**SECTION 02 87 00**

**REMOVAL AND DISPOSAL OF UNIVERSAL WASTE**

**PART 1 GENERAL**

1. **DESCRIPTION OF WORK**

A. This specification covers the removal and disposal of Universal Waste, including lamps such as fluorescent and high-intensity discharge (HID) lamps, mercury-containing equipment (MCE) such as thermostats and switches, batteries and pesticides (not PCB lighting ballasts) at XXX (Name of facility, building ID(s), address, DASNY project name and number).

Universal Wastes are regulated by the United States Environmental Protection Agency (EPA) under 40 CFR Part 273 and by New York State Department of Environmental Conservation (NYS DEC) under 6 NYCRR (New York Codes, Rules and Regulations) Part 374-3. The EPA regulation identifies Universal Waste that includes MCE and aerosol cans whereas the NYS DEC regulation addresses mercury thermostats only and does not include aerosol cans. Universal Waste was expanded to include MCE by NYS DEC’s Commissioner Policy CP-39, “Mercury-Containing Equipment” promulgated May 8, 2006. This CP-39 was issued to align with EPA’s inclusion of MCE. MCE shall be recycled as per current regulations, instead of disposed as Universal Waste. NYS DEC did not include aerosol cans as Universal Waste; therefore, aerosol cans are to be disposed of as hazardous waste. Demolition and removal of materials shall be as required to support the work.

B. The work shall include but not be limited to the removal of the following.

|  |  |  |
| --- | --- | --- |
| Building & Floor | Description of Material | Approximate Quantity(lbs/units) |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  | Total Quantity |  |

C. The Contractor shall be aware of all conditions of the Project and is responsible for verifying quantities and locations of all Work to be performed. Failure to do so shall not relieve the Contractor of its obligation to furnish all labor and materials necessary to perform the Work.

D. All Work shall be performed in strict accordance with the Project Documents and all governing codes, rules, and regulations. Where conflicts occur between the Project Documents and applicable codes, rules, and regulations, the more stringent shall apply.

E. Working hours shall be as required and approved by the Owner. Removal activities including, but not limited to, work area preparation, gross removal activities, cleaning activities, waste removal, etc. may need to be performed during ‘off-hours’ (including nights and weekends). In addition, multiple mobilizations may be required to perform the work identified in this project. The Contractor shall coordinate and schedule all Work with the facility and Owner’s representative.

1. **SUBMITTALS**
2. Pre-Work Submittals: Within seven (7) days prior to the pre-construction conference, the Contractor shall submit an electronic copy of the documents listed below to the DASNY Project Manager, the DASNY Code Compliance Unit and the Environmental Consultant for review and Code Compliance approval prior to the commencement of activities:
3. Training & Certifications

Certificate of on-site supervisor for completion of the OSHA 40-hour Health and Safety course for handling hazardous waste and spills, including most recent refresher training.

OSHA 8-hour supervisor training for hazardous waste.

List of the employees scheduled to perform this work and certificates of workers, for successful completion of the OSHA 40-Hour Health and Safety Course for Hazardous Waste and spills, including most recent refresher training.

Valid United States Department of Transportation (DOT) training for supervisor and all employees loading waste and maintaining on-site waste storage area. This training shall include: general awareness / familiarization training; function specific training; safety training; security awareness training; and in-depth security training.

Employees managing Universal Waste must also meet the Personnel training requirements of EPA 40 CFR Section 273.36. Provide proof of training for these employees.

1. Transportation & Disposal

Valid Universal Waste Transporter NYS Part 364 permit for all transporters.

Valid Universal Waste Transport vehicle permit for all transporters for each state the waste is being transported through to reach the Treatment, Storage and Disposal Facility (TSDF).

Valid DOT vehicle permit for Transporters.

Transfer Facility Permit (if used) including the name, address and EPA ID No. of the facility, contact person, and acknowledgement letter stating that the facility has the capacity and is permitted to accept the waste from the project site.

Final Disposal Facility permit including the name, address and EPA ID No. of the facility, contact person, and acknowledgement letter stating that the facility has the capacity and is permitted to accept the waste from the project site.

The TSDF permit(s) must identify the waste material(s) to be received.

Draft Waste Profile.

1. Site-specific

Safety Data Sheet (SDS) for all materials to be removed.

If the Contractor introduces any chemical into the work environment, a SDS for each chemical must be presented to the Owner's Representative for review and approval prior to use.

Progress Schedule:

Show the complete sequencing of removal activities and the sequencing of Work within each building, wing or section of building.

Show the dates for the beginning and completion of each major element of Work including substantial completion dates for each Work Area, building or phase.

Project Plan: Provide a description of the methods, procedures and materials to be used in performing the work and handling all universal wastes. Also provide a schedule identifying specific work areas and duration. The schedules will be utilized to schedule facility and third-party environmental consultant requirements. Provide plans that indicate the following:

Include a sketch showing the location, size, and details of each universal waste generation work area, as well as location and details of the decontamination facilities. All Work Areas/containments shall be numbered sequentially.

Waste transport routes to the waste storage container and/or container storage area (CSA).

Type of removal activity/technique for each Work Area/containment.

The job specific plan for worker protection issues regarding personal protective equipment, the work procedures, and exposure assessment procedures.

Waste disposal plan (universal and non-hazardous waste).

Include in the plan, eating, drinking, and sanitary procedures, interface of trades and sequencing of universal waste generation.

Include site preparation and cleanup procedures.

Include plan for universal waste segregation and minimization.

Include occupational and environmental sampling (if any by the Contractor), frequency and duration of sampling.

Proposed location and construction of storage facilities and field office.

Health and Safety Plan information for material handling and emergency procedures.

CSA location details.

Contractor waste generation details (amount per day, per week or per quarter) in kgs or tons.

Waste types being generated.

Waste storage details (drums, containers, or dumpsters, types, with cover?).

Waste containment details. How is the waste being stored? (indoors or outdoors, is it being contained to prevent impact to adjoining spaces or environment?) Appropriate fire extinguisher(s) and spill kit included?.

Contractor emergency evacuation plan requirements and evacuation route for the project specific areas.

Duration of waste generation and contract.

Contractor, DASNY and Project team emergency contact numbers.

1. Do not start work until submittals are returned with the Owner’s Representative stamp indicating that the submittal is approved for unrestricted use.
2. On-Site & During Construction:

The following submittals, documentation, and postings shall be maintained on-site by the Contractor during abatement activities at a location approved by the Environmental Consultant:

1. Approved pre-work submittals.
2. Project Documents (specifications and drawings).
3. Applicable regulations.
4. Updated licenses/permits and acknowledgement letters for any changes in transporter or disposal site.
5. For each employee, current annual medical respiratory clearance.
6. For each employee, current satisfactory respiratory fit test results.
7. Contractor shall provide weekly update, including initial container storage dates for each container stored, an approximate estimate of amount of waste being generated during each work-day, week or month that it is stored on-site. The actual weight of the waste, excluding the weight of the dumpster, shall be identified.
8. Completed Waste Profile form(s).
9. List of emergency phone numbers.
10. Waste disposal log.
11. Daily Project Log.
12. Copy of Waste manifest/shipment record for each load of waste that is removed from site.
13. Copy of completed universal waste manifest/shipment record including legible transporter and disposal facility information, dates and times of waste shipment departures / arrivals, and signatures, for each load of waste, within 35 days of waste being removed from site.
14. The following documentation shall be maintained on-site by the Environmental Consultant during abatement activities:
15. Valid Environmental Consultant personnel OSHA, RCRA, and DOT training certifications.
16. Consultant Daily Log.
17. Listing of all visual inspections with the date of inspection and the date of signoff on the supervisor’s log.
18. Environmental Survey Report.
19. All applicable waste documentation, including but not limited to Universal Waste Manifest/shipment records, waste profiles, and disposal facility letter(s).

**1.03 DEFINITIONS**

1. Large Quantity Handler (LQH) of Universal Waste shall be a waste handler who accumulates 5,000 kilograms or more of Universal Waste at any time. This designation as a large quantity handler of Universal Waste is retained through the end of the calendar year in which 5,000 kilograms (11,000 pounds) or more total of Universal Waste is accumulated. The LQH shall notify the EPA, acquire or coordinate with a facility regarding an EPA identification number, and provide records for each shipment. The LQH shall ensure all employees are thoroughly familiar with proper waste handling and emergency procedures, relative to their responsibilities during normal facility operations and emergencies.
2. Small Quantity Handler of Universal Waste (SQH) shall be a waste handler who does not accumulate 5,000 kilograms (11,000 pounds) or more of total Universal Waste (batteries, pesticides, MCE, or lamps, calculated collectively) at any time.
3. Destination Facility shall be a facility that can legally accept Universal Waste from off-site so that the Universal Waste can be treated, disposed, or recycled in accordance with regulatory requirements.
4. Universal Waste Transporter shall be anyone who transports Universal Waste. In New York, Universal Waste Transporters that transport greater than 500 pounds of Universal Waste in a single shipment must be a permitted Universal Waste Transporter pursuant to Federal and State regulations. Proper notification with the receiving handler agreeing to receive the shipment is required by the Universal Waste Transporter.
5. Universal Waste consists of the following discarded materials, as identified in 40 CFR Part 273 and 6 NYCRR 374-3: Fluorescent light and high-intensity discharge (HID) lamps, mercury thermostats, batteries, and pesticides. CP-39 expanded thermostats to MCE as discussed in section 1.01 above. Removed or replaced MCE must be delivered to a designated mercury collection site as per current NYC DEC regulations. Disposal of MCE in a solid waste management facility is prohibited. PCB ballasts/capacitors from light fixtures shall not be treated as Universal Waste; they shall be handled and disposed of as hazardous waste. See the Hazardous Waste Disposal Specification for these wastes.
	1. **PROJECT SUPERVISOR**
6. The Contractor shall designate a full-time Project Supervisor who shall meet the following qualifications:
7. The Project Supervisor shall be trained in hazardous waste removal/generation procedures and hazardous waste management in NYS, via a 40-hour HAZWOPER and 8-hour Supervisor training course, as well as appropriate RCRA and DOT training.
8. The Project Supervisor shall have a minimum of one year experience as a supervisor.
9. The Project Supervisor must be able to read and write English fluently, as well as communicate in the primary language of the Workers.
10. If the Project Supervisor is not on-site at any time whatsoever, all Work shall be stopped. The Project Supervisor shall remain on-site until the Project is complete. The Project Supervisor cannot be removed from the Project without the written consent of the Owner and the Environmental Consultant. The Project Supervisor shall be removed from the Project if so requested by the Owner or DASNY.
11. The Project Supervisor shall maintain a bound Daily Project Log that includes the Waste Disposal Log required by section 4.03 of this specification.
12. The Project Supervisor shall be responsible for the performance of the Work and shall represent the Contractor in all respects at the Project site. The Supervisor shall be the Contractor primary point of contact for the Environmental Consultant.
13. As required by applicable regulations, prior to assignment to universal waste work, instruct each employee with regard to the hazards of the generated waste, safety and health precautions, and the use and requirements of protective clothing and equipment, as well as the Contractor emergency action plan.

**PART 2 - PRODUCTS**

1. **PROTECTIVE CLOTHING**

A. Provide personnel utilized during the Project with disposable protective whole body clothing, head coverings, and foot coverings. Provide appropriate disposable gloves, suitable to prevent skin contact, to protect hands.

B. Provide sufficient quantities of protective clothing to assure a minimum of four (4) complete disposable outfits per day for each individual generating or packaging Universal Waste.

C. Eye protection and hard hats shall be provided and made available for all personnel entering any Work Area.

D. Authorized visitors shall be provided with suitable protective clothing, headgear, eye protection, and footwear whenever they enter the Work Area.

1. **SIGNS AND LABELS, CONTAINERS**
2. Provide warning signs and barrier tapes at all approaches to Universal Waste generation Work Areas. Locate signs at such distance that personnel may read the sign and take the necessary protective steps required before entering the area.
3. Universal waste containers must be marked with the words that clearly indicate the type of waste in the container, for example, **“Universal waste – Batteries” or “Universal waste – Bulbs”** as per 40 CFR 273.13 and 273.34;



**2.03 DAILY PROJECT LOG**

A. Provide a Daily Project Log. The log shall contain on title page the DASNY Project name and number; name, address and phone number of Owner; name, address and phone number of Environmental Consultant; name, address and phone number of Abatement Contractor; and emergency numbers including, but not limited to local Fire/Rescue department.

B. All entries into the log shall be made in non-washable, permanent ink and such pen shall be strung to or otherwise attached to the log to prevent removal from the log-in area. Under no circumstances shall pencil entries be permitted.

C. The Project Supervisor shall document all Work performed daily and note all inspections.

1. **SCAFFOLDING AND LADDERS**

A. Provide all scaffolding and/or staging as necessary to accomplish the Work of this Contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding and ladders shall comply with all applicable OSHA construction industry standards.

B. Provide scaffolding and ladders as required by the Environmental Consultant for the purposes of performing required inspections.

1. **SHIPPING CONTAINERS AND PACKAGING**

A. Provide packaging in accordance with 49 CFR 173 Packaging Group 9, such as 30 or 55 gallon capacity fiber, plastic, or metal drums, Gaylord Boxes or other Intermediate Bulk Containers (IBCs), or non-siftable bulk containers. Affix universal waste caution labels on lids of drums, and opposite sides of drums or bulk containers, as well as the ends of bulk containers. Recovery or salvage drums must be acceptable for disposal of universal waste. Prior approval of drums is required. Drums or containers must meet the required OSHA, EPA (40 CFR Parts 260-264, 273 and 300), and DOT Regulations (49 CFR Parts 171-180). Use of damaged containers shall not be allowed.

1. **EQUIPMENT AND MATERIALS**

A. All dry vacuuming performed under this contract shall be performed with HEPA filter equipped industrial vacuums conforming to ANSI Z9.2.

B. All polyethylene (plastic) sheeting used on the Project (including but not limited to sheeting used for critical and isolation barriers, fixed objects, walls, floors, ceilings, waste container) shall be at least 6 mil fire retardant sheeting.

C. Absorbent Material: Clay, soil or any commercially available absorbent used for the purpose of absorbing hazardous or potentially hazardous materials.

**PART 3 EXECUTION**

1. **GENERATING UNIVERSAL WASTE**

Employee training shall ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relative to their responsibilities during normal operations and emergencies, as well as to the type of waste they are handling.

MCE shall be segregated from other Universal Wastes to allow for required recycling.

Battery Labels: The container(s) holding intact batteries shall be labeled or marked as “Universal Waste – Battery(ies)”, “Waste Battery(ies)”, or “Used Battery(ies)”.

Lamp Labels: The container(s) holding lamps shall be labeled or marked as “Universal Waste – Lamp(s)”, “Waste Lamp(s)”, or “Used Lamp(s)”.

MCE Labels: The container(s) holding MCE shall be labeled or marked as “Universal Waste – Mercury-Containing Equipment”, “Waste - Mercury-Containing Equipment”, or “Used Mercury-Containing Equipment”.

Mercury Thermostat Labels: The container(s) holding mercury thermostats only may be labeled or marked as “Universal Waste – Mercury Thermostat(s)”, “Waste Mercury Thermostat(s)”, or “Used Mercury Thermostat(s)”.

Pesticide Labels: The container(s) holding pesticides shall be labeled or marked as “Universal Waste – Pesticide(s)” or “Waste Pesticide(s)”.

Once the properly labeled containers holding the Universal Waste have been filled and sealed, they shall be stored in designated accumulation areas as agreed upon by the Owner’s Representative and Contractor. They shall not be stored in transportation vehicles, or on-site for more than one year from the date the waste storage was initiated.

Documentation when Universal Waste in storage was first accumulated shall be provided. This is to be done by dating and labeling the waste with the date of the earliest accumulation that can document the length of time the Universal Waste has been accumulated.

Maintenance of an inventory system on-site that identifies the earliest date that any Universal Waste in a group of Universal Waste items or a group of containers of Universal Waste became a waste was received.

Any waste developed from the work that exhibits one or more characteristics of hazardous waste, that are not specifically identified by EPA and NYS DEC as Universal Waste, must be handled accordingly and not as a Universal Waste. See the Hazardous Waste Disposal Specification section 02 86 00 for those wastes types.

**PART 4 DISPOSAL OF UNIVERSAL WASTE**

1. **TRANSPORTATION AND DISPOSAL**
2. The Contractor's Hauler and Disposal Facility shall be approved by the Owner. The Contractor is responsible for securing appropriate treatment or disposal for the generated universal waste streams at a permitted TSDF, if necessary, in compliance with all regulatory requirements, and for obtaining a copy of the waste manifest/shipping record and waste profile of the treated waste as executed by the TSDF.
3. The Contractor shall give at least 24 hour notification prior to removing any waste from the site. Waste shall be removed from the site only during normal working hours unless otherwise specified. No waste may be taken from the site unless the Contractor and Environmental Consultant are present, and the Environmental Consultant authorizes the release of the waste. The DOT-trained Environmental Consultant must be on-site for all universal waste shipment removals and will be responsible for inspection of the waste shipment as well as signoff on the universal waste manifest/shipping record on behalf of the owner and DASNY to allow the universal waste shipment to leave the site.
4. All universal waste generated as part of the project shall be removed from the site within ten (10) calendar days after successful completion of work. However, all disposal facility permits/licenses, waste profiles, hauler permit(s), and all other necessary paperwork must be submitted and approved by the Environmental Consultant before the universal waste is removed from the site. Waste stream samples, if required, shall be collected by the Environmental Consultant for TCLP analysis and the results utilized by the Contractor for waste stream characterization and disposal determination.
5. Upon arrival at the Project Site, the Hauler must possess and present to the Environmental Consultant a valid New York State Department of Environmental Conservation Part 364 Waste Hauler's Permit. The Environmental Consultant may verify the authenticity of the hauler's permit with the proper authority.
6. The Hauler, with the Contractor and the Environmental Consultant, shall inspect all material in the transport container prior to taking possession and signing the Universal Waste Manifest/shipping record.

**4.02 WASTE SHIPMENT STORAGE CONTAINERS**

1. All waste shipment storage containers shall be fully enclosed and lockable (i.e. enclosed dumpster, trailer, etc.).
2. The Environmental Consultant shall verify that the waste shipment storage container and/or truck tags (license plates) match that listed on the New York State Department of Environmental Conservation Part 364 permit. Any waste shipment storage container not listed on the permit shall be removed from the site immediately prior to storage of any material from the site.
3. Once on-site, it shall be kept locked at all times, except during load out. The waste shipment storage container shall not be used for storage of equipment or contractor supplies.
4. While on-site, the waste shipment storage container shall be labeled with Universal Waste Labels.
5. The waste shipment storage container is not permitted to be loaded unless it is properly plasticized, has the appropriate danger signage affixed.
6. The Owner may initiate random checks at the Disposal Site to ensure that the procedures outlined herein are complied with.
7. **WASTE MANIFEST/SHIPMENT RECORDS & DISPOSAL DOCUMENTATION**
8. A Universal Waste Manifest/Shipping Record (UWMSR) shall be utilized solely as the waste record documentation for transportation. A hauler billing form or bill of lading may be used if the hauler needs an independent record, but shall not be used as a shipping document.

1. The UWMSR, shall be completed by the Contractor and verified by the Environmental Consultant that all the information and amounts are accurate and the proper signatures are in place.
2. The UWMSR, if applicable, shall have the appropriate signatures of the Owner’s Representative (the Handler) and the Hauler representative prior to any waste being removed from the site.
3. Copies of the completed UWMSR, shall be retained by the Environmental Consultant and shall remain on-site for inspection.
4. The Contractor shall utilize the Waste Disposal Log provided by the Owner. This log shall be maintained by the Project Supervisor and shall be kept on-site at all times. (See Appendix A.)
5. Originals of all UWMSRs and disposal logs (copies are acceptable for electronic closeout submittal review) shall be submitted by the Contractor to the Owner with the final close-out documentation.
6. Payment for disposal of universal waste will not be made until a signed copy of the manifest/shipment record from the treatment or disposal facility certifying the amount of universal waste delivered is returned for each load of waste removed from site, the originals are furnished to the Owner, and copies provided to DASNY code compliance.
	* + - 1. Off-Site Shipment of Universal Waste

Off-Site shipments shall meet the requirements for off-site shipments and handlers / transporters are prohibited from sending or taking Universal Waste to a place other than a designated Universal Waste handler or a Universal Waste destination facility.

LQHs of Universal Waste must notify EPA in writing and develop an EPA identification number or coordinate with the facility regarding use of their EPA identification number, prior to exceeding 5,000 kilograms of Universal Waste on-site.

SQHs do not need to notify EPA, receive an EPA identification number or keep records of shipments of Universal Waste.

LQHs must keep a record of all Universal Waste shipments received or sent off-site and must retain those records for at least three (3) years from the date of receipt or shipment. Records may include invoices, manifest/shipment records, logs, bills of lading, or other shipping documents.

The Contractor shall provide certified copies of all receipts obtained from designated mercury recycling collection sites within 30 days of MCE acceptance by collection site.

The Contractor shall furnish all certified copies of manifest/shipment records (interim storage and final disposal) within regulatory requirements. Within 30 days from acceptance of the waste by the disposal facility, the Contractor shall provide the Owner with Certificate of Disposal documents, as a requirement for final payment.

END OF SECTION 02 87 00

APPENDIX A

WASTE DISPOSAL LOG

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| --- | --- |
| **DORMITORY AUTHORITY STATE OF NEW YORK** |  |
| **WASTE DISPOSAL LOG** |  |
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| **Facility: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |  |  |  | **Building: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |
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| **Universal Waste Contractor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |  |  | **Environmental Consultant: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |
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|  |  |  |  |  |  |  |  |  |  |  |  | **DATES (Chain of Events)** |  |
| **Load /Manifest No.** |  | **Hauler** |  | **NYSDEC #** |  | **License Plate No.** |  | **Size of Container** |  | **Disposal Facility** |  | **Departed from Site** |  | **Received at Disposal Site** |  | **Record Returned** |  |
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| **COMMENTS:** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |