

PART 1 - GENERAL

1.1 RELATED WORK

- A. Work related to this Section is described in:
 - 1. Section 01 11 01 "Summary of Work – Regulated Materials"
 - 2. Section 02 80 00 "Facility Remediation"
 - 3. Section 02 82 00 "Asbestos Removal"
 - 4. Section 02 83 00 "Heavy Metal Related Activities"
 - 5. Section 02 84 00 "Polychlorinated Biphenyl Remediation"
 - 6. Section 02 87 00 "Water Loss Response"
 - 7. Section 02 88 00 "Biological Contaminants"
 - 8. JOC Abatement Design Scope for this Work Order

1.2 DESCRIPTION

- A. This Section applies to activities that may generate waste water or rinsate, including, but not limited to, pressure washing exterior building surfaces (masonry, concrete, etc.) and abrasive blasting methods utilizing water as a removal media. This Section does not apply to waste water generated as part of water collection systems for decontamination showers for asbestos removal.
- B. Furnish all labor, materials, facilities, equipment, services, employee training and testing, necessary to perform the Work required for controlling, capturing, containerizing and disposing of rinsate during the Work. Work shall be performed in accordance with these Specifications, current federal, state and local regulations and UW EH&S protocols. UW EH&S protocols can be obtained at <https://www.ehs.washington.edu/fsodesignrev/h2o.pdf>.
 - 1. The Contractor is responsible for all costs associated with testing, engineering controls, decontamination and personal protection as part of this Work Order.
 - 2. The Owner or the Environmental Consultant will collect Toxicity Characteristic Leaching Procedure (TCLP), pH, and other samples of the representative waste stream as required by the King County Solid Waste Division for classification of the waste prior to disposal. There is a potential for exposure to cleaning solvents during the work. The Contractor is responsible for monitoring work activities and determining when work involves hazardous materials and conditions that require conformance with specified regulatory requirements. The site specific Health and Safety Plan required by this specification section is to address the pertinent health and safety issues associated with potential exposure to metals during the work.

C. General Requirements:

1. Contractor shall properly dispose of all wastes generated during removal and restoration activities.
2. All exterior surface cleaning and restoration activities shall be conducted in a manner to prevent the dispersion of debris and water from leaving the Work Area.
3. Contractor shall not allow wastewater or rinse water to soak into the exterior ground or landscaping or come in contact with plant materials. The Contractor shall employ measures to prevent contamination of the surrounding environment with cleaning materials and resulting wastes and to avoid wastewater or rinse water from reaching storm sewers.
4. Provision of site security to assure that no member of the public is able to gain access to the Work Area at any time. The Contractor shall maintain access and egress routes at all times.

1.3 PERSONAL PROTECTION

A. Respiratory Protection

1. If recommended by the manufacturer of the cleaning agents, Contractor shall provide the proper respiratory protection during activities anticipated to generate waste water. Workers shall be provided, at a minimum, with personally issued and marked respirators equipped with National Institute for Occupational Safety and Health (NIOSH)-approved filters to be worn in the designated Work Area. Sufficient filters shall be provided for replacement as required by the workers or applicable regulations. Disposable respirators shall not be used.
2. The Contractor shall comply with WAC 296-842 (Respiratory Protection) and American National Standards Institute (ANSI) Standard Z88.2-2015 "Practices for Respiratory Protection."
3. A sufficient supply of replacement parts and respirator cartridges shall be provided to the workers.
4. The Contractor shall conduct daily inspection(s) of all respirators to verify cleanliness and to replace damaged, worn or missing parts.

B. Protective Clothing:

1. Workers shall be provided with sufficient sets of protective full-body clothing to be worn in the designated Work Area. Such clothing shall include, but not be limited to coveralls, gloves and eye protection in accordance with the cleaning material manufacturer's recommendations.
2. Protective clothing shall not be worn outside the Work Area. Non-disposable-type protective clothing and footwear shall be left in the Work Area.

3. Eye protection shall be provided and worn as required by applicable safety regulations. Equipment shall conform to ANSI Z87.1-2010.
4. Head Protection: Hard hats or other head protection shall be provided as required by applicable safety regulations. Hard hats shall conform to ANSI Z89.1-2009, Class A or B.
5. Foot Protection: Non-skid footwear shall be provided to all workers. Footwear shall conform to ANSI Z41.1-1999.
6. Workers shall not eat, drink, smoke, or chew gum or tobacco in or near the Work Areas.

1.4 ENVIRONMENTAL PROCEDURES SUBMITTALS STOPPED HERE

- A. No work anticipated to generate waste water will be permitted prior to submittals being approved by the Owner.
- B. Pre-Work Submittals. The Contractor's Work Plan must be suitably titled and indexed, providing detailed information concerning the following items as a minimum in the order listed below:
 1. Work Plan: Prior to onsite work, provide a site specific Work Plan which demonstrates the methods by which work anticipated to generate waste water and the disposal of associated wastes will be performed. At a minimum, the Work Plan shall include:
 - a. A general description of work to be performed that is anticipated to generate waste water, discussing anticipated chemical and/or physical hazards associated with the work.
 - b. A step-by-step description of the work to be performed that is anticipated to generate waste water and procedures which will be used.
 2. Health and Safety Plan: Prior to on-site work, provide a site specific Health and Safety Plan including a worker protection program demonstrating the methods by which all applicable health and safety requirements will be met. The Health and Safety Plan shall be available at all times on the job site. At a minimum, the Health and Safety Plan shall include the following components:
 - a. Respiratory Protection Plan.
 - b. Personal Protective Equipment (PPE).
 - c. Personal Hygiene Practices.
 - d. Administrative Controls.
 - e. Emergency Plan.
 - f. Site Housekeeping Procedures.
 - g. Engineering Controls/Equipment.

- h. Employee Training.
 - i. Signage.
 - j. Decontamination of Equipment and Areas.
 - k. Record Keeping.
 - l. Respirator Fit Test Records.
 - m. Medical Examinations: Provide evidence of medical examinations for workers to be used on this project as required by WISHA. Include most recent written physician's opinion regarding each employee's fitness for use of mandatory protective equipment.
 - n. Procedures for prevention of and response to unanticipated/unauthorized releases.
 - o. Procedures for runoff control.
 - p. Procedures for personnel and equipment cleanup/decontamination.
 - q. Waste Management and Disposal Plan including:
 - 1) Description of waste streams (i.e., liquid and solids, including PPE) which will be generated during the site work.
 - 2) Methods for managing and storing stock-piling waste materials on-site.
 - 3) Waste minimization efforts.
 - 4) Container selection and labeling.
 - 5) Qualification/certificates of waste transportation Contractor.
 - 6) Qualification/certification for waste disposal facilities.
3. Job Submittals
- a. The following records are to be completed daily and submitted to the Owner on a weekly basis:
 - 1) Site work/daily logs, safety meeting reports and other site specific documentation.
4. Final Submittals
- a. Report of completion including:
 - 1) Documentation of final waste and decontamination waste disposition.
 - 2) Certification that the Work has been completed pursuant to this Specification Section.

PART 2 – PRODUCTS

2.1 TOOLS AND EQUIPMENT

- A. Provide a list and description of equipment and supplies necessary to support the Work as described in the Work Plan. Equipment and supplies may include, but are not limited to:
 - 1. Chemicals to be used on-site, including dust suppressants/wetting agents, fuels/lubricants, cleaning degreasing, and/or welding/cutting supplies
 - 2. Containment equipment
 - 3. Cleaning equipment
 - 4. Materials and debris hauling/moving equipment
 - 5. Material storage containers and supplies
 - 6. Labels, manifests and other shipping documentation
 - 7. Release prevention equipment

PART 3 – EXECUTION

3.1 WET METHOD

- A. Use "wet" systems that eliminate or reduce dust generated by cleaning activities. Clean up sludge and/or waste immediately following its generation.

3.2 WORK AREA PREPARATION

- A. Water/rinsate capture controls shall be constructed in a manner sufficient to capture and collect waste water, such as:
 - 1. Prior to starting the work, construct a water-tight bermed capture trough in the Work Area.
 - a. The trough shall be constructed of polyethylene sheeting and wood.
 - b. The trough shall have a sump built in at one end.
 - c. The floor of the trough shall drain towards the sump with a slope of approximately 1/4" per foot.
 - d. The edges of the trough shall be at least 4 inches high.
 - e. The polyethylene edge of the trough adjacent to the building wall shall be adhered to the wall securely to insure that water does not leak behind the containment.

- f. Ensure that the trough is constructed such that the wall seal is not compromised by workers performing cleaning operations.
- B. Prior to initiating the Work, the capture trough shall be inspected and accepted by the Owner to confirm that it meets the criteria listed in 3.2 A. above. Contractor shall not proceed with work until authorized by the Owner.
- C. At end of each application, the residual water and cleaner shall be pumped into containers provided by the Owner. If the cleaning product requires neutralization, the Contractor is to perform neutralization in accordance with the manufacturer's recommendations. Water used to clean equipment or for decontamination shall be collected and placed in disposal drums. The Owner or Environmental Consultant will be responsible for testing of the wash water for disposal.

3.3 OVERSIGHT

- A. The Environmental Consultant may be a third party consultant hired by the Owner, a representative of the Owner's Regulated Materials Management group, or other Owner-designated Environmental Consultant.
- B. The Environmental Consultant will observe all matters pertaining to the Work performed in accordance with these Specifications and applicable regulations and requirements.
- C. The Environmental Consultant will act as the Owner's liaison in technical matters involving Work Area containment, waste collection and waste disposal as part of the Work.
- D. The Environmental Consultant is authorized by the Owner to have free access to all Work Areas, to assist in interpretation of procedures, and to advise on all provisions of the Contract Documents pertaining to the control of waste and wastewater generated during cleaning activities.
- E. The Environmental Consultant will advise the Contractor and notify the Owner if in the course of performing their monitoring duties, they observe an instance of substantial nonconformance with the contract documents and/or a situation presenting a health hazard to workers, Owner's employees, or the public. Work shall not resume until corrective measures have been enforced. Instances of substantial non-conformance shall include but not be limited to the following:
 - 1. Visible emissions outside of the work area barriers.
 - 2. Activities or misconduct affecting worker's or building occupant's safety.
 - 3. Breaches of containment that could substantially damage building life safety systems.
 - 4. Absence of water collection system.
- F. If poor work practices are observed, the Owner shall direct the Contractor to make the necessary corrections. If appropriate corrections are not made, or if there is an immediate threat of release outside the Work Area, work shall be stopped. The decision to stop work shall be made by Owner.
- G. The Environmental Consultant's role in advising the Owner on environmental, health and safety matters does not relieve the Contractor's obligation to comply with all applicable

health and safety regulations promulgated by federal, state, or local governments. Activities on the part of the Environmental Consultant shall not represent the Contractor's compliance with applicable health and safety regulations.

3.4 CLEANUP, TESTING AND DISPOSAL

- A. Housekeeping: Housekeeping and clean-up procedures are essential tasks for contamination control. Maintain all surfaces throughout the Work Area free of contaminated debris to the maximum extent practicable. Restrict debris from being distributed over the general area. In all possible instances, workers shall clean-up their own areas. Equip personnel engaged in cleaning up scrap and demolition debris with necessary respiratory equipment and protective clothing.
- B. Cleanup: Maintain surfaces inside the containment as free of accumulation of debris as practicable. Restrict the spread of debris and keep waste from being distributed over the Work Area. The use of compressed air to clean up the Work Area is strictly prohibited. At the end of each shift, clean the Work Area of visible contamination by vacuuming with a high efficiency particulate air (HEPA)-filtered vacuum cleaner, wet mopping the area, and/or cleanup by other appropriate means.
- C. Testing for Disposal Characterization: The Environmental Consultant will collect Toxicity Characteristic Leaching Procedure (TCLP), pH, and other samples of the representative waste stream(s) as required by the King County Solid Waste Division for classification of the waste. Final determination of waste characterization and disposal requirements shall be made by the University of Washington Environmental Health & Safety Department (EH&S)
- D. Disposal of Dangerous Waste: If the waste is classified as dangerous waste by TCLP test results, pH testing, or other required sampling, the Owner will dispose of the waste (see Section 01 11 01, 1.2 H).
- E. Disposal of Non-Dangerous Waste: Waste materials that are not classified as hazardous waste or dangerous waste, as specified by federal, state, and local regulations, shall be disposed of as non-contaminated, general construction waste by the Contractor. Wastes not classified as hazardous or dangerous waste must be disposed by the Contractor by a method and at a storage facility approved by UW EH&S. Approved facilities can be viewed online at <http://www.ehs.washington.edu/epowaste/disposalfacilitylist.pdf>
- F. Contractor shall label the waste for the Owner as follows:
 - 1. Package and label all waste for transport in accordance with the United States DOT regulations.
 - 2. In addition to the requirements set forth in 49 CFR 172.304, mark each package containing dangerous/hazardous waste with the following, words and information: "HAZARDOUS WASTE - State and federal law prohibits improper disposal. If found, contact the nearest police or public safety authority, and the Washington State Department of Ecology or the United States Environmental Protection Agency.

Generator's Name and Address

Manifest Document Number

3. The Contractor shall placard or offer to the Owner all appropriate placards in accordance with United States DOT regulations, 49 CFR Part 172, Subpart F.
- G. Disposal Documentation: Disposal documentation is required for all waste streams, at a minimum, provide a disposal receipt or manifest for all non-hazardous waste streams, Submit one (1) copy of the completed manifest, signed and dated by the initial transporter in accordance with 40 CFR 262. Final payment for the project shall not be made until all disposal documentation has been submitted and accepted by the Owner.

END OF SECTION