Environmental Protection

1.0 Purpose

This procedure provides requirements for environmental protection and management of project waste from construction and demolition activities in compliance with Occupational Safety and Health Administration (OSHA) and Washington Industrial Safety and Health Act (WISHA) standards. The provisions of this procedure apply to work activities associated with tasks performed by Battelle-Pacific Northwest Division (PNWD) subcontractors.

2.0 Definitions

The following list identifies terms selected and defined for this procedures complete definitions can be found in Appendix A, “Glossary.”

- excavation
- hazardous material
- cultural resource
- satellite accumulation area (SAA)
- containers
- secondary containment
- 90-day Accumulation Area
- waste minimization and pollution prevention
- asbestos.

3.0 Requirements

The environmental protection and management program elements include:

- Cultural and Biological Resource Protection
- Excavation
- Erosion Control
- Dust Control
- Hazardous Material Storage
- Waste Accumulation and Inspection
- Waste Disposal
- Spill Control and Prevention
- Liquid Effluent Management

- Waste Minimization and Pollution Prevention (P2) Program
- Equipment and Waste Transportation
- Miscellaneous Waste.

3.1 Cultural and Biological Resource Protection

Cultural and biological resource reviews must be obtained prior to taking actions that might adversely affect these resources. For example, resource reviews must be completed before any excavation, site clearing, or building demolition activities commence. The Pacific Northwest Division (PNWD) point of contact (POC) will communicate the cultural and biological resource protection requirements prior to start up of construction or demolition activities.

3.2 Excavation

Excavation may include any operation in which earth, rock, or other material in the ground (below existing grade) is moved, removed, or otherwise displaced by means or use of any hand tools, mechanical equipment, or explosives. An approval from the PNWD POC is required prior to any excavation activities. The approval processes are necessary to prevent injury from accidental contact with utilities, to protect sensitive cultural and biological resources, and to meet U.S. Department of Energy and state law requirements.

Excavated earth (excluding stumps and wood) should be placed back into the original excavations or used as fill at the construction site. However, for work that will be conducted on or near the water, an approval from the PNWD POC is required before replacement of dredged materials. Approval from the PNWD POC is also required prior to disposal of excavated earth that cannot be used for fill.

3.3 Erosion Control

Erosion controls should be in place and approved by the PNWD POC prior to any land disturbing activities.

Pacific Northwest Division uses best management practices as described in the Washington State Department of Ecology Stormwater Management Manual for Eastern Washington, summarized as follows:

- Construction vehicle access and exit shall be limited to one route if possible, and access points shall be stabilized to minimize the tracking of sediments onto roads.
- Design, construct, and cut and fill slopes in a manner that minimizes erosion through terracing, reducing slope steepness, surface roughening, or other methods.
- Perform erosion inspection and sediment controls on a weekly schedule, prior to expected storm events and after each heavy rainfall event.
- Where appropriate, provide temporary or permanent modifications to surface terrain gradient (soil or crushed stone berms, sediment retention basins, etc.) in order to minimize the flow of stormwater into or out of excavated or otherwise disturbed areas.

- All erosion and sediment control measures should be maintained throughout the course of the project and removed at completion of project. Appropriate measures should be taken to return the area to its previous state. Maintenance should include but not be limited to the removal of accumulated sediment and repairs and/or replacement of storm damaged or otherwise deteriorated structures.
- All disturbed areas shall be temporarily or permanently stabilized as soon as practicable to minimize erosion from rain and wind. Methods of soil stabilization include mulching, using nets or plastic covers, sodding, and surface roughening.

3.4 Dust Control

Dust generated by construction operations needs to be minimized by water or other methods approved by the PNWD POC. PNWD-preferred best practices, consistent with the Washington State Department of Ecology Stormwater Management Manual for Eastern Washington, are provided below.

- Vegetate or mulch areas that will not receive vehicle traffic. Apply gravel or landscaping rock in areas where planting, mulching, or paving is impractical.
- Clear vegetation only from those areas where you will work right away.
- Apply water until surface is wet. Repeat as needed. Water applied to the construction site for dust control must not leave the site as surface runoff.
- Cover piles with wind-impervious fabric.
- Use of any chemical dust suppressant must be reviewed and approved by the PNWD POC. Follow the manufacturer's instructions and cautions regarding handling and application.

3.5 Hazardous Material Storage

Hazardous materials and chemical products at the project site should be managed in accordance with manufacturer instructions, safety and fire codes, and general safe practices to prevent accidental discharge to the environment. This includes closing containers when not in use, using secondary containment when possible, and storing materials inside or under shelter. Materials stored outside shall be stored in a manner to prevent discharge to a stormwater management device (e.g., dry well, catch basin) or to the ground or surface water.

3.6 Waste Accumulation and Inspection

In the event that a satellite accumulation area (SAA) or a 90-day accumulation area is needed to facilitate appropriate waste management, the PNWD POC shall be notified to implement PNWD procedures and requirements. Descriptions provided below are provided as PNWD-preferred best management practices for the accumulation and management of dangerous wastes within a SAA or a 90-day accumulation area. The applicability of additional requirements is evaluated and addressed in project planning packages or other project specifications on a case-by-case basis.

<u>SAA Requirements for Dangerous Waste:</u>

- The SAA shall be at, or near, the point of generation.
- Containers and liners used for accumulation shall be compatible with waste.

- Accumulation containers shall be clearly marked per applicable requirements.
- Containers shall be kept securely closed so that spillage will not occur if the container is tipped over unless waste is being added to the container.
- SAA containers must be kept secured at all times (e.g., with a locking device) or under constant control of the process operator.
- No more than 55 gallons of dangerous waste or 1 quart of acutely hazardous waste may be accumulated per waste stream at one time.
- When accumulation limits have been achieved or the generation of that waste stream is complete, whichever is earlier, containers shall be marked with accumulation date and moved to appropriate 90-day accumulation area within three calendar days.

90-Day Accumulation Area Requirements for Dangerous Waste:

- Containers and liners shall be compatible with the type of waste that will be stored in them.
- Containers shall be in good condition and closed securely.
- Waste containers shall be labeled and marked in accordance with applicable requirements including the words "HAZARDOUS WASTE," the accumulation start date, and the primary risk(s). In the case of mixed or radioactive wastes, the containers shall be marked with the additional labeling of "CAUTION RADIOACTIVE MATERIAL."
- Incompatible wastes shall be separated by dike, berm, wall, or other device.
- Secondary containment must be provided for all 90-day accumulation areas.
- Waste shall be stored with a minimum of 30 inches between each aisle of container rows, and rows of containers shall be no more than two wide.

Inspection of Dangerous Waste:

- Inspect all 90-day accumulation areas and containers weekly.
- SAAs shall be inspected, at the minimum, on a monthly basis.

Non-hazardous Waste Management:

- Accumulate non-hazardous waste in containers or as otherwise appropriate to prevent nuisance, contamination, dispersal by wind or precipitation, or visual blight.
- Arrange for periodic collection of non-hazardous waste to prevent excessive accumulation of non-hazardous waste.
- See the "Waste Minimization and Pollution Prevention" section below for recyclable materials management.

3.7 Waste Disposal

Dangerous waste will be transferred to PNWD for subsequent management at project expense, unless other arrangements are authorized by PNWD in advance. All non-dangerous waste should be recycled if

possible or sent to a PNWD-approved landfill. A copy of the landfill waste disposal record shall be provided to the PNWD POC for documentation purposes. No waste is to be disposed of on PNWD property unless authorized by PNWD in advance.

3.8 Spill Control

A spill kit should be available at the job site to absorb spilled materials and properly manage spill cleanup residues. At a minimum, the spill kit should contain the following items: an appropriately sized container with lid; a spill kit identification sign on the container; absorbent pads/pigs; absorbents; shovels; rags; gloves; and safety goggles.

In the event of a spill or leak, immediately report releases of any materials such as oil, fuel, solvents, paints, coolants, acids, caustics, and equipment leaks to the PNWD POC. Call 375-2400 if the PNWD POC is not immediately available. Contain spills as much as possible without compromising personnel safety.

Do not allow liquids such as gasoline, diesel fuel, lubricating oil, or antifreeze to enter the sanitary, process, or storm sewer systems, waterways, drainage ditches, or the ground. Use due caution when operating oil-bearing equipment near such features. Where necessary, implement appropriate control measures, including but not limited to, the use of physical barriers (plastic or tarps, berms, etc.), secondary containment, and/or absorbent materials to capture leaked or splattered contamination.

3.9 Liquid Effluent Management

Prior approval from the PNWD POC is needed for all liquid effluent discharged to the groundwater, sanitary sewer, process sewer, storm sewer or surface water. PNWD-preferred best management practices for common construction wastewater are summarized below.

Concrete or Asphalt Wastewater:

- Concrete truck chutes, pumps, and internals shall be washed out only into formed areas awaiting installation of concrete or asphalt.
- Unused concrete remaining in the truck or in the pump shall be returned to the originating batch plant for recycling. Concrete remaining from smaller projects shall be reused, recycled, or disposed of in a dumpster.
- Hand tools including, but not limited to, screeds, shovels, rakes, floats, trowels and wheelbarrows shall be washed off only into formed areas awaiting installation of concrete or asphalt.
- Equipment that cannot be easily moved, such as concrete pavers, shall only be washed in areas that do not directly drain to natural or constructed stormwater conveyances.
- When no formed areas are available, washwater and leftover product shall be contained in a lined container. Contained concrete shall be disposed of in a manner that does not violate groundwater or surface water quality standards.
- Discharge to a storm sewer, surface water, or sanitary sewer is prohibited.

Saw-cutting and Surfacing Operation:

All material generated as part of saw-cutting or surfacing operation shall be collected and disposed of a PNWD-approved landfill. (Note: Saw-cutting and surfacing operations include, but are not limited to, sawing, coring, grinding, roughening, or hydro-demolition). A summary of PNWD-preferred best management practices are provided below:

- Slurry and cuttings should be vacuumed and collected during cutting and surfacing operations, when possible.
- Slurry and cuttings should not remain on permanent concrete or asphalt pavement overnight.
- Slurry and cuttings should not drain to any natural or constructed drainage conveyance including storm sewers, catch basins, or other underground injection control wells, trenches, or ditches.
- Process water that is generated during hydro-demolition, surface roughening, or similar operations should be collected and should not drain to any natural or constructed drainage conveyance.
- Collected slurry, cutting, or process water can also be placed in a “lined holding pond” for evaporation. The dried residual material can be discarded as non-regulated construction material.
- Cleaning waste material and demolition debris should be handled and disposed of in a manner that does not cause contamination to water.

Waste Minimization and Pollution Prevention (P2) Program

Waste minimization and pollution prevention opportunities and requirements should be evaluated and addressed on project specifications or job planning packages on a case-by-case basis. Recyclable items should be properly collected, packaged and transported to designated locations as directed by the PNWD POC. Typical recyclable items managed on PNWD sites are listed below:

- aluminum
- cardboard
- scrap metal
- aerosol cans
- batteries
- scrap wood
- fluorescent tubes and lamps
- printed circuit boards
- used oil.

Other recyclable items such as asphalt and concrete from construction or demolition activities are not routinely collected at PNWD sites. However, depending on project volume, requirements for recycling of these items will be addressed in the specification.

Non-recyclable construction debris will be sent to a PNWD-approved landfill, such as the City of Richland landfill in Richland, Washington; the Roosevelt Landfill located in Roosevelt, Washington; the Waste Management landfill located in Arlington, Oregon; or the Finley Buttes Regional Landfill located

in Boardman, Oregon. Prior written approval shall be obtained from PNWD before using a landfill other than those listed. A copy of the landfill disposal shall be provided to the PNWD POC for documentation purposes.

3.10 Equipment and Waste Transportation

Prior to transporting operational equipment, drain, plug, and tag it with the appropriate label or tags. In the case of waste transport, use appropriate containment, such as covering open trucks with plastic or tarps. Vehicles shall have valid Department of Transportation registration, and the drivers shall have a valid commercial driver's license.

3.11 Miscellaneous Wastes

Asbestos

When applicable, a Notice of Intent (NOI) should be submitted to Benton County Air Authority for their review and approval at least 10 days before performing asbestos abatement work. Asbestos wastes should be placed in two sealed impermeable bags or containers and labeled with the warning:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
AVOID BREATHING AIRBORNE ASBESTOS FIBERS

Asbestos waste must be sent to a PNWD-approved landfill, such as the City of Richland landfill in Richland, Washington (if non-friable and meeting City of Richland landfill waste acceptance criteria); the Finley Buttes Regional Landfill located in Boardman, Oregon; the Roosevelt Landfill located in Roosevelt, Washington; or the Waste Management landfill located in Arlington, Oregon. Prior written approval shall be obtained from PNWD before using a landfill other than those listed. A copy of the landfill asbestos disposal shall be provided to the PNWD POC for documentation purposes.

Beryllium

Package beryllium, beryllium compounds, or beryllium-contaminated waste materials including protective gloves, cleaning materials, equipment, waste, scrap, or debris in sealed impermeable containers and label with this warning:

DANGER
CONTAMINATED WITH BERYLLIUM
DO NOT REMOVE DUST BY BLOWING OR SHAKING
CANCER AND LUNG DISEASE HAZARD

Beryllium waste must be sent to a PNWD-approved landfill such as the City of Richland landfill in Richland, Washington (if meeting City of Richland landfill waste acceptance criteria); the Finley Buttes Regional Landfill located in Boardman, Oregon; the Roosevelt Landfill located in Roosevelt, Washington; or the Waste Management landfill located in Arlington, Oregon.

PCB (Polychlorinated Biphenyls)

Package PCB, PCB compounds, or PCB-contaminated waste materials including protective gloves, cleaning materials, equipment, waste, scrap, or debris in sealed impermeable containers and mark with a PCB warning label. PCB waste must be sent to a PNWD-approved landfill.

4.0 References

- 29 CFR 1926.59, Hazard Communication
- 40 CFR 261, Identification and Listing of Hazardous Waste
- 40 CFR 279, Standards for the Management of Used Oil
- 40 CFR 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions
- 49 CFR 172, Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
- 49 CFR 173, Shippers-General Requirements for Shipments and Packagings
- WAC 173-303, Dangerous Waste Regulations
- WAC 173-226, Waste Discharge General Permit Program
- Benton County Clean Air Authority, Regulation 1
- Stormwater Management Manual for Eastern Washington, Chapter 7 – Construction Stormwater Pollution Prevention, Washington Department of Ecology, September 2004, publication number 03-10-038C.

5.0 Records

None

6.0 Forms

None