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Environmental Cleanup Office

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION X

IN THE MATTER OF:	)	ADMINISTRATIVE ORDER ON CONSENT FOR REMOVAL ACTION
Portland Harbor Superfund Site, Terminal 4 Removal Action Area Portland, Oregon	)	U.S. EPA Region X CERCLA Docket No.
PORT OF PORTLAND	)	Proceeding Under Sections 104, 106(a), 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622.
Respondent.	)	

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A. Map of Terminal 4 Removal Action Area
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I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Order on Consent (Order) is entered into voluntarily by the United States Environmental Protection Agency, Region X (EPA) and the Port of Portland (Port) (Respondent). This Order provides for the performance of a non-time-critical removal action by Respondent at the Terminal 4 Removal Action Area (defined below) within the Portland Harbor Superfund Site (Site) located in Portland, Oregon, and the reimbursement of response costs incurred by the United States at or in connection with such action.

2. This Order is issued under the authority vested in the President of the United States by Sections 104, 106(a), 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, (CERCLA), 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622, Section 311(e) of the Federal Water Pollution Control Act, as amended (CWA), 33 U.S.C. § 1321(e), and the Oil Pollution Act of 1990, as amended (OPA), 33 U.S.C. § 2701 *et seq.*.

3. EPA has notified the State of Oregon Department of Environmental Quality (DEQ) of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

4. EPA and Respondent recognize that this Order has been negotiated in good faith and that the actions undertaken by Respondent in accordance with this Order do not constitute an admission of any liability. Respondent does not admit, and retains the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Order, the validity of the findings of facts, conclusions of law, and determinations in Sections IV and V of this

Order. Respondent agrees to comply with and be bound by the terms of this Order and further agrees that it will not contest the basis or validity of this Order or its terms. Respondent agrees to undertake all actions required by this Order, including any modifications thereto, and consents to and will not contest EPA's authority to issue or to enforce this Order.

5. The Confederated Tribes and Bands of the Yakama Nation; The Confederated Tribes of the Grand Ronde Community of Oregon; The Confederated Tribes of Siletz Indians; The Confederated Tribes of the Umatilla Indian Reservation; The Confederated Tribes of the Warm Springs Reservation of Oregon; The Nez Perce Tribe (the Tribal Governments) have treaty-reserved rights and resources and other rights, interests, or resources in the Site. The National Oceanic and Atmospheric Administration; The United States Department of the Interior and the Oregon Department of Fish & Wildlife and the Tribal Governments are designated Natural Resource Trustees overseeing the assessment of natural resource damages at the Site. To the extent practicable, and if consistent with the objectives of the removal action, the Work under this Order will be conducted so as to be coordinated with any natural resource damage assessment and restoration of the Site. The Tribal Governments and the federal and state Natural Resource Trustees will be provided an opportunity to review and comment on plans, reports, and other deliverables submitted by Respondent to EPA under this Order.

6. EPA and DEQ have entered into a Memorandum of Understanding for the Site (MOU) under which EPA and DEQ have agreed to share responsibility for investigation and cleanup of the Site. DEQ is the lead agency for conducting upland work necessary for source control, and EPA is the Support Agency for that work. EPA is lead agency for conducting in-water work,

including coordination of EPA's lead work with DEQ's source identification and source control activities. DEQ is the Support Agency for EPA's in-water work. DEQ will be provided an opportunity to review and comment on plans, reports, and other deliverables that Respondent submits to EPA under this Order. As lead agency, EPA will determine when sources have been controlled sufficiently for the selected removal action to be implemented under this Order.

7. To the extent practicable and consistent with the objectives of this removal action, the Work under this Order will be coordinated with work implemented under the Administrative Order on Consent for Remedial Investigation and Feasibility Study of the Site, dated September 28, 2001, Docket No. CERCLA-10-2001-0240.

II. PARTIES BOUND

8. This Order applies to and is binding upon EPA and upon Respondent and its successors and assigns. Any change in ownership or status of Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondent's responsibilities under this Order.

9. Respondent shall ensure that its contractors, subcontractors, and representatives performing Work under this Order receive a copy of this Order within 14 days from the Effective Date or within 7 days of their contract to work on the project, and that they comply with this Order. Respondent shall be responsible for any noncompliance with this Order.

III. DEFINITIONS

10. Unless otherwise expressly provided herein, terms used in this Order which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning

assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Order or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

a. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9601, *et seq.*

b. "Day" shall mean a calendar day. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the close of business of the next working day.

c. "DEQ" or "State" shall mean the State of Oregon Department of Environmental Quality and any successor departments or agencies thereof.

d. "Effective Date" shall be the effective date of this Order as provided in Section XXX.

e. "Engineering Evaluation/Cost Analysis" (EE/CA) shall have the definition and attributes described in the NCP, as may be modified by this Order.

f. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

g. "Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States has incurred in scoping, planning, developing and negotiating this Order, in reviewing or developing plans, reports and other items pursuant to this Order, verifying the Work, coordinating with DEQ, the Tribes, and Natural Resource Trustees regarding the removal action, or otherwise implementing, overseeing, or enforcing this Order,

including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, costs incurred by EPA associated with EPA's preparation of any EPA decision documents (including any Action Memoranda or EE/CA approval memo), the costs incurred pursuant to Paragraph 27, (costs and attorneys fees and any monies paid to secure access, including the amount of just compensation), Paragraph 37. (emergency response), and Paragraph 65. (work takeover), as well as any other enforcement activities related to the Terminal 4 Removal Action Area undertaken by EPA. Future Response Costs shall not include the costs of data gathered by EPA that is not related to this Order.

h. "Interest" shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

i. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

j. "Order" shall mean this Administrative Order on Consent and all appendices attached hereto (listed in Section XXIX). In the event of conflict between this Order and any appendix, this Order shall control.

k. "Paragraph" shall mean a portion of this Order identified by an Arabic numeral.

l.. "Parties" shall mean EPA and Respondent.

m. "RCRA" shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901, *et seq.* (also known as the Resource Conservation and Recovery Act).

n.. "Section" shall mean a portion of this Order identified by a Roman numeral.

o. "Site" shall mean the Portland Harbor Superfund Site, in Portland, Multnomah County, Oregon, listed on the National Priorities List (NPL) on December 1, 2000. 65 Fed. Reg. 75179-01. The Site consists of the areal extent of contamination, including all suitable areas in proximity to the contamination necessary for implementation of response action, at, from and to the Portland Harbor Superfund Site Assessment Area from approximately River Mile 3.5 to River Mile 9.2(Assessment Area), including uplands portions of the Site that contain sources of contamination to the sediments at, on or within the Willamette River. The boundaries of the Site will be initially determined upon issuance of a Record of Decision for the Portland Harbor Superfund Site.

p. "Statement of Work" or "SOW" shall mean the statement of work for implementation of the removal action, as set forth in Appendix A to this Order, and any modifications made thereto in accordance with this Order.

q. "Terminal 4 Removal Action Area" or "Removal Action Area" shall mean that portion of the Site adjacent to and within the Port of Portland's Terminal 4 at 11040 North Lombard, Portland, Multnomah County, Oregon: extending west from the ordinary high water line on the northeast bank of the lower Willamette River to the edge of the navigation channel, and extending south from the downstream end of Berth 414 to the downstream end of Berth 401,

including Slip 1, Slip 3, and Wheeler Bay, that is depicted generally on the map attached as Appendix A.

r. "Waste Material" shall mean 1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); 2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); 3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); and 4) any "hazardous substance" under ORS 465.200 et seq.

s.. "Work" shall mean all activities Respondent is required to perform under this Order.

IV. FINDINGS OF FACT

11. EPA finds the following facts which Respondent neither admits nor denies:

a. The Port of Portland, a port district of the State of Oregon, owns the Terminal 4 uplands located between River Miles 4.1 and 4.5 on the Lower Willamette River. The Port also owns a portion of the submersible and submerged lands in Slips 1 and 3 located within the Removal Action Area, as depicted on Appendix A. The remainder of submersible or submerged land is owned by the State of Oregon Department of State Lands ("DSL"), also as depicted on Appendix A. Terminal 4 is an operating marine facility that includes a variety of tenant operations, including importation of automobiles, exportation of soda ash, import and export of dry and liquid bulk cargo, including vegetable oil and molasses, associated rail inter-modal facilities, and associated petroleum product storage facilities. Historically, Slip 3 has been used for loading and unloading dry and liquid bulk cargo such as Bunker C, diesel, pencil pitch and metal ores. Historically, Slip 1 has been used for bulk and break-bulk cargo loading and

unloading operations handling liquid fertilizer, lead and zinc concentrates, cured meats, agricultural produce, flour, vegetable oils, molasses, tallow, caustic soda, and a variety of general cargoes.

b. Hazardous substances found in the Removal Action Area to date include, but may not be limited to, polyaromatic hydrocarbons (PAHs), metals (mercury, cadmium, chromium, lead, and zinc), pesticides and polychlorinated biphenyls (PCBs). PAHs in surface sediments exceed Lower Columbia River Management Area Maximum Level (ML) values, which are the least conservative biological adverse effects threshold values. When compared to their respective ML values, total low molecular weight PAHs (LPAHs) were found to exceed it up to a factor of 4 and total high molecular weight PAHs (HPAHs) exceeded that value as much as a factor of 11. When compared to other established biological adverse effects threshold values, PAHs and metals in the Removal Action Area show significantly higher potential adverse effects.

c. Sources of releases of hazardous substances, pollutants or contaminants into the Terminal 4 Removal Action Area include, but are not limited to: pencil pitch handling procedures and spills, petroleum handling and storage, contaminated groundwater seeps from petroleum spills and an abandoned pipeline; metal ores spilling from bulk handling practices; and storm water runoff. Contaminated sediment also may have migrated to the Removal Action Area from other areas of the Willamette River.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

12. Based on the Findings of Fact set forth above EPA has determined that:

a. The Terminal 4 Removal Action Area is a "facility" as defined by Section

101(9) of CERCLA, 42 U.S.C. § 9601(9), and includes onshore facilities, offshore facilities, and inland waters of the United States and navigable waters, as defined in Section 311(a)(10), (11) and (16) of the CWA, 33 U.S.C. § 1321(a), and Sections 1001(24) and (21) of OPA, 33 U.S.C. § 2701(24) and (21).

b. Wastes and constituents found at or adjacent to the Terminal 4 Removal Action Area, as identified in the Findings of Fact above, are "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), or constitute "any pollutant or contaminant" which may present an imminent and substantial danger to the public health or welfare under Section 104(a)(1) of CERCLA, 42 U.S.C. § 9604(a)(1). Some of the PAHs at the Removal Action Area, as identified in the Findings of Fact, are from discharges of oil, as defined in Section 311(a)(1) and (2) of CWA, 33 U.S.C. § 1321(a)(1) and (2), and Section 1001(23) and (7) of OPA, 33 U.S.C. § 2701(23) and (7).

c. Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21), and/or Section 311(a)(7) of CWA, 33 U.S.C. § 1321(a)(7), and Section 1001(27) of OPA, 33 U.S.C. § 2701(27).

d. Respondent is a responsible party under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), and is liable for performance of response action and for response costs incurred and to be incurred for the Terminal 4 Removal Action Area. Respondent is an "owner" and/or "operator" of the Terminal 4 Removal Action Area, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1); and/or arranged for disposal or treatment, or arranged with a transporter for transport

for disposal or treatment of hazardous substances at the facility, within the meaning of Section 107(a)(3) of CERCLA, 42 U.S.C. § 9607(a)(3).

e. The conditions described in the Findings of Fact above constitute an actual or threatened "release" of a hazardous substance from the facility as defined by Section 101(22) of CERCLA, 42 U.S.C.§ 9601(22). The presence of actual or threatened discharges of oil at the facility from vessels and/or facilities in violation of Section 311(b) of CWA, 33 U.S.C. § 1321(b), may be an imminent and substantial threat to the public health or welfare of the United States, including fish, shellfish, wildlife, public and private property, shorelines, beaches, habitat, and/or other living and nonliving natural resources under the jurisdiction or control of the United States.

f. The removal action required by this Order is necessary to protect the public health, welfare, or the environment and, if carried out in compliance with the terms of this Order, will be considered consistent with the NCP, as provided in Section 300.700(c)(3)(ii) of the NCP.

g. A planning period of at least six months exists before field activities beyond sampling and related scoping activities required by this Order must be initiated.

VI. ORDER

Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations, and the Administrative Record for the Portland Harbor Superfund Site, including the Terminal 4 Removal Area, it is hereby Ordered and Agreed that Respondent shall comply with all provisions of this Order, including, but not limited to, all appendices to this Order and all documents incorporated by reference into this Order.

VII. DESIGNATION OF CONTRACTOR, AND PROJECT COORDINATOR

13. Respondent shall retain one or more contractors or qualified employees to perform the Work and shall notify EPA of the name(s) and qualifications of such contractor(s) and/or employee(s) within 10 days of the Effective Date. Respondent shall also notify EPA in writing of the name(s) and qualification(s) of any other contractor(s) or subcontractor(s) or employees retained to perform the Work at least 7 days prior to that contractor's or subcontractor's commencement of such Work. EPA retains the right to disapprove of any or all of the contractors and/or subcontractors or employees retained by Respondent to perform the Work. If EPA disapproves of a selected contractor or employee, Respondent shall retain a different contractor or employee and shall notify EPA of that contractor's or employee's name and qualifications within 10 days of EPA's disapproval.

14. Respondent designates Anne Summers as its Project Coordinator. Respondent's Project Coordinator shall be responsible for the administration of all actions by Respondent required by this Order. To the greatest extent possible, the Project Coordinator shall be present or readily available during field Work. Respondent must notify EPA if it plans to change its Project Coordinator and must provide EPA with the new Project Coordinator's name, address, telephone number, and qualifications. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondent shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number, and qualifications within 7 days following EPA's disapproval. Receipt by Respondent's Project Coordinator of any notice or communication from EPA relating to this

Order shall constitute receipt by Respondent.

15. EPA designates Sean Sheldrake of the Office of Environment Cleanup (ECL), Region X, as its Project Coordinator. Except as otherwise provided in this Order, Respondent shall direct all submissions required by this Order to the EPA Project Coordinator at 1200 Sixth Avenue, M/S ECL-111, Seattle, WA 98101 and when possible via email to sheldrake.sean@epa.gov.

16. EPA and Respondent shall each have the right, subject to Paragraph 14, to change their respective designated Project Coordinator. Respondent shall notify EPA 7 days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notice.

VIII. WORK TO BE PERFORMED

17. Respondent shall perform, at a minimum, all actions necessary to implement the Statement of Work (SOW), which is attached as Appendix B.

18. The EPA Guidance on Conducting Non-Time-Critical Removal Actions under Superfund (OSWER Directive 9360.0-32) and any additional relevant guidance shall be followed in implementing the SOW.

19. The primary objective of this removal action is to significantly reduce the potential risk to human health and the environment resulting from potential exposure to hazardous substances, pollutants or contaminants and to remove the discharge of oil or to mitigate or prevent the threat of a discharge of oil from the Terminal 4 Removal Action Area.

20. For all Work, EPA may approve, disapprove, require revisions to, or modify a deliverable in whole or in part. If EPA requires revisions, Respondent shall submit a revised deliverable within 30 days of receipt of EPA's notification of the required revisions, unless otherwise noted in the SOW. Respondent shall implement the Work as approved in writing by EPA in accordance with the schedule approved by EPA. Once approved, or approved with modifications, the Work and the schedule, and any subsequent modifications, shall be incorporated into and become fully enforceable under this Order.

21. Respondent shall not commence any Work except in conformance with the terms of this Order. Respondent shall not commence implementation of the Work developed hereunder until after receiving written EPA approval pursuant to this Section.

22. Quality Assurance and Sampling.

a. All sampling and analyses performed pursuant to this Order shall conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control ("QA/QC"), data validation, and chain of custody procedures. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance. Respondent shall follow, as appropriate, "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive No. 9360.4-01, April 1, 1990), as guidance for QA/QC and sampling. Respondent shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-4 1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National

Standard, January 5, 1995), and "EPA Requirements for Quality Management Plans (QA/R-2) (EPA/240/N-01/002, March 2001)," or equivalent documentation as determined by EPA. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program ("NELAP") as meeting the Quality System requirements.

b. Upon request by EPA, Respondent shall have such a laboratory analyze samples submitted by EPA for QA monitoring. Respondent shall provide to EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis.

c. Upon request by EPA, Respondent shall allow EPA or its authorized representatives to take split and/or duplicate samples. Respondent shall notify EPA not less than 20 days in advance of any sample collection activity, unless shorter notice is agreed to by EPA. EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall allow Respondent to take split or duplicate samples of any samples it takes as part of its oversight of Respondent's implementation of the Work.

23. Reporting.

a. After the Effective Date and until EPA provides a Notice of Completion of Work pursuant to Section XXVIII, Respondent shall submit a written progress report to EPA concerning actions undertaken pursuant to this Order on the 15th day of each month after the Effective Date, unless otherwise directed in writing by the EPA Project Coordinator. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the reporting

period, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems. EPA may require more frequent progress reporting during implementation of the removal action, as it determines necessary when approving Respondent's design and/or removal action work plan.

b. Respondent shall, at least 30 days prior to the sale or lease of any interest in real property owned or controlled by Respondent at the Removal Action Area, give written notice to the transferee that the property is subject to this Order and written notice to EPA of the proposed sale or lease, including the name and address of the transferee. Respondent shall also as a condition of the transfer require that the transferee and its successors comply with Sections IX (Site Access) and X (Access to Information) of this Order.

24. Final Removal Completion Report. Within 30 days after completion of all Work required by this Order, Respondent shall submit for EPA review and approval a final report summarizing the actions taken to comply with this Order. The final report shall conform, at a minimum, with the requirements set forth in Section 300.165 of the NCP entitled "OSC Reports" and with "Superfund Removal Procedures: Removal Response Reporting - POLREPS and OSC Reports" (OSWER Directive No. 9360.3-03, June 1, 1994). The final report shall include a good faith estimate of total costs or a statement of actual costs incurred in complying with the Order, a listing of quantities and types of Waste Materials removed off-Site or handled on-Site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling

and analyses performed, and accompanying appendices, containing all relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits). The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

"Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

25. Off-Site Shipments.

a. Respondent shall, prior to any off-site shipment of Waste Material from the Terminal 4 Removal Action Area to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to the EPA Project Coordinator. However, this notification requirement shall not apply to any off-site shipments when the total volume of all such shipments will not exceed 10 cubic yards.

i. Respondent shall include in the written notification the following information: 1) the name and location of the facility to which the Waste Material is to be shipped; 2) the type and quantity of the Waste Material to be shipped; 3) the expected schedule for the shipment of the Waste Material; and 4) the method of transportation. Respondent shall notify the state in which the planned receiving facility is located of major changes in the

shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

ii. The identity of the receiving facility and state will be determined by Respondent following the award of the contract for the removal action. Respondent shall provide the information required by Paragraph 25(a)(i) as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

b. Before shipping any hazardous substances, pollutants, or contaminants from the Terminal 4 Removal Action Area to an off-site location, Respondent shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondent shall only send hazardous substances, pollutants, or contaminants from the Terminal 4 Removal Action Area to an off-site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

IX. ACCESS/INSTITUTIONAL CONTROLS

26. If any portion of the Terminal 4 Removal Action Area, or any other property where access is needed to implement this Order, is owned and controlled by Respondent, Respondent shall, commencing on the Effective Date, provide EPA and its representatives, including contractors, with access at all reasonable times to the Terminal 4 Removal Action Area, or such other property, for the purpose of conducting any activity related to this Order. If after the removal action is complete restrictions on the use of Respondent's property, including the beds or banks of the slips or Willamette River, is necessary to maintain the removal action or avoid

exposure to hazardous substances, pollutants or contaminants, Respondent shall take any and all actions to establish, implement, and maintain the necessary institutional controls. Respondent shall establish, implement, and maintain the necessary institutional controls on the schedule and for the duration provided in the EE/CA and/or any work plans or reports developed under this Order.

27. If any portion of the Terminal 4 Removal Action Area, or any other riparian property where access is needed to implement this Order, is owned by or in the control of someone other than Respondent, Respondent shall use best efforts to obtain all necessary access for Respondent, EPA, DEQ, the Tribal Governments, and Natural Resource Trustees, and their representatives and agents, for performing and overseeing any of the investigation and analysis work required to be done in the SOW, including but not limited to, sampling, surveying, monitoring, through EPA approval of the EE/CA. Necessary access agreements shall be obtained within 60 days of the Effective Date of this Order. Throughout the EE/CA process, if other properties or areas that are owned or controlled by someone other than Respondent are determined to be needed for purposes of this Order, Respondent shall use its best efforts to obtain access from such person by no later than 30 days before Respondent needs to access the property. Within 60 days after EPA issues its decision document selecting the removal action alternative, where any action under this Order is to be performed in areas owned by or in possession of someone other than Respondent, Respondent shall use best efforts to obtain all necessary access agreements. Respondent shall immediately notify EPA if after using its best efforts it is unable to obtain any such agreements. In such notice, Respondent shall describe in writing a detailed accounting of its efforts to obtain

access. For purposes of this Paragraph, "best efforts" includes the payment of reasonable sums of money in consideration of access. EPA may then assist Respondent in gaining access, to the extent necessary to effectuate the response actions described herein, using such means as EPA deems appropriate. Respondent shall reimburse EPA for all costs and attorney's fees incurred by the United States in obtaining such access, in accordance with the procedures in Section XV (Payment of Future Response Costs).

28. Notwithstanding any provision of this Order, EPA retains all of its access authorities and rights, as well as all of its rights to require land/water use restrictions, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

X. ACCESS TO INFORMATION

29. Respondent shall provide copies to EPA, upon request, of all documents and information within its possession or control or that of its contractors or agents relating to activities at the Terminal 4 Removal Action Area or sources of hazardous substances, pollutants or contaminants, or discharges of oil, and to the implementation of this Order, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondent shall also make available to EPA, for purposes of investigation, information gathering, or testimony, its employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

30. Respondent may assert business confidentiality claims covering part or all of the

documents or information submitted to EPA under this Order, to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA, or if EPA has notified Respondent that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to Respondent.

31. Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondent asserts such a privilege in lieu of providing documents, it shall provide EPA with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the contents of the document, record, or information; and 6) the privilege asserted by Respondent. However, no documents, reports or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged.

32. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Terminal 4 Removal Action Area.

XI. RECORD RETENTION

33. Until 10 years after Respondent's receipt of EPA's notification pursuant to Section XXVIII (Notice of Completion of Work), Respondent shall preserve and retain at least one copy of all records and documents (including records or documents in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Terminal 4 Removal Action Area, regardless of any internal retention policy to the contrary. Until 10 years after Respondent's receipt of EPA's notification pursuant to Section XXVIII (Notice of Completion of Work), Respondent shall also instruct its contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to performance of the Work.

34. At the conclusion of this document retention period, Respondent shall notify EPA at least 90 days prior to the destruction of any such records or documents, and, upon request by EPA, Respondent shall deliver any such records or documents to EPA. Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondent asserts such a privilege, it shall provide EPA with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or information; and 6) the privilege asserted by Respondent. However, no documents, reports or other information created or generated

pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged.

35. Respondent hereby certifies that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to its potential liability for the Portland Harbor Superfund Site since notification of potential liability by EPA. Respondent hereby agrees that it will fully comply with any and all future EPA requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927.

XII. COMPLIANCE WITH OTHER LAWS

36. Respondent shall perform all actions required pursuant to this Order in accordance with all applicable local, state, and federal laws and regulations except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all actions required pursuant to this Order shall, to the extent practicable, as determined by EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements (ARARs) under federal environmental, tribal environmental, or state environmental or facility siting laws. No local, state, or federal permit shall be required for any action conducted entirely on-Site, including studies, where such action is selected and carried out in compliance with this Order.

XIII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

37. In the event of any action or occurrence during performance of the Work which

causes or threatens to cause a release of Waste Material from the Terminal 4 Removal Action Area that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondent shall immediately take all appropriate action. Respondent shall take these actions in accordance with all applicable provisions of this Order, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondent shall also immediately notify the EPA Project Coordinator or, in the event of his/her unavailability, the Regional Duty Officer, Environmental Cleanup Office, Emergency Response Unit, EPA Region X, 206-553-1263, of the incident or conditions. In the event that Respondent fails to take appropriate response action as required by this Paragraph, and EPA takes such action instead, Respondent shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XV (Payment of Future Response Costs).

38. In addition, in the event of any discharge of oil or any release of a hazardous substance from or to the Removal Action Area, Respondent shall immediately notify the EPA Project Coordinator and the National Response Center at (800) 424-8802. Respondent shall submit a written report to EPA within 7 days after each release or discharge, setting forth the events that occurred and the measures taken or to be taken to mitigate any release, discharge, or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11001, *et seq.*, and Section 311 of the CWA, 33 U.S.C. § 1321.

XIV. AUTHORITY OF EPA PROJECT COORDINATOR

39. The EPA Project Coordinator shall be responsible for overseeing Respondent's implementation of this Order. The Project Coordinator shall have the authority vested in an On-Scene Coordinator (OSC) by the NCP, including the authority to halt, conduct, or direct any Work required by this Order, or to direct any other removal action undertaken at the Terminal 4 Removal Action Area, as well as the authority of a Remedial Project Manager (RPM) as set forth in the NCP. Absence of the EPA Project Coordinator from the Removal Action Area shall not be cause for stoppage of work unless specifically directed by the EPA Project Coordinator.

XV. PAYMENT OF FUTURE RESPONSE COSTS

40. Payments for Future Response Costs.

a. Respondent shall pay EPA all Future Response Costs not inconsistent with the NCP. On a periodic basis, EPA will send Respondent a bill requiring payment that includes a certified Agency Financial Management System summary (SCORPIOS), or other regionally prepared cost summary, which includes direct and indirect costs incurred by EPA and its contractors. Respondent shall make all payments within 30 days of receipt of each bill requiring payment, except as otherwise provided in Paragraph 43 of this Order. Within the 30-day payment period, Respondent may request to review the following underlying EPA oversight cost documentation: EPA personnel time sheets, travel authorizations and vouchers; EPA contractor monthly invoices; and all applicable contract laboratory program (CLP) invoices.

b. Respondent shall make all payments required by this Paragraph by a certified or cashier's check or checks made payable to "EPA Hazardous Substance Superfund-Portland

Harbor Special Account," referencing the name and address of the parties making payment, the Docket Number of this Order, and EPA Site/Spill ID number 10BC and shall be clearly designated as Response Costs: Portland Harbor Superfund Site, Terminal 4 Removal Action Area. Respondent shall send the check(s) to:

Mellon Client Services Center
EPA Region 10
ATTN: Superfund Accounting
P.O. Box 360903M
500 Ross Street
Pittsburgh, Pennsylvania 15251

c. At the time of payment, Respondent shall send notice that payment has been made to the Financial Management Officer, Environmental Protection Agency, Region 10, 1200 Sixth Avenue, M/S OMP-146, Seattle, Washington 98101-1128.

41. The total amount to be paid by Respondent under this Order shall be deposited in the Portland Harbor Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the Hazardous Substance Superfund.

42. If payments for Future Response Costs are not made within 30 days of Respondent's receipt of a bill, Respondent shall pay Interest on the unpaid balance. The Interest on Future Response Costs shall begin to accrue on the date of Respondent's receipt of the bill and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondent's failure to make timely payments under this Section, including but not limited to,

payment of stipulated penalties pursuant to Section XVIII.

43. Consistent with the dispute resolution provisions in Section XVI of this Order, Respondent may dispute all or part of a bill for Future Response Costs submitted under this Order, if Respondent alleges that EPA has made an accounting error, or if Respondent alleges that a cost item is inconsistent with the NCP, or billed costs are outside the scope of this Order. If any dispute over costs is resolved before payment is due, the amount due will be adjusted as necessary. If the dispute is not resolved before payment is due, Respondent shall pay the full amount of the uncontested costs to EPA as specified in this Section on or before the due date. Within the same time period, Respondent shall pay the full amount of the contested costs into an interest-bearing escrow account. Respondent shall simultaneously transmit a copy of both checks to the persons listed in this Section above, together with a copy of the correspondence that established and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Respondent shall instruct the bank that the prevailing party or parties in the dispute shall receive the amount upon which they prevailed from the escrow funds plus interest within 10 days after the dispute is resolved.

XVI. DISPUTE RESOLUTION

44. Unless otherwise expressly provided for in this Order, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Order. The Parties shall attempt to resolve any disagreements concerning this Order expeditiously and informally.

45. If Respondent objects to any EPA action taken pursuant to this Order, including billings for Future Response Costs, it shall notify EPA in writing of its objection(s) within 14 days of such action, unless the objection(s) has/have been resolved informally, or EPA has agreed to extend the informal dispute resolution period in writing. Respondent's notice shall provide all of the reasons for its objections and attach any supporting information or documentation that it is relying on to raise the dispute. EPA and Respondent shall then have 30 days from EPA's receipt of Respondent's written objection(s) to resolve the dispute through formal negotiations (the "Negotiation Period") with EPA's Remedial Action Unit Manager. EPA may in its sole discretion prepare a written response to Respondent's written objections. The Negotiation Period may be extended at the sole discretion of EPA. At EPA's discretion and approval, the record may be supplemented during the Negotiation Period.

46. Any agreement reached by the parties pursuant to this Section shall be in writing and shall, upon signature by both parties, be incorporated into and become an enforceable part of this Order. If the Parties are unable to reach an agreement within the Negotiation Period, EPA's position shall be the final decision and binding upon Respondent, unless within 5 days of the end of the Negotiation Period, Respondent requests the determination of EPA's Director of the Office of Environmental Cleanup Office or his/her designee (ECL Director) based on the record created pursuant to Paragraph 45. The ECL Director will issue a written decision on the dispute to Respondent. The ECL Director's decision shall be incorporated into and become an enforceable part of this Order, except as provided below. Respondent's obligations to perform other activities and submit deliverables in accordance with the approved schedules under this Order shall not be

tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondent shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs. Respondent may appeal the ECL Director's written decision to Region X's Regional Administrator only on the following issues: (1) EPA's disapproval of Respondent's recontamination analysis required as part of the EE/CA; and (2) EPA's selection of a removal action alternative upon issuance of a decision document, i.e., Action Memorandum or other decision document. If Respondent seeks to appeal the ECL Director's decision on one or both of the issues set forth above, it must request a determination of the Regional Administrator based on the record created in accordance with Paragraph 45 above, within 5 days of receipt of the ECL Director's decision. The Regional Administrator's decision shall be the final decision on the issue and enforceable under this Order.

47. If Respondent does not comply with EPA's final administrative decision, EPA reserves the right in its sole discretion to seek penalties from Respondent for violation of the Order, to conduct any portion of the Work remaining under the SOW, and/or to pursue any other enforcement option provided in CERCLA. If EPA seeks to enforce this Order in court, Respondent may seek judicial review of EPA's final administrative decision based on the administrative record developed during the dispute resolution process. Any judicial review of the dispute shall be under the arbitrary and capricious standard.

XVII. FORCE MAJEURE

48. Respondent agrees to perform all requirements of this Order within the time limits established under this Order, unless the performance is delayed by a *force majeure*. For purposes of this Order, a *force majeure* is defined as any event arising from causes beyond the control of Respondent, or of any entity controlled by Respondent, including but not limited to its contractors and subcontractors, which delays or prevents performance of any obligation under this Order despite Respondent's best efforts to fulfill the obligation. *Force majeure* does not include financial inability to complete the Work, or increased cost of performance, or a failure to attain performance standards/action levels selected by EPA.

49. If any event occurs or has occurred that may delay the performance of any obligation under this Order, whether or not caused by a *force majeure* event, Respondent shall notify EPA orally within 24 hours of when Respondent first knew that the event might cause a delay. Within 10 days thereafter, Respondent shall provide to EPA in writing an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondent's rationale for attributing such delay to a *force majeure* event if they intend to assert such a claim, including supporting documentation for such a claim; and a statement as to whether, in the opinion of Respondent, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall preclude Respondent from asserting any claim of *force majeure* for that event for the period of time of such failure to comply and for any

additional delay caused by such failure.

50. If EPA agrees that the delay or anticipated delay is attributable to a *force majeure* event, the time for performance of the obligations under this Order that are affected by the *force majeure* event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the *force majeure* event shall not, of itself, extend the time for performance of any other obligation. If EPA does not agree that the delay or anticipated delay has been or will be caused by a *force majeure* event, EPA will notify Respondent in writing of its decision. If EPA agrees that the delay is attributable to a *force majeure* event, EPA will notify Respondent in writing of the length of the extension, if any, for performance of the obligations affected by the *force majeure* event.

XVIII. STIPULATED PENALTIES

51. Respondent shall be liable to EPA for stipulated penalties in the amounts set forth in this Section for failure to comply with the requirements of this Order specified below, unless excused under Section XVII (*Force Majeure*). "Compliance" by Respondent shall include completion of the activities under this Order or any work plan or other plan approved under this Order identified below in accordance with all applicable requirements of law, this Order, all Appendices, and any plans or other documents approved by EPA pursuant to this Order and within the specified time schedules established by and approved under this Order.

52. Stipulated Penalty Amounts - Work.

a. The following stipulated penalties shall accrue per violation per day for any noncompliance identified in Paragraph 52(b):

Penalty Per Violation Per Day	Period of Noncompliance
$ 1,000	1st through 14th day
$ 2,500	15th through 30th day
$ 5,000	31st day and beyond

b. The final and all submitted drafts of the following Compliance Milestones:

1. Draft and Final EE/CA Work Plan

2. Draft and Final Removal Action Area Characterization Report

3. First and Second Draft and Final EE/CA Report

4. Draft and Final Biological Assessment and CWA Section 404 Memorandums

5. Draft and Final 30% removal action design

6. Draft and Final 60% removal action design

7. Draft and Final 100% removal action design

8. Draft and Final Removal Action Work Plan

9. Draft and Final Removal Action Completion Report

53. Stipulated Penalty Amounts - Reports, Other Non-Compliance, including late Payment of Response Costs. The following stipulated penalties shall accrue per violation per day for failure to submit timely or adequate final and all submitted draft reports or other written documents pursuant to this Order that are not listed in Paragraph 52(b). The following stipulated penalties shall accrue per violation per day for any non-compliance with the requirements of this Order, including late payments of Response Costs.

Penalty Per Violation Per Day	Period of Noncompliance
$ 500	1st through 14th day
$ 1,500	15th through 30th day
$ 2,500	31st day and beyond

54. In the event that EPA assumes performance of a portion or all of the work pursuant to Section XX, Paragraph 65 (Work Takeover), Respondent shall be liable for a stipulated penalty in the amount of $200,000 or 25% of the cost of the Work EPA performs, whichever is less.

55. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: 1) with respect to a deficient submission under Section VIII (Work to be Performed), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Respondent of any deficiency; and 2) with respect to a decision by the ECL Director or his/her designee under Section XVI (Dispute Resolution), during the period, if any, beginning on the 7th day after the end of the Negotiation Period until the date that the ECL Director or the Regional Administrator, if applicable, issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Order.

56. Following EPA's determination that Respondent has failed to comply with a requirement of this Order, EPA may give Respondent written notification of the failure and describe the noncompliance. EPA may send Respondent a written demand for payment of the

penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Respondent of a violation.

57. All penalties accruing under this Section shall be due and payable to EPA within 30 days of Respondent's receipt from EPA of a demand for payment of the penalties, unless Respondent invokes the dispute resolution procedures under Section XVI (Dispute Resolution). All payments to EPA under this Section shall be paid by certified or cashier's check(s) made payable to "EPA Hazardous Substances Superfund," shall be mailed to the Lockbox number and address set forth in Paragraph 40.b, above, shall indicate that the payment is for stipulated penalties, and shall reference the EPA Region and Site/Spill ID Number10BC, the EPA Docket Number of this Order, and the name and address of the parties making payment. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s), shall be sent to EPA as provided in Paragraph 15, and to other receiving officials at EPA identified in Paragraph 40.c, above.

58. The payment of penalties shall not alter in any way Respondent's obligation to complete performance of the Work required under this Order.

59. Penalties shall continue to accrue during any dispute resolution period, but need not be paid until 15 days after the dispute is resolved by agreement or by receipt of EPA's decision.

60. If Respondent fails to pay stipulated penalties when due, EPA may institute proceedings to collect the penalties, as well as Interest. Respondent shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to this Section. Nothing in this Order shall be construed as prohibiting, altering, or in any way limiting the ability

of EPA to seek any other remedies or sanctions available by virtue of Respondent's violation of this Order or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Sections 106(b) and 122(l) of CERCLA, 42 U.S.C. §§ 9606(b) and 9622(l), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that EPA shall not seek civil penalties pursuant to Section 106(b) or 122(l) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of a willful violation of this Order or in the event that EPA assumes performance of a portion or all of the Work pursuant to Section XX, Paragraph 65.

61. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Order.

XIX. COVENANT NOT TO SUE BY EPA

62. In consideration of the actions that will be performed and the payments that will be made by Respondent under the terms of this Order, and except as otherwise specifically provided in this Order, EPA covenants not to sue or to take administrative action against Respondent pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), Section 311(e) of the CWA, 33 U.S.C. § 1321(e), and Section 1002 of OPA, 33 U.S.C. § 2702 for performance of the Work and for recovery of Future Response Costs. This covenant not to sue shall take effect upon the Effective Date and is conditioned upon the complete and satisfactory performance by Respondent of all obligations under this Order, including, but not limited to, payment of Future Response Costs pursuant to Section XIV. This covenant not to sue extends only to Respondent

and does not extend to any other person.

XX. RESERVATIONS OF RIGHTS BY EPA

63. Except as specifically provided in this Order, nothing herein shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, discharges of oil, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Order, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law.

64. The covenant not to sue set forth in Section XIX above does not pertain to any matters other than those expressly identified therein. EPA reserves, and this Order is without prejudice to, all rights against Respondent with respect to all other matters, including, but not limited to:

a. claims based on a failure by Respondent to meet a requirement of this Order;

b. liability for costs not included within the definition of Future Response Costs;

c. liability for performance of response action other than the Work;

d. criminal liability;

e. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;

f. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Terminal 4 Removal Action Area; and

g. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Portland Harbor Superfund Site and the Terminal 4 Removal Action Area.

65. Work Takeover. In the event EPA determines that Respondent has ceased implementation of any portion of the Work, is seriously or repeatedly deficient or late in its performance of the Work, or is implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portion of the Work as EPA determines necessary. Respondent may invoke the procedures set forth in Section XVI (Dispute Resolution) to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by the United States in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Respondent shall pay pursuant to Section XV (Payment of Future Response Costs). Notwithstanding any other provision of this Order, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

66. Except as specifically provided in this Order, including but not limited to, Section I., Paragraph 4, and Section XXI., each party reserves all rights, claims, privileges, and defenses it may have. EPA's or Respondent's failure to specifically reserve a particular right herein shall not be construed as a waiver of that right.

XXI. COVENANT NOT TO SUE BY RESPONDENT

67. Respondent covenants not to sue and agrees not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work, Future

Response Costs, or this Order, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claim arising out of response actions at or in connection with the Work, including any claim under the United States Constitution, the Oregon State Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or

c. any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Work. Except as provided in Paragraph 77 (Waiver of Claims), these covenants not to sue shall not apply in the event the United States brings a cause of action or issues an order pursuant to the reservations set forth in Paragraphs 64 (b), (c), and (e) - (g), but only to the extent that Respondent's claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

68. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

XXII. OTHER CLAIMS

69. By issuance of this Order, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent. The United States or EPA shall not be deemed a party to any contract entered into by Respondent or its commissioners, directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Order.

70. Except as expressly provided in Section XIX (Covenant Not to Sue by EPA), nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against Respondent or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

71. No action or decision by EPA pursuant to this Order shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXIII. CONTRIBUTION PROTECTION

72. The Parties agree that Respondent is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), for "matters addressed" in this Order. The "matters addressed" in this Order are the Work and Future Response Costs related to the Terminal 4 Removal Action Area only. Nothing in this Order precludes the United States or Respondent from asserting any claims, causes of action, or demands against any persons not parties to this Order for

indemnification, contribution, or cost recovery.

73. Respondent agrees that with respect to any suit or claim for contribution brought by it for matters related to this Order, it will notify EPA in writing no later than 60 days prior to the initiation of such suit or claim. Respondent further agrees that with respect to any suit or claim for contribution brought against them for matters related to this Order, it will notify EPA in writing within 10 days of service of the complaint on it. In addition, Respondent shall notify EPA within 10 days of service or receipt of any Motion for Summary Judgment and within 10 days of receipt of any order from a court setting a case for trial.

74. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, recovery of response costs, or other appropriate relief relating to the Terminal 4 Removal Action Area, Respondent shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States in the subsequent proceeding were or should have been addressed in this Order; provided, however, that nothing in this Paragraph affects the enforceability of the covenants not to sue set forth in this Order.

XXIV. INDEMNIFICATION

75. Respondent, to the extent permitted by Article IV., Section 24 of the Constitution of the State of Oregon, and its contractor(s) shall indemnify, save and hold harmless the United States, and its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action arising from, or on account of, negligent or other wrongful

acts or omissions of Respondent, or its commissioners, officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Order. In addition, Respondent agrees to pay the United States all costs incurred by the United States, including but not limited to attorneys fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondent, its commissioners, officers, directors, employees, agents, contractors, subcontractors and any persons acting on its behalf or under its control, in carrying out activities pursuant to this Order. The United States shall not be held out as a party to any contract entered into by or on behalf of Respondent in carrying out activities pursuant to this Order. Neither Respondent nor any such contractor shall be considered an agent of the United States.

76. The United States shall give Respondent notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondent prior to settling such claim.

77. Respondent waives all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Removal Action Area, including, but not limited to, claims on account of construction delays. In addition, Respondent shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Removal Action Area, including, but not limited to, claims on account

of construction delays

XXV. INSURANCE

78. At least 7 days prior to commencing any field Work under this Order, Respondent shall secure, and shall maintain for the duration of this Order, comprehensive general liability insurance and automobile insurance with limits of at least 1 million dollars, per occurrence, plus Umbrella insurance in excess of the comprehensive general liability and automobile liability coverage in the amount of 4 million dollars per occurrence. Within the same time period, Respondent shall provide EPA with certificates of such insurance and a copy of each insurance policy. In addition, for the duration of the Order, Respondent shall satisfy, or shall ensure that its contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Respondent in furtherance of this Order. If Respondent demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondent need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

XXVI. FINANCIAL ASSURANCE

79. Within 45 days of the Effective Date and on the anniversary of the Effective Date every year thereafter until Notice of Completion of Work in accordance with Section XXVIII below is received from EPA, Respondent shall establish and maintain financial security in the amount of 15 million dollars in one or more of the following forms:

a. A surety bond guaranteeing performance of the Work;

b. One or more irrevocable letters of credit equaling the total estimated cost of the Work;

c. A trust fund;

d. A demonstration that Respondent satisfies the requirements of 40 C.F.R. Part 264.143(f).

80. If Respondent seeks to demonstrate its ability to complete the Work by means of the financial test pursuant to Paragraph 79(d) of this Section, it shall resubmit sworn statements conveying the information required by 40 C.F.R. 264.143(f) annually, by November 30 of each year. In the event that EPA determines at any time that the financial assurances provided pursuant to this Section are inadequate, Respondent shall, within 30 days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 79 of this Section. Respondent's inability to demonstrate financial ability to complete the Work shall not excuse performance of any activities required under this Order.

81. If, after the Effective Date, Respondent can show that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 79 of this Section, Respondent may, on any anniversary date of the Effective Date, or at any other time agreed to by the Parties, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining Work to be performed. Respondent shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security upon approval by EPA. In the event of a dispute, Respondent may reduce the

amount of the security in accordance with the written decision resolving the dispute.

82. Respondent may change the form of financial assurance provided under this Section at any time, upon notice to and approval by EPA, provided that the new form of assurance meets the requirements of this Section. In the event of a dispute, Respondent may change the form of the financial assurance only in accordance with the written decision resolving the dispute.

XXVII. MODIFICATIONS

83. EPA may determine that in addition to tasks defined in the SOW, or initial approved work plans, other additional work may be necessary to accomplish the objectives of the removal action. EPA may request Respondent to perform these response actions and Respondent shall confirm its willingness to perform the additional work, in writing, to EPA within 7 days of receipt of EPA's request or Respondent may invoke dispute resolution. Subject to EPA resolution of any dispute, Respondent shall implement the additional tasks which EPA determines are necessary. Any other requirements of this Order may be modified in writing by mutual agreement of the parties.

85. If Respondent seeks permission to deviate from any approved work plan or schedule or Statement of Work, Respondent's Project Coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Respondent may not proceed with the requested deviation until receiving oral or written approval from the EPA Project .

86. No informal advice, guidance, suggestion, or comment by the EPA Project Coordinator or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondent shall relieve Respondent of its obligation to obtain any formal

approval required by this Order, or to comply with all requirements of this Order, unless it is formally modified.

XXVIII. NOTICE OF COMPLETION OF WORK

87. When EPA determines, after EPA's review of the Final Removal Action Completion Report, that all Work has been fully performed in accordance with this Order, with the exception of any continuing obligations required by this Order, including post-removal site controls and monitoring, if any, payment of Future Response Costs, or record retention, EPA will provide written notice to Respondent. If EPA determines that any such Work has not been completed in accordance with this Order, EPA will notify Respondent, provide a list of the deficiencies, and require that Respondent correct such deficiencies. Respondent shall implement the modified and approved Work Plan and shall submit a modified Final Removal Action Completion Report in accordance with the EPA notice. Failure by Respondent to implement the approved modified Work Plan shall be a violation of this Order.

XXIX. SEVERABILITY/INTEGRATION/APPENDICES

88. If a court issues an order that invalidates any provision of this Order or finds that Respondent has sufficient cause not to comply with one or more provisions of this Order, Respondent shall remain bound to comply with all provisions of this Order not invalidated or determined to be subject to a sufficient cause defense by the court's order.

89. This Order and its appendices constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Order. The parties acknowledge that there are no representations, agreements or understandings relating to the

settlement other than those expressly contained in this Order. The following appendices are attached to and incorporated into this Order:

a. Appendix A: Map generally depicting the Terminal 4 Removal Action Area and the immediate upland area.

b. Appendix B: Statement of Work

XXX. EFFECTIVE DATE

90. This Order shall be effective on the day it is signed and issued by EPA. The undersigned representative of Respondent certifies that (s)he is fully authorized to enter into the terms and conditions of this Order and to bind Respondent.

XXXI. NOTICES AND SUBMISSIONS

91. Documents including work plans, reports, approvals, disapprovals, and other correspondence which must be submitted under this Order, shall be sent to the individuals at the addresses specified below, unless those individuals give written notice of a change to the other parties. All notices and submissions shall be considered effective one business day after receipt by Respondent's Project Coordinator, unless otherwise provided. Respondent shall also submit such documents in electronic form via email to sheldrake.sean@epa.gov or via CD-ROM.

a. One (1) copy of EPA correspondence or other communications to Respondent's Project Coordinator:

Anne Summers
Port of Portland
P. O. Box 3529
Portland, OR 97208
(503) 944-7508 (telephone)
(503) 944-7353 (fax)

summea@portptld.com (e-mail)

b. Three (3) copies of documents to be submitted to EPA shall be forwarded to:

Sean Sheldrake
U.S. Environmental Protection Agency
1200 Sixth Avenue, ECL-111
Seattle, Washington 98101

c. One (1) copy of documents shall be submitted to DEQ:

James M Anderson
DEQ Northwest Region
2020 SW Fourth Ave
Suite 400
Portland OR 97201

d. One (1) copy to Oregon Department of Fish & Wildlife:

Rick Kepler
Oregon Department of Fish & Wildlife
2501 SW First Avenue
Portland, OR 97207

e. One (1) copy to NOAA:

Helen Hillman
Coastal Resources Coordination
c/o EPA Region 10
1200 Sixth Avenue (MS ECL-117)
Seattle, WA 98101

f. One copy to the U.S. Department of Interior:

Preston Sleeger
Regional Environmental Officer
Pacific Northwest Region
500 NE Multnomah St.
Suite 356
Portland, OR 97232

g. One copy to the Confederated Tribes of the Warm Springs Reservation of Oregon:

Brian Cunninghame
(b) (6)
Hood River, OR 97031

h. One copy to the Confederated Tribes and Bands of the Yakama Nation:

Lynn Hatcher
Yakima Nation Fisheries Management Program
P.O. Box 1514690 SR 22
Toppenish, WA 98948

i. One copy to the Confederated Tribes of the Grand Ronde Community of Oregon:

Rod Thompson
Confederated Tribes of the Grand Ronde Community of Oregon
47010 SW Hebo Road
Grand Ronde, OR 97347

j. One copy to the Confederated Tribes of the Siletz Indians:

Tom Downey
Environmental Specialist
Confederated Tribes of the Siletz Indians
P.O. Box 549
Siletz, OR 97380

k. One copy to the Confederated Tribes of the Umatilla Indian Reservation:

Audie Huber
Confederated Tribes of the Umatilla Indian Reservation
Department of Natural Resources
73239 Confederated Way
Pendleton, OR 97801

l. One copy to the Nez Perce Tribe:

Rick Eichstaedt
Nez Perce Tribe
P.O. Box 365
Lapwai, ID 83540

It is so ORDERED and Agreed this 2nd day of Oct., 2003.

BY: Sylvia Kawabata DATE: 10/2/03
Sylvia Kawabata
ECL Unit Manager
U.S. EPA, Region X

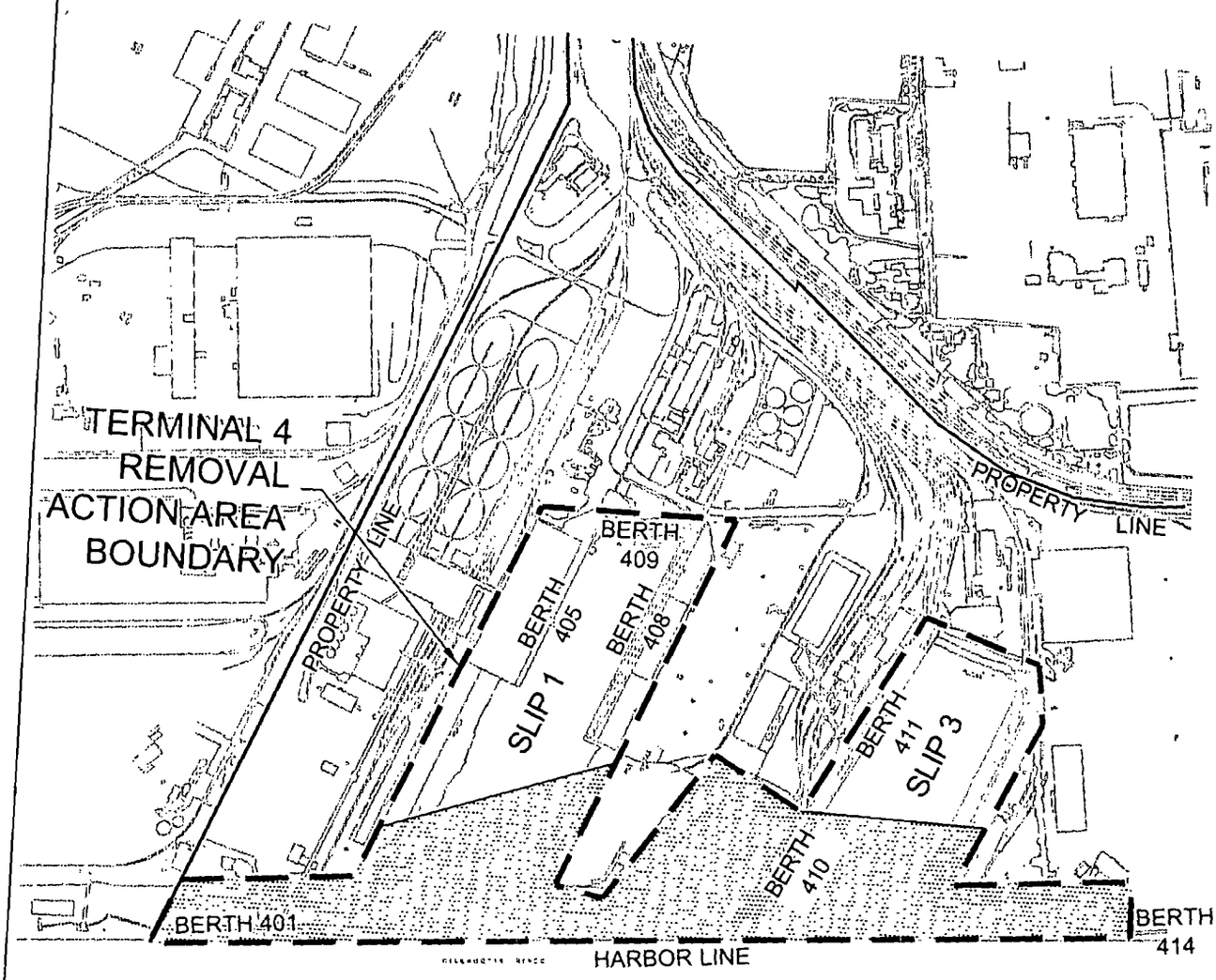
Agreed this 25 day of September, 2003.

For Respondent Port of Portland

By Bill Wyatt

Title Executive Director

APPENDIX A
TERMINAL 4 REMOVAL ACTION AREA



WILLAMETTE RIVER

Ownership:

Port of Portland

State of Oregon

N

0 600 1200

Scale in Feet

DATE. 09/26/03 2:00pm
DWG NAME G:\project\Clients\BBL\Terminal 4\app_a.dwg

Map of Terminal 4 Removal Action Area

APPENDIX B

STATEMENT OF WORK

PORT OF PORTLAND TERMINAL 4 REMOVAL ACTION AREA
PORTLAND HARBOR SUPERFUND SITE
PORTLAND, OREGON

I. PURPOSE

The purpose of this Statement of Work (SOW) is to implement the Administrative Order on Consent for Removal Action (AOC).

The Work to be completed under this SOW shall include preparation, delivery, and implementation of the following:

1. Engineering Evaluation/Cost Analysis (EE/CA) Work Plan (draft and final);
2. Removal Action Area Characterization Report (draft and final);
3. Engineering Evaluation/Cost Analysis (EE/CA) Report (draft and final);
4. Biological Assessment (BA) and Clean Water Act (CWA) (Section 404) Analysis Memorandum;
5. Removal Action Design Documents (conceptual, pre-final and final);
6. Removal Action Work Plan (draft and final);
7. Implementation of Removal Action;
8. Removal Action Completion Report (draft and final);
9. Long-Term Monitoring and Reporting Plan (if appropriate); and
10. Community Involvement Activities

Removal activities shall be completed in accordance with Table 1 of this SOW. The goal is to implement the removal activity beginning in 2007, or as otherwise approved by the Environmental Protection Agency (EPA).

The Respondent will coordinate monthly meetings and/or teleconferences with EPA, DEQ, the Tribes, and the Trustees to discuss the status of work described in this SOW. Monthly meetings may be cancelled or postponed upon agreement between EPA and the Respondent. Respondent will coordinate quarterly meetings with EPA and DEQ and/or updates will be provided regarding source control efforts pertaining to the Removal Action Area. DEQ, the Tribes and the Trustees will submit their comments to EPA. EPA will provide the comments to Respondent that Respondent is to address.

II. WORK TO BE PERFORMED BY RESPONDENT

Deliverables specified in this SOW shall be consistent with "EPA's Guidance on Conducting Non-Time-Critical Removal Actions under CERCLA" (EPA/540/R-93/057, OSWER 9360.0-32). Work to be completed under this SOW shall also include activities

necessary to achieve the criteria and performance standards contained in this SOW work plan, report, or other deliverable approved under the AOC and this SOW.

Respondent shall complete the following tasks:

1. Engineering Evaluation/Cost Analysis (EE/CA) Work Plan

Respondent shall submit an EE/CA Work Plan that will include a summary of existing information, a project work plan, a Sampling and Analysis Plan (SAP) and a Health and Safety Plan (HASP).

The EE/CA Work Plan shall include, at a minimum, the following information:

- Introduction/Purpose;
- Brief description of Port of Portland Terminal 4 Removal Action Area characteristics, including ecological and physical characteristics;
- Identification of historic and potential ongoing sources of contamination to the Port of Portland Terminal 4 Removal Action Area, including past and present operations, drainage, discharges, or other releases;
- Summary of existing information on upstream and upland contamination sources that have the potential to contaminate the Removal Action Area, including a description of environmental investigations, environmental cleanups and planned upland source control measures that will be conducted under agreements with DEQ as the lead agency;
- Terminal 4 historical information including dredging history and identification of past and present property owners, operators, and major tenants in the Port of Portland Terminal 4 Removal Action Area as well as owners and operators of all immediately adjacent upland properties;
- Summary of current Port and tenant marine and associated facility operations and potential access or operational constraints on Work Plan implementation;
- Description of the nature and extent of contamination in the Port of Portland Terminal 4 Removal Action Area, to the extent known, including a summary of existing sediment quality data with a comparison to existing sediment quality guidelines that represent a range of levels including low or no effects (e.g., Threshold Effects Concentrations [TECs], Threshold Effects Levels [TELs], Effects Range Low [ERLs]), as well as levels at which some effects are expected (e.g., Probable Effects Concentrations [PECs], Effects Range Medium [ERMs]). Existing chemistry data will be reviewed to establish Category 1 and Category 2 data categories in accordance with the Portland Harbor RI/FS protocols;

- Summary of results from sediment toxicity testing conducted to date;

- If accepted by the Tribes, a reference to the cultural resource survey performed in consultation with the Tribes, or a process for reaching agreement with the Tribes on a survey, and a process for developing procedures to protect and address such cultural resources;

- A description of the analysis to be conducted to determine the likelihood of post Removal Action recontamination of the Port of Portland Terminal 4 Removal Action Area by upland or upstream sources of contamination;

- Identification of Removal Action Objectives (RAOs), potential Applicable or Relevant and Appropriate Requirements (ARARs), and To Be Considered (TBCs) for the Port of Portland Terminal 4 Removal Action Area, in consultation with State of Oregon and other partners on the Removal Action;

- A description of the analysis to be conducted to determine disposal facility options for contaminated sediment, including a description of the public participation process for selecting a disposal facility; and

- Other information (including maps and figures) necessary to gain a general understanding of the Port of Portland Terminal 4 Removal Action Area.

Respondent shall also identify data gaps that will be filled by the collection and analysis of field data. Investigation activities will focus on problem definition and will result in data of adequate quality and technical content to evaluate the following:

- Nature, extent, and volume of sediment contamination;

- Potential human health and ecological risks resulting from sediment contamination;

- Engineering characteristics of the Removal Action Area including sediment consistency, dredgeability, potential slope stability issues related to dredging, and potential sediment consolidation issues associated with capping;

- Potential water quality effects associated with dredging, piling removal, sheet pile installation, capping, or disposal technologies;

- Alternative technologies for sediment remediation including capping, dredging, treatment (not including treatability testing, which is reserved and may be performed later, if needed) and disposal (on-Site and off-Site); and

- Potential impacts to threatened or endangered species, other biological receptors, and the potential habitat benefits and impacts of the removal action and related disposal.

The procedures Respondent plans to implement when conducting all field activities will be detailed in the SAP that will be included in the EE/CA Work Plan. The SAP will ensure that sample collection and analytical activities are conducted in accordance with technically acceptable protocols and that data meet data quality objectives. The SAP provides a mechanism for planning field activities and consists of a Field Sampling Plan (FSP) and a Quality Assurance Project Plan (QAPP). Details are provided in Section III of this SOW.

Respondent shall also prepare HASP that is designed to protect personnel from physical, chemical and other hazards posed by field sampling efforts. Details are set forth in Section III of this SOW.

Upon request by EPA, Respondent shall also submit copies of previous studies or sampling efforts conducted independently or under local, state or other federal authorities or agreements that are determined by EPA to relate to remedy selection under this Order.

Additionally, Respondent shall continue to work under DEQ supervision on source control efforts related to the Port of Portland Terminal 4 Removal Action Area, which may include source identification, source prioritization, documentation and tracking of source control plans and completed source control actions, evaluating and documenting effectiveness of source control measures, and providing input to EPA and DEQ's decision as to effectiveness of source control in order to implement the Removal Action. The goal is for significant ongoing sources to be controlled to the greatest extent practicable before or during Removal Action implementation such that significant post Removal Action recontamination is not predicted.

2. Removal Action Area Characterization Report

Respondent shall submit a Removal Action Area Characterization Report that includes information from field sampling events, including validated analytical results.

The Removal Action Area Characterization Report shall include, at a minimum, the following sections:

- Introduction/Purpose;
- Summary of the field sampling effort that, at a minimum, includes sampling vessel information, field effort dates, a summary of the sample collection effort (e.g., surface sediment, subsurface sediment, and surface water samples), field sample observations (e.g., sediment descriptions), and a summary of sample and station locations – including station depths (corrected to mean lower low water), station locations (latitudes/longitudes and state plane coordinates), maps and figures;
- Deviations from the FSP;
- Summary of sample handling and shipment; and

- Summary of all data, including a data validation report. Data from this effort shall be provided electronically in a format consistent with other data already acquired under the harbor-wide study.

Respondent shall submit the data validation report to EPA within 5 days of Respondent's receipt of the data validation report from their contractor or in-house source. Information necessary for EPA to perform an independent review of the validated data shall also be provided.

3. Engineering Evaluation/Cost Analysis (EE/CA) Report

Based on data obtained in the previous sampling efforts and work to be performed under this SOW, and in consideration of EPA's guidance for removal actions, Respondent will prepare a technical briefing for EPA, DEQ, the Tribes and the Trustees on the proposed removal alternatives that will be presented by Respondent in the EE/CA.

After the technical briefing, Respondent, in consideration of comments received at the technical briefing, will submit a first draft of the EE/CA.

The first draft EE/CA will be revised in response to EPA comments. A second draft EE/CA shall be submitted to EPA for release for a formal public comment period, following EPA approval and modification if necessary if EPA comments were not adequately addressed. If requested by EPA, a final version of the EE/CA shall be submitted to EPA for review and approval in accordance with the schedule set forth in Table 1 of this SOW. The EE/CA will contain the following sections:

- Executive Summary;
- Introduction;
- Removal Action Area Characterization;
- The result of the analysis regarding the post Removal Action recontamination potential of the Port of Portland Terminal 4 Removal Action Area by upland or upstream sources of contamination, including whether source control actions will be sufficient or if additional actions may be required to control potential sources of significant recontamination;
- Procedures for addressing and protecting cultural resources in the Removal Action Area;
- Identification of Removal Action Objectives;
- Identification and Analysis of Removal Action Technologies;
- Identification and Analysis of Removal Action Alternatives, including the identification and analysis of disposal facility options and incorporating the costs of any Removal Action constraints imposed by current or planned Port or tenant marine and associated facility operations;
- Comparative Analysis of Removal Action Alternatives;
- Recommended Removal Action Alternative, including the selection of any needed disposal facility;

- An assessment of the residual risk anticipated after Removal Action implementation;
- Schedule for recommended Removal Action; and
- Preliminary drafts of the Biological Assessment and Clean Water Act analysis memorandum for the recommended Removal Action alternative (see Section 4 below).

A public comment period of at least thirty (30) days is required for the EE/CA and any supporting documentation. Respondent shall assist EPA, as requested, before and during the comment period with its community relations activities concerning the EE/CA. Respondent shall also assist EPA in compiling the Administrative Record before and during the public comment period. If, based on public comments received, EPA determines additional data or analyses are required to complete the EE/CA, Respondent shall collect such data, or perform such analyses, as determined necessary by EPA.

4. Biological Assessment (BA) and Clean Water Act (CWA) (Section 404) Analysis Memorandum

In order to identify the presence of threatened, endangered, proposed or candidate species, or their habitat, within the vicinity of the proposed Port of Portland Terminal 4 Removal Action Area, Respondent will prepare, for EPA approval, a draft BA to support compliance with the substantive requirements of the Endangered Species Act. The draft BA will characterize baseline conditions of existing habitat; address potential project impacts that the Removal Action may have on these species, their habitat, and their food stocks; and describe best management practices and conservation measures designed to avoid or minimize any negative impacts.

If dredging, capping, or other filling is a component of any of the alternatives, Respondent shall submit a draft memorandum that provides sufficient information to demonstrate compliance with the substantive requirements of Section 404(b) (1) of the CWA. The memorandum shall document the information gathered regarding practicability and cost, long- and short-term impacts from all proposed alternatives, minimization of adverse effects, and an analysis of the need for any mitigation.

5. Project Design Documents

After EPA has selected a removal action for the Removal Action Area and set forth its determination and selected action in a Terminal 4 Removal Action Memorandum, Respondent shall prepare project design documents, including construction plans and specifications, to implement the Removal Action and shall demonstrate that the Removal Action design shall meet all objectives of any Action Memorandum or other EPA decision document. Respondent shall meet regularly with EPA prior to and during development of design documents and provide EPA, for review and approval, the key technical documents that support the removal design (see below). Design documents, including plans and specifications, shall be submitted in accordance with the schedule set forth in Table 1 of this SOW.

5.1 Conceptual, Prefinal, and Final Designs

Respondent shall submit the following levels of design:

- Conceptual design when the design effort is 30 percent complete;
- Prefinal design when the design effort is 60 percent complete;
- Final design when the design effort is 100 percent complete.

The final design shall fully address all EPA comments made on the prefinal design.

*5.1.1 **Conceptual (30 percent) Design*** shall include an overall explanation of the following as appropriate:

- If the selected alternative includes capping, the conceptual design will show capping areas and conceptual slope and cap designs;
- If the selected alternative includes dredging, the conceptual design will show dredging areas and conceptual cut thicknesses and slope angles;
- Proposed disposal technology (on-Site or off-Site) conceptual design including general disposal location, handling methods and transport approaches;
- Annotated outline of prefinal design analysis report;
- Annotated outline of plan drawings;
- Annotated outline of specifications.

*5.1.2 **Prefinal (60 percent) Design*** shall include three separate deliverables as follows:

- Prefinal (60 percent) Design Analysis Report;
- Prefinal (60 percent) Construction Documents and Schedule;
- Prefinal (60 percent) Design Plans.

5.1.2.1 Prefinal (60 percent) Design Analysis Report shall provide the design criteria and the basis of design for the Removal Action. Examples of the types of information to be included are described below:

- Technical parameters and supporting calculations upon which the design will be based, including but not limited to design requirements for each remedial action technology to be employed (e.g., dredging, capping);

- If the selected alternative includes capping:

  - appropriate physical and chemical characteristics of materials to be used for sediment capping and method for identifying and testing clean source material, including acceptance criteria for such material;

  - determinations regarding potential propeller scour for capped areas;

  - cap placement techniques;

- If the selected alternative includes dredging and/or excavation:

  - Identification of requirements for the contractor regarding the handling, transport (including haul routes) and disposal of dredged or excavated sediments , including identification of any best management practices, monitoring, and/or analyses necessary to protect personnel from potential chemical hazards posed by this Removal Action (such activities may be further described in the contractor's HASP);

  - design dredge or excavation depths and overcut allowances, dredged or excavated material volumes, and dredging or excavation techniques;

  - identification of potential location(s) for disposal of dredged or excavated sediments;

  - if the proposed disposal technology is an off-Site upland landfill, the design documents will include descriptions of sediment transloading (from water transport to land transport), stockpiling, dewatering, and overland transport;

  - if the proposed disposal technology is an on-Site near shore Confined Disposal Facility (CDF), the design documents will include fill closure approach, hydrogeologic and contaminant transport evaluation for the fill, static and seismic stability analyses, filling approach, consolidation analysis, and screening of other potential sources of material for the CDF;

- Descriptions of the analyses conducted to select the design approach, including a summary and detailed justification of design assumptions and verification that design will meet performance standards;

- Access and easement requirements, and permit requirements or substantive requirements of permits;

- Plan for reducing negative effects on the environment and community during the construction phase(s);

- An outline of the long-term monitoring and reporting plan; and

- Analysis and recommendations on institutional controls and/or engineering controls that may need to be implemented to ensure the long-term effectiveness of the Removal Action, including descriptions of how such controls would be implemented, by whom, and under what circumstances such controls could be removed or terminated (see "Institutional Controls" OSWER 9355.0-74FS-P, EPA 540-F-00-005, September 2000).

- If appropriate, conduct an update of the analysis regarding post Removal Action recontamination of the Port of Portland Terminal 4 Removal Action Area by upland or upstream sources of contamination, including what source control actions have occurred since the EE/CA analysis, whether additional actions and/or schedule delays may be necessary to control potential sources of significant recontamination.

If the selected alternative includes capping, the cap design shall follow appropriate EPA guidance, including "Guidance for In-Situ Subaqueous Capping of Contaminated Sediments" (EPA 905-B96-004). Performance of capping activities shall be consistent with federal regulations, including the requirements of Sections 401 and 404 of the CWA.

If the selected alternative includes dredging, the performance standards shall be consistent with federal regulations, including requirements of Sections 404 and 401 of the CWA and Section 10 of the Rivers and Harbors Act.

5.1.2.2 Prefinal (60 percent) Construction Documents and Schedule, including:

- Construction plans/drawings/sketches and required specifications;

- Proposed locations of processes/construction activity or specific requirements for such locations;

- Schedule for construction and implementation of the Removal Action that identifies major milestones.

5.1.2.3 Prefinal (60 percent) Design Plans, including:

- Draft Construction Quality Assurance Plan (see Section III of this SOW) which shall detail the remediation verification method and approach to quality assurance during construction activities in the project area, including compliance with ARARs. The Plan will describe the methods used to measure compliance with measurement quality objectives (such as performance and method requirements), including target dredge or excavation depths, if appropriate. The Plan will include, as an attachment, a Draft Removal Action Sampling and Analysis Plan (see Section III of this SOW), which shall include a field sampling plan and a QAPP. If the selected alternative includes capping, performance monitoring will include characterization of in-place capping materials (e.g., coverage and thickness). If the selected alternative includes dredging or excavation, performance monitoring will be performed to confirm that dredged or excavated material is properly staged, dewatered, and transported to a suitable disposal site; and that field construction activities are properly sequenced.

- Draft Water Quality Monitoring Plan and its associated Quality Assurance Project Plan and HASP (see Section III of this SOW), which shall detail water quality monitoring to confirm that water quality standards as defined by substantive requirements of CWA Section 401 water quality certification for compliance with the

requirements in CWA Section 404(b)(1) guidelines are met (or ensure approval to allow temporary exceedances of water quality standards has been received) during any capping and dredging operations and where return-water from barges or de-watering (as appropriate) may affect the water column. The plan shall describe the specific water quality monitoring requirements, including a schedule; sampling locations; sampling intervals; sampling equipment and parameters; analytical methods; key contacts; reporting requirements (including daily reports); daily contacts for notifications of any exceedances; result summaries; and draft and final Water Quality Monitoring reports. A QAPP and a HASP specific to water quality monitoring shall be included in this deliverable.

5.1.3 Final (100 percent) Design:

The 100 percent Final Design submittal shall include the following:

- Final Design Analysis Report;
- Final construction documents and schedule;
- Final Design Plans;
- Operation, Maintenance, and Monitoring Plan;
- Final cost estimate for the Removal Action and estimated cost for long-term monitoring; and
- Final schedule.

6. Removal Action Work Plan

Respondent shall prepare a Removal Action Work Plan that outlines the implementation of the selected Removal Action alternative, including how construction activities are to be implemented by Respondent and coordinated with EPA. The Work Plan shall include, at a minimum, the following elements that are consistent with and implements the approved final design:

- Removal action project plan describing the sequence of activities;

- A description of how the removal action implements the final design;

- Schedule of activities for completion of the Removal Action, including inspections, meetings, and documents referenced in this task;

- Remedial action HASP that is designed to protect personnel from physical, chemical and other potential hazards posed by this Removal Action;

- Construction quality assurance plan (CQAP) and statement of qualifications (for the construction contractor). The CQAP will describe in detail the methods for direct measurements to be made during construction to ensure RAOs and performance standards will be met;

- Remedial action environmental protection plan;

- Procedures for processing design changes and securing EPA review and approval of such changes to ensure changes are consistent with the objectives of this Removal Action;

- Procedures for coordinating with EPA regarding compliance with EPA's Off-Site Rule, as applicable.

The HASP shall follow EPA guidance and all OSHA requirements as outlined in 29 C.F.R. 1910 and 1926. Respondent may utilize existing HASP project documents or other company/contractor HASPs provided that Respondent demonstrates the HASP has been modified, as necessary, or otherwise sufficiently addresses the activities covered by this SOW. Draft and Final versions of the Removal Action Work Plan shall be submitted to EPA for review and approval in accordance with the schedule set forth in Table 1 of this SOW.

7. Implementation of Removal Action

As described in Table 1, Respondent shall provide notification to EPA thirty (30) days prior to initiation of fieldwork to allow EPA to coordinate field oversight activities.

Respondent shall complete the sediment Removal Action in accordance with the approved Final Design documents and Removal Action Work Plan. The following activities shall be completed in constructing the Removal Action.

EPA and Respondent shall participate in a preconstruction meeting to:

- Review methods for documenting and reporting data, and compliance with specifications and plans including methods for processing design changes and securing EPA review and approval of such changes as necessary;

- Review methods for distributing and storing documents and reports;

- Review work area security and safety protocols, as appropriate;

- Demonstrate that construction management is in place, and discuss any appropriate modifications of the CQAP to ensure that project specific considerations are addressed;

- Discuss methods for direct measurement, including confirmation sampling of construction work to be used to ensure performance standards are met;

- If requested, conduct a Removal Action Area tour in the project area to verify that the design criteria, plans, and specifications are understood and to review material and equipment storage locations, as appropriate.

- If appropriate, conduct an update of the analysis regarding post Removal Action recontamination of the Port of Portland Terminal 4 Removal Action Area by upland or upstream sources of contamination, including what source control actions have occurred since the EE/CA analysis, whether additional actions and/or schedule delays may be necessary to control potential sources of significant recontamination.

Respondent shall transmit (electronically) draft key points and action items of the preconstruction meeting to all parties within seven (7) days of the meeting. Respondent shall submit final key points and action items of the preconstruction meeting to all parties within fourteen (14) days of the meeting.

Pursuant to the CQAP, weekly reports shall be prepared and submitted (electronically) to EPA for review during the Removal Action. Weekly reports shall include work performed, problems encountered and solutions proposed, water quality monitoring results, and work to be performed during the following week. If applicable, Respondent shall inform EPA of the off-Site disposal facility proposed to receive any debris or dredged/excavated materials from the Port of Portland Terminal 4 Removal Action Area.

Within seven (7) days after Respondent makes a preliminary determination that construction is complete, Respondent shall orally notify EPA for the purposes of scheduling a final inspection and/or meeting. Within fourteen (14) days after the final inspection and/or meeting, Respondent shall send a letter to EPA stating that construction is complete and responding to any outstanding issues that were raised by EPA during the final inspection/meeting.

8. Removal Action Completion Report

Within 60 days after completion of the construction phase of the Removal Action, Respondent shall submit for EPA review and approval a Removal Action Completion Report. This report shall contain a description of the Work described in the Removal Action Work Plan and the Work that was actually performed. In the report, a registered professional engineer and Respondent shall state that the Removal Action has been constructed in accordance with the design and specifications. The report shall provide as-built drawings, signed and stamped by a professional engineer, showing the area and depth of the location remediated. The final report shall include a good faith estimate of total costs or a statement of actual costs incurred in complying with the Order, a listing of quantities and types of materials removed off-Site or handled on-Site, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed (including a map showing the locations of any confirmatory samples), and accompanying appendices containing all relevant documentation generated during the Removal Action (e.g., manifests, invoices, bills, contracts, and permits). All analytical data collected under this AOC shall be provided electronically to EPA. The final Water Quality Monitoring report may be submitted as an appendix to the Removal Action Completion Report. This Removal Action Completion Report shall contain a description of any institutional controls that are in

place, or engineering controls that are necessary to sustain the integrity of the Removal Action, along with copies of any agreements or other documents used to establish and implement such controls.

The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

> "Under penalty of perjury under the laws of the United States, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

9. Long-Term Monitoring and Reporting Plan

If identified as a component of the selected alternative, Respondent shall prepare a Long-Term Monitoring and Reporting Plan for the Port of Portland Terminal 4 Removal Action Area. The Long-Term Monitoring and Reporting Plan shall include inspections and analyses to monitor the Removal Action implemented at the Port of Portland Terminal 4 Removal Action Area.

If required, the Long-Term Monitoring and Reporting Plan shall describe monitoring objectives, an overview of the monitoring approach, design of the monitoring program (e.g., sampling strategy, station locations and replication, field sampling methods, laboratory methods), data analysis and interpretation, reporting requirements, and a schedule. The Plan shall include, as appropriate, visual inspection, bathymetric survey, sediment deposition monitoring, chemical monitoring, and sediment samples in capped areas and non-capped areas (including excavated areas) to monitor for recontamination. Data from long-term monitoring shall be assembled into reports and submitted to EPA in accordance with the schedule set forth in the Long-Term Monitoring and Reporting Plan. Based on long-term monitoring results, EPA shall determine if future response actions are needed to achieve the cleanup objectives.

10. Community Involvement Activities

If requested by EPA, Respondent shall provide information supporting EPA's community involvement programs related to the Work performed pursuant to this Order, and shall participate in public meetings which may be held or sponsored by EPA to explain activities at the Removal Action Area or concerning Work performed pursuant to this Order. As part of the Port's routine public outreach efforts, the Port will consult with EPA regarding the planned outreach effort relating to the Port of Portland Terminal 4 Removal Action and request EPA involvement in such effort. EPA will coordinate its community outreach efforts with DEQ.

III. CONTENT OF SUPPORTING PLANS

1. Sampling and Analysis Plan

Respondent shall develop a project-specific SAP comprising an FSP and a project-specific QAPP for sample analysis and data handling for samples collected at the Removal Action Area. The SAP shall be based upon the AOC, SOW and EPA guidance.

The FSP will define in detail the sampling and data-gathering methods that will be used on the project. It will include sampling objectives, a detailed description of sampling activities, sample locations, sample analysis, sampling equipment and procedures, sampling schedule, station positioning, and sample handling (e.g., sample containers and labels, sample preservation). The SAP will be prepared in accordance with "Methods for Collection, Storage and Manipulation of Sediments for Chemical and Toxicological Analyses: Technical Manual" (EPA/823/B-01-002, October 2001). The content of the SAP shall include the type of information described in EPA's Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (EPA/540/G-89-004).

The QAPP will describe the quality assurance and quality control protocols necessary to achieve required data quality objectives. The QAPP will be prepared in accordance with "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, March 2001) and "Guidance on Quality Assurance Project Plans (QA/G-5)" (EPA/600/R-98/018, February 1998). The QAPP will address sampling procedures, sample custody, analytical procedures, and data reduction, validation, reporting, and personnel qualifications. The laboratory performing the work must have and follow an approved Quality Assurance (QA) program, which complies with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01-002, March 2001) or equivalent documentation as determined by EPA. If a laboratory not in the EPA Contract Laboratory Program (CLP) is selected, the QAPP shall be consistent with the requirements of the CLP for laboratories proposed outside the CLP. Respondent will provide assurances that EPA has access to laboratory personnel, equipment and records for sample collection, transportation, and analysis.

All sampling and analyses performed pursuant to this Order shall conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control (QA/QC), data validation, and chain-of-custody procedures. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance.

Upon request by EPA, Respondent shall have such a laboratory analyze samples submitted by EPA for quality-assurance monitoring. Respondent agrees that EPA personnel may audit any laboratory that performs analytical work under this SOW. Prior to awarding any work to an analytical laboratory, Respondent will inform the laboratory that an audit may be performed, and that the laboratory agrees to coordinate with EPA prior to performing analyses.

Respondent shall provide to EPA the quality assurance/quality control procedures followed by all sampling teams and laboratories performing data collection and/or analysis. Upon request by EPA, Respondent shall allow EPA or its authorized representatives to take split and/or duplicate samples. Respondent shall notify EPA not less than 14 days in advance of any sample collection activity, unless shorter notice is agreed to by EPA. EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall allow Respondent to take split or duplicate samples of any samples it takes as part of its oversight of Respondent's implementation of the Work.

All analytical data collected under this SOW shall be provided electronically to EPA.

2. Health and Safety Plan(s)

The HASP(s) ensures protection of health and safety during the performance of work under the AOC and this SOW. The HASP shall be prepared in accordance with EPA's Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration ("OSHA") regulations found at 29 C.F.R. Part 1910. Respondent shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the Removal Action.

3. Construction Quality Assurance Plan

The CQAP describes the project-specific components of the performance methods and quality assurance program to ensure that the completed project meets or exceeds all design criteria, plans, and specifications. The draft Plan shall be submitted with the Prefinal design and the Final Plan shall be submitted with the Final Design. The Final Plan shall be submitted prior to the start of construction in accordance with the approved construction schedule. The Plan shall provide requirements for the following elements:

- Responsibilities and authorities of all organization and key personnel involved in the Removal Action construction, including EPA and other agencies.

- Qualifications of the Construction Quality Assurance (CQA) Officer. Establish the minimum training and experience of the CQA Officer and supporting inspection personnel.

- Inspection and verification activities. Establish the observations and tests that will be required to monitor the construction and/or installation of the components of the Removal Action. The plan shall include the scope and frequency of each type of inspection to be conducted. Inspections shall be required to verify compliance with environmental requirements and ensure compliance with all health and safety procedures.

- Performance standards and methods. Describe all performance standards and methods necessary to implement the removal construction. Performance monitoring requirements shall be designed to demonstrate that best management practices have been implemented during dredging operations, dredged or excavated material transportation, and cap placement.

- Sampling activities. Establish requirements for quality assurance sampling activities, including the sampling protocols, sample size, sample locations, frequency of testing, acceptance and rejection data sheets, and plans for correcting problems as addressed in the project specifications.

- Documentation. Establish the reporting requirements for construction quality assurance activities. This shall include such items as daily and weekly summary reports, inspection data sheets, problem identification and corrective measures reports, design acceptance reports, and final documentation. A description of the provisions for final storage of all records consistent with the requirements of the AOC shall be included.

IV. SUMMARY OF MAJOR DELIVERABLES/SCHEDULE

The schedule for submission to EPA of deliverables described in the SOW is presented in Table 1.

TABLE 1 – Schedule of Project Deliverables		
Engineering Evaluation/Cost Analysis (EE/CA) Work Plan	Draft EE/CA Work Plan Final EE/CA Work Plan	Within 90 days after effective date of AOC. Within 30 days after receipt of EPA comments on draft
Removal Action Area Characterization Report	Draft Removal Action Area Characterization Reports Final Removal Action Area Characterization Reports	Within 150 days after EPA approval of the EE/CA Work Plan Within 30 days after receipt of EPA comments on draft Report.
Engineering Evaluation/Cost Analysis (EE/CA) Report	Technical Briefing on Proposed Remedial Alternatives First Draft EE/CA Second Draft (Public Review) EE/CA Final EE/CA	Within 30 days after approval of the Final Removal Action Area Characterization Report by EPA. Within 90 days of the Technical Briefing on Proposed Removal Alternatives. Within 60 days after receipt of EPA comments on first draft EE/CA. Within 60 days after receipt of EPA comments on second draft EE/CA
Biological Assessment and 404 Memorandum	Draft Biological Assessment and Draft Clean Water Act Section 404 Memorandum Revised Draft Biological Assessment and Revised Draft Clean Water Act Section 404 Memorandum	Within 90 days after EPA issuance of the Action Memorandum. Within 30 days after receipt of EPA comments on the draft Biological Assessment and Draft Clean Water Act Section 404 Memorandum.
Project Design Documents	Conceptual (30 percent) Design Prefinal (60 percent) Design Final (100 percent) Design	Within 90 days of EPA signature of the Action Memorandum. Within 90 days after receipt of EPA comments on conceptual design. Within 60 days after receipt of EPA comments on prefinal design.
Removal Action Work Plan	Draft Removal Action Work Plan Final Removal Action Work Plan	Within 60 days after EPA approval of the Contractor Within 30 days after receipt of EPA comments on draft Removal Action Work Plan.
Implementation of Removal Action	Notification of Removal Action Start Removal Action Start	Provide notification to EPA 30 days prior to initiation of Removal Action fieldwork to allow EPA to coordinate field oversight activities. 30 days after Notification Removal Action
Removal Action Completion	Draft Removal Action	Within 60 days after completion of

TABLE 1 – Schedule of Project Deliverables		
Report	Completion Report	Removal Action (construction phase).
	Final Removal Action Completion Report	Within 30 days after receipt of EPA comments on Draft Removal Action Completion Report.
Long-Term Monitoring and Reporting Plan	Draft Long-Term Monitoring and Reporting Plan	Within 60 days after EPA approval of the Final Design.
	Final Long-Term Monitoring and Reporting Plan	Within 60 days after completion of the removal action and receipt of EPA comments.
	Monitoring Data Reports	Schedule to be proposed by Respondent in the Long-Term Monitoring and Reporting Plan.

Reference to EPA comments reflects EPA's consideration of comments, including comments from the Oregon DEQ, the Tribes, and federal and state Natural Resource Trustees.

Portland Harbor Port of Portland Terminal 4 AOC Concurrence

	Sheldrake	Houck-Cora	Kowalski		
Initial	SS	DBH for	[illegible]		
Date	9/30/2003	9/30/03	10/1/03		