PART 1 - PART 1 – GENERAL

1.1 RELATED WORK DESCRIBED ELSEWHERE

A. Work related to this Section is described in:

1. Section 02 80 00 “Facility Remediation”
2. Section 02 82 00 “Asbestos Removal”
3. Section 02 83 00 “Heavy Metal-Related Activities”
4. Section 02 84 00 “PCB Remediation”
5. Section 02 87 00 “Water Loss Response”
6. Section 02 88 00 “Biological Contaminants”
7. Section 02 90 00 “Environmental Procedures”
8. Appendix A: JOC Abatement Design Scope for this Work Order

1.2 DESCRIPTION OF WORK

A. This Section applies when exterior pressure washing and/or surface preparation activities that utilize water are conducted as part of the Work Order.

B. Furnish all labor, materials, facilities, equipment, services, transportation and employee training necessary to perform the work as described in the Work Order and required for controlling, capturing, and containerizing wash water and solid waste generated during surface preparation work. The Contractor shall also dispose of wash water and solid waste that is not classified as hazardous waste or dangerous waste. Work shall be performed in accordance with the Work Order; these Specifications; current federal, state and local regulations; and the Owner’s protocols.

1. The Contractor is responsible for all costs associated with engineering controls, decontamination and personal protection necessary to complete the Work Order.
2. The Owner or the Owner’s Environmental Consultant will collect samples of the representative waste streams for classification of the waste as required by King County, applicable regulations.
3. 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. The Contractor shall perform surface preparation activities in accordance with the Work Order.

D. The Contractor shall properly dispose of all wastes generated during surface preparation activities that are not classified as hazardous waste or dangerous waste per federal, state, and local regulations.

E. The Contractor shall perform all surface preparation activities inside an enclosure and associated ventilation system that meets the requirements of the SSPC: The Society for Protective Coatings Guide 6 (dated October 1, 2004), Containment Classification 3W.

F. The Contractor shall collect and store wash water generated during surface preparation activities.

G. The Contractor shall collect and store solid waste (e.g., paint chips, debris, etc.) generated during surface preparation activities.

H. The Contractor shall employ measures to prevent contamination of the surrounding environment with wastes generated by the work.

I. The Contractor shall provide site security to assure that no member of the public is able to gain access to the construction work area at any time. The Contractor shall maintain access and egress routes at all times.

1.3 PERSONAL PROTECTION

A. Respiratory Protection

1. 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:

a. United States Occupational Safety and Health Administration (OSHA)

1) 29 CFR Part 1910.134: Respiratory Protection

b. Washington State Department of Labor & Industries (L&I)

1) WAC 296-841: Airborne Contaminants
2) WAC 296-842: Respirators

c. American National Standards Institute (ANSI)

1) Standard Z88.6-2006 “Respirator Use – Physical Qualifications for Personnel”
2) Standard Z88.7-2010 “Color Coding of Air-Purifying Respirator Canisters, Cartridges, and Filters”
3) Standard Z88.10-2010 “Respirator Fit Testing Methods”

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 “American National Standard for Occupational and Educational Personal Eye and Face Protection Devices”.

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 “American National Standard for Industrial Head Protection”, Class A or B.

5. Foot Protection: Non-skid footwear shall be provided to all workers. Footwear shall conform to ASTM International Standard F2412-11 “Standard Test Methods for Foot Protection” and Standard F2413-11 “Standard Specification for Performance Requirements for Protective (Safety) Toe Cap Footwear”.

6. Workers shall not eat, drink, smoke, or chew gum or tobacco in or near the work areas.

1.4 SUBMITTALS

A. Each Contractor performing surface preparation activities shall provide a complete set of submittals for review by the Owner. The submittals may be submitted and reviewed electronically. Following receipt of review comments from the Owner, the Contractor shall submit additional versions of revised submittals to the Owner until each submittal is accepted by the Owner. No surface preparation work will be permitted prior to submittals being reviewed and accepted by the Owner.

B. Mark each submittal with the following information for proper processing and recording of action taken:

1. Project name and location
2. Title of submittal
3. Name and address of Contractor
4. Date
5. Submittal Number

C. Pre-Work Submittals: The Contractor shall submit a Work Plan, Health and Safety Plan and Waste Management and Disposal Plan to the Owner for review and acceptance as a prerequisite to issuance of the Notice to Proceed. The Plan must be suitably titled and indexed, providing detailed information concerning the following items, at a minimum, in the order listed below:

1. Work Plan: Provide a site specific Work Plan which demonstrates the methods by which surface preparation and disposal of associated wastes will be performed. At a minimum, the Work Plan shall include:

a. A general description of surface preparation work to be performed, discussing anticipated chemical and/or physical hazards associated with the work

b. A step-by-step description of the surface preparation work to be performed and procedures which will be used

c. A description of the work area enclosure and the methods, equipment and engineering controls that will be used to collect and contain wash water generated by the work

d. Qualification/certification/training certificates and the role of each member of the Contractor’s personnel, including at least one (1) proposed competent person

e. Qualification/certification/training certificates and role of proposed Subcontractor(s)

f. Qualification/certification/training certificates of proposed testing laboratories

2. Health and Safety Plan: 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. Fall Protection Plan

   b. Written Respiratory Protection Program per WAC 296-842

   c. Personal Protective Equipment (PPE), including respiratory protection

   d. Personal hygiene practices

   e. Administrative controls

   f. Emergency Plan

   g. Site housekeeping procedures

   h. Engineering controls/equipment

   i. Employee training

   j. Signage

   k. Decontamination of equipment and areas

   l. Record keeping

   m. Respirator Fit Test Records: Submit a written statement certifying that all Contractor employees with the potential to be exposed to heavy metals will have respirator fit testing records showing passing results. The statement shall include the Contractor's signature. For the purpose of maintaining worker information privacy, do not submit individual fit testing records with the pre-work submittal package.

   n. Medical Examinations: Submit a written statement certifying that all Contractor employees with the potential to be exposed to heavy metals are medically fit to perform the work and are medically fit to wear a respirator. The statement shall include the Contractor's signature. For the purpose of maintaining health information privacy, do not submit individual medical clearance certificates with the pre-work submittal package.

   o. Procedures for prevention of and response to unanticipated/unauthorized releases

   p. Procedures for runoff control

   q. Procedures for personnel and equipment cleanup/decontamination

3. Waste Management and Disposal Plan including:

   a. Description of waste streams (i.e., liquid and solids, including PPE) which will be generated during the site work

   b. Methods for managing/storing waste materials on site

c. Waste minimization efforts

d. Container type and labeling

e. Qualification/certificates of waste transportation subcontractor

f. Qualification/certification for waste disposal facilities

D. Prior to commencement of work, the Contractor shall Provide copies of respirator fit test records showing passing results to the Environmental Consultant or Owner's Representative at the job site.

E. Job Submittals

1. The following records are to be completed daily and submitted to the Owner on a weekly basis:

a. Site work/daily logs, safety meeting reports and other site specific documentation

2. The following records are to be completed and submitted to the Owner on a daily basis:

a. Quantity of waste water discharged to the sanitary sewer

b. Submit waste water discharge quantity to the Owner

F. Final Submittals

1. Report of completion including;

a. Documentation of final waste and decontamination waste disposition

b. Certification that the work has been completed pursuant to this Specification Section.

PART 2 - PRODUCTS

2.1 MATERIAL AND EQUIPMENT

A. Provide a list and description of equipment and supplies necessary to execute the Work Order 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. Enclosure equipment

3. Surface preparation and 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

8. Waste disposal containers

PART 3 - EXECUTION

3.1 WET METHOD

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

3.2 ENCLOSURE

A. Employ procedures to prevent stormwater pollution during surface preparation and other work as required by the Owner's Stormwater Operations & Maintenance Plan. The Plan can be viewed online at: http://www.ehs.washington.edu/epowaterqual/omplanseattle.pdf.

B. Enclosures shall meet the requirements of the SSPC: The Society for Protective Coatings Guide 6 (dated October 1, 2004), Containment Classification 3W.

C. Enclosures shall be constructed as follows:

1. Install berms to keep contaminated wash water from entering storm drains.
2. 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 ¼" 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 stack wall shall be adhered to the stack securely to insure that water does not leak behind the enclosure.
    f. Ensure that the trough is constructed such that the stack seal is not compromised by workers performing surface preparation operations.
3. Do not use soap when pressure washing; use heat, steam and/or water pressure to achieve the required surface preparation.
4. Do not allow wash water to escape the enclosure and soak into the landscaping or into local drainage features.

D. Residual wash water shall be pumped into disposal containers provided by the Contractor. If the wash water requires neutralization, the Contractor is to perform neutralization in accordance with the manufacturer's recommendations, applicable regulations, and Owner requirements. Water used to clean equipment or for decontamination shall also be collected and placed in the disposal containers provided by the Contractor. The Owner or the Owner's Environmental Consultant will be responsible for testing of the wash water for disposal.

3.3 OVERSIGHT

A. The Owner's Environmental Consultant will observe all matters pertaining to the work performed in accordance with these Specifications and applicable regulations and requirements.

B. The Owner's 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. The Environmental Consultant will not function as the Owner's Representative for the Project.

C. The Owner's 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 generated during surface preparation activities.

D. The Owner's 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 or building occupant safety
3. Breaches of containment that could substantially damage building life safety systems

E. 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.

F. The Owner's 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 Owner's Environmental Consultant shall not represent the Contractor's compliance with applicable health and safety regulations.

3.4 CLEAN-UP, 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 debris with necessary respiratory equipment and protective clothing.

B. Cleanup: Maintain surfaces inside the enclosure 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. Include proposed means in the Work Plan.

C. Testing of Waste Streams: The Owner or the Owner's Environmental Consultant will collect and analyze wash water and solid waste streams (i.e., paint chips, debris, etc.) generated by the work. Samples will be collected from waste storage containers supplied and maintained on site by the Contractor. Samples will be collected to determine if wash water and solid waste are classified as dangerous waste by the Washington State Department of Ecology (WAC 173-303-090), and if the wash water meets the King County sewer discharge limits (http://www.ehs.washington.edu/epowaste/sink.shtm). If the Contractor wishes to segregate specific

items in a given waste stream, further evaluation and sampling may be required to determine if it would designate as a dangerous waste.

D. Disposal of Dangerous Waste: If the wash water or solid waste is classified as dangerous waste per WAC 173-303, the Contractor shall transfer the waste to Owner-provided containers, and the Owner will dispose of the waste.

E. Disposal of Wash Water:

1. Wash water that is not classified as hazardous waste or dangerous waste, and does not exceed the King County sewer discharge limits, shall be transported and disposed by the Contractor at the Owner-approved sanitary sewer discharge point.

2. Wash water that is not classified as hazardous waste or dangerous waste, but exceeds the King County sewer discharge limits, shall be transported and disposed by the Contractor at an offsite facility approved by the Owner.

3. If waste water does not meet the King County sewer discharge limits for pH, the Contractor is to perform neutralization of the water to bring it within the limits.

4. If waste water does not meet the King County sewer discharge limits for settleable solids, the Contractor shall filter the waste water to remove solids.

F. 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 as non-contaminated, general construction debris by the Contractor. Heavy metals-contaminated waste not classified as hazardous or dangerous waste must be disposed by the Contractor at a landfill approved by the Owner. Approved facilities can be viewed online at: http://www.ehs.washington.edu/epowaste/disposalfaclist.pdf.

G. 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 on packaging.

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.

H. 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