.

4.1.3. Analytical Methods and Sample Collection Frequency

The sampling strategy for each main category of asbestos-containing/contaminated material will be described in the following subsections of this Plan.

Analytical methods for the RCRA waste characteristics are as follows. Where more than one method is identified, each analytical method is valid per the regulations; since the project team has not been finalized; all allowable methods are included in this plan to allow for flexibility in selecting an analytical laboratory(ies).

- The characteristic of ignitability carries the RCRA waste code of D001, and may be analyzed for using American Society of Testing Materials (ASTM) method D-93-79 or D-93-80 or D-3278-78.
- The characteristic of corrosivity carries the RCRA waste code of D002, and may be analyzed for using Method 9045C in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846. Only liquids may be characterized as corrosive wastes.
- The characteristic of reactivity carries the RCRA waste code of D003, and may be analyzed for using the analytical methods outlined in sections 7.3.3.2 or 7.3.4.2 of “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846.
- The characteristics of toxicity carry the RCRA waste codes of D004 through D043. Each waste code identifies the specific chemical component for which the waste is classified as toxic. The samples to be analyzed for the characteristic of toxicity must be prepared using the Toxicity Characteristic Leaching Procedures (TCLP) per Method 1311 in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846. The analytical method applied to the resulting leachate depends on the type of chemical being analyzed for, as follows:
 - Volatile organic compound (VOC) toxic constituents will be analyzed by 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 compound (SVOC) toxic constituents will be analyzed by Method 8270B 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 will be analyzed by 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 will be analyzed by 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) will be analyzed by Method 7470A (aqueous samples) of “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846.
- Metals/inorganics other than mercury will be analyzed by Method 6010B 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).

Building components would generally not be considered as possible RCRA characteristic wastes except for the potential that exists due to impacts by WTC dust. The notable exception to this would be surfaces painted with lead-based paint, which would typically be sampled for TCLP lead analysis.

The results of RCRA characteristic analyses, as well as the material’s status as asbestos-contaminated, will be used as the basis for the Waste Profile for the particular waste stream.

4.1.3.1 Waste Characteristics Sampling Frequency for Settled Dust

Three composite samples of the dust will be collected from within each zone (Zone 1, Zone 2, Zone 3, and Zone 4 only) as identified in Section 4, above. Each composite sample will consist of, at a minimum of four grab samples per composite, but the number of grab samples may increase based on field conditions. The composite samples will be analyzed for all RCRA characteristics as identified in Section 4.1.3 of this Plan to determine if the dust must be managed, in addition to asbestos, as RCRA waste.

The Environmental Consultant will collect composite samples that are representative of the settled dust. The representative composite samples will consist of a minimum of 400 grams of material to provide adequate sample size necessary for chemical analysis. A unique sample identifier for each sample along with requested analytical parameters will be tracked and recorded using a Chain-of-Custody (COC) form.

Sample management, labeling and quality assurance/quality control (QA/QC) procedures are outlined in Attachment 1 to this Plan.



4.1.3.2 Waste Characteristics Sampling Frequency for Asbestos-Containing Building Materials

Waste classification samples for RCRA characteristics of ACBM will only be collected if the analytical sampling results for the dust samples indicate that the dusts exceed the regulatory limits for RCRA characteristic waste. In that instance, only those RCRA characteristics identified in the dust will be analyzed for in the samples collected from the ACBM/dust matrix.

For porous distinct ACBM identified in the Berger study (e.g., sealant at cable entrances, mastic, thermal pipe insulation, and mastic, pipe insulation, HVAC duct joint caulking, window caulking material, wall and joint tar paper, wall insulation material, sealant material over weather stripping, and exterior caulking material), three composite samples will be collected from within each zone (Zone 1, Zone 2, Zone 3, and Zone 4 only) as identified in Section 4, above. Each composite sample will consist of a minimum of four grab samples; however, the number of grab samples per composite may be increased based on field conditions. Each grab sample will consist of a bulk or core sample that collects both the ACBM and any entrained dust.

Since the identified asbestos-containing building material meets the regulatory definition of ACBM (greater than one percent asbestos by weight), waste classification samples will not be analyzed for asbestos. Rather, the composite samples will be analyzed for RCRA characteristics as identified in Section 4.1.3 of this Plan to determine if these materials must be managed, in addition to asbestos, as RCRA waste.

The Environmental Consultant will collect composite samples that are representative of each type of ACBM. The representative composite samples will consist of a minimum of 400 grams of material to provide adequate sample size necessary for chemical analysis. A unique sample identifier for each sample along with requested analytical parameters will be tracked and recorded using a COC form.

4.1.4. Disposal.

4.1.4.1 Settled Dust

For the purposes of Phase I, settled WTC dust will be considered to be “asbestos material”. Therefore, the settled dust will be disposed of as an ACBM, at a minimum. Should results of the



waste classification sampling described in Section 4.1.3 and 4.1.3.1 of this Plan indicate that the waste classification sample results exceed the regulatory threshold for one or more RCRA characteristics, the dust represented by the sample(s) that exceeded the threshold(s) will be managed as both a RCRA waste of the appropriate waste code and an “asbestos material”. Potential disposal facilities are identified in Section 7 of this Plan. The final disposal facility must be approved by LMDC before waste is shipped.

4.1.4.2 Asbestos-Containing Building Material

As part of the Phase I Deconstruction Project, a New York State Licensed Asbestos Abatement Contractor, prior to building demolition, will remove the ACBM identified throughout the Building. All ACBM will be removed, packaged, transported and disposed of in accordance with the Asbestos Abatement Plan.

Should results of the waste classification sampling described in Section 4.1.3 and 4.1.3.2 of this Plan indicate that the waste classification sample results exceed the regulatory threshold for one or more RCRA characteristics, the waste stream represented by the sample that exceeded the threshold will be managed as both a RCRA waste of the appropriate waste code as well as ACBM.

The disposal of all removed ACBM will be at an approved, licensed and permitted asbestos landfill. Potential disposal facilities are identified in Section 7 of this Plan. The final disposal facility must be approved by LMDC before waste is shipped.

4.2. Porous Deconstruction Waste

4.2.1. Identification

Porous deconstruction wastes are those interior building components that are pervious surfaces that have also not been identified during the Berger study as ACBM. In addition, while the netting is an exterior material which is, for the most part, part of Phase II deconstruction activities – some areas of netting at a minimum will need to be removed to facilitate Phase I deconstruction activities (man-hoist and crane erection). Exterior netting removed during Phase I activities is included in the porous deconstruction waste category.



4.2.2. Components

At this time, the following Porous Deconstruction-Generated waste streams have been identified as being associated with the Phase I portion of the deconstruction process:

- Suspended ceiling tiles
- Carpeting
- Fiberglass Insulation
- GWB
- Sprayed-on fireproofing
- Exterior mesh/netting currently covering the building façade that will be removed during Phase I

The final disposition of porous deconstruction waste is dependent on the results of the Waste Characterization Sampling. If sample results indicate levels in excess of regulatory requirements for disposal as general Construction Debris (C&D), then further characterization for segregation of the porous materials will be performed.

The following sections provide additional detail on the handling of porous deconstruction materials during Phase I activities.

4.2.2.1 *Suspended Ceiling Tiles, Carpeting and Fiberglass Insulation*

The Abatement Subcontractor has two options for these materials: either clean the surfaces via high-efficiency particulate air (HEPA) vacuuming/wet wipe method(s) to allow for disposal as C&D waste or opt not to clean them and package/dispose of them as asbestos-contaminated waste.

If the cleaning option is selected, successful completion of cleaning will be determined both by a visual inspection of the surfaces by the Project Monitor to ensure all gross dust removal has been performed and post-cleaning verification through sampling and analysis to document that the material need not be disposed as an asbestos-contaminated waste. The post-cleaning verification testing is the responsibility of the Abatement Subcontractor.

To expedite the Phase IA activities, the Abatement Subcontractor may choose to remove and dispose of all suspended ceiling tiles, carpeting and fiberglass insulation as asbestos-



contaminated materials. If this option is chosen, then all work shall be performed utilizing the controls required for asbestos abatement including disposal as ACBM.

4.2.2.2 Gypsum Wallboard

GWB will be cleaned by the Abatement Subcontractor utilizing HEPA vacuuming/ wet wiping technique(s) during abatement activities. The wallboard will remain in place during aggressive air clearance testing for the work area as outlined in the Asbestos Abatement Plan. Final removal of wallboard will be completed by the Demolition Subcontractor as part of Phase IB activities.

4.2.2.3 Sprayed-on Fireproofing

Sprayed-on fireproofing will be coated with an encapsulant during abatement activities to “lock down” the exposed surface. The sprayed-on fireproofing will remain in place during aggressive air clearance testing for the work area as outlined in the Asbestos Abatement Plan. Final removal of sprayed-on fireproofing will be completed by the Demolition Subcontractor as part of Phase IB work and be disposed of as C&D waste.

4.2.2.4 Exterior Mesh/Netting

Exterior mesh/netting will require characterization prior to disposal. Representative samples of the mesh/netting will be collected and analyzed for RCRA, TCLP characteristics and asbestos. The results of the sampling will determine the final disposition of the material.

4.2.3. Porous Deconstruction-Generated Waste Sampling Frequency

Waste classification samples of Porous Deconstruction-Generated Waste for RCRA characteristics will only be collected if the analytical sampling results for the dust samples indicate that the dusts exceeded the regulatory limits for RCRA characteristic waste. In that instance, only those RCRA characteristics identified in the dust will be analyzed for in the samples collected from the porous deconstruction-generated waste/dust matrix.

The Environmental Consultant will collect composite samples that are representative of each type of porous deconstruction generated waste. The representative composite samples will



consist of a minimum of 400 grams of material to provide adequate sample size necessary for chemical analysis. A unique sample identifier for each sample along with requested analytical parameters will be tracked and recorded using a COC form.

Sampling frequencies for each porous deconstruction waste stream are described in the following sections.

4.2.3.1 Waste Sampling Frequency for Suspended Ceiling Tiles, Carpeting and Fiberglass Insulation

For each of these materials (suspended ceiling tiles, carpeting and fiberglass insulation), three composite samples will be collected from within each zone (Zone 1, Zone 2, Zone 3, and Zone 4 only) as identified in Section 4 above. Each composite sample will consist of a minimum of four grab samples; however, the number of grab samples per composite may be increased based on field conditions. Each grab sample will consist of a bulk sample that collects both the porous deconstruction-generated waste and any entrained dust on/in the porous deconstruction-generated waste.

4.2.3.2 Waste Sampling Frequency for Gypsum Wallboard

GWB will be cleaned during the asbestos abatement by the Abatement Subcontractor to remove WTC dust. This is really more of a semi-porous material, so the potential for absorption is less. If the bulk dust samples indicate the dust exceeds one or several RCRA characteristics, three composite samples will be collected from the GWB within each zone (Zone 1, Zone 2, Zone 3, and Zone 4 only) as identified in Section 4 above. Each composite sample will consist of a minimum of four grab samples; however, the number of grab samples per composite may be increased based on field conditions. Each grab sample will consist of a bulk sample that collects both the porous deconstruction-generated waste and any entrained dust on/in the porous deconstruction-generated waste.

4.2.3.3 Waste Sampling Frequency for Sprayed-on Fireproofing

The coated fireproofing will be managed as non-ACBM C&D debris without additional sampling, unless bulk dust samples indicate the dust exceeds one or several RCRA characteristics. In that instance, three composite samples will be collected from within each zone



(Zone 1, Zone 2, Zone 3, and Zone 4 only) as identified in Section 4 above. Each composite sample will consist of a minimum of four grab samples; however, the number of grab samples per composite may be increased based on field conditions. Each grab sample will consist of a bulk sample that collects both the coating and the spray-on fireproofing; analysis will be limited to those RCRA characteristic(s) that were determined to be of concern in the bulk dust samples.

4.2.3.4 Waste Sampling Frequency for Exterior Mesh/Netting

Waste classification samples will be collected from the netting for both RCRA characteristics and asbestos. One composite sample, comprised of a minimum of four grab samples, will be collected from three of the cardinal directions (north face, east face, and west face) of the building, excluding the south face where there is no netting. Each grab sample will be collected from the ground-floor level. The results of the RCRA characteristic and asbestos analysis would establish the anticipated disposal conditions for the netting removed as part of the Phase I and, subsequently, the Phase II Deconstruction.

4.2.4. Disposal

4.2.4.1 Suspended Ceiling Tiles, Carpeting and Fiberglass Insulation

As described in 4.2.2.1, the suspended ceiling tiles, carpeting and fiberglass insulation will either be disposed of as asbestos-contaminated or as non-ACBM C&D debris (dependent upon the Subcontractor approach and sample results) unless RCRA characterization sampling (if required based on dust sample results) indicate that the material must be managed as RCRA hazardous. If the material is determined to be RCRA hazardous, then it will be handled, packaged, labeled, transported, and disposed of in accordance with appropriate regulatory requirements for the waste type determined to apply to the waste.

The Abatement Subcontractor may choose to dispose of this material as ACBM for project expediency. If the waste stream(s) are managed as ACBM, then this material will be removed, packaged, transported and disposed of in accordance with the Asbestos Abatement Plan, New York State and New York City Regulations. Disposal of all removed ACBM will be at an approved, licensed and permitted asbestos landfill. Potential disposal facilities are identified in



Section 7 of this Plan. The final disposal facility must be approved by LMDC before waste is shipped.

4.2.4.2 *Gypsum Wallboard*

GWB that has been cleaned during the asbestos abatement will be classified, managed and recycled/disposed of as non-hazardous C&D debris by the Demolition Subcontractor unless RCRA analysis, if required, determines that the material must be classified as a RCRA hazardous waste. If the material is determined to be RCRA hazardous, then it will be handled, packaged, labeled, transported, and disposed of in accordance with appropriate regulatory requirements for the waste type determined to apply to the waste.

4.2.4.3 *Sprayed-on Fireproofing*

Coated fireproofing will be classified, managed and recycled/disposed of as non-hazardous C&D debris by the Demolition Subcontractor unless RCRA analysis, if required, determines that the material must be classified as a RCRA hazardous waste. If the material is determined to be RCRA hazardous, then it will be handled, packaged, labeled, transported, and disposed of in accordance with appropriate regulatory requirements for the waste type determined to apply to the waste.

4.2.4.4 *Exterior Mesh/Netting*

Exterior mesh netting will be managed in a manner consistent with the results of the waste classification sampling. If sample results indicate that asbestos is present in concentrations of 1% or greater, the netting will be removed, packaged, transported and disposed of in accordance with the Asbestos Abatement Plan. If the RCRA characterization sampling results indicate that the material must be classified as RCRA hazardous, then it will be handled, packaged, labeled, transported, and disposed of in accordance with appropriate regulatory requirements for the waste type determined to apply to the waste. If sample results indicate that the netting is both ACBM and RCRA hazardous, then all requirements for both types of waste will apply.



4.3. NON-POROUS DECONSTRUCTION-GENERATED WASTE

4.3.1. Characterization/Identification

Non-porous building materials, by definition, will not have WTC dust entrained within the material matrix. Therefore, if non-porous building materials are sufficiently wet-wiped/HEPA vacuumed in accordance with Section 3.0C of the Asbestos Abatement Plan to remove WTC dust, this material would not be classified as asbestos-contaminated. By extension, if WTC dust is removed, any COPCs associated with WTC dust will also be removed, thereby eliminating the need to perform waste sampling for RCRA characteristics associated with WTC dust. For non-porous deconstruction-generated waste, only those components that are painted will be sampled; the samples will be analyzed for the RCRA characteristic of TCLP lead (EPA hazardous waste code D008) to determine if the painted surfaces would cause the material to be classified as RCRA hazardous for lead.

If the Abatement Subcontractor chooses to dispose of non-porous deconstruction-generated waste without first wet-wiping/HEPA vacuuming, then the non-porous deconstruction-generated waste would be classified as asbestos-contaminated as discussed above. In that case, the material waste would also have to be classified and managed based on the settled dust RCRA characterization results due to the fact that the dust will remain on its surface; however, the core material itself need not be tested as, due to its non-porous nature, the dust will not have impacted the matrix of the material/component. The results of RCRA characteristic analyses as well as the unabated material's status as ACBM will be used as the basis for the Waste Profile for the particular waste stream.

4.3.2. Components

At this time, the following non-porous deconstruction-generated waste streams have been identified as being associated with the Phase I portion of the deconstruction process:

- Raised flooring
- Small scale MEP components (HVAC duct, plumbing, conduit, wiring, etc.)
- Doors and door frames



- Suspended ceiling support tracking/grid
- Minor exterior building components - select, limited window units and a small amount of column covering

4.3.3. Analytical Methods and Sample Collection Frequency

For cleaned (wet-wiped/HEPA-vacuumed) non-porous deconstruction-generated waste, samples will not be collected unless the non-porous components are painted. 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 RCRA lead 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 COC for analysis.

4.3.4. Disposal

Cleaned, unpainted, non-porous deconstruction-generated waste will be classified, managed and recycled/disposed of as non-hazardous C&D debris. Likewise, cleaned, painted, non-porous deconstruction-generated waste with TCLP lead results of less than 5 milligrams per liter (mg/L) would also be classified, managed and recycled/disposed of as non-hazardous C&D debris.

Cleaned, painted, non-porous deconstruction-generated waste with TCLP lead results of 5 mg/L or greater would be classified, managed and disposed of as hazardous waste with the toxicity characteristic of lead (D008).

Non-cleaned, non-porous deconstruction-generated waste will be disposed of as asbestos-contaminated at a minimum for the reasons indicated previously. Should results of the settled dust classification sampling indicate that the dust results exceed the regulatory threshold for one or more RCRA characteristics, the waste will be managed as both a RCRA waste of the appropriate waste code as well as asbestos-contaminated.

Potential disposal facilities are identified in Section 7 of this Plan.



4.4. MISCELLANEOUS BUILDING COMPONENTS

4.4.1. Definition/Characterization

Miscellaneous building components, as listed in Section 2 above and as further detailed in Attachment 2 to this Section, have been identified throughout various portions of the Building. Prior to the commencement of the Phase I Deconstruction activities, the Environmental Consultant will conduct a detailed survey of the Building to confirm that the current inventory is complete and accurate and to determine/classify Miscellaneous Building Components contained in the building.

All characterization information obtained during the detailed survey will be documented in a spreadsheet. This spreadsheet will include an inventory by major category and will be used to help determine sampling requirements, specific handling requirements (including applicable worker training and/ or licensing requirements), disposal classification, disposal status and disposal procedure.

With few exceptions, as noted below, these components will not require any additional characterization prior to handling, packaging, removal and/or disposal. Instead, these materials can be classified based upon their inherent composition. Based on the treatment of the settled dust as an “asbestos material”, these miscellaneous building components shall be cleaned (wet-wiped/HEPA vacuumed) prior to disposal.

Any material classified as “unknown” during the survey will require sample collection and analysis for full RCRA characteristics in accordance with 40 CFR 261 (as described in Section 4.1.3 of this Plan) and will be disposed of based upon the results of that sampling and the nature of the waste. If the material is classified as RCRA hazardous waste, additional sampling may be required for “total” concentrations of specific contaminants to determine whether the waste may be landfilled or is “land banned”; the contaminants to be analyzed for will depend on the specific waste classification of the waste.

Further detail on the anticipated materials is provided below.



4.4.2. Components

4.4.2.1 *PCB Light Ballasts and other PCB Wastes*

4.4.2.1.1 Definition

PCBs are a family of man-made chemical compounds that do not exist in nature, but are manufactured by the replacement of hydrogen atoms on the biphenyl molecule by chlorine. Because of their physical properties, PCBs are commonly found in electrical equipment that requires dielectric fluid such as transformers and capacitors as well as hydraulic machinery, vacuum pumps, compressors and heat exchanger fluids. Other uses include fluorescent lighting ballasts.

4.4.2.1.2 Characterization/Analytical Method

During deconstruction activities, as ballasts are removed from lighting fixtures, the Cleaning Subcontractor shall inspect the label on the ballast. Ballasts without a "No PCB" label shall be assumed to contain PCBs and containerized for disposal as PCB waste. Ballasts labeled "No PCB" will be placed in a separate container for disposal as non-PCB waste. For potentially PCB-containing equipment other than ballasts, PCB samples may be required to determine whether the dielectric fluid contains more than 50 parts per million (ppm) PCBs, which would make the equipment subject to the PCB regulations. SW-846 Method 8082, Analysis of Polychlorinated Biphenyls by Gas Chromatography is specified by regulation for determining the concentration of PCBs in wastes.

4.4.2.1.3 Components

Materials that have the potential to be PCB-containing (e.g., electric oil-filled switches, transformers, capacitors, etc.) will be tested for PCB concentration. If 50 ppm or more PCBs are detected in the waste stream the materials will be classified as both federal Toxic Substances Control Act (TSCA) waste and New York State hazardous waste. Potential PCB wastes will be sampled in accordance with TSCA (40 CFR Part 761). At the time this Plan was being developed it was not possible to determine the number of samples to be collected since the detailed waste survey has not yet been performed.



4.4.2.1.4 Disposal

Ballasts assumed to contain PCBs shall be handled, packaged and labeled as required for disposal as a PCB regulated waste. All hauler, transportation and disposal facility requirements shall also conform to the requirements for this category of waste.

Shipments of PCB waste must be in properly labeled and marked containers, the waste must be shipped under a properly executed manifest and Land Disposal Restriction (LDR) form, the transporter must have a valid EPA Identification number and must have a valid New York State Part 364 transporter permit as well as the latest copy of the Emergency Response Guide. 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.

Disposal facilities that accept PCB wastes must have an EPA Identification number and have received TSCA authorization from the EPA and any additional state permits for the disposal/management of PCBs applicable to the state in which the facility is located. The disposal facility must comply with all manifesting requirements specified in the regulations and must prepare a certificate of destruction and send it to the generator or the generator's agent.

If less than 1,600 lighting ballasts are identified as containing "No PCBs" they may be disposed of as ordinary demolition debris. If more than 1,600 non-PCB containing ballasts are identified, the presence of diethylhexyl phthalate (DEHP) will need to be determined by either by testing or by checking with the ballast manufacturer indicated on the label. If the ballasts do not contain DEHP, they may be disposed of as ordinary demolition debris. If the ballasts do contain DEHP, they will be disposed of as hazardous material in accordance with federal, state and local regulations.

For fluids sampled, wastes containing less than 50 ppm PCBs are generally not considered PCB wastes and would therefore not be classified as TSCA waste nor would they be classified as New York hazardous waste unless they were classified as a hazardous waste for a component other than PCBs. Electrical equipment containing 50 ppm or more but less than 500 ppm PCBs is considered PCB-contaminated electrical equipment. Electrical equipment containing 500 ppm or



more PCBs is considered PCB equipment. The waste disposal options available depend on the type of equipment and the PCB concentration found in the equipment.

Once the presence/absence of PCBs has been confirmed, the specific disposal requirements for the equipment based on the concentration and equipment type will be identified. Disposal will be consistent with the regulations set forth at Title 40 Code of Federal Regulations Part 761 (40 CFR 761) and Title 6 New York Code of Rules and Regulations Chapter 371.4(e) [6 NYCRR 371.4(e)].

4.4.2.2 Universal Waste - Lamps

4.4.2.2.1 Definition

40 CFR 273 and 6 NYCRR 374.3 establish requirements for managing universal wastes. Universal wastes are those wastes that would reasonably be expected to be classified as hazardous wastes but, due to their universal use in industrial and residential properties, regulations were created that would ensure that they were managed in a manner that prevented harm to the environment while reducing the regulatory burden on generators of these wastes.

Universal wastes include the following waste types:

- (1) Batteries as described in 40 CFR 273.2 and 6 NYCRR 374-3.1(b)
- (2) Pesticides as described in 40 CFR 273.3 and 6 NYCRR 374-3.1(c)
- (3) Thermostats as described in 40 CFR 273.4 and 6 NYCRR 374-3.1(d)
- (4) Lamps as described in 40 CFR 273.5 and 6 NYCRR 374-3.1(e)

It is assumed that pesticides will not be generated during the 130 Liberty deconstruction project; the requirements for mercury switches and batteries will be discussed in the following sections.

It should be noted that universal waste may be managed according to hazardous waste regulations; however, it is assumed that all materials that are eligible for management as either universal wastes or hazardous waste will be managed as universal waste.



4.4.2.2.2 Components

Anticipated lamp types generated during the 130 Liberty Street Building Phase I Deconstruction Project include fluorescent lamps, neon lamps, high-pressure sodium lamps, mercury vapor lamps and metal halide lamps.

4.4.2.2.3 Analytical Method

Per the universal waste regulations, analytical testing is not required to determine classification as universal waste.

4.4.2.2.4 Disposal

All collected lamps shall be handled, packaged and labeled as required for disposal as a universal waste. All hauler, transportation and disposal facility requirements shall also conform to the requirements for this category of waste.

Anyone who generates universal waste is either classified as a large-quantity handler of universal waste (accumulates 5,000 kilograms or more aggregate of all universal waste at any one time) or a small-quantity handler of universal waste (accumulates less than 5,000 kilograms of universal waste). Prior to accumulating 5,000 kilograms of universal waste at any given facility/location, written notification must be sent to the EPA to apply for an EPA hazardous waste identification number. Universal waste handlers may only send or transport universal waste to another universal waste handler or to a destination facility permitted to accept that specific type of universal waste. 40 CFR 273 and 6 NYCRR 374-3 establish the specific storage, management, shipping and recordkeeping requirements for universal waste.

4.4.2.3 *Universal Waste – Mercury Switches*

4.4.2.3.1 Definition

See Section 4.4.2.2.1 of this Plan.



4.4.2.3.2 Components

Mercury switches are commonly used in thermostats. Mercury-bearing switches use mercury as an electrically conductive switching mechanism in electrical system components.

4.4.2.3.3 Analytical Method

Per the universal waste regulations, analytical testing is not required to determine classification as universal waste.

4.4.2.3.4 Disposal

All collected mercury switches shall be handled, packaged and labeled as required for disposal as universal waste. All hauler, transportation and disposal facility requirements shall also conform to the requirements for this category of waste.

Anyone who generates universal waste is either classified as a large-quantity handler of universal waste or a small-quantity handler of universal waste. Prior to accumulating 5,000 kilograms of universal waste at any given facility/location and thus changing from small-quantity handler to large-quantity handler classification, written notification must be sent to the EPA to apply for an EPA hazardous waste identification number. Universal waste handlers may only send or transport universal waste to another universal waste handler or to a destination facility permitted to accept that specific type of universal waste. 40 CFR 273 and 6 NYCRR 374-3 establish the specific storage, management, shipping and recordkeeping requirements for universal waste.

4.4.2.4 *Universal Waste - Batteries*

4.4.2.4.1 Definition

See Section 4.4.2.2.1 of this Plan.

4.4.2.4.2 Components

Anticipated battery types generated during the 130 Liberty Street Building Phase I Deconstruction Project include lead acid batteries, nickel cadmium (NiCad) batteries, lithium batteries and silver oxide batteries as well as any other batteries present in the building.



4.4.2.4.3 Analytical Method

Per the universal waste regulations, analytical testing is not required to determine classification as universal waste.

4.4.2.4.4 Disposal

All collected batteries shall be handled, packaged and labeled as required for disposal as a universal waste. All hauler, transportation and disposal facility requirements shall also conform to the requirements for this category of waste.

Anyone who generates universal wastes is either classified as a large-quantity handler of universal waste or a small-quantity handler of universal waste. Prior to accumulating 5,000 kilograms of universal waste at any given facility/location, written notification must be sent to the EPA to apply for an EPA hazardous waste identification number. Universal waste handlers may only send or transport universal waste to another universal waste handler or to a destination facility permitted to accept that specific type of universal waste. 40 CFR 273 and 6 NYCRR 374-3 establish the specific storage, management, shipping and recordkeeping requirements for universal waste.

4.4.2.5 *Used Oil*

Used oil must be collected, stored, managed and disposed of in accordance with the regulations found at 6 NYCRR 374-2, Standards for the Management of Used Oil. Further, New York City Fire Codes must be met for all storage of potential flammable materials and if more than 1,320 gallons of oils are stored at the job site an Oil Spill Prevention, Control and Countermeasure Plan will have to be prepared and implemented per the regulations found at 40 CFR 112. Bulk quantities of oil will not be brought to the job site to ensure that the threshold of 1,320 gallons is not met or exceeded.

4.4.2.6 *Refrigerant-Containing Equipment*

Non-hazardous construction and demolition materials may contain regulated refrigerant including, but not limited to, possible refrigerant in the air conditioning and refrigeration



systems. The refrigerant will be removed prior to disposal as C&D waste. For refrigerant-containing equipment the following procedures shall be followed:

- Verify refrigerant has been removed. If not, a licensed refrigerant removal service must be called to properly dispose of refrigerant.
- Equipment that contains refrigerant and will be staged in a clearly demarcated on-site area until the refrigerant has been removed by a licensed refrigerant removal service.
- Remove door on refrigerators and freezers.

4.4.2.7 Diesel Fuel

Diesel fuel need not necessarily be viewed as a waste. Any remaining diesel fuel may be used to run equipment on site. If not used on site, other recycling opportunities will be explored. If the diesel fuel is to be transported off site as waste, it must be handled, packaged, hauled, transported and disposed of as regulated oily non-hazardous material.

4.4.2.8 Fire Extinguishers

If discharged, spent fire extinguishers can be treated as normal C&D debris. If fire extinguishers have not been discharged, the manufacturer of the fire extinguisher should be contacted for the proper disposal method. Alternately, local fire department(s) may be contacted to determine if they would like to use the fire extinguishers in volunteer or community training exercises.

4.4.2.9 Halon Fire Suppression Systems

This information serves as guidance, but may need to be reevaluated prior to recovery and management of Halon from the fire suppression systems in the 130 Liberty Street Building.

4.4.2.9.1 Definition

Halon is the manufacturer's registered name for a class of low-molecular weight halogenated organic compounds that have been classified by EPA as Ozone Depleting Substances (ODSs). Specifically, Halon-1211, Halon-1301, and Halon-2402 are identified as Group II ODSs in the Clean Air Act. Under the Clean Air Act, venting refrigerant ODSs is prohibited. These types of materials must be recycled to the maximum extent possible. Although Halon in a fire



suppression system is not classified as a refrigerant, and thus is not included in the prohibition, these materials should be managed in a way consistent with refrigerants of similar chemical composition.

4.4.2.9.2 Characterization/Analytical Method

Analytical sampling for disposal parameters is not necessary since any recovered Halon will be recycled. Characterization of the specific Halon formulation will be performed by obtaining information from the existing Halon fire suppression system within the 130 Liberty Street Building.

4.4.2.9.3 Components

Halon may be present in two forms: (1) within cylinders connected to the fire suppression piping systems, and (2) dispersed throughout the piping systems. A determination will have to be made as to whether the fire suppression system meets the regulatory definition of high-pressure or low-pressure system to determine the certification requirements for the technician who will be contracted to recover the Halon from the system. The Contractor must assure that an EPA-certified technician, with the appropriate level of certification for the system, will be utilized for recovery and management of Halon from the fire suppression system.

4.4.2.9.4 Disposal

Since recovered Halon may not be released to the atmosphere and hazardous materials disposal facilities are prohibited from accepting pressurized gases, management of recovered Halon must be through direct recycling or reclamation. Refrigerants may only be sold to certified technicians and only EPA-certified reclaimers are permitted to reclaim recovered ODSs. Reclaimers must return the ODSs to the purity level specified in the applicable American Refrigerant Institute Standards, at which point they may sell the reclaimed material to an EPA-certified technician.

Unused Halon removed from the fire suppression system in their original cylinders may be sold to EPA-certified technicians or may be managed/reclaimed by an EPA-certified reclaimer as a



method of disposal. Halon recovered from the fire suppression system shall be managed through an EPA-certified reclaimer as a method of disposal.

4.4.2.10 Miscellaneous Stored Containers

4.4.2.10.1 Background/Definition

Various containers of materials have been identified as listed above in Section 2. It is believed that these materials are still present in the Building at this time. Arrangements must be made to have these materials packaged, labeled, and marked by waste classification in accordance with appropriate RCRA and both New York State Department of Transportation (DOT) and U.S. DOT requirements. The listed items must be “lab packed” per waste classification in preparation for transportation.

4.4.2.10.2 Characterization/Analytical Method

Initial characterization may be identified by reviewing any existing labels and/or Material Safety Data Sheets (MSDSs) for each identified material if they can be obtained. Specific requirements beyond initial characterization are found in the applicable federal, state and city solid and hazardous waste and DOT regulations. The specific regulatory programs applicable to specific waste types have not yet been determined since the detailed waste survey has not yet been conducted.

4.4.2.10.3 Components

Components of the Miscellaneous Stored Containers of Product and/or Waste category include antifreeze, cleaning solutions, paint, corrosion inhibitor, neutralizing acid, coolant, water treatment, oxidizer, joint compound, absorbent material and other various materials which may be stored in the building that do not fit into the other defined waste categories which are described within this Plan.

4.4.2.10.4 Disposal

The identified materials will be handled, packaged, labeled transported and disposed of in accordance with the appropriate regulatory requirements for the waste type determined to apply



to that waste stream. A generator who transports or offers for transportation hazardous waste for off-site treatment, storage or disposal must prepare a hazardous waste manifest. Non-hazardous wastes must be shipped under a shipping paper. Items that are “lab packed” are often sent to a permitted incinerator or another approved treatment, storage and disposal facility (TSDF) for disposal. It will be the responsibility of the generator of the material to determine the appropriate TSDF to which the materials will be shipped based on waste profiles.

4.4.2.11 Oxygen and Propane Tanks/Bottles

4.4.2.11.1 Characterization/Analytical Method

The oxygen and propane cylinders are identified through appropriate marking and labeling. Assuming this marking and labeling is still readable, additional sample collection and analysis to determine the content of the cylinders is not required.

4.4.2.11.2 Components

Oxygen and propane cylinders were identified as present within the Building. Each gas is stored in pressurized gas cylinder(s). The amount of gas present in each cylinder may be determined by affixing a pressure gauge to the top of each cylinder.

4.4.2.11.3 Disposal

Empty (non-pressurized) cylinders may be disposed of as non-hazardous waste, and the steel may be recovered and/or recycled. The valve should be maintained in an open position when disposing of empty cylinders.

If the contents of pressurized cylinders are not used during deconstruction activities, a vendor who can accept the cylinders should be contacted for their disposition.

5. 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. 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. Site-specific transportation requirements are in the process of being developed. Once they have been finalized, those requirements will be appended to this plan and made a part of this plan by reference. All off-site shipments of waste will adhere to the site-specific transportation requirements.

6. TRAVEL ROUTES

Travel route(s) will be determined following discussion with the appropriate regulatory agencies (e.g., New York City Department of Transportation). The selected waste transporter(s) will follow the designated travel routes. The Abatement Subcontractor has submitted to the Contractor for acceptance waste removal and transportation procedures, which are currently under review. Upon approval of the proposed Abatement Subcontractor's *Proposed Waste Removal and Transportation Procedures*, the approved procedures will be appended to this plan and incorporated by reference. All waste travel routes will be consistent with the approved procedures.

7. DISPOSAL FACILITIES

Waste recycling/disposal facilities will be selected based on several factors including waste types, facility acceptance criteria, regulatory compliance history, etc. 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. A list of potential disposal facilities is provided as Attachment 3 of this Plan; however, it should be noted that this list is not inclusive nor does identification of these facilities imply an endorsement of the suitability of these facilities at this time.

Following initial selection of potential disposal facilities, the facilities that may be used for waste recycling/disposal will be contacted to determine if they have any facility-specific waste sampling requirements that were not met during the initial waste sampling effort. Based on facility-stated needs, additional sampling may be required. Disposal facilities will be chosen



based on their ability to accept the different types of waste that this Phase I Deconstruction Project will generate, as well as other factors identified above.

All pertinent and required information for all proposed disposal facilities must be provided to the Contractor a minimum of one month in advance of any schedule to transport waste.

8. DOCUMENTATION

All applicable local, state and federal documentation and record keeping requirements/guidelines will be followed. Documentation for hazardous waste disposal includes 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, worker training records (HAZWOPER, ACBM, etc.), 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.

For generators of asbestos waste, refer to Section 3.09, "Disposal and Transportation of Asbestos-Contaminated Waste" of the Asbestos Abatement Plan, for information detailing what documents must be created/maintained.

For generators of non-hazardous (C&D debris) waste, the following documents must be created/maintained:

- Waste determination records (to confirm that the material is not hazardous waste)
- Shipping papers (non-hazardous waste manifests, bills of lading)

For generators of hazardous waste, the specific reporting and recordkeeping requirements depend on whether the project generates waste in the quantities that would classify the generator of the waste (the Owner) as a Large Quantity Generator (LQG), a Small Quantity Generator (SQG), or a Conditionally-Exempt Small Quantity Generator (CESQG). Reports/Documents that may be required include the following:



- Notification of Regulated Waste Activity (required of LQG and SQG)
- Exception Reports (required of LQG and SQG)
- Incident Reports (required for LQG)
- Hazardous Waste Reduction Plan (required of LQG that generates more than 25 tons of hazardous waste per year)
- Annual Hazardous Waste Generator Report (required of generators that are classified as LQG for at least one calendar month in the year)
- Proof of Small Quantity Generator Status (required of SQG and CESQG)
- Hazardous Waste Determination Records (required of LQG, SQG, and CESQG)
- Weekly Inspection Logs (required of LQG and SQG)
- Hazardous Waste Manifests (required of LQG and SQG, best management practice for CESQG)
- LDR Forms (required of LQG and SQG, best management practice for CESQG)
- Exception Reports (required of LQG and SQG)
- Contingency Plan (required of LQG)
- Personnel Training Documentation (required of LQG best management practice for SQG and CESQG)
- Hazardous Waste Reduction Plan (required of LQG that generates more than 25 tons of hazardous waste per year)
- Annual Hazardous Waste Generator Report (required of LQG)

In New York State, PCB waste (greater than 50 parts per million PCB) is also New York State hazardous waste. Therefore, the documentation specified for hazardous waste above will also apply to PCB waste. In addition, for each facility that uses/stores at any one time 45 kilograms of PCBs in containers or one or more PCB transformers or 50 or more large high- or low-voltage capacitors must develop and maintain an annual document log. At this time, since the waste survey has not yet been performed, it is not known if this requirement applies to the Building. If PCB transformers are present at the Building, weekly inspections must be performed and inspection logs created/maintained. Certificates of disposal must be obtained for all PCB wastes disposed and large-volume PCB waste generators must also develop and maintain an annual document log.

For generators of universal waste, the specific reporting and recordkeeping requirements depend on whether the project generates waste in the quantities that would classify the generator of the waste (the Owner) as a Large Quantity Handler of Universal Waste (LQHUW) or a Small Quantity Handler of Universal Waste (SQHUW). Reports/Documents that may be required include the following:



- Notification of Universal Waste Management (required of LQHUU that have not already received an EPA Identification number)
- Records of shipment of universal waste to another facility (non-hazardous waste manifest, bill of lading, universal waste manifest, etc.) and records of receipt of universal wastes from another facility (required of LQHUU)
- Personnel Training Documentation (required of LQHUU and SQHUU, personnel training in proper handling and emergency procedures)



ATTACHMENT 1
SAMPLE MANAGEMENT, LABELING AND QA/QC



When samples are collected by the Environmental Consultant they will designate by an alphanumeric code that will identify the sample location and sample type. The sample code will consist of five sub-codes as follows: a sample phase code; floor location; a unique sequential sample number; a matrix code; and a QA/QC code. The sample phase code designates the sampling phase in which the sample was collected (“1” for Phase 1, “2” for Phase 2, etc.); the building code designates the building from which the sample was collected; the matrix code designates the sampled matrix; the unique sequential sample number provides a unique three-digit identifier for each sample, and the QA/QC code denotes the sample classification (i.e., normal or type of QA/QC). All samples collected at the Building will be designated with the building code “130.” The QA/QC codes will be as follows:

<ul style="list-style-type: none">▪ QA/QC Codes: 01 – Normal Sample 02 – Duplicate Sample 03 – Equipment Blank 04 – Trip Blank	<ul style="list-style-type: none">▪ Matrix Codes: D – Floor Dust C – Composite Sample W – Surface Wipe
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A typical sample may be identified as 2-40-005-D-01. The “2” code indicates the samples was collected during Phase 2 of the sampling, the “40” code indicates that the sample was collected from the 40th floor, the “005” indicates that it is the fifth sample collected, the “D” indicates it is a floor dust sample, and the “01” code classifies it as a “normal” sample.

Each sample collected from the Building as part of this sampling program will be identified with a unique, sequential sample ID reflecting the floor the sample was taken and the sequential number of the sample. Sample labeling procedures are specified in the EPA Standard Operating Procedure (SOP) for Sample Labels. This SOP will be utilized for this sampling program.

In general, each sample container will be labeled with the following information:

- Project name.
- Project number.
- Location/site ID.
- Date of sample collection.
- Time of sample collection.



- Sampler initials.
- Media sampled.
- Analyses to be performed.
- Container type.
- Preservatives (if applicable).
- The number of containers for the sample (1 of 2, 2 of 2, etc.).

A Chain-of-Custody (COC) form will be completed and will accompany each separate shipping package to the laboratory. In summary, the following information will be contained on each completed COC:

- Site name – 130 Liberty Street.
- Laboratory name and contact.
- Turn-around time (TAT) requested.
- Sample ID, matrix, date, and time.
- Parameters and analytical methods.
- Unique courier-assigned package tracking number.
- Sample technician name(s) and release signature.

The field personnel will notify the laboratory 24 to 48 hours in advance of sample shipment so that the laboratory personnel may get prepared for the sample receipt and analysis. Samples will be packed and shipped in accordance with applicable U.S. Department of Transportation (DOT) regulations, Environmental Consultant Corporate Guidelines, and International Air Transport Association (IATA) standards (if shipped by air carrier, as detailed in the most current edition of IATA Dangerous Goods Regulations for hazardous materials shipments). Samples will be prepared and shipped to the laboratory according to the following procedures:

- All sample jars, once cleaned and labeled, will be placed in clean plastic re-sealable bags. Medium or high concentration samples (determined through field observations, field screening, air monitoring, or all three) will also be packaged in metal cans. The lids of the metal cans will be secured with at least three metal lid clips. The exterior of the metal cans will be labeled in the same fashion as the sample jar.
- Place samples in a cooler and surround them with vermiculite (or equivalent) packing material for moisture absorption and stability during transport.
- Place sufficient double-bagged ice in the cooler to maintain 4°C temperature.
- Place a "temperature blank", consisting of a water-filled plastic container, in each cooler. The temperature blank will be recorded by the laboratory upon receipt to ensure adequate sample temperature.



- Place completed COC form inside a re-sealable plastic bag, and tape the bag to the inside of the cooler lid.
- Secure the cooler lid with packing tape. Place signed and dated custody seals on two opposite sides of the lid and secure with clear tape.
- If applicable, tape the drain plug closed so that it will not open.
- Place upward-pointing arrow label on two opposing vertical sides of the cooler.
- Label the cooler with laboratory address, name of laboratory contact, telephone number, and project identification.
- Attach applicable IATA and/or DOT identification labels.
- Attach a completed courier shipping label (if applicable).

Samples will be classified as environmental samples unless there is evidence of high concentrations of chemical constituents, based on visual observations, odors, previous sample data, or other criteria. All waste liquid, waste solid, tank, drum, and other container samples will be considered hazardous material samples and will be packaged and transported in conformance with the U.S. DOT, U.S. Postal Service (USPS), and the IATA Dangerous Goods Regulations if shipped by air carrier. These regulations/requirements have de minimus exemptions for small volume samples; they will be referred to prior sample shipment to ensure all requirements are being met.

The United States Environmental Protection Agency's Environmental Response Team (EPA ERT) publishes sampling SOPs for sampling at CERCLA hazardous waste sites. These SOPs will be followed during the sampling at this site.

QA/QC samples will be collected to assist in the interpretation and validation of the laboratory analytical results. The QA/QC samples that will be collected during this characterization sampling program include field duplicates or co-located samples. Field duplicate samples will be collected as a check on laboratory accuracy and precision. One duplicate dust sample will be collected from the bulk dust and or high-efficiency particulate air (HEPA) filters. The duplicate sample will be placed in the appropriate, clean, laboratory-prepared sample containers and analyzed for the same parameters.



**ATTACHMENT 2
CURRENT INVENTORY OF
MISCELLANEOUS BUILDING COMPONENTS**



130 LIBERTY STREET CURRENT INVENTORY OF MISCELLANEOUS BUILDING MATERIALS TO BE REMOVED

The following is a preliminary floor by floor inventory of previous Owner FFE and potentially hazardous and/or regulated materials remaining within the building. Quantities and descriptions are provided for informational purposes only. No guarantees are made as to the accuracy or comprehensiveness of this inventory.

1. Roof

In the water tank penthouse – One (1), 5 gallon pail of oil

- ◆ Window washing equipment - not attached

2. Stair Landing of the 42nd floor

- ◆ ½, 5 gallon pail of gray Floor Guard paint

3. 42nd Floor

- ◆ Miscellaneous 5 gallon pails
- ◆ 3 gallon pails
- ◆ 55 gallon drums of oils and other liquids
- ◆ Miscellaneous shelving with boxes, parts, materials and Styrofoam peanut packing
- ◆ DETRA diesel power guard Delvac 1240 liquid - 5 gallon pails
- ◆ 55 gallon drum of Mobile synthetic lubricant
- ◆ 55 gallon drum of Mobile Delvac 1230 liquid
- ◆ Fire extinguishers throughout
- ◆ Carbon dioxide hand-held KIDDE fire extinguishers
- ◆ Fuel oil room – locked/not able to examine (assume that there is fuel oil in that tank)
- ◆ Two (2), 30 yard containers of parts and debris

4. 41st Floor

- ◆ Racks of pipe
- ◆ Wooden pallets
- ◆ Hose and spare parts
- ◆ Debris
- ◆ 4-tank Halon fire suppression system
- ◆ Free-standing shelves
- ◆ Stacked boxes
- ◆ Parts in bins and on pallets
- ◆ Fenwall Halon system called Halon 1301, 389 lbs. times 4 tanks
- ◆ Two (2) rooms of Exide battery cells in the EPE battery room and also the Teledyne battery room
- ◆ 5 gallon pails of floor guard gray Sherman Williams paint
- ◆ Free-standing cabinets
- ◆ KIDDE fire extinguishers
- ◆ 5 gallon pails of neutralizing acid in the batter room
- ◆ Free-standing non-attached floor fan
- ◆ Pallets of Adjunk liquid corrosion inhibitor
- ◆ 1 gallon cans of paint
- ◆ 55 gallon drums of Drewgard 2808 corrosion inhibitor
- ◆ Filters



- ◆ Banks of KIDDE fire suppression tank systems
 - ◆ Ashland Chemical Performax 3000 cooling water treatment
 - ◆ Pails of biosperfe 261T oxidizer
 - ◆ Miscellaneous lumber and dunnage
 - ◆ Twenty-three (23), 30 yard containers of loose debris, parts and wood, etc.
5. 39th Floor
- ◆ Fire extinguishers
 - ◆ KIDDE FM200 fire suppression system to both 1 tank and 2 tank systems
 - ◆ Batteries stacked in the middle of the floor (batteries are both wet and dry cell)
 - ◆ No appreciable debris - floor has been cleaned fairly well
6. 38th floor
- ◆ 5 gallon pail of F&H latex paint
 - ◆ Several pallets of raised access flooring
 - ◆ Batteries (wet cells)
 - ◆ Several boxes of TATE access flooring panels
 - ◆ Fire extinguishers
 - ◆ Dry erase boards
 - ◆ Room full of miscellaneous rope, wire, rolling carts
 - ◆ 5-gallon pails of joint compound
 - ◆ Several 1-gallon cans of paint
 - ◆ Several 5-gallon cans of latex paint
 - ◆ Cases of Armstrong ceiling tile
 - ◆ Wire and parts (which may be part of the elevator maintenance contractor's supply package)
 - ◆ Total of approximately two (2), 30 yard containers of debris
7. 37th Floor
- ◆ Approximately ½ of a 30 yard container of debris
 - ◆ Fire extinguishers
8. 36th Floor
- ◆ Removed and stock piled raised flooring
9. 35th Floor
- ◆ A fire suppression system (C02)
 - ◆ Fire extinguishers
 - ◆ No noted debris
10. 34th Floor
- ◆ Free-standing metal shelving
 - ◆ Approximately ½ of a 30-yard container of trash
11. 33rd Floor
- ◆ Fire extinguishers
 - ◆ Approximately ¼ of a 30-yard container of trash
12. 32nd Floor
- ◆ Store Room with miscellaneous parts (off of Stairwell A)
 - ◆ Approximately ¼ of a 30-yard container of trash



13. 31st Floor
 - ◆ Approximately ¼ of a 30-yard container of trash
14. 30th Floor
 - ◆ No noted trash/debris or other materials
15. 29th Floor
 - ◆ No noted trash/debris or other materials
16. 28th Floor
 - ◆ No noted trash/debris or other materials
17. 27th Floor
 - ◆ Fire extinguishers
18. 26th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
19. 25th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
20. 24th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
21. 23rd Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
22. 22nd Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
23. 21st Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
24. 20th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
25. 19th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
26. 18th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
27. 17th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
28. 16th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
29. 15th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash



30. 14th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
31. 13th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
32. 12th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
33. 11th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
34. 10th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
35. 9th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
36. 8th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
37. 7th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
38. 6th Floor
 - ◆ Approximately 1/10 of a 30-yard container of trash
39. 5th Floor
 - ◆ Miscellaneous debris throughout
 - ◆ Tools
 - ◆ Parts
 - ◆ Oxygen and propane bottles
 - ◆ Refron 22 Canisters
 - ◆ Fire extinguishers
 - ◆ 5-gallon cans of Mobile DTE 797 oil antifreeze
 - ◆ Compressor CIGMA M460 lubricant 5-gallon cans
 - ◆ HVAC antifreeze
 - ◆ Rolling toolboxes
 - ◆ Boxes of filters
 - ◆ Stacks of motors and parts
 - ◆ Portable scaffolds
 - ◆ Drill press and other shop equipment
 - ◆ Refrigeration reclamation equipment
 - ◆ Free-standing pipe racks with pipe
 - ◆ Shelves with parts and bins of small parts
 - ◆ Electric motors and reels of wire
 - ◆ Work benches
 - ◆ Rooms full of 5-gallon pails in drums of high top lube master
 - ◆ SORB inner absorbent SAFSOL 20/20 oils 55 gallon drums
 - ◆ Approximately thirty-nine (39), 30-yard containers



40. 4th, 3rd, 2nd and 1st Floors

- ◆ Approximately 1/10 of a 30-yard container of trash

41. Cellar B

NOTE: Half the basement was chained off so access could not be gained to examine

42. Cellar A

- ◆ Empty drums
- ◆ Fire extinguishers
- ◆ Dozens of bags of unidentified material and furniture in the coin vault (chained off, limited viewing only)
- ◆ Reels of telephone cable
- ◆ Mail sorting equipment
- ◆ 55 gallon drums of unknown material (4 of them on wooden pallets)
- ◆ Substantial number of plywood Contractor enclosures compartments in Cellar A
- ◆ Approximately six (6), 30-yard containers of material



ATTACHMENT 3
PRELIMINARY LIST OF POTENTIAL DISPOSAL FACILITIES



Please note that the disposal facilities listed herein are provided for informational purposes only. The list consists of permitted facilities that may be used for disposal of the indicated waste streams. The Contractor and their Subcontractors reserve the right to respond to market and other relevant conditions in the selection of the disposal facilities and to utilize disposal facilities other than those indicated herein provided they are properly permitted to receive said waste type(s). The Contractor also reserves the right to audit said facilities prior to final selection

The following facilities may be used for disposal of asbestos-containing and contaminated materials:

- Meadowfill Landfill (304) 842-2784
Bridgeport, PA
- Cumberland County Land (717) 423-5917
Newburgh, PA
- Imperial Landfill (724) 695-0900
Imperial, PA
- Grows Landfill (215) 736-9475
Morrisville, PA
- Tullytown Landfill (215) 943-9732
Tullytown, PA

The following facilities may be used for disposal of construction and demolition (C&D) materials:

- Cumberland County Landfill (717) 423-5917
Newburgh, PA
- Hakes C&D Landfill (585) 466-7271
Painted Post, NY

The following facilities may be used for disposal of hazardous and miscellaneous materials:

- American Re-Fuel Company (516) 683-5443
Westbury, NY
- American Re-Fuel Company (973) 344-0900
Newark, NJ
- BDT, Inc. (716) 634-6794
Clarence, NY
EPA ID No. NYD000632372



- Bethlehem Apparatus
Hellertown, PA (215) 838-6333
EPA ID No. PAD602390961
- BFI Conestoga Landfill
Morgantown, PA (610) 266-6844
- Central Waste, Inc.
Alliance, OH (330) 823-6220
- Chemical Waste Management
Model City, NY (716) 754-8231
EPA ID No. NYD049836679
- Clean Earth of North Jersey
Kearny, NJ EPA ID No. NJD991291105
- CWM-SRR
W. Carrollton, OH (513) 859-6101
EPA ID No. OHD093345293
- Dupont Chamberworks
Deepwater, NJ (609) 299-5000
EPA ID No. NJD002385730
- Ensco, Inc
El Dorado, AR (501) 863-7173
EPA ID No. ARD069748192
- Envirote of Pennsylvania
York, PA (717) 846-1900
EPA ID No. PAD010540045
- EnviroSAFE Services of Ohio
Oregon, OH (800) 537-0426
EPA ID No. OHD045243706
- Giant Cement Company
Harleyville, SC (803) 496-5033
EPA ID No. SCD003351699
- G.R.O.W.S
Morrisville, PA (215) 736-9475
EPA ID No. PAD000429589
- Horizon Environment, Inc.
Grandes-Piles, Quebec, Canada (888) 767-0088
EPA ID No. 1142031856
- Inmetco
Elwood City, PA (412) 758-2819
EPA ID No. PAD087581015
- Keystone Potrland
Bath, PA (215) 837-2240
EPA ID No. PAD002389559
- Maplewood Recycling, Inc.
Jetersville, VA (604) 561-5787
- Marisol, Inc.
Middlesex, NJ (732) 469-5100
EPA ID No. NJD002465655
- Meadowfill Landfill
Bridgeport, WV (304) 842-2784



- Phillip Services Corp.
Hatfield, PA (215) 822-6996
EPA ID No. PAD085690592
- Revere Smelting & Refining
Middletown, NY (914) 592-4414
- Ross Incineration
Grafton, OH (440) 748-2200
EPA ID No. OHD048415655
- Stablex Canada
Blainville, Quebec, Canada (800) 782-2539
EPA ID No. NYD980756415
- Taylor County Landfill
Mauk, GA (476) 862-2504
- Trade Waste Incineration
Sauget, IL (618) 271-2804
EPA ID No. ILD098624424
- T.R.R.F. (Tullytown)
Tullytown, PA (215) 736-9400
- Waste Technologies, Inc.
East Liverpool, OH (216) 385-7337
EPA ID No. OHD980613541
- White Pines Landfill
Millville, PA (717) 458-4602