SECTION 02089 – ENVIRONMENTAL REMEDIATION

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. This section includes the precautions and disposal and\or recycling procedures to be followed to remediate the Building's lamps, light fixture ballasts containing polychlorinated bi-phenyls (PCBs) or DEHP, mercury lamps and switches, batteries, fire extinguishers, Halon fire suppression systems, paint, refrigerants, and other compressed gases, mechanical fluids, oils, lubricants, diesel fuel, petroleum product impacted concrete and other various chemicals present onsite. The Contractor shall properly remove, containerize, package, transport, recycle, dispose and manage all hazardous and regulated materials according to applicable local, state and federal regulations and these Specifications, prior to deconstruction of the building. PCB-containing equipment (e.g., oil-filled switches, capacitors) if identified, shall be addressed per the requirements of Section 02091.

1.2 SUBMITTALS

A. Name, address, and US-EPA and NYS-DEC permits or licenses (as appropriate), of:
   1. Recycle subcontractor.
   2. Waste transporter/hauler.
   3. Recipient landfill, recycling firm, or incinerator site.
   4. Certificates of Discontinuance for all equipment and fixtures.

B. Work Plan: Provide a detailed written work plan that describes the procedures for the removal, packaging, loading, transportation, and off-site disposal of the regulated and/or hazardous building materials described in the LMDC Deconstruction Plan Section 1 - Waste Sampling and Management Plan dated June 13, 2005. The work plan, at a minimum shall include:
   1. Proposed level of worker training for each type of regulated and/or hazardous material to be removed.
   2. Names and applicable licenses of key personnel.
   3. Proof of appropriate training for workers.
   4. Proof of a current medical surveillance program for all personnel.
   5. Material Safety Data Sheets (MSDS) for any chemicals to be used on the project. All products to be used on this project must have MSDS approved by the Owner's Environmental Consultant.
   6. Proposed Detailed Work Schedule.

C. Following final removal, and disposal or destruction, provide Owner with waste transport and disposal documents (e.g., manifests), as well as certificates of destruction and recycling as appropriate.

1.3 CODES AND REGULATIONS

A. 40 CFR 112 (oil pollution prevention)

B. 40 CFR 279 (used oil)

C. 40 CFR 273 (Universal Wastes)

D. 40 CFR 761 (PCBs)

E. 40 CFR Part 82 (Protection of Stratospheric Ozone)

F. 49 CFR 172

G. Toxic Substances Control Act (TSCA), US-EPA

H. Resource Conservation and Recovery Act (RCRA)

I. Title 6 of New York Code Rules and Regulations (6 NYCRR)

J. NYSDEC Universal Waste Regulations (Title 6 NYCRR Part 374).

PART 2 - PRODUCTS

2.1 GENERAL

A. 35 or 55-gallon metal or fiber drums, with lids that can be secured and sealed.

B. Appropriate waste labels identifying contents as regulated and hazardous wastes as defined by 49 CFR 172.

C. Fluorescent Lamp Disposal (Crusher) units, such as DexTrite Fluorescent® Lamp Disposal equipment, or equivalent. Such equipment must be capable of capturing fugitive mercury vapors during the bulb crushing process, as well as the fractured and broken waste products.

D. HEPA and charcoal filter equipped mercury capture vacuum.

E. Cardboard boxes and sleeves for packaging lamps that will be removed from the site intact or unbroken.

F. Recovery tanks to temporarily hold compressed gasses.

PART 3 - EXECUTION

3.1 GENERAL: Procedures and methods contained herein are to provide guidance to protect from the contamination of the environment, and exposure to workers, while handling hazardous waste and regulated waste-streams for disposal/recycling/destruction. Contractor shall perform all work in compliance with the LMDC Deconstruction Plan, dated June 13, 2005 including but not limited to the Waste Sampling and Management Plan, Asbestos and COPC Abatement and Removal Plan and Health and Safety Plan (HASP).

3.2 PHASING OF WORK: The Contractor shall perform and complete the hazardous material removal activities prior to Phase II Structural Deconstruction. As all building areas are considered contaminated and must be treated as asbestos as a minimum, Contractor shall perform hazardous and regulated material removal in coordination with asbestos and COPC removal operations. The project will require that the Contractor prepare and sign required manifests and/or shipping papers and shall obtain, an EPA Identification Number for the Site. Hazardous and regulated waste generated at 130 Liberty during the Deconstruction will list LMDC as the generator.

3.3 OWNER TO STOP WORK: The Owner's representative and the Owner's Environmental Consultant shall have the authority to stop the work at any time that conditions are not within Specification and/or applicable regulations. The stoppage of work shall continue until conditions have been corrected to the satisfaction of the Owner's representative or Owner's Environmental Consultant. Standby time to resolve the problems shall be at the Contractor's expense.

3.4 WORK SUPERVISION AND COORDINATION

A. Contractor’s Supervisor: From the start of work through to the project completion the Contractor shall have on-site a responsible and competent supervisor. The Supervisor shall be on-site during all working hours. When the Supervisor must leave site during work, all work must cease unless a replacement Supervisor is present.

B. Quality of Work: The Supervisor shall supervise, inspect and direct the Work competently and efficiently, devoting such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. The Supervisor shall be responsible to see that Work complies accurately with the Contract Documents, and that all Work is of good quality and workmanship.

3.5 PERSONAL PROTECTIVE EQUIPMENT

A. Contractor shall comply with the LMDC Deconstruction Plan HASP requirements. In addition personal protective equipment shall consist of (at a minimum) safety goggles or other protective eye-ware, work shoes with non-slip soles (e.g., neoprene), chemical resistant gloves that cover the hand and an apron that covers the front of the worker's body from shoulder to toes (e.g., neoprene or nitrile gloves).

B. Personal protective equipment contaminated by handling operations should be disposed of as contaminated waste.

C. Hammering or sudden impact methods for removing ballast's from the light fixture shall not be employed, as such methods may cause leakage in an otherwise non-leaking ballast.

D. Throwing and tossing of ballast's into disposal drums shall not be conducted, as such activities may cause leakage in an otherwise non-leaking ballast.

3.6 WORK PROCEDURES

A. Contractor shall obtain a hazardous waste generator number from Region II, USEPA for the Owner.

B. During the light fixture removal stage during demolition, the following procedures (or equivalent alternate but protective measures) shall be followed:

1. Carefully remove fixtures, and stack them in a designated portion of the work area.

2. Designate an area where the fixtures can be disassembled, and components removed and segregated (e.g., lamps, ballasts). The area should be remote from other demolition activities, and have adequate ventilation and lighting.

3. The work area for fixture disassembly shall (at a minimum) have the floor lined with one layer of 6-mil fire-retardant polyethylene plastic to control accidental spills or breakage. The work area should have a table or other solid work platform to facilitate disassembly of the fixtures, and the protective plastic sheeting should cover the work table area and waste drums/lamp crushing/lamp repackaging equipment.

4. Carefully remove lamps from fixtures, and either crush them or repackage them for disposal.

5. In the event a lamp breaks, utilize the mercury capture vacuum to remove all debris generated.

C. Cleaning of Concrete impacted by petroleum products including fuels, oils and hydraulic and lubricating fluids/greases shall be as follows:

1. Free liquids, residual contamination and surface staining consisting of fuel oil, hydraulic oil, waste oil, transmission fluid, transformer oil or other petroleum-based products shall be removed by the Contractor from concrete surfaces, including but not limited to floors and walls of cellar areas and elevator pits.

2. Prior to start of the concrete surface cleaning, the Contractor shall submit to the Engineer a Concrete Surface Cleaning Plan describing the manpower, methods and equipment to be used to complete the work. The Contractor shall be required to obtain the Engineer’s approval of the Concrete Surface Cleaning Plan prior to proceeding with the work.

3. Contractor shall perform the work in accordance with the Health and Safety Plan. Electrical utilities and mechanical equipment shall be locked out/tagged out by the Contractor prior to proceeding with the concrete surface cleaning.

4. Prior to start of the concrete surface cleaning the Contractor shall, to the satisfaction of the Owner, seal cracks, fill penetrations, furnish containment structures (e.g., booms, plastic sheeting), as necessary to prevent splash hazards and prevent migration of liquids and waste water to drains, sewer inlets, sumps, etc. The Contractor shall furnish equipment to contain and collect the waste water. Cleaning shall not begin until the Contractor has received the Owner's approval to proceed.

5. Free liquids shall be removed using approved absorbents and wet vacuums or alternate means if approved by the Engineer.

6. Manually scrape or HEPA vacuum and remove any dried product, dust, dirt, grime and other loose solids from the impacted area.

7. Scrub and swab the effected area with an industrial-strength detergent and rinse. Repeat.

8. Collect wash water rinsate in drums or soak up with absorbent pads.

9. After free liquids are removed, the Contractor shall power wash the concrete surfaces until visual surface contamination is removed. High-pressure hot water or steam cleaning equipment, limited to a maximum water usage rate of 2 gallons per minute and specifically designed for the intended application, supplemented by detergents as appropriate, shall be used. Splashback will be held to a minimum and the use of deflector shrouds or other means of control may be required for worker protection and/or liquid containment.

10. All concrete surfaces requiring cleaning shall be cleaned to a residual-free condition.

11. Concrete surfaces shall be prepared for the Owner's inspection after cleaning, by removing wash waters and drying the concrete surfaces. Additional cleaning shall be required, at no additional cost to the Owner, if the Engineer determines that based on inspection, surface contamination remains. Decontaminate tools and equipment.

12. Place used absorbent pads, pigs, soiled rags and PPE with no free liquids in two, sealed plastic bags. Label, manage and dispose as non-hazardous, solid waste in accordance with all applicable rules and regulations.

13. Place clean up materials with the potential to release liquids in drums. Label, manage and dispose in accordance with all applicable rules and regulations.

D. Carefully remove ballasts, and segregate for disposal in the following manner:

1. Ballasts labeled as "No-PCBs" shall **not** be segregated and shall be treated as PCB waste as potting material may contain PCBs. Handle and dispose of in the same manner as ballasts containing PCBs.

2. Non-leaking ballasts shall be segregated and drummed for disposal as hazardous wastes. These ballasts may be destroyed by high temperature incineration, or land filled at a properly permitted facility.

3. Leaking ballast shall be segregated and drummed. Punctures or damage to these ballasts exposes an oily or tar-like substance. These ballasts, and all materials it contacts, MUST be incinerated under TSCA; they cannot be land filled.

3.7 MISCELLANEOUS STORED MATERIALS IN CONTAINERS

A. Some of the miscellaneous materials include, antifreeze, cleaning solutions, paint, corrosion inhibitor, neutralizing acid, coolant, water treatment, oxidizer, joint compound, absorbent material and other miscellaneous materials.

B. During removing/recycling of materials enclosed in their original container, the Contractor shall package, and label (lab packed) by waste classification in accordance with appropriate RCRA, 6 NYCRR 372 and New York State Department of Transportation (NYS DOT). In turn these containers shall be transported, under proper manifesting procedures, to a recycling facility. The facility shall forward a certificate of recycling or disposal to the Contractor, who shall submit this information to the Owner.

3.8 UNIVERSAL WASTE

A. Universal waste includes batteries, thermostats and lamps as defined in 40 CFR 273 and 6 NYCRR 374-3. Follow procedures for handling, storage, labeling, shipping, recording keeping and other procedures as required in 40 CFR 273 and 6 NYCRR 374-3.

3.9 REGULATED WASTE

A. Non-thermostat mercury switches: Handle and dispose of in accordance with regulations found at 6 NYCRR and applicable federal regulations.

B. Used oil: Handle and dispose of in accordance with the regulations found at 6 NYCRR 374-2.

C. Refrigerants: Prior to disposal of refrigerant containing equipment, verify that refrigerant has been removed per the requirements of Section 02221-Building Demolition and 40 CFR Part 82 (Protection of Stratospheric Ozone).

D. Diesel fuel: If possible, use on site to run equipment. Dispose of or recycle any remaining fuel as per applicable regulations.

E. Fire extinguishers: Contact manufacturer for recycling or donate to local fire department.

F. Halon Fire Suppression System: For recovery and management of Halon, utilize a technician EPA certified in appropriate level for the system. Technician is to use an EPA-certified reclaimer for disposal.

G. Pressurized gas tanks/bottles (oxygen and propane): If possible, use on site to run equipment. Dispose of any remaining gas as per applicable regulations or contact vendor who can accept cylinders.

3.10 HAZARDOUS WASTE

A. Contractor is to follow procedures as if it were the generator in 6 NYCRR 372.

B. Contractor must comply with all other applicable Legal Requirements.

3.11 TRANSPORTATION

A. Transport waste materials using properly permitted vehicles operated by drivers with Commercial Drivers Licenses (CDLs) and Hazardous Materials endorsements. Coordinate transportation routes with New York City Department of Transportation (NYC DOT). Provide Owner with copies of transporter certifications and EPA ID number a minimum of seven (7) days prior to first use.

3.12 WASTE DISPOSAL DOCUMENTATION

A. Waste shipment records and manifests for all materials transported from the site as required by regulations and disposal facility are to be provided to the Owner every five (5) business days. Incorporate this information into the close out package to be provided to the Owner. Shipping records and manifests shall follow regulations in 6 NYCRR 372.

B. Within thirty (30) days of generation, Contractor shall provide waste manifests/shipment records to Owner.

C. Certificates of Discontinuance for all equipment and fixtures.

3.13 DISPOSAL FACILITIES

A. Contractor shall use only disposal facilities which have been pre-approved by LMDC and its insurers and with valid regulatory permits for type of waste being handled. Provide Owner with copies of disposal facility regulatory permits and EPA identification number a minimum of seven (7) days prior to shipping to that facility. Provide disposal facility required documentation including additional waste sampling. Contractor is to include in their bid costs for all documentation and additional sampling as required.

END OF SECTION 02089