# HEALTH AND SAFETY PLAN
# FOR THE
# 130 LIBERTY STREET BUILDING
# PHASE I DECONSTRUCTION PROJECT

**Rev. December 10, 2004**

Prepared for:

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NYCSSM approval: _____ Date: _____

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[Note: The CDI, LVI and GBCo Safety Plans will be provided in Section 4 of the overall Phase I Deconstruction Plan

# LIST OF ACRONYMS

| | |
|---|---|
| ABIH | American Board of Industrial Hygiene |
| ACGIH | American Conference of Governmental Industrial Hygienists |
| ACBM | Asbestos Containing Building Materials |
| AL | Action Level |
| ANSI | American National Standards Institute |
| APR | Air-Purifying Respirator |
| CDI | Controlled Demolition, Inc. (Gilbane Demolition Subcontractor) |
| CFR | Code of Federal Regulations |
| CGI | Combustible Gas Indicator |
| CIH | Certified Industrial Hygienist |
| CPR | Cardiopulmonary Resuscitation |
| CRZ | Contamination Reduction Zone |
| dBA | decibels adjusted (decibels on the "A" scale) |
| EC | Emergency Coordinator |
| EMS | Emergency Medical Service |
| EMT | Emergency Medical Technician |
| ER | Emergency Response |
| ERT | Emergency Response Team |
| EZ | Exclusion Zone |
| f/cc | Fibers per cubic centimeter |
| FEC | Facility Emergency Coordinator |
| GILBANE | Gilbane Construction Company (Contractor) |
| GFCI | Ground Fault Circuit Interrupter |
| H&S | Health and Safety |
| HAZWOPER | Hazardous Waste Operations and Emergency Response |
| HCP | Hazard Communication Program |
| HCS | Hazard Communication Standard |
| HEPA | High Efficiency Particulate Air |
| HMTA | Hazardous Materials Transportation Act |
| IC | Incident Commander |
| IDLH | Immediately Dangerous to Life and Health |
| lbs | pounds |

## LIST OF ACRONYMS
**(Continued)**

| | |
|---|---|
| LEL | Lower Explosive Limit |
| LMDC | Lower Manhattan Development Corporation |
| LVI | LVI Environmental Services (Gilbane Abatement Subcontractor) |
| MAWP | Maximum Allowable Working Pressure |
| $mg/m^3$ | milligrams per cubic meter |
| MSDS | Material Safety Data Sheet |
| MSHA | Mine Safety and Health Administration |
| NIOSH | National Institute for Occupational Safety and Health |
| NYCDEP | New York City Department of Environmental Protection |
| NYCSSM | New York City Site Safety Manager |
| OSHA | Occupational Safety and Health Administration |
| PEL | Permissible Exposure Limits |
| PM | Project Manager |
| ppm | parts per million |
| psia | pounds per square inch, absolute |
| psig | pounds per square inch, gauge |
| Q&P | Quality and Protection |
| SAR | supplied air respirator |
| SCBA | self-contained breathing apparatus |
| SOW | Scope of Work |
| SSHO | Site Safety and Health Officer |
| STEL | Short-Term Exposure Limit |
| SZ | Support Zone |
| TWA | Time-Weighted Average |
| WESTON | Weston Solutions, Inc. (Gilbane Environmental Consultant) |

# 1.0 INTRODUCTION

This Health and Safety Plan (HASP) presents the practices and procedures that the Contractor shall follow during the demolition of the building located at 130 Liberty Street in New York City. The deconstruction of this building will occur in two phases:

- 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 the 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 to leave the building's perimeter (exterior) gypsum wallboard (GWB) walls, fireproofing located behind this GWB, the window convector units and risers within the column enclosures in place. These items will be removed during Phase II. The ACBM is identified in the "Initial Building Characterization Study Report", dated September 14, 2004 and published by The Louis Berger Group, Inc. (Berger). TRC conducted confirmatory surveys on 26 October, 29 October, 2 November and 3 November 2004 of the asbestos containing building materials and the findings were used to supplement the initial Berger report.

- Phase II –includes 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 HASP covers the activities to be undertaken as part of Phase I. Phase II Deconstruction Planning will be finalized once the LMDC's Environmental Consultant has completed the

supplemental investigation of the building which includes interior wall interstitial space, cell systems within floors and other building areas that were previously inaccessible. Deconstruction activities are anticipated to begin in the winter of 2004/5.

The Contractor shall be supported on this project by various subcontractors who shall provide specific services. Subcontractors shall:

- Provide environmental testing and air sampling (Environmental Consultant)
- Perform cleaning activities to remove dust and perform ACBM abatement (Abatement Subcontractor)
- Perform soft strip, interior gut and site work (Demolition Contractor)

In addition, other subcontractors shall work on-site providing specific trades, for example plumbing and electrical work.

## 1.1 BACKGROUND

The events of September 11, 2001, which caused the destruction of the WTC Towers, physically destroyed portions of the interior and exterior of the 130 Liberty Street Building. The massive debris generated from the collapse of the WTC South Tower broke numerous windows and opened a gash ("Gash Area") in the Building's north wall extending from the 7$^{th}$ to 24$^{th}$ floors, thereby exposing portions of the interior of the north side of the Building allowing dust and debris to enter into the Building. The Building, owned by Deutsche Bank, has remained idle since September 11, 2001.

Subsequent to September 11, 2001, operations were undertaken to clear debris from the plaza in front of the building, lobby and interior spaces in the Gash Area. Porous geosynthetic mesh or "netting" was hung on the outside of the Building. The immediate Gash Area was cleaned to permit the construction of columns, beams and floor decks to stabilize the Gash Area. Once the initial limited cleaning and stabilization measures were in place, office furniture, equipment and other non-attached items in the Building were removed and disposed of by Deutsche Bank.

As part of the WTC area redevelopment, the Lower Manhattan Development Corporation (LMDC) purchased the building from Deutsche Bank. The LMDC plans call for removing the building and using the ground for new buildings in the WTC complex.

### 1.1.1 Environmental Study

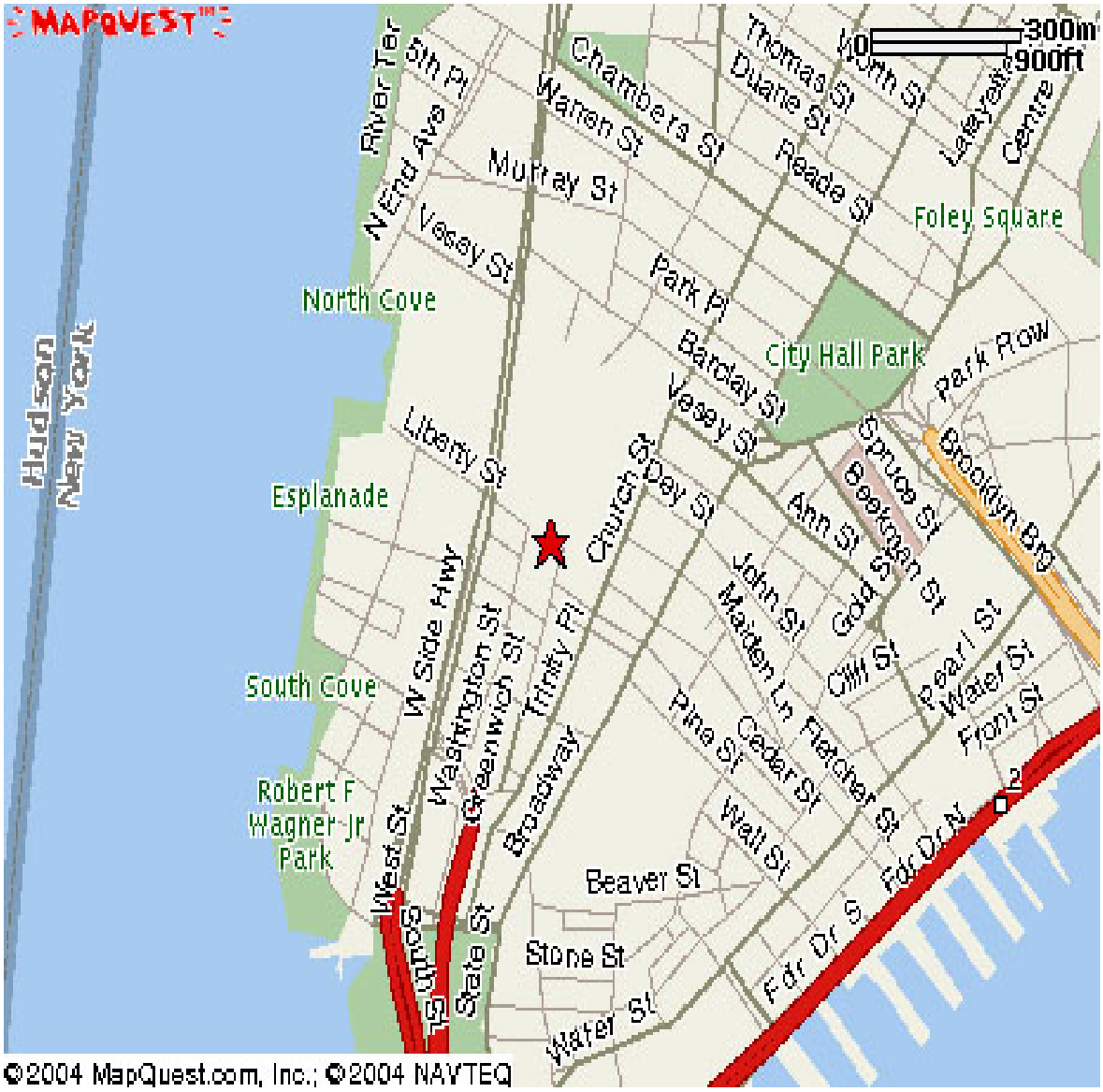
LMDC retained Berger to conduct an Initial Building Characterization Study for the 130 Liberty Street building. The dust was sampled throughout the Building and analyzed for five Contaminants of Potential Concern (COPC) designated by the United States Environmental Protection Agency (USEPA) as being associated with the WTC dust (i.e., asbestos, dioxin, 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, copper, manganese, mercury, nickel and zinc).

A total of 815 bulk samples of the settled dust were collected and analyzed for asbestos at a laboratory via PLM analysis. The PLM analysis is specified by the USEPA, the NYCDEP and NYSDOL for quantifying asbestos in bulk dust samples. Although trace amounts of asbestos were identified in some of the samples, there were no samples that contained greater than one percent asbestos via PLM analysis. The requirements within this HASP are based on the management of the dust in the Building as an asbestos material and of the spray-on fireproofing as non-ACM.

The Berger study states that settled dust with visible accumulations of less than one quarter of an inch high 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, visible dust was identified on top of ceiling tiles, ceiling grids, HVAC ductwork, electrical lighting fixtures and sheetrock ceilings. Detectable levels of silica, PAHs, dioxins, PCBs and heavy metals were identified in dust above and below the suspended ceilings (with the area above the suspended ceilings also being referred to as the plenum). The levels of the contaminants in the dust samples varied throughout the building.

The initial investigation did not include testing of all the contaminants addressed in the initial Building Characterization Study in inaccessible surfaces and interstitial spaces including the curtain wall, interior walls, the exterior of the Building and cell systems and raceways within the concrete slabs. These areas are currently being sampled and findings will be addressed in Phase II Deconstruction Plan.

## Figure 1-1 Site Location Map



## 1.2 SITE DESCRIPTION

130 Liberty Street is a 42-story, 565 feet tall, approximately 1.4 million square foot (SF) office building, with two basement levels, located in Lower Manhattan, one block south of the World Trade Center (WTC) site. Until 1999, the Building, which was built between 1973 and 1974, was owned by the Banker's Trust Corporation. In 1999, Deutsche Bank acquired the Building and owned it until August 31, 2004, when it was sold to LMDC.

## 1.3 PURPOSE

This document presents the safety procedures and practices to be followed during all Phase I site activities to ensure the safe completion of tasks and is designed to prevent occupational injuries and exposures to chemical, physical and biological hazards to workers at the Site. The procedures are presented to ensure compliance with all applicable government agencies and regulations, including requirements established by: the Occupational Safety and Health Administration (OSHA); the National Institute of Occupational Safety and Health (NIOSH); the United States Environmental Protection Agency (USEPA); the New York State Department of Conservation (NYSDEC); the State of New York, New York State Department of Labor (NYSDOL); the New York City Department of Environmental Protection (NYCDEP); and the City of New York.

This document incorporates relevant health and safety guidance outlined in the August 2003 "Health and Safety Plan for Protection against Environmental Contaminants," written by RJ Lee Group, Inc., and amended by TRC Environmental Corporation in August 2004 (known as the "Site Specific Health and Safety Plan For 130 Liberty Street"). All relevant hazards and protective standards referenced therein are incorporated into this document. The requirements outlined in that document are superseded by the requirements of this HASP. This HASP has been developed by Weston Solutions, Gilbane's Environmental Consultant; however, the New York City Site Safety Manager (NYCSSM) is responsible for its implementation.

All on-site Contractor and Subcontractor personnel are required to read, review and strictly comply with the provisions of this HASP. Additionally, personnel must sign the HASP

Acknowledgement Form and other forms as required by the Contractor prior to entrance into the Building/work area. All Subcontractors are responsible to ensure that their employees comply with the provisions outlined herein.

Compliance with this HASP is required due to structural and environmental damage suffered by the Building on September 11, 2001, as well as Phase 1 activities. This HASP is based upon current knowledge of conditions at the Site and shall be updated as new information becomes available and/or conditions change within the Building.

## 1.4 OBJECTIVES

Phase I consists of:

- Phase IA -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 - removal of the 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 to leave the building's perimeter (exterior) gypsum wallboard (GWB) walls, fireproofing located behind this GWB, the window convector units and risers within the column enclosures in place.

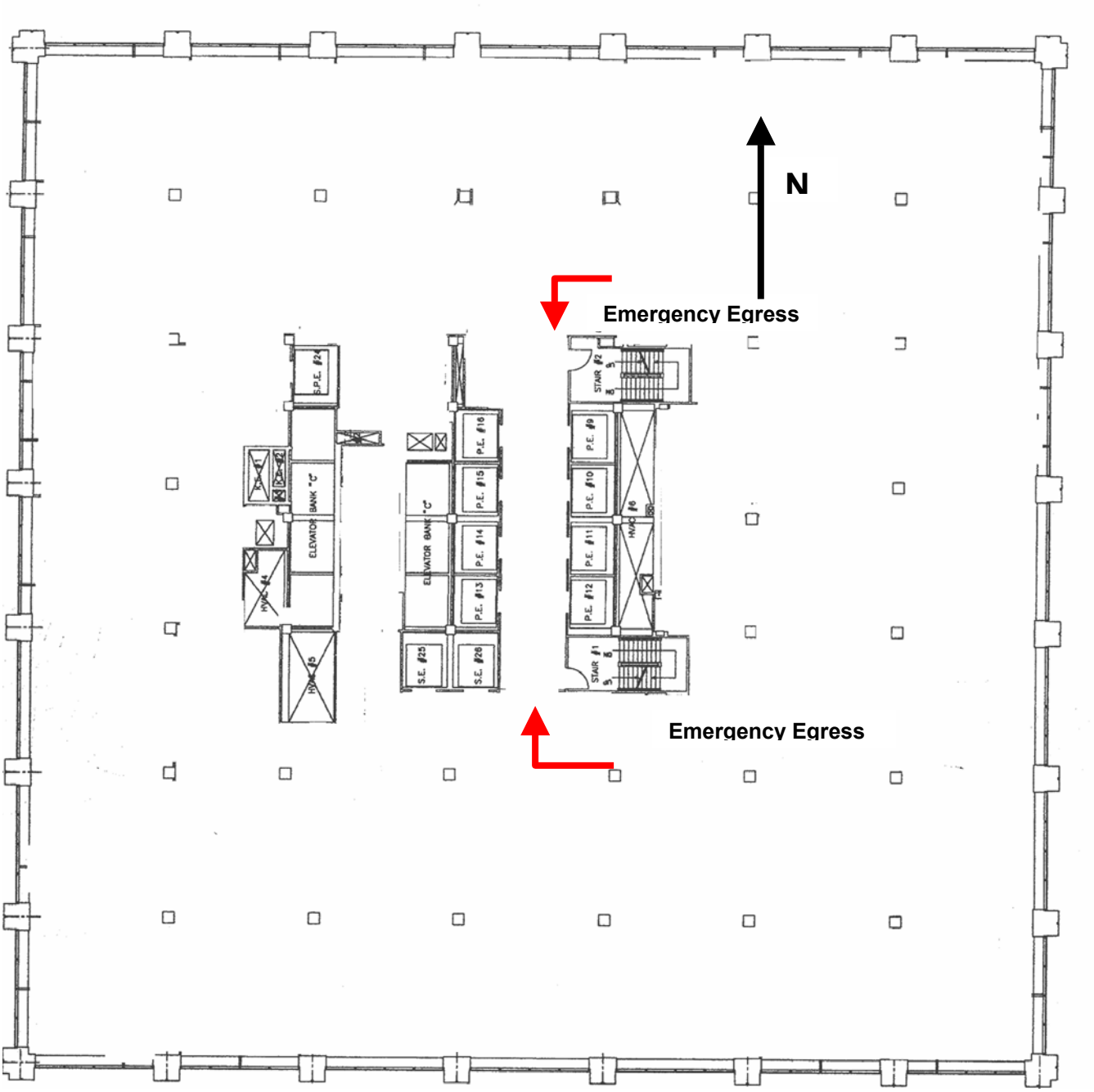
The Abatement Subcontractor will conduct a dust clean-up, limited "soft strip" and interior gut (includes drop-ceiling tiles, carpeting, fiberglass insulation, loose cabling/wiring above ceilings and under raised floors, etc.) and removal of asbestos-containing building materials throughout the 130 Liberty Street building in accordance with the Section 6 – Asbestos Abatement Plan of the overall Phase 1 Deconstruction Plan. The Demolition Subcontractor will remove the remaining soft-strip, interior gut items of Phase I (non-asbestos fireproofing that is accessible once the drop ceilings are removed and small scale MEP components including fixed cabling and piping which had been

above the ceiling) except for the exterior wall associated gypsum wall board, fireproofing and MEP components.

It is anticipated that approximately four floors shall be placed under containment in accordance with Section 6, Asbestos Abatement Plan, at any given time. Figure 1-2 is a typical floor layout of which the Abatement Contractor will need to provide containment. Additionally, the Abatement Subcontractor shall coordinate with all involved parties to assure that a one floor buffer zone is maintained between the work activities of the Abatement Subcontractor and the Demolition Subcontractor. Both Subcontractors must closely coordinate to ensure that the Phase IB work that will be occurring above poses no potential for negative impact to the Phase IA operations and protective measures.

The Environmental Consultant Project Monitor (as defined in Section 6, Asbestos Abatement Plan) shall conduct regular safety inspections to assure that the work is conducted in accordance with this HASP. During the Phase 1 activities, the Abatement Subcontractor shall perform personnel sampling for asbestos and COPC to evaluate the exposures to their personnel and to ensure use of the proper personal protective equipment (PPE), i.e., respirators, gloves and protective clothing. Additionally, the Environmental Consultant Project Monitor shall collect area air samples for asbestos (as described in Section 6, Asbestos Abatement Plan) on each floor during each day of abatement activities.

## Figure 1-2 Typical Floor Layout



# 2.0 HEALTH AND SAFETY PROCEDURES

This section identifies the principle hazards associated with the tasks to be performed during the cleaning, asbestos abatement and interior component removal activities, and establishes standard safety and health procedures for the Contractor, the Subcontractors and anyone who comes onto the site. The content of this HASP is designed to anticipate, identify, evaluate, and control safety and health hazards for the work activities to be performed during this project. All on-site work activities by any Subcontractors and their designees shall be performed in accordance with this HASP, and in accordance with applicable federal, state, and local regulations.

The Contractor, Subcontractors and other personnel on-site shall review and understand this document prior to working on-site. All personnel shall:

- Participate in initial site orientation/training as described in Section 2.9.1, and daily safety meetings, and shall provide any required documentation, medical clearance, fit test, asbestos certification, etc. prior to starting work on the site. Documentation requirements are determined by activities to be performed.
- Sign the HASP Acknowledgement Form and other required documents after orientation to indicate that they participated in orientation and understood the information presented in orientation.
- Follow the designated safety and health procedures, be alert to the hazards associated with working on the site, and exercise reasonable caution at all times.

Any questions or concerns about this HASP shall be directed to the on-site NYCSSM.

The levels of personal protection and the procedures specified in this Plan are based on the best information available from validated reference sources (i.e., OSHA, NIOSH) and current site data. Therefore, the guidelines presented in this HASP represent the minimum health and safety requirements to be observed by all on-site personnel engaged in this project. Unforeseeable site

conditions or changes in the scope of work will necessitate the reassessment of the protection levels, controls, and procedures stated herein. All amendments to this HASP must have prior written approval by the Environmental Consultant's Certified Industrial Hygienist (CIH) and the Contractor's Project Manager and shall be enacted by the New York City Site Safety Manager (NYCSSM).

## 2.1 PERSONNEL RESPONSIBILITIES

The Contractor and Subcontractors personnel involved in the 130 Liberty Street deconstruction project are responsible for:

- Taking all reasonable precautions to prevent injury to themselves and to their fellow employees, and being alert to potentially harmful situations.
- Obeying all applicable laws and regulations relating to health and safety.
- Ensuring that activities do not impact the neighboring community.
- Performing only those tasks that they have been trained to complete and can do safely.
- Notifying their supervisor of any special medical conditions (i.e., allergies, contact lenses, diabetes) that may affect their ability to perform certain tasks.
- Notifying their supervisor of any prescription and/or non-prescription medication that they may be taking that might cause drowsiness, anxiety, or other unfavorable side affects.
- Learning and complying with Site security requirements.
- Complying with the Site's prohibition on drug and alcohol use, smoking, horseplay, and restricted eating/drinking areas.
- Practicing good housekeeping by keeping the work areas neat, clean and orderly.
- Immediately reporting all injuries, incidents and near-misses to the designated supervisor.
- Properly using PPE specified by the contractor and this HASP, based on the results of air monitoring.
- Properly maintaining their designated PPE per manufacturers' recommendations.
- Complying with the HASP and all health and safety recommendations and precautions.

- Notifying their supervisor of any Site conditions of concern which are not addressed by the protective measures specified in this HASP, or which are addressed but the employee does not understand the protective requirements specified herein.

### 2.1.1 Contractor

The Contractor Project Manager shall have overall responsibility for ensuring health and safety protection on the site and for ensuring that all elements of the HASP are implemented during all phases of the daily on-site activities of this project.

A licensed NYCSSM shall be on-site throughout the project and shall have the primary daily responsibility for ensuring the implementation of this HASP. The NYCSSM shall notify the Environmental Consultant's CIH of any need to change or amend any aspect of this HASP and/or seek input with regard to interpretations of the HASP in concert with the designated Safety Officers of the Subcontractors. The NYCSSM shall coordinate the health and safety activities of all the Contractor and Subcontractor personnel to ensure the requirements of the HASP are followed and shall communicate with all parties when changes occur on-site or when conditions impacting the site occur concerning the response actions to be taken.

### 2.1.2 Subcontractors

Each Subcontractor on the job is responsible for:

- Preparing a Subcontractor HASP specific for their scope of work (SOW)
- Having a supervisor on-site who understands the scope of the work to be performed, potential health and safety issues associated with that SOW and the strategies for managing and controlling the health and safety issues.
- Planning all work activities to prevent personal injury, health impairment and property damage.

- Providing a Subcontractor Safety Officer and Alternate Safety Officer who shall remain on-site for the entire duration of the Subcontractor's SOW and ensure employee compliance with the provisions of this HASP and the Subcontractor HASP.
- Ensuring that Subcontractor personnel are qualified to perform the SOW that they are assigned.
- Communicating with the NYCSSM and other potential affected Subcontractors when work on-site conditions are identified that can impact health and safety on the job.
- Ensuring training of the Subcontractor's employees in the recognition, avoidance and control of chemical, biological and physical hazards present at the Site.
- Maintaining records for Subcontractor employees as required by this HASP (including but not limited to) medical, training and fit-test records.
- Providing daily health and safety briefings to their personnel.
- Providing specified PPE, including training for correct use and maintenance of that equipment.
- Providing adequate weather protective gear for their personnel as required for their work activities.
- Maintaining a system of prompt detection and correction of unsafe practices and conditions for their SOW and employees.
- Ensuring that any of the Subcontractor's subcontractors and suppliers comply with the conditions of this HASP upon entrance to the Site.

### 2.1.3 New York City Site Safety Manager (NYCSSM)

The NYCSSM is an experienced safety and health professional who maintains current HAZWOPER training, American Red Cross Cardiopulmonary Resuscitation (CPR) training and first aid certification and has completed at least eight hours of Safety Officer training. Additionally, the NYCSSM has the relevant site experience and training (with respect to asbestos and other hazardous materials identified) as necessary to oversee all work activities associated with the cleaning and demolition effort.

The NYCSSM has the following responsibilities:

- Direct the implementation of this HASP and consult with the Subcontractors regarding the health and safety procedures and practices to be used on this project.
- Implement the requirements of this HASP with respect to health and safety, air monitoring requirements and waste management requirements.
- Have the authority to suspend work activities if actions occur that may affect safety and health conditions for personnel or the environment. The NYCSSM shall act as the primary contact during any on-site emergency situation.
- Assist and represent the Contractor Project Manager in performing on-site training and the day-to-day on-site implementation and enforcement of the HASP.
- Be on-site during the project on a full time basis for the entire duration of on-site field activities. If operations are performed during more than one work shift per day, a qualified NYCSSM shall be present for each shift.
- Ensure site compliance with federal/state/local regulations and all aspects of this HASP including, but not limited to:
  - Performing activity hazard analyses
  - Providing guidance concerning the use of PPE
  - Ensuring site control
  - Developing standard operating procedures to minimize hazards such as the use of engineering controls
- The authority to stop any and all work activities if unacceptable health and safety conditions exist.
- Consult with and coordinate any modifications to the HASP with the Contractor Project Manager and the Environmental Consultant's CIH; recommend corrective actions for identified deficiencies; and oversee the implementation of any corrective actions.
- Conduct accident investigations and prepare accident reports.
- Investigate and analyze "near-miss" incidents.

- Prepare and maintain records of corrective actions taken on-site and document safety and health findings into a project-dedicated logbook.

### 2.1.4 Administrative Monitor

The Administrative Monitor (AM) is a support position provided by the Environmental Consultant. The AM performs all orientation on-site health and safety procedures for new employees and visitors. Additionally, the AM is responsible for logging all site visitors, checking for current medical and fit test certifications and applicable federal/state/local asbestos training for all those entering containment. The AM does not provide specialized training for specific cleaning, abatement or interior component removal portions of the work. This shall be provided by each Subcontractor for its personnel.

The AM documents each orientation performed and requires that each person receiving the orientation complete, sign and date the HASP acknowledgement form. The AM receives the following documentation from each Subcontractor to complete the administrative record for the site: name of Subcontractor's safety officer; list of emergency contact phone numbers; confirmation of current worker fit tests, medical clearances and asbestos training for each Subcontractor employee; and Subcontractor HASP, including Hazard Communication Program, Fall Protection Program, Respiratory Protection Program, personal air monitoring program, and confined space program (when necessary).

The AM is only responsible for the execution and monitoring of any health and safety activities at the Site, related to Environmental Consultant activities.

## 2.2 HEALTH AND SAFETY HAZARD ANALYSIS AND RISK ASSESSMENT

### 2.2.1 Preliminary Evaluation

The work to be conducted at 130 Liberty are construction activities and, as such, fall under Title 29 of the Code of Federal Regulations, Section 1926 (29 CFR 1926), the OSHA Construction Standard.

An evaluation of the work activities was performed that included a Hazard Analysis for each task/activity to identify associated hazardous conditions and appropriate employee protection methods and PPE and is discussed in this section. The evaluation of potential site conditions and activity hazards is an ongoing process and shall continue throughout the duration of the project.

Potential hazards during Phase 1A and 1B effort include the following:

- Physical – Excessive noise; inclement weather; heat stress; cold stress; manual lifting; slips and falls, structural integrity; working at elevation; electrical safety; heavy equipment operation; and other general construction hazards.
- Chemical – Asbestos, silica, PAHs, dioxins, cadmium, nickel, lead, barium, chromium, zinc, manganese, copper, beryllium, PCBs, mercury, copper, zinc, cristobalite and quartz.
- Biological – Mold; rodents; insects.
- Radiological – None anticipated.

### 2.2.2 Task Hazard Analysis

The scope of work for the 130 Liberty Street project consists of five general tasks, as follows:

Task 1: Shutting down building services including disconnecting mechanical, plumbing, sprinkler and electrical systems, installing temporary water riser pipes and maintaining temporary GFCI protected electrical systems.

Task 2: Phase IA deconstruction including dust cleaning, asbestos-containing building material [ACBM] abatement and removal of building components as necessary to accomplish the first two activities

Task 3: Phase IB deconstruction including removal of most of the remaining interior, non-structural building elements and non-structural soft strip/interior gut materials not removed during Phase 1A. It also includes window removal and the installation of a Man-Hoist and Tower Crane.

Task 4: General site work, including fencing, paving and drainage.

Task 5: Environmental Consultant monitoring including work area air sampling during Phase IA activities; clearance air sampling when cleaning of each floor is completed; Phase IA "waste-out" area air sampling during all activities; ambient air monitoring ; and waste characterization sampling.

Summaries of the potential physical, chemical and biological hazards that may be encountered during these tasks and the associated hazard control methods are presented in Table 2-1. The procedures referenced in each task are provided in Appendix A.

## Table 2-1

Task 1: Shutting Down Building Services
Equipment required: Heavy equipment, hand and power tools, ladders, scaffolding, lifting equipment, PPE

| Subtask # | Activities | PPE Requirements* | Hazards | Preventative Mechanism | Procedure** |
|---|---|---|---|---|---|
| 1 | Mobilization (Transporting employees, materials and equipment to site) | Level D | Vehicle Incidents | Vehicle and driving safety | Motor Vehicles and Equipment Program |
| 2 | Unloading equipment on the ground level | Level D | Lifting | Proper lifting procedures | |
| | | | Heat Stress | Heat monitoring | |
| | | | Cold Stress | Cold monitoring | |
| | | | Slip/trip/fall | Housekeeping | Housekeeping Program |
| | | | Trespassers | Site security | |
| | | | Pinch points | Materials handling | |
| | | | Hand tools | Proper use techniques | |
| 3 | Disconnect Utilities (Mechanical, plumbing, sprinkler, electrical) | Level C | Chemical COPC plus plumbing chemicals | Hazard Communication PPE | Hazard Communication Program |
| | | | Vehicle Incidents | Vehicle and driving safety | Motor Vehicles and Equipment Program |
| | | | Heat Stress | Heat monitoring | |
| | | | Cold Stress | Cold monitoring | |
| | | | Lifting | Proper lifting procedures | |
| | | | Hot Work | Hot work permits and fire watch | Welding, Cutting and Burning—Hot-Work Procedure |
| | | | Slip/trip/fall | Housekeeping | Housekeeping Program |
| | | | Trespassers | Site security | Protection of the Public |
| | | | Pinch points | Materials handling | |
| | | | Work from elevation | Fall protection | Elevated work—Fall Protection Program |
| | | | Hand tools | Proper use techniques | |
| | | | Wet feet | Avoidance/techniques | |
| | | | Lockout/Tagout | LO/TO program | Lockout/Tagout Procedures |

Task 1 Continued: Shutting Down Building Services
Equipment required: Heavy equipment, hand and power tools, ladders, scaffolding, lifting equipment, PPE

| Subtask # | Activities | PPE Requirements* | Hazards | Preventative Mechanism | Procedure** |
|---|---|---|---|---|---|
| 4 | Maintain basic utilities to support Tasks 1-4 including:<br>Temporary GFCI protected electrical systems<br><br>Installation of a water supply, | Level C | Chemical COPC plus plumbing chemicals | Hazard Communication PPE | Hazard Communication Program |
| | | | Slip/trip/fall | Housekeeping | Housekeeping Program |
| | | | Pinch points | Materials handling | |
| | | | Work from elevation | Fall protection. Proper ladder use. | Elevated work—Fall Protection Program |
| | | | Hand tools | Proper use techniques | |
| | | | Hot Work | Hot Work permitting Fire prevention | Welding, Cutting and Burning—Hot-Work Procedure |
| | | | Wet feet | Avoidance/techniques | |
| | | | Electrical safety | Electrical safety - LO/TO | Electric—Temporary |
| | | | Stored hazardous energy | LO/TO program | Lockout/Tagout Procedures |

*As described in Section 2.5
** Procedures are part of Gilbane's Project Safety Plan which is found in Section 4 of the overall Deconstruction Program

Task 2: Consists of Phase IA (dust cleaning, asbestos-containing building material [ACBM] abatement and building component removal as necessary to accomplish the first two activities)
Equipment required: Heavy cleaning equipment, HEPA vacuums, hand/power tools, ladders, scaffolding, lifting equipment, PPE

| Subtask # | Activities | PPE Requirements* | Hazards | Preventative Mechanism | Procedure** |
|---|---|---|---|---|---|
| 1 | Mobilization (Transporting employees, materials and equipment to site) | Level D | Vehicle use | Vehicle and driving safety | LVI Procedure 8-2 |
| 2 | Unloading equipment on the ground level | Level D | Lifting | Proper lifting techniques | |
| | | | Heat Stress | Heat monitoring | LVI Procedure 7-4 |
| | | | Cold Stress | Cold monitoring | LVI Procedure 7-5 |
| | | | Slip/trip/fall | Housekeeping | LVI Procedure 8-9 |
| | | | Trespassers | Site security | |
| | | | Pinch points | Materials handling | LVI Procedure 8-13 |
| | | | Hand tools | Proper use techniques | LVI Procedure 8-15 |
| 3 | Constructing containment areas and placing air handling units on the floors | Level C | Chemical COPC plus adhesives | Hazard Communication PPE | LVI Procedure 7-2 |
| | | | Heat Stress | Heat monitoring | LVI Procedure 7-4 |
| | | | Cold Stress | Cold monitoring | LVI Procedure 7-5 |
| | | | Use of ladders | Ladder safety | LVI Procedure 8-11 |
| | | | Noise | Hearing protection | LVI Procedure 7-3 |
| | | | Slip/trip/fall | Housekeeping | LVI Procedure 8-9 |
| | | | Electrical sources | Electrical safety - LO/TO | LVI Procedure 8-3 |
| | | | Lifting | Proper lifting techniques | |
| | | | Pinch points | Materials handling | LVI Procedure 8-13 |
| | | | Work from elevation | Fall protection | LVI Procedure 8-6 |
| | | | Use of scaffolds | Scaffold safety | LVI Procedure 8-19 |
| | | | Hand and power tools | Proper use techniques | LVI Procedure 8-15 |
| | | | Inadequate lighting | Illumination | |

Task 2 Continued: Consists of Phase IA (dust cleaning, asbestos-containing building material [ACBM] abatement and building component removal as necessary to accomplish the first two activities)
Equipment required: Heavy cleaning equipment, HEPA equipped vacuums, hand and power tools, ladders, scaffolding, lifting equipment, PPE

| Subtask # | Activities | PPE Requirements* | Hazards | Preventative Mechanism | Procedure** |
|---|---|---|---|---|---|
| 4 | Physical work necessary to perform asbestos abatement and dust clean-up. | Level C | Chemical COPC | Hazard Communication PPE | LVI Procedure 7-2 |
| | | | Heat Stress | Heat monitoring | LVI Procedure 7-4* |
| | | | Cold Stress | Cold monitoring | LVI Procedure 7-5 |
| | | | High pressure water | Pressurized systems | LVI Procedure 8-8 |
| | | | Electrical sources | Electrical safety - LO/TO | LVI Procedure 8-3 |
| | | | Pinch points | Materials handling | LVI Procedure 8-13 |
| | | | Use of ladders | Ladder safety | LVI Procedure 8-11 |
| | | | Hand tools | Proper use techniques | LVI Procedure 8-15 |
| | | | Noise | Hearing protection | LVI Procedure 7-3 |
| | | | Inadequate lighting | Illumination | |
| | | | Asbestos | Avoidance/monitoring/PPE | LVI Procedure 10-1 |
| | | | Lead | Avoidance/monitoring/PPE | LVI Procedure 10-2 |
| | | | PCBs | Avoidance/monitoring/PPE | LVI Procedure 10-4 |
| | | | Mercury | Avoidance/monitoring/PPE | LVI Procedure 10.5 |
| | | | Other chemicals<br>Mold | Avoidance/monitoring/PPE<br>Avoidance/monitoring/PPE | LVI Procedure 7-7 |

*As described in Section 2.5
** Procedures are part of LVI's Safety Program

Task 3: Consists of Phase IB (As defined in Section 1.4)
Equipment required: Heavy equipment, hand and power tools, ladders, scaffolding, lifting equipment, PPE

| Subtask # | Activities | PPE Requirements* | Hazards | Preventative Mechanism | Procedure** |
|---|---|---|---|---|---|
| 1 | Mobilization (Transporting employees, materials and equipment to site) | Level D | Use of vehicles | Vehicle and driving safety | General Safety Regulations |
| | | | Cranes/Lifting Equipment | Crane/lifting safety | Crane, Hoist, and Rigging Standard Operating Procedure |
| 2 | Unloading equipment on the ground level | Level D | Lifting | Proper lifting techniques | |
| | | | Heat stress | Heat monitoring | |
| | | | Cold stress | Cold monitoring | |
| | | | Slip/trip/fall | Housekeeping | |
| | | | Trespassers | Site security | |
| | | | Pinch points | Materials handling | |
| | | | Work at elevation | Fall protection | Fall Protection Plan |
| | | | Hand tools | Proper use techniques | |
| | | | Inadequate lighting | Illumination | |
| | | | Cranes/Lifting Equipment | Crane/lifting safety | Crane, Hoist, and Rigging Standard Operating Procedure |
| 3 | Material, component, system removal (ceiling, walls, flooring, etc.) | Level C*** | Lifting | Proper lifting techniques | |
| | | | Noise | Hearing protection | |
| | | | Heat stress | Heat monitoring | |
| | | | Cold stress | Cold monitoring | |
| | | | Slip/trip/fall | Housekeeping | |
| | | | Structural damage | Structural integrity / PE inspection | |
| | | | Heavy Equipment Operation | Follow proper procedures | |
| | | | Carbon Monoxide | Air monitoring, monitor running of equipment | |
| | | | Demolition | Follow demolition plan | General Safety Regulations |
| | | | Pinch points | Materials handling | |
| | | | Work at elevation | Fall protection | Fall Protection Plan |
| | | | Hand tools | Proper use techniques | |
| | | | Inadequate lighting | Illumination | |
| | | | Cranes/Lifting Equipment | Crane/lifting safety | Crane, Hoist, and Rigging Standard Operating Procedure |

Task 3 Continued: Consists of Phase IB (As defined in Section 1.4)
Equipment required: Heavy equipment, hand and power tools, ladders, scaffolding, lifting equipment, PPE

| Subtask # | Activities | PPE Requirements* | Hazards | Preventative Mechanism | Procedure** |
|---|---|---|---|---|---|
| 4 | Man-hoist and Tower Crane Installation | Level C*** for Tower Crane and Level D for Man-hoist | Working from Elevations | Fall Protection | Fall Protection Plan |
| | | | Noise | Hearing protection | |
| | | | Heat Stress | Heat monitoring | |
| | | | Cold Stress | Cold monitoring | |
| | | | Slip/Trip/Fall | Housekeeping | |
| | | | Lifting | Proper lifting techniques | |
| | | | Electrical Sources | Electrical Safety/LOTO | Lock-Out/Tag-Out Program |
| | | | Pinch Points | Materials Handling | |
| | | | Hand Tools | Proper use techniques | |
| | | | Inadequate Lighting | Illumination | |
| | | | Heavy Equipment Operation | Follow proper procedures | |
| | | | COPCs and asbestos (for Tower Crane Installation) | Hazard Communication/PPE | Hazardous Materials Communication Program |
| | | | Structural damage | Structural integrity/PE inspection | |

Task 3 Continued: Consists of Phase IB (As defined in Section 1.4)
Equipment required: Heavy equipment, hand and power tools, ladders, scaffolding, lifting equipment, PPE

| Subtask # | Activities | PPE Requirements* | Hazards | Preventative Mechanism | Procedure** |
|---|---|---|---|---|---|
| 5 | Installation and use of debris chute | Level C*** | Work at elevation | Fall protection | Fall Protection Plan |
| | | | Lifting | Proper lifting techniques | CDI Soft Strip/Interior Gut Plan |
| | | | Noise | Hearing protection | |
| | | | Chemical COPCs | Hazard Communication, PPE | CDI Soft Strip/Interior Gut Plan |
| | | | Heat stress | Heat monitoring | |
| | | | Cold stress | Cold monitoring | |
| | | | Slip/trip/fall | Housekeeping | |
| | | | Structural damage | Structural integrity / PE inspection | |
| | | | Heavy Equipment | Follow proper procedures | |
| | | | Demolition | Follow demolition plan | General Safety Regulations |
| | | | Stored hazardous energy/Gravity | Follow proper procedures | CDI Soft Strip/Interior Gut Plan |
| | | | Carbon Monoxide | Air monitoring, Monitor running of equipment | |
| | | | Materials handling | Materials handling | CDI Soft Strip/Interior Gut Plan |
| | | | Hand tools | Proper use techniques | |
| | | | Inadequate lighting | Illumination | |
| | | | Cranes/Lifting Equipment | Crane/lifting safety | Crane, Hoist, and Rigging Standard Operating Procedure |
| | | | Lockout/Tagout | Communication, Training | CDI Soft Strip/Interior Gut Plan |

*As described in Section 2.5
** Procedures are part of CDI's Safety Program which is found in Section 4 of the overall Deconstruction Program.
***Per 2.7.3

Task 4: Site Work (Fencing, Back filling, Paving, and Drainage)
Equipment required: Trackloaders, Skidsteer Loaders, Small Tilt Sladers, Vibratory Rollers, Roller Compactor Truck
Paving: Asphalt Paving Equipment, Smooth Barrel Roller, Forklift, Crane, Area lift.

| Subtask # | Activities | PPE Requirements | Hazards | Preventative Mechanism | Procedure |
|---|---|---|---|---|---|
| 1 | Installation of Site fences | Level D | *Moving Equipment<br>*Open excavation<br>* Evacuation of excavations before backfilling | * Hand signals<br>* Barricades<br>* Safety watch | See Items 1-5 Below |
| 2 | Back filling | Level D | *Moving Equipment<br>*Open excavation<br>* Evacuation of excavations before backfilling | * Hand signals<br>* Barricades<br>* Safety watch | See Items 1-5 Below |
| 3 | Paving | Level D | *Moving Equipment<br>*Open excavation<br>* Evacuation of excavations before backfilling | * Hand signals<br>* Barricades<br>* Safety watch | See Items 1-5 Below |
| 4 | Drainage | Level D | *Moving Equipment<br>*Open excavation<br>* Evacuation of excavations before backfilling | * Hand signals<br>* Barricades<br>* Safety watch | See Items 1-5 Below |

General Precautions- Site specific precautions to be determined as the detailed scope and schedule are developed.
Care must be taken to reduce the risk of worker injury and property damage during backfilling or paving operations.

1. No backfill shall commence until all workers are clear of the working areas.
2. The operators of any machines or vehicles being used in backfilling operations shall keep other employees in sight at all times.
3. The operators of any truck employed in backfilling operations shall ensure that all workers are in the clear before approaching the ditch or dumping the load.
4. No equipment shall back closer than 1 meter to the edge of any excavation and this set-back shall be increased commensurately with the depth of the excavation unless trenching sleds or other retention devices are employed.
5. No equipment shall dump material closer than 1 meter to the edge of an excavation.

Task 5: Monitoring
Equipment Required: Air sampling equipment, PPE

| Subtask # | Activities | PPE Requirements* | Hazards | Preventative Mechanism | Procedure** |
|---|---|---|---|---|---|
| 1 | Mobilization (Transporting employees, materials and equipment to site) | Level D | Use of vehicles | Vehicle and driving safety | Weston FLD 20 |
| 2 | Unloading equipment on the ground level | Level D | Lifting | Proper lifting techniques | Weston FLD 10 |
| | | | Site security | Site security | Weston FLD 14 |
| | | | Pinch points | Materials handling | Weston FLD 29 |
| | | | Insects | Biological hazard monitoring | |
| 3 | Area testing | Level C*** | Chemical COPC | Hazard Communication PPE | |
| | | | Noise | Hearing protection | Weston FLD 01 |
| | | | Heat stress | Heat monitoring | Weston FLD 05 |
| | | | Cold stress | Cold monitoring | Weston FLD 06 |
| | | | Slip/trip/fall | Housekeeping | Weston FLD 12 |
| | | | Trespassers | Site security | Weston FLD 14 |
| | | | Pinch points | Materials handling | Weston FLD 29 |
| | | | Hand tools | Proper use techniques | Weston FLD 38 |
| | | | Inadequate lighting | Illumination | Weston FLD 39 |
| | | | Mold | Avoidance | Weston FLD 43 |
| | | | Asbestos | Avoidance/Monitoring | Covered in Weston HASP |
| 4 | Clearance testing | Level C*** | Chemical COPC | Hazard Communication PPE | |
| | | | Heat stress | Heat monitoring | Weston FLD 05 |
| | | | Cold stress | Cold monitoring | Weston FLD 06 |
| | | | Slip/trip/fall | Housekeeping | Weston FLD 12 |
| | | | Trespassers | Site security | Weston FLD 14 |
| | | | Pinch points | Materials handling | Weston FLD 29 |
| | | | Hand tools | Proper use techniques | Weston FLD 38 |
| | | | Inadequate lighting | Illumination | Weston FLD 39 |
| | | | Asbestos | Avoidance/monitoring | Covered in Weston HASP |

Task 5 Continued: Monitoring
Equipment Required: Air sampling equipment, PPE

| | | | | | |
|---|---|---|---|---|---|
| 5 | Phase IA Waste-out air testing | Level C*** | Chemical COPC | Hazard Communication<br>PPE | |
| | | | Inclement weather | Avoidance/safe behaviors | Weston FLD 02 |
| | | | Heat stress | Heat monitoring | Weston FLD 05 |
| | | | Cold stress | Cold monitoring | Weston FLD 06 |
| | | | Structural damage | Structural integrity | Weston FLD 13 |
| | | | Slip/trip/fall | Housekeeping | Weston FLD 12 |
| | | | Trespassers | Site security | Weston FLD 14 |
| | | | Pinch points | Materials handling | Weston FLD 29 |
| | | | Hand tools | Proper use techniques | Weston FLD 38 |
| | | | Inadequate lighting | Illumination | Weston FLD 39 |
| | | | Asbestos | Avoiding/monitoring/PPE | |
| | | | Insects | Biological hazard monitoring | Weston FLD |
| 6 | Waste characterization testing | Level C*** | Chemical COPC | Hazard Communication<br>PPE | |
| | | | Structural damage | Structural integrity | Weston FLD 13 |
| | | | Trespassers | Site security | Weston FLD 14 |
| | | | Pinch points | Materials handling | Weston FLD 29 |
| | | | Hand tools | Proper use techniques | Weston FLD 38 |
| | | | Heat stress | Heat monitoring | Weston FLD 05 |
| | | | Cold stress | Cold monitoring | Weston FLD 06 |
| | | | Asbestos | Avoidance/monitoring/PPE | |

*As described in Section 2.5
** Procedures are part of CDI's Safety Program which is found in Section 4 of the overall Deconstruction Program.
***Per 2.7.3

If site conditions change during the course of the deconstruction project, the NYCSSM shall evaluate the new conditions and discuss appropriate amendments to the HASP with the Environmental Consultant's Safety Officer. The proposed amendments shall be reviewed and approved by the Environmental Consultant's CIH and the Contractor Project Manager.

### 2.2.3 Physical Hazards

The damage suffered by the building at 130 Liberty Street has resulted in numerous physically hazardous conditions, including damaged electrical sources and components, falling hazards due to openings in the floors, or the possibility of materials falling from overhead. The primary physical hazards that may be encountered during this project are related to the Phase I activities. include: heavy equipment operation; excessive noise; excessive heat or cold; inclement weather; manual lifting/handling of heavy objects; poor housekeeping; rough terrain; compromised structural integrity; traffic; cranes and other lifting equipment, hoists, aerial lifts and man-lifts; working at elevation; use of scaffolding; hazardous materials use; potential utility and electrical sources; use of hand and power tools; slips and falls; etc.

Due to the existence of these hazards, the NYCSSM shall ensure that all site employees receive hazard awareness training. Additionally, the NYCSSM shall insure that Subcontractors perform the following operations under the direct on-site supervision of OSHA Competent Persons (provided by the Subcontractors for each task as necessary):

- General Construction (29 CFR 1926.20)
- Unsanitary Conditions (29 CFR 1926.27)
- Rigging (29 CFR 1926.251)
- Scaffolding (29 CFR 1926.450)
- Ladders (29 CFR 1926.1053)
- Personal Fall Arrest Systems (29 CFR 1926.500 and .502)

- Ear Protection (29 CFR 1926.101)
- Cranes and Derricks (29 CFR 1926.550)
- Materials Hoists, Personnel Hoists and Elevators (29 CFR 1926.552)
- Demolition (29 CFR 1926.850)
- Welding/Cutting on surfaces covered by protective coatings (29 CFR 1926.354)
- Excavation (29 CFR 1926.650)
- Lead (29CFR 1926.62)
- Asbestos (29 CFR 1926.1101)
- Powered Platforms for Building Maintenance, 29 CFR 1910.66
- Hazardous Waste Operations and Emergency Response, 29 CFR 1926.65

### 2.2.4 Chemical Hazards

The primary chemical hazard that may be encountered during this project is asbestos. Therefore, the NYCSSM shall ensure that all site employees receive the required training concerning asbestos, such as asbestos awareness training.

In addition, personnel who have the potential to disturb ACBM shall be trained concerning the procedures to be used and requirements for notifications in accordance with federal/state/local regulations. Personnel who handle ACBM on this job shall have the required documented training and licenses. Each employee involved in abatement activities must have completed City of New York asbestos training, shall be a licensed asbestos worker and/or supervisor by the City of New York, and shall be licensed by the New York State Department of Labor. Additionally, the Abatement Subcontractor shall perform Initial Exposure Assessments (IEAs) to determine whether their employees have the potential to be exposed to other chemical contaminates,

including COPCs, above the OSHA PEL for more than 30 days and therefore must received the required 40 hour training as outlined by 29 CFR 1910.120(e) and appropriate annual refresher training as required. Training, medical and license documentation for each Subcontractor employee shall be verified by the AM prior to start of work by the Subcontractor.

Additional chemical hazard generated from deconstruction activities would be silica and lead. Subcontractors shall perform personnel monitoring for lead as required by OSHA. Employees shall take all precautions relating to silica and lead as required by OSHA such as training in hazard recognition and proper use of PPE. This training must be provided to these employees by the Subcontractor Safety Officer, or the NYCSSM.

Based upon the findings reported in Berger's 2004 "Initial Building Characterization Study Report," the Site contains approximately 155,000 square feet of ACBM, including floor tiles, mastic, insulation, wall board and caulking materials. Additionally, trace levels of asbestos was detected in dust sampled throughout the building.

#### *2.2.4.1 Additional Identified Chemicals*

Other chemicals identified as potential contaminants that may be encountered during the initial site cleaning activities are PAHs, dioxins, cadmium, nickel, barium, chromium, zinc, manganese, copper, beryllium, PCBs, mercury, copper, zinc, cristobalite and quartz. Environmental sampling in the 130 Liberty Street Building has verified the presence of these chemical contaminants in concentrations exceeding USEPA's Residential Cleanup Criteria as discussed in Berger's September 2004 "Initial Building Characterization Study Report."

Additional precautions to be taken in work areas with these contaminants include personnel and area air monitoring. During deconstruction activities, any torching or cutting of painting surfaces creates risk of lead release. During these operations, additional sampling and PPE will be necessary as required by the Lead in Construction Standard [29 CFR 1926.62(d)(2)(iv)].

Respiratory protection shall be used if contaminant concentration for any contaminant exceeds the Action Level of one-half the OSHA Permissible Exposure Limit (PEL) for that particular contaminant. The NYCSSM shall determine the need for respiratory protection based upon site air monitoring data.

There may also be hazardous chemicals brought on-site and used in the deconstruction. The requirements of the OSHA Hazard Communications Standard (29 CFR 1910.1200) shall apply. Section 2.8 provides information concerning the management of hazardous chemicals on-site and the site Hazard Communication Program.

### 2.2.5 Biological Hazards

Biological concerns in the work area are primarily, insects, rodents, mold/fungi, and Legionella.

#### *2.2.5.1 Insects*

The presence of insects shall be addressed by personnel as the insects are encountered. When a stinging or poisonous insect, such as a bee or spider, is identified, personnel should exercise caution to avoid being bitten or stung for example by using tools to move material. In the event that a person is stung or bitten, the incident shall be reported to the Site Manager for the Subcontractor who shall report the incident to the NYCSSM. The Site Manager for the Subcontractor shall initiate actions to manage and address the bite or sting. Personnel who are allergic to insect bites and stings should identify their allergy to their employer.

#### *2.2.5.2 Rodents*

In the event that rodents or animal pests are identified or observed on-site, the Subcontractor Manager should report the incident to the NYCSSM. The NYCSSM shall be responsible for evaluating the condition and implementing steps to eliminate rodents on the site.

#### 2.2.5.3 Mold/Fungi

The study performed by Berger, as reported in the September 2004 "Initial Building Characterization Study Report," detected approximately 105 square feet of mold-impacted building surfaces in the 130 Liberty Street Building. The identification of additional mold/fungi on-site will be made based on visual inspections of building materials. The confirmation of mold/fungi will be made by the NYCSSM. When mold/fungi are identified, the removal of impacted materials shall be completed in accordance with the New York City Department of Health & Mental Hygiene "Guidelines on Assessment and Remediation of Fungi in Indoor Environments".

#### 2.2.5.4 Legionella

The presence of Legionella, disease-causing bacteria, has been previously identified in the Northeast secondary water supply on site through historical sampling data. At no time shall any person utilize water from any remnant building structure, including sinks, showers, water fountains or fire connections. Only water that is brought in specifically for Site clean-up activities may be used for any reason including showers, hand-washing, decontamination activities or drinking. No persons shall use any water source that has not been pre-approved and marked for potable use by the NYCSSM.

## 2.3 ENGINEERING CONTROLS

Engineering controls will be used as primary protective mechanisms to protect the safety and health of all employees whenever technically feasible, and prior to the implementation of Administrative Controls and/or personal protective equipment. Each Subcontractor shall be responsible for the provision and implementation of the following:

- HEPA-filtered air filtration devices to reduce area dust levels.
- Vacuum cleaners equipped with HEPA filters.
- Fume educators attached to HEPA filters for all hand-powered tools.

- Enclosure/encapsulation of all lead-based painted materials (if necessary), and adequate exhaust ventilation provided during torching or cutting activities.

- A buffer zone of at least one (1) floor will be maintained between the work activities of the Abatement Subcontractor and the Demolition Subcontractor.

- Barricades, railings or other devices to prevent employee exposure to fall hazards or moving equipment per 29 CFR 1926.

- Other task-specific engineering controls as recommended by OSHA guidelines or as recommended by the NYCSSM.

## 2.4 ADMINISTRATIVE CONTROLS AND WORK PRACTICES

Each Subcontractor shall utilize administrative controls and work practices as a secondary means of ensuring worker health and safety when engineering controls do not provide sufficient protection or are technically infeasible. Each Subcontractor shall be responsible for the provision and/or implementation of the following:

- Ensuring all employees are enrolled in a medical monitoring program as required by OSHA, including medical monitoring for blood lead levels as outlined in Section 2.10 of this HASP.

- Ensuring all employees have current fit-test and training certifications.

- Implementing work practices that avoid generating dust whenever possible.

- Requiring that all employees implement decontamination procedures, including washing hands, face, hair and neck upon leaving the work area and before eating, drinking or smoking.

- Removing lead based paint or coatings before cutting, grinding or other activities that would be expected to disturb the lead-based materials, or complying with the provisions of 29 CFR 1926.62.

- Use of the Buddy System will be required for all employees working within the Exclusion Zone or while performing non-standard tasks as designated by the Subcontractor's Safety Officer.

## 2.5 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Personal protective equipment will only be used to provide adequate personnel protection only after feasible engineering and administrative control options have been exhausted. All personnel engaged in the project work activities will use the appropriate level of protection as required by the activity to be performed and are presented in the "Activity Hazard Analysis" in Table 2-1.

All PPE requirements for site activities are based upon available historical site characterization data and knowledge of the anticipated hazards. Changes in levels of PPE and changes in the PPE requirements for specific areas shall be made based by the NYSCSSM on the results of monitoring, visual observations and the nature of the site operations, including the presence of or potential for previously unidentified chemicals or conditions.

In accordance with OSHA 29 CFR 1910.132-138 and 1926.28 (Personal Protective Equipment), all PPE shall be provided, used, and maintained in a sanitary and reliable condition. All PPE shall be of construction, design, and material to protect employees against known or anticipated hazards. PPE shall be selected that properly and appropriately fits the employee.

### 2.5.1 Basic PPE Requirements

Each employee will wear a hard hat and safety glasses or other eye protection at all times while on-site, except for designated "safe" areas. Eye protection includes safety glasses, safety goggles, welding goggles, welding hoods, or full-face respirators. Prescription or non-prescription eyeglasses and sunglasses are not approved for eye protection. All acceptable eye protection must include side shields and must be ANSI-approved.

Unless in designated safe locations, all personnel shall have with them and/or wear the following PPE when entering the site:

- Work clothes without loose sleeves and cuffs
- American National Standards Institute (ANSI) - approved safety boots
- ANSI - approved safety glasses
- ANSI - approved hard hat with bill facing forward
- Work gloves (either leather or cotton)
- Hearing protection

The above listed PPE ensemble, defined as Level D, shall be worn during all outdoor site activities and inside of the building after clearance testing has been completed.

### 2.5.2 Modified Level D PPE

Modified Level D PPE shall be worn for work activities within clean areas in the building for the following activities:

- Concrete cutting; and
- Hotwork cutting of materials.

Modified Level D consists of:

- Work clothes without loose sleeves or cuffs;
- Gloves – leather or cotton gloves, unless personnel are using liquids in their work, in which case, the proper water or chemical-resistant glove shall be worn (including nitrile gloves during sampling);
- ANSI-approved safety boots;
- ANSI-approved Eye protection – safety glasses or goggles;
- ANSI-approved Hard hat with bill facing forward;
- Water-resistant or leather protective clothing;
- Hearing protection (as necessary).

### 2.5.3 Level C PPE

Level C PPE shall be worn when working inside of the building (with the exception of previously cleaned areas such as the "gash area" and portions of the basement) during all Phase IA activities. Level C PPE consists of:

- Half-face air-purifying respirator (APR) with HEPA filter approved by the National Institute for Occupational Safety and Health (NIOSH)/Mine Safety and Health Administration (MSHA), such as a P100 respirator.
- Gloves - nitrile or latex inner; chemical resistant outer (nitrile or neoprene)
- ANSI-approved safety boots
- ANSI–approved Eye protection – safety glasses or goggles
- ANSI-approved Hard hat with bill facing forward
- Tyvek coveralls with head cover (Two layers Tyvek or equivalent)
- Water-resistant overboots which are treaded to provide slip protection
- Hearing protection (as necessary)

For Phase IB, personnel monitoring performed by each Subcontractor shall be evaluated weekly to evaluate the necessity of Level C respiratory protection. Should air contaminant levels be less than one-half the OSHA PEL, the Subcontractor may downgrade the level of respiratory protection necessary for his employees, after consulting with the NYCSSM. However, personnel monitoring shall be performed on a daily basis regardless of level of respiratory protection worn. Should analytical data indicate that PPE action levels have been exceeded, the Subcontractor shall immediately mandate use of Level C respiratory protection.

### 2.5.4 Level B or Level A PPE

This type of PPE shall not be used at this site unless required for performance of an initial exposure assessment. Should work conditions and personnel sampling exceed action levels for a PPE upgrade to Level B or A, operations shall cease in that area until site conditions can be re-evaluated by the NYCSSM and the Environmental Consultant's CIH.

## 2.6 SAFETY EQUIPMENT

The requirements for PPE on this job may be refined and changed to address the conditions identified when tasks are performed. The Subcontractors will work with the NYCSSM to ensure the proper PPE is maintained and available on-site at all times, and that personnel are trained to use the PPE and understand the procedures and practices for the safe and effective use of PPE. The Subcontractors will provide the required PPE for their employees.

The PPE requirements presented in this HASP are the minimally acceptable for the specified activity. Subcontractors can make individual decisions to upgrade the equipment requirements for each PPE level to ensure the hazards presented by an activity are controlled and exposure is minimized. Engineering and administrative controls will be identified and implemented for each activity prior to use of PPE.

### 2.6.1 Respiratory Protection Program

Respiratory protection is required whenever work is performed inside the building to protect the workers from exposures to contaminants, primarily asbestos, that may be present. Particulate filters that are HEPA or P100 shall be required.

The following practices will be conveyed to all employees and enforced by the NYCMSM with respect to respiratory equipment for this project:

- Subcontractors whose personnel may have the need to wear respiratory protection on this job, shall have a written respiratory protection program that meets the requirements of the OSHA Standard (29 CFR 1910.134) and has been developed by a Competent Person as defined by OSHA.
- Personnel who may need to wear respiratory protection shall be fit-testing, medically qualified and trained, as required by the Standard, to use respiratory protection. The Subcontractor shall identify personnel who may use respiratory protection and documentation of fit-testing, medical qualification and training shall be provided for each person who may need to wear respiratory protection on the job.

- The Subcontractor shall review with the NYCSSM the procedures for the handling, storage and maintenance of respiratory protective equipment to be used on-site, including the process for reporting and repairing or replacing defective equipment and the locations where respiratory equipment will be stored.

- Subcontractors will provide employees with adequate respiratory protection as required by each task. At no time may disposable dust masks be considered adequate respiratory protection.

- A respirator of lesser protection than is required for the task/activity may not be used, unless sufficient full-shift personal air monitoring of a representative "worst-case" situation has been conducted and approval has been obtained by the NYCSSM to support a downgrade in respiratory protection.

- Each employee will change his/her respirator filter at the end of each work shift. The Subcontractor will provide an adequate supply of approved filters for daily replacement for each employee's respirator.

- Each Subcontractor will ensure the adequacy of respiratory protection for his employees based upon the verified results of personal air sampling. Downgrades may only be enacted with the permission of the NYCSSM.

- If at any time air sampling data indicates airborne exposures exceeding one-half the OSHA Permissible Exposure Limit, all affected employees' respiratory protection will be upgraded.

#### *2.6.1.1 Respirator Testing*

Each individual who must wear a respirator will be required to be clean-shaven where the sealing areas of the respirator face piece contacts the face. Each respirator user will be respirator fit-tested in accordance with 29 CFR 1910.134 at least annually. Upon donning the respiratory device or before entering any restricted work area, each respirator wearer will be required to perform a

manual negative and positive-pressure test. Subcontractor employees who fail the negative/positive pressure test because they are not clean shaven will be required to leave site for the day or to shave on-site immediately preceding entry into the work area.

#### *2.6.1.2 Respirator Inspection, Sanitization, and Maintenance*

All respirators will be cleaned, sanitized, inspected, assembled, and maintained ready for use on a daily basis. Each respirator will be stored in a clean and sanitary container. Prior to use, the wearer will inspect the respirator, including the valves, valve covers, nosepiece, straps, eyepiece (for full-face respirators), face piece and its snaps, cylinders, and canisters to insure that the respirator can be worn. The Subcontractor will provide initial training concerning the use of respirator equipment, but each employee will be responsible for cleaning, inspecting, maintaining, sanitizing, and storage of his/her respirator equipment.

If a respirator becomes chemically contaminated or malfunctions, the respirator will be replaced by the employer with a clean and sanitized respirator, and the contaminated/defective respirator shall be decontaminated and repaired before reuse, or tagged "out of service" and disposed of. The respirator wearer shall inspect the replacement respirator for defective parts and leaks and will be fit tested if the replacement respirator is of a different make, model or size than the original.

### 2.6.2 Medical Response Equipment

The following medical response equipment shall be available on-site for the duration of the site activities. The locations of these equipment stations shall be determined at the site and incorporated into this HASP upon initiation of each task. The NYCSSM shall maintain responsibility for the incorporation of this information into this HASP.

- Eyewash Stations: The location of emergency eyewash stations shall be determined. Each station shall provide a continuous spray of a rate of 0.4 gallons per minute for at least 15 minutes. This station shall be inspected daily to ensure proper operation.

- First Aid Kits: The locations of fixed and/or portable kits shall be determined. As a general guideline, each Subcontractor shall provide, at minimum, one first aid kit for every 20 employees and shall station it within the work area (for Level D operations) or directly outside the decontamination area (contaminant reduction zone) (for Level C operations).

The locations of eyewashes and first aid kits and the procedures for using and reporting an incident shall be presented during the initial on-site training. The NYCSSM shall make all personnel aware of the locations and use of this equipment prior to engaging in site work activities.

## 2.7 AIR MONITORING PLAN

The Environmental Consultant shall perform area air monitoring during the Phase I activities to evaluate exposures to asbestos in the work area and outside of the work area. The evaluation of these sampling results shall assist in determining the effectiveness of control measures, requirements for upgrading or downgrading PPE, and the effectiveness of safe work practices. The other subcontractors shall be responsible for performing appropriate OSHA personal air monitoring as specified in Section 2.7.3.

Monitoring shall be conducted using high flow air sampling pumps and a 25-mm cellulose ester membrane filter with a conductive cowl. All samples shall be analyzed using NIOSH analytical Method 7400 which uses Phase Contrast Microscopy (PCM) and is consistent with the OSHA Reference Method presented in Appendix A to 29 CFR 1926.1101. These methods present similar procedures for sample collection and sample analysis using PCM. The results of the sampling shall be evaluated with respect to the OSHA PEL of 0.1 fibers per cubic centimeter of air (f/cc). In the event that a lower criterion is identified, the Environmental Consultant shall collect the samples according to the NIOSH method 7402, which involves analysis of samples using Transmission Electron Microscopy (TEM).

### 2.7.1 ACBM Abatement Sampling

The Environmental Consultant shall perform background samples, both inside and outside the abatement area, prior to the start of Phase IA work activities; perform Project Monitoring and Air Sampling and clearance air sampling upon the completion of each abatement containment area as required per NYSDOL and NYCDEP regulations.

### 2.7.2 Waste- Out Area Air Sampling

The Environmental Consultant shall also perform area air sampling during the Phase I operations near the waste-out to evaluate the concentrations of asbestos in the air. The air sampling and analysis shall be performed as described in Section 2.7. Area samples shall be collected at the following locations:

- Dumpster staging area and where the removed materials are deposited. These samples shall confirm the proper material handling procedures are followed.
- Base of the elevator shaft where the material shall be dumped as it is removed from each floor.

### 2.7.3 Personnel Monitoring

Each Subcontractor shall perform personnel air sampling for the following contaminants during Phase I of the project: particulates as TSP, metals as TSP, asbestos, PAHs, D/Fs, PCBs, mercury, lead and silica. Additionally, daily personnel sampling for lead shall be performed during all cutting and torching operations as required by 29 CFR 1926.62(d)(2)(iv). The results of personnel monitoring will be reviewed on a daily basis by the Subcontractor Safety Officer and the NYCSSM to determine if current levels of respiratory protection are adequate.

## 2.8 SITE CONTROL

Site control measures shall be implemented to protect the public and personnel working on-site. The aspects of site control shall address:

- General access to the site;
- Access on the upper floors during the cleaning, soft removal and hard removal operations; and
- Access to the building and site during the deconstruction phase.

Fences, guardrails and access devices, including ladders, stairways, and walking surfaces shall be provided and maintained throughout the project activities in accordance with 29 CFR 1926. In addition, barricades, warning signs and devices, temporary lighting and other safety measures shall be provided, as required, to protect site personnel.

All visitors to the site shall report first to the Contractor field office. Visitor access shall be limited to the Support Zone and Level D operation areas only, and shall be allowed only with the prior consent of the NYCSSM and the Contractor Site Manager. No visitor shall enter a work area unescorted by a Subcontractor or Contractor representative. The presence of any regulatory agency on-site shall be reported immediately to the Contractor Site Manager.

### 2.8.1 Work Zones

Entry into the work zones begins once a person comes on-site. This approach reflects the dynamic nature of the operations and the need for everyone to be aware of the conditions while on-site. Using the concept of three zones for the site, the following areas are identified on each individual floor:

- Support Zone – This area starts at the project/property fence line and extends to the entry to where personnel enter the building to complete the work tasks. This area includes the ground outside of the building and any office spaces. In this area all personnel shall wear Level D PPE. Within this area exclusion zones may be established depending on the operations, for example: where material handling is performed, where hoisting equipment is located or where equipment is staged.

- Contamination Reduction Zone (CRZ) – This area shall be located at the pre-existing Personnel and Waste Decontamination Facilities located in Cellar "A" and the 1st floor will be utilized for the duration of this project. The CRZ shall exist until the completion of Phase I activities.

  Personnel shall be aware of and follow all site control procedures with respect to entering and exiting the CRZ, to ensure that they are not exposed to contaminants and to minimize the potential for contamination of personnel and the spread of contamination outside the Exclusion Zone (EZ). These measures include having personnel follow the proper procedures for donning and doffing PPE and washing in the CRZ. The measures also address the decontamination procedures for use when moving equipment between zones.

  The CRZ shall consist of an area to drop off equipment, plastic bags to dispose of protective clothing, adequate soap and water for personnel and equipment decontamination and a means of capturing wash water generated during decontamination. The CRZ shall also have a first-aid kit, fire blanket and fire extinguisher (20-lb ABC-type).

- Exclusion Zone (EZ) – This area extends from the side of the CRZ facing the building and includes all areas on each floor of the building. This definition of the EZ shall remain effective until Phase I activity on each floor is completed. No employee shall enter the Exclusion Zone without the required training and PPE. No employee shall eat, drink, chew gum, apply cosmetics, smoke or use other tobacco products while in the Exclusion Zone. The employee must first exit the Exclusion Zone and follow decontamination procedures (Section 2.8.2.1) in the CRZ before engaging in any of the above actions. In the event that an employee in the EZ requires a replacement or his/her protective suit or respirator filters, the employee shall exit the EZ and utilize proper decontamination procedures in the CRZ, replace or repair the defective PPE, then re-enter the EZ.

### 2.8.2 Personnel and Equipment Decontamination

When exiting the EZ, personnel shall be aware of and follow the procedures used to decontaminate personnel, equipment, and sampling containers. Subcontractors shall ensure that their employees follow proper decontamination and waste disposal procedures. Disposal of PPE and other items shall be performed in accordance with Section 3 of this HASP, with material placed in appropriately sized and labeled containers. Specific decontamination procedures are presented in the following subsections.

#### *2.8.2.1 Personnel Decontamination Procedure*

Personnel entering containment are required to follow proper decontamination procedures. All employees who leave the Exclusion Zone shall follow the decontamination process as outlined below.

All employees shall remove all gross contamination and debris from disposal protective clothing and equipment by vacuuming prior to leaving the EZ. All employees must be HEPA vacuumed before entering the elevator that leads to the CRZ. Upon entering the CRZ, each employee shall remove the first layer of protective clothing and place it in the appropriate container. If the employee performs duties and becomes "grossly contaminated", the decontamination procedure will include an Alconox (soapy) wash and a tap water rinse of the outer suit, gloves and overboots prior to removal of the outer layer.

After employees remove the first layer of tyvek and gloves, they shall then move into a second decon area where the second tyvek and gloves shall be removed and placed in the appropriate waste container. After this decontamination, personnel shall proceed to a washing facility to wash their hair, arms, neck, hands, and faces before removing respiratory protection. As per regulations, Abatement Subcontractor employees need to take full showers. The employee shall dispose of used filters at the end of each day and all protective clothing/respirator cartridges shall be disposed of as asbestos contaminated waste.

#### *2.8.2.2 Equipment Decontamination Procedure*

Since equipment decontamination is difficult, unnecessary equipment shall not be brought into the controlled areas. All materials used in the regulated area shall be properly HEPA vacuumed and wet-wiped before leaving the first decontamination zone. All equipment that becomes "grossly contaminated", the decontamination procedure will involve and Alconox wash and tap rinse. All vehicles shall be decontaminated in accordance by this process prior to leaving the Contaminant Reduction Zone.

### 2.8.3 Safety Meetings

A safety meeting shall be held each day with the Contractor and each Subcontractor prior to initiating the scheduled activities and at the beginning of each day. The topics and content for the Safety Meeting shall be prepared in advance by the NYCSSM with input from the Subcontractors. The safety meeting shall review elements in the site HASP and the procedures for working on-site, and address the impacts of changes to the site conditions. Topics to be addressed include:

- Use and maintenance of PPE
- Evacuation routes;
- Warning signals;
- Maintaining line-of-sight and communications;
- Rehearsal of scheduled activities;
- Hospital routes;
- Locations of safety equipment;
- Previous violations of the safety plan and procedures or changes to the program to correct the violation;
- Anticipated hazards for the day's work activities;
- Any changes to the requirements for levels of PPE;
- The locations of work zones; and
- General site conditions.

All safety meetings shall be documented in the site H&S logbook. Meeting participants shall sign an attendance sheet.

## 2.9 TRAINING PLAN

All personnel directly involved in the project site activities shall be trained for the tasks they will perform, as required by applicable federal/state/local regulations. Refresher training will be performed at least yearly. In addition, all site personnel shall participate in site-specific training and participation of personnel in training shall be documented, with proof of training maintained on-site. The topics of training required are dependent on the SOW. This training shall be administrated by the Contractor, the Subcontractor, or certified training facilities.

### 2.9.1 Health and Safety Awareness Training

Each Subcontractor shall be responsible for presenting and discussing the elements of this HASP with their personnel and subcontractors, and ensuring that personnel follow the elements of this HASP when working on-site. Prior to the start of work activities, or whenever a new hazard is introduced into the work area, employees shall be provided with the information indicated below. The NYCSSM shall be available to address any questions or assist in the presentation of the HASP information to project employees. Information to be addressed during this training shall include, but not be limited to:

- Hazardous chemicals present at the work site and their associated health risks.
- Potential physical hazards associated with the work activities, and proper safe working practices.
- Proper use of all tools and equipment to complete the SOW activities.
- Requirements of the site Hazard Communication Program, including the labeling of containers.
- Site alarm system, emergency response procedures, and location of emergency lay down area.
- Proper PPE to be used during work activities.

- Location of the MSDS files.
- How to reduce or prevent exposure to hazardous chemicals through the use of controls procedures, work practices, and personal protective equipment.

### 2.9.2 Asbestos Training

ACBM was determined to be in several building components per the Berger "Initial Building Characterization Study Report" and as verified by TRC. Personnel entering containment shall be trained to identify ACBM and the hazards associated with asbestos in accordance with the OSHA Asbestos Standards (29 CFR 1910.1001 and 29 CFR 1926.1101) and state/local certification requirements. This training provides personnel with a better understanding of asbestos and the steps to be taken to protect themselves and the public. In areas that ACBM was identified, required NYSDOL and NYCDEP procedures shall be followed.

### 2.9.3 Personal Protective Equipment Training

Each Subcontractor shall provide training concerning the use of PPE to their personnel, as specified by this plan, to address the general PPE requirements and any specific requirements for PPE they may use, such as fall protection. The NYCSSM can assist with this training, and any concerns regarding the use of appropriate PPE shall be brought the attention of the NYCSSM. Further discussion of the types of PPE is presented in Subsection 2.3 of this HASP.

### 2.9.4 Emergency Response Training

Emergency response training, in accordance with the Emergency Action Plan, shall be provided to all on-site-personnel as part of the site-specific safety and health awareness training. The emergency response training shall be conducted by each Subcontractor's Safety Officer for his/her respective employees. At a minimum, the topics of this training shall include the following:

- Location of all site emergency equipment
- Response procedures for fires

- Response procedures for injuries and accidents
- On-site/off-site response resources
- Emergency site operations shut down procedures
- On-site "Chain of Command"
- Designated on-site emergency meeting location
- Recognition of evacuation signals and alarms

Further discussion of the site emergency response procedures is presented in Subsection 2.13 of this HASP.

### 2.9.5 Visitor Training

Site visitors are defined as persons who are not employed at the project site, who do not routinely enter restricted work areas, or whose presence is of short duration (i.e., one to two days per month). During Phase I, all visitors entering the EZ must provide proof of an up-to-date fit-testing and medical clearance, and completion of 2-hour asbestos awareness training or other asbestos certifications required for the employee's SOW. In addition each visitor will receive site-specific training by the NYCSSM or AM that includes:

- Location and description of potential hazards and risks
- Required PPE
- Areas of the site that may be closed to visitors
- The site evacuation plan and emergency procedures
- Other topics as deemed appropriate by the NYCSSM

## 2.10 HAZARD COMMUNICATION

The Contractor and Subcontractors shall notify the NYCSSM of any hazardous products prior to bringing the chemical on site and shall provide a MSDS for each product. These MSDSs shall be maintained by the NYCSSM and shall be kept in a site master file. In addition, each Subcontractor shall maintain a copy of the MSDS for each product that they bring on-site.

The Subcontractor shall review with the NYCSSM the procedures for handling, using and storing the chemicals brought on-site, and shall review with their personnel the proper procedures for handling, using and storing the chemicals before the product is used on-site. This includes but is not limited to all commercial products brought on-site by Subcontractors, including commercial cleansers, degreasers, lubricants and paints.

### 2.10.1 Container Labels

All containers of hazardous materials shall be labeled in accordance with appropriate standards. The labels on containers provided by the manufacturer, importer, or distributor shall be used. Labels affixed to containers of hazardous materials shall:

- Identify the material using a name with which workers are familiar.
- Identify the hazards associated with the material, including toxicity information that indicates symptoms and target organs.
- Identify the name, address, and telephone number of the manufacturer, importer, or distributor where more information may be obtained.

Labels shall not conflict with Hazardous Materials Transportation Act (HMTA) labeling requirements and shall meet the requirements of OSHA substance-specific health standards, where required.

Labels are not required on portable containers filled from a correctly labeled container if the worker uses the material from that container only during that work shift. However, the subcontractor shall prepare a container label when the contents of the container are not used on the shift during which the container was filled and when the container label is defaced or illegible. The prepared temporary label shall indicate pertinent chemical identification and health information as required by OSHA.

### 2.10.2 Material Safety Data Sheets (MSDSs)

All MSDSs shall be maintained by the NYCSSM and shall be kept in a site master file. In addition, each Subcontractor shall maintain a copy of the MSDS for each product that they bring on-site. Each Subcontractor shall also retain a log of MSDSs for chemicals used on this project and this log shall be kept on-site. The location of the MSDS folder shall be made known to all project employees.

Each Subcontractor shall review incoming MSDSs for new or significant health and safety information and shall ensure that any new information communicated to affected employees, the NYCSSM and other contractors. If an MSDS is not received at the time of initial shipment of materials, the material may not be used until the MSDS has been obtained from the manufacturer.

Employees shall be instructed to notify their Site Manager if an MSDS is not available. When a revised MSDS is received, the Site Manager shall immediately replace the old MSDS. Subcontractors shall insure that the MSDSs on file for their chemicals are current (updated within last two years).

## 2.11 ACCIDENT PREVENTION & INVESTIGATION

A vital element of maintaining safe work practices is accident prevention. The following four actions are instrumental to accident prevention, and shall be communicated to all project personnel:

- Eliminate unsafe conditions. Efforts shall be initiated and implemented throughout the project to identify conditions that can contribute to an accident, and to remove exposure to these conditions. Each Subcontractor Safety Officer shall audit the work area prior to each shift to identify and correct any unsafe conditions.
- Reduce unsafe acts. Personnel shall make a conscious effort to work safely. A high degree of safety awareness shall be maintained so that safety factors are an integral part

of each task. Daily safety briefings shall be designed to heighten general safety awareness and will be tailored to the individual audiences and tasks each day.

- Inspect frequently. Regular safety inspections of the work site, material, equipment, and operations by qualified persons (i.e., NYCSSM) shall be performed to ensure early detection of unsafe conditions. Safety and health deficiencies shall be corrected as soon as possible, or site activities shall be suspended. All inspections shall be documented and the records retained by the Subcontractor for, at a minimum, the duration of the project. Copies of the inspection reports shall be provided to the NYCSSM or Contractor Project Manager upon request,
- Educate personnel concerning the requirements of the HASP. The HASP and all site health and safety education shall be provided by each Subcontractor and the NYCSSM.

All minor accidents (i.e., small fires, injuries, and near misses) shall be investigated by the Subcontractor Site Manager or Safety Officer and communicated to the NYCSSM immediately when reported to the Subcontractor. The Contractor should also be contacted as soon as possible. An accident investigation shall include reviewing the accident/incident report, questioning the injured employee(s) as well as other personnel witnessing the occurrence, identifying all contributing acts and conditions, determining underlying reasons for their existence or occurrence, and implementing corrective actions. A report documenting the investigation shall be written and forwarded by the Subcontractor to the NYCSSM and the Contractor Project Manager. Recommendations for accident prevention shall also be made in the report and communicated to all site personnel during periodic safety briefings and training sessions.

## 2.12 MEDICAL SURVEILLANCE PLAN

Any persons involved in Phase I, activities shall be enrolled in an asbestos medical monitoring program prior to working on-site. This requirement ensures that personnel are protected from ACBM that has been identified. In the event that air sampling confirms the presence of air-borne asbestos and workers are exposed to asbestos levels above the OSHA PEL, then guidance concerning the requirements for annual medical examinations shall be provided by the NYCSSM.

The "Initial Building Characterization Study Report", dated September 14, 2004, and published by The Louis Berger Group, Inc. shows elevated levels of lead; therefore, all employees shall also take part in biological monitoring for lead in accordance with 29 CFR 1926.62. This includes baseline blood work within 48 hours of the start of exposure and every 2 months for the first 6 months of exposures over the action level for more than 30 days per year. After the first 6 months, the blood levels should be checked every 6 months. This shall insure that the levels of respiratory protection used by employees properly protect them from lead exposure.

In addition, medical monitoring will be conducted for any COPCs that have an OSHA standard.

### 2.12.1 Respiratory Protection

All personnel having to wear a respirator must have a medical examination as required by 29 CFR 1910.134 to determine fitness to use respiratory protective equipment prior to initiation of work activities. Documentation indicating medical clearance for respirator use must be provided to the Administrative Monitor by each Subcontractor prior to entrance into the work area, should respirator use be required by that employee. Each Subcontractor shall maintain a written Respiratory Protection Program developed by a Competent Person as required by 29 CRF 1926.103.

### 2.12.2 Hearing Conservation

All personnel exposed to noise levels above 85 dBA must have a baseline audiometric evaluation in accordance with 29 CFR 1926.62. Personnel shall receive awareness training concerning the hazards of noise and the procedures to properly use and maintain hearing protection. If any Subcontractor exposes his employees the noise levels above 85 dBA, the Subcontractor must establish a written Hearing Conservation Program developed by a Competent person as required by 29 CFR 1926.101.

### 2.12.3 First Aid

On-site First Aid/CPR support shall be provided by the NYCSSM. Additionally, each Subcontractor shall have on-site at least one person who has current training in first aid and CPR.

### 2.12.4 Medical Emergency and Personal Injury

The first worker who notices that a medical emergency or personal injury has occurred shall immediately make a subjective decision as to whether the emergency is life threatening and/or otherwise serious.

Life-Threatening and/or Otherwise Serious Incident

If a life-threatening incident occurs, those persons recognizing the situation should do whatever actions in their capabilities to reduce the threat and then the NYCSSM shall be contacted. The NYCSSM shall immediately notify the Emergency Medical Services (EMS) and implement emergency action procedures to have someone meet and guide EMS to the incident location. The Contractor shall be notified of the incident as early as possible.

The NYCSSM shall be kept apprised of the situation and the location of the victim(s). As the NYCSSM proceeds to the accident scene, communications channels shall be opened and kept on standby until the NYCSSM has surveyed the scene and performed a primary survey of the victim.

The NYCSSM shall provide emergency action guidance consistent with the injury and shall relay the appropriate information to the site person meeting the EMS.

Depending on the nature of the injury and the location at which the injury occurred, the NYCSSM shall determine whether the person can be moved or whether the EMS team will need to come into the work area to assist the victim. Should the victim be injured in the Exclusion Zone, all appropriate life-saving methods shall be exercised in that area before attempting decontamination of the victim. The extent of emergency decontamination performed shall depend on the severity of the injury or illness and the nature of the contamination. If the emergency is such that emergency decontamination cannot be performed safely, the victim shall be given necessary first-aid treatment

and wrapped in a blanket prior to transportation by EMS. If heat stress is a factor in a victim's injury/illness, all protective clothing shall be removed from the victim immediately.

Non-Life-Threatening Incident

Should it be determined that no threat to life is present, a co-worker will assist the injured person and contact the NYCSSM as soon as reasonably possible. The NYCSSM shall notify the Contractor of the incident. Should the victim be injured in the Exclusion Zone, a rapid decontamination consisting of Tyvek, glove and respirator removal shall be performed in the Contamination Reduction Zone prior to initiation of medical assistance. For all non-life-threatening injuries, all medical assistance shall be provided in the Support Zone to reduce the spread of contamination to medical personnel or equipment.

### 2.12.5 Bloodborne Pathogens

When an emergency occurs that involves the potential for contact with bodily fluids, personnel shall use procedures and PPE that minimize the potential for exposure.

All personnel who provided direct support to an injured person shall participate in a post-incident exposure review during which their role in the event and the potential for contact with bodily fluids shall be evaluated. The information relating to exposure shall be documented for each individual. The procedures for the post-exposure consultation identified in the OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030) shall be followed.

All personnel on-site shall receive awareness training concerning Bloodborne Pathogens (BBP) and the procedures to be followed to respond to emergencies that occur on-site. This awareness training shall be provided by each Subcontractor prior to the initiation of work activities and when new employees are introduced to the Site. In addition, each Subcontractor must have a BBP plan.

## 3.0 DOCUMENTATION

Each Subcontractor shall maintain documentation, as established by the Contractor, which shall record, at a minimum, the following information:

- The Subcontractor employees on Site, including arrival and departure times and their destination at the Site.
- Information required to be maintained by the OSHA respiratory protection standard, including medical clearance documents, training and certification records, fit-test records, and the results of personal air monitoring used to determine employee exposures. Additionally, all medical and sampling documentation required by OSHA's Lead in Construction standard must be maintained.
- Area air testing results
- Incidents and unusual activities that occur at the Site, including but not limited to injuries, illnesses, accidents, spills, breaches of security, equipment failures, weather-related problems and near-misses.
- Records of daily safety briefings, including attendance documentation for all employees required to attend.
- Records of health and safety inspections by governmental agencies.
- Records of corrective actions performed in response to any deficiencies noted through government agency inspection or by the NYCSSM.