

**STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY**

In the Matter of Remedial Action by:

ENFORCEMENT ORDER

Blount, Inc.; E.I. Du Pont De Nemours and Co., Inc.; Morton International LLC; PPG Industries; Puget Sound Naval Shipyards; Sandvik Special Metals, LLC; United States Air Force; United States Department of Agriculture, Forest Service; United States Department of the Interior, Bureau of Reclamation; and Zep Manufacturing.

No. DE 9406

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I. INTRODUCTION

The objective of the State of Washington, Department of Ecology (Ecology) under this Enforcement Order is to require remedial action at a facility where there has been a release or threatened release of hazardous substances.

On October 31, 2012, Ecology entered into Agreed Order No. DE 9240 with twenty two (22) Potentially Liable Parties (hereinafter “PLPs”). The Agreed Order requires these PLPs to conduct a Focused Feasibility Study (FFS) per WAC 173-340-350(8) to evaluate a focused set of remedial alternatives to address soil and groundwater contamination at the Pasco Landfill NPL Site (Site). *See* Exhibit C. The PLPs who entered into the Agreed Order are hereinafter referred to as the “AO PLPs.”

This Enforcement Order (Order) is being issued to the PLPs who did not sign Agreed Order No. DE 9240. The Model Toxics Control Act (MTCA) establishes that all PLPs are strictly, jointly, and severally liable for the remediation of the Site. The PLPs who are issued this Order are listed below and shall be hereinafter referred to as the “EO PLPs.” The Order serves as the sole administrative mechanism, consistent with MTCA, by which the EO PLPs are to conduct the work specified in Exhibit B (Scope of Work).

This Order requires the EO PLPs to conduct a FFS per WAC 173-340-350(8) to evaluate a focused set of remedial alternatives per WAC 173-340-350 through 173-340-380 to address soil and groundwater contamination at the Site by implementing the agreed Scope of Work attached hereto as Exhibit B. This Order further requires ongoing operation, maintenance, and monitoring of Ecology-approved interim actions that are necessary to protect human health and the environment from the release or threatened release of hazardous substances at the Site. Ecology expects that all PLPs, both AO PLPs, under the Agreed Order, and EO PLPs, under the Enforcement Order, will work jointly in contributing to the FFS.

After a final FFS report has been prepared and submitted, Ecology will develop a draft Cleanup Action Plan per WAC 173-340-350 through -380. The draft Cleanup Action Plan will

address contamination at the Site that does not comply with applicable cleanup standards. This Order does not include the implementation of a Cleanup Action Plan.

The following EO PLPs are subject to this Order: Blount, Inc.; E.I. Du Pont De Nemours and Co., Inc.; Morton International LLC; PPG Industries; Puget Sound Naval Shipyards; Sandvik Special Metals, LLC; United States Air Force; United States Department of Agriculture, Forest Service; United States Department of the Interior, Bureau of Reclamation; and Zep Manufacturing.

II. JURISDICTION

This Enforcement Order is issued pursuant to the Model Toxics Control Act (MTCA), RCW 70.105D.050(1).

III. PLPs BOUND

This Enforcement Order shall apply to and be binding upon the EO PLPs listed in this Order. To the extent allowed by law, changes in ownership or corporate status shall not alter EO PLPs' responsibility under this Order. The EO PLPs shall provide a copy of this Order to all agents, contractors, and subcontractors retained to perform work required by this Order, and shall ensure that all work undertaken by such agents, contractors, and subcontractors complies with this Order.

IV. DEFINITIONS

Unless otherwise specified herein, the definitions set forth in Chapter 70.105D RCW and Chapter 173-340 WAC shall control the meanings of the terms in this Order.

A. Site: Refers to the Pasco Landfill NPL Site, which is generally located approximately 1.5 miles northeast of the City of Pasco, Washington, in the southwest quarter of Section 15, and the northwest quarter of Section 22, Township 9 North, Range 30 East, Willamette Meridian, in Franklin County, Washington. The Site is defined by the extent of contamination caused by the release of hazardous substances at the Site. The Site is more particularly described in the Site Diagram, which is attached to this Order as Exhibit A, is an

integral part of this Order, and is incorporated by this reference. The Site constitutes a Facility under RCW 70.105D.020(5).

B. Parties: Refers to the State of Washington, Department of Ecology, and the EO PLPs.

C. Potentially Liable Persons (PLPs): Refers to all entities potentially liable for the investigation and cleanup of the Site, regardless of whether they have been issued this Order.

D. EO PLPs: Refers to the PLPs who are issued this Order.

E. AO PLPs: Refers to the PLPs who are parties to Ecology Agreed Order No. DE 9240. *See* Exhibit D.

F. Enforcement Order or Order: Refers to this Order and each of the exhibits to this Order. All exhibits are integral and enforceable parts of this Order. The terms “Enforcement Order” or “Order” shall include all exhibits to this Order.

G. GPA: Refers to the Groundwater Protection Area originating at the Site and depicted on Exhibit A-1 to Exhibit A.

H. IWA: Refers to the Industrial Waste Disposal Areas at the Site and depicted on Exhibit A-2 to Exhibit A.

I. SLA: Refers to the Sanitary Landfill Area at the Site and depicted on Exhibit A. The term “SLA” shall be interchangeable with MSW, or Municipal Solid Waste Area.

J. MSW: Refers to the Municipal Solid Waste Area at the Site and depicted on Exhibit A. The term “MSW” shall be interchangeable with SLA, or Sanitary Landfill Area.

V. FINDINGS OF FACT

Ecology makes the following findings of fact:

A. The Site is located near the intersection of Kahlotus Road with United States Routes 12 and 395, at latitude 46 degrees, 15’07” North and longitude 119 degrees, 03’13” West. The approximate location and boundaries of the Site are depicted in Exhibit A. The Site consists of the area illustrated and extends laterally and vertically as far as the plume of contamination which exceeds applicable cleanup levels in groundwater resulting from onsite contamination.

B. In 1958, the Franklin County Planning Commission authorized John Dietrich, d/b/a Pasco Garbage Service, to establish and operate a garbage disposal facility at this Site. The facility operated as a burning dump until 1971, at which point it was converted to a sanitary landfill.

C. Chemical Processors, Inc. and John and Marjorie Dietrich, d/b/a Basin Disposal Co., Inc. , agreed to form a third company, Resource Recovery Corporation (CR2), to operate the landfill. CR2 was incorporated in Washington on August 8, 1972. The CR2 Operational Plan, dated August 28, 1972, envisioned the development of additional disposal facilities for both drummed and liquid wastes. Drummed wastes were to be buried, and bulk liquids were to be discharged to lagoons and evaporated.

D. On or about January 3, 1973, CR2 submitted a Waste Discharge Permit Application (the Application) to Ecology, by which it sought permission to collect, transport to, and dispose of various industrial, commercial, and agricultural wastes at the disposal facility. On March 21, 1973, Ecology issued Waste Discharge Permit No. 5301 (the Permit) to CR2 to govern the operation of the disposal facility. The industrial waste lagoons and drum disposal sites were operated at the disposal facility through the end of 1974. Industrial wastes were segregated and disposed of in five zones of the IWA, designated as Zones A, B, C, D and E. *See* Exhibit A-2. Those areas, designated on Exhibit A-2 as Zone U-1 (historical) and Zone TS-2 (historical), were used as holding areas for industrial wastes.

E. On September 24, 1973, Franklin County notified CR2 that it was no longer permitted to dispose of industrial wastes originating from outside of Franklin and Benton Counties at the facility and that CR2 would need to obtain a new special use permit in order to continue operating the sanitary landfill portion of the facility. On November 5, 1973, CR2 submitted a special use permit application to Franklin County seeking permission to continue to operate the facility as a sanitary landfill and industrial waste disposal facility. Franklin County subsequently issued an interim order allowing CR2 to continue operating the sanitary landfill, but barring the disposal of industrial waste at the facility until the County made a decision on

CR2's special use permit application.

F. On February 11, 1974, Franklin County granted CR2 a special use permit that allowed CR2 to continue operating the sanitary landfill and to resume operating the industrial waste disposal facilities until May 2, 1974. CR2 subsequently entered into a Performance Agreement with Franklin County and Ecology, whereby Franklin County allowed CR2 to operate the industrial waste facility through December 31, 1974.

G. Zone A consisted of a drum disposal area and reportedly contains approximately 35,000 drums of mixed organic and inorganic industrial wastes. Zone B consisted of a drum disposal area and contained approximately 5000 drums of chlorinated herbicide manufacturing wastes. Zone C consisted of an unlined pond that was used to evaporate water from various industrial wastes. Zone D consisted of an unlined pond that was used for the disposal of non-containerized industrial wastes. Approximately 3,000,000 gallons of wastes were disposed of in Zones C and D. Zone E consisted of a bulk waste disposal area where approximately 11,000 tons of chlor-alkali sludge and carbon electrode wastes were reportedly deposited.

H. Following expiration of the Permit, CR2 continued to operate the sanitary landfill portion of the facility, accepting local solid and industrial waste under permit from the Benton-Franklin District Health Department. In 1981, Pasco Sanitary Landfill, Inc. (PSL) was formed to operate the landfill. PSL currently owns the Pasco Sanitary Landfill property, which is depicted in Exhibit A.

I. In February 1990, the Site was listed as a National Priority List (NPL) site by the United States Environmental Protection Agency. This listing was based on the identification of hazardous substances in Site media, including groundwater. Ecology was established as the lead agency for the cleanup investigations and remedial actions taken at the Site.

J. In 1992, a Phase I Remedial Investigation (RI) was begun by a group of PLPs. The purpose of the Phase I RI was to gain additional information on the nature and extent of contamination in the soil, soil-gas, and groundwater near potential contaminant sources at the Site. Findings of the Phase I RI confirmed the presence of site-related contamination in soil,

soil-gas, and groundwater at levels exceeding then applicable MTCA cleanup levels.

K. In November 1994, Ecology issued Enforcement Order No. DE 94TC-E103 to certain PLPs, requiring them to perform a Phase II RI and Feasibility Study (FS). The purpose of the Phase II RI was to further define and characterize the source(s), nature, degree, and extent of contamination at the Site. The purpose of the FS was to develop and evaluate remedial measures to reduce risks to human health and the environment in accordance with WAC 173-340. Results of the Phase II RI Report confirmed that hazardous substances had been released to the environment, within the meaning of RCW 70.105D.020(20). The results of the Phase I and Phase II RI provided sufficient information regarding the nature and extent of contamination at the Site which allowed for the preparation of a Risk Assessment/Cleanup Levels Analysis and a FS.

L. The FS for the Site was completed in accordance with Enforcement Order DE 94TC-E103 and WAC 173-340-350. The FS report was accepted as final by Ecology in October 1999 after public notice and opportunity to comment. The FS proposed a five-year performance monitoring period during which time the preferred remedy would be monitored, evaluated, and modified (if necessary) to optimize the performance of the remedy.

M. In or around May of 1997, certain PLPs undertook Interim Remedial Measures (IRMs) at the Site to reduce potential risks to human health and the environment. The 1997 IRMs included installation and pilot-scale testing of two engineered remediation systems: a soil vapor extraction (SVE) system and a groundwater treatment system (NoVOCsTM). The pilot SVE system was installed at Zone A to remove volatile organic compounds in soil vapors from beneath and adjacent to the waste zone. The pilot NoVOCsTM groundwater treatment system was installed near Zone A in 1997.

N. In 2000, Ecology and a group of PLPs entered into Agreed Order No. DE 00TCPER-1324, which required the implementation and completion of certain interim actions at the IWA and GPA. Also in 2000, Ecology issued Enforcement Order No. DE 00TCPER-1325 to a separate group of PLPs, which required them to implement and complete those interim actions

at the IWA and GPA. The interim actions required by Agreed Order No. DE 00TCPER-1324 and Enforcement Order No. DE 00TCPER-1325 included: the installation of engineered landfill caps at Zones A, C, D, and E of the IWA; an expansion of the SVE and NoVOCs systems at Zone A; removal of the drums and installation of a temporary cover at Zone B of the IWA; and implementation of institutional controls. Ecology determined that before a final site remedy could be selected under MTCA, a five-year operational period was necessary to evaluate the performance of the interim action systems.

O. In 2000, Ecology and a group of PLPs entered into Agreed Order No. DE 00TCPER-1326, which required the implementation and completion of certain interim actions for the SLA at the Site. Also in 2000, Ecology issued Enforcement Order No. DE 00TCPER-1327 to a separate group of PLPs, which required the same interim actions to be implemented and completed at the SLA. The interim actions required by Agreed Order No. DE 00TCPER-1326 and Enforcement Order No. DE 00TCPER-1327 included: the installation of an engineered landfill cap at the MSW Landfill; completion of a landfill gas collection system and flare; and implementation of institutional controls. This work was completed and approved by Ecology pursuant to Agreed Order No. DE 00TCPER-1326.

P. In an April 23, 2007 letter, Ecology provided its evaluation of the Interim Action Performance Monitoring activities. Ecology concluded that additional system improvements, enhancements or additional remedial actions were necessary to address significant data gaps and uncertainties in the understanding of site conditions, and assess the overall effectiveness of the interim remedial systems. Ecology determined that the SVE and NoVOCsTM treatment systems were underperforming and provided an insufficient level of treatment to meet all MTCA threshold criteria in the selection of cleanup actions.

Q. In 2002, Ecology approved the Operations and Maintenance Manual, Landfill Gas Collection Control and Flare, Pasco Sanitary Landfill, Pasco, Washington, prepared by Philip Service Corporation dated July 15, 2002. In 2009, Ecology approved a Memorandum regarding Addendum to Pasco Municipal Solid Waste Landfill Operations and Maintenance Manual,

prepared by Aspect Consulting dated April 17, 2009. In 2011, Ecology approved the Revised Flare Performance Report, Pasco Municipal Solid Waste Landfill, prepared by Aspect Consulting dated June 29, 2011. Collectively, these documents guide the interim remedial activities at the MSW Landfill. This work began in October 2002 and is ongoing as of October 2012.

R. In October and November of 2007, a group of PLPs proposed to undertake investigative tasks at the IWA as part of a continuation of the interim actions required by Agreed Order No. DE 00TCPER-1324. On February 15, 2008, that same group of PLPs submitted to Ecology a draft Work Plan for Additional Interim Actions (AIAs) for these tasks. Also in February of 2008, that group of PLPs formally requested that it be allowed to undertake additional interim actions at the IWA pursuant to Agreed Order No. DE 00TCPER-1324. On May 9, 2008, the Attorney General's Office conveyed Ecology's agreement to that group of PLPs' request to conduct AIAs under Agreed Order No. DE 00TCPER-1324. The approved AIAs included: installation of new monitoring wells at the Site; evaluation of alternative SVE system operations; assessment and verification of the NoVOCsTM system operations and facilitated mechanisms of contaminant reduction; and inspection, maintenance and modifications (as needed) to the current SVE and NoVOCsTM systems.

S. In fall 2008, an assessment of the NoVOCsTM system revealed that the NoVOCsTM was not performing according to design expectations. Between November 2010 and June 2011, the four NoVOCsTM wells were decommissioned.

T. In 2009, a sub-group of PLPs performing the AIAs made a request to Ecology to modify the scope and schedule for Phase I of the AIAs and be allowed to perform certain tasks under the Phase II AIAs at the Site. These tasks included: upgrades to the Zone A SVE system; supplemental soil sampling and analytical testing of Zone A subsurface soils; installation of new Zone A groundwater monitoring wells; installation of additional property boundary and downgradient plume area groundwater monitoring wells; investigation of soil conditions beneath Zone A using non-vertical borehole drilling and sampling techniques; and, maintenance of

subsidence on the Zone A cap. Ecology stated in a letter dated September 18, 2009, that the SVE system upgrade was intended to address only soil/vadose zone contamination, consistent with the intent of the 2000 Orders, and was not intended to serve as a replacement for the NoVOCsTM system, nor used as a stand-alone groundwater treatment remedial system.

U. In May 2010, Ecology approved the Phase II Volume I AIA Work Plan. The Work Plan described upgrades to the interim action SVE system, and the installation of additional groundwater monitoring wells within Zone A. In May 2010, Ecology approved the Engineering Design Report for SVE System Upgrades submitted by a group of PLPs, which details the engineering design of SVE upgrades. This work began in the summer of 2010 and is ongoing as of October 2012.

V. In May 2010, Ecology approved the Work Plan for the Pasco Zone B RCRA C cap. This work includes the excavation of contaminated soil directly adjacent to Zone B, containing the soil within the limits of the planned RCRA C cap, and the installation of the RCRA C cap. Confirmation sampling indicated that it is necessary to modify the original design and an update to the Work Plan is forthcoming. This work began in October 2010 and is ongoing as of October 2012.

W. In January 2011, Ecology approved the Phase II AIA Volume II Work Plan to conduct soil investigations beneath Zone A. The Phase II AIA Volume II Work Plan also specifies the installation of four additional intermediate-depth groundwater monitoring wells within the downgradient plume area and the performance of cap maintenance in response to localized subsidence of the Zone A cap. The intermediate-depth monitoring wells were installed in February and March 2011. Cap maintenance under the O&M plan for the Zone A cap is ongoing as of October 2012.

VI. ECOLOGY DETERMINATIONS

A. Each PLP is potentially liable pursuant to RCW 70.105D.040 for the release of hazardous substances at the Site, a facility as defined in RCW 70.105D.020(5). The PLPs arranged for the disposal of hazardous substances at the “facility,” and/or transported hazardous

substances to the “facility,” as that term is defined by RCW 70.105D.020(5), and/or are or were “owners or operators” as defined in RCW 70.105D.020(17) of a “facility” as defined in RCW 70.105D.020(5).

B. Based upon all factors known to Ecology, a “release” or “threatened release” of “hazardous substance(s)” as defined in RCW 70.105D.020(25) and RCW 70.105D.020(10), respectively, has occurred at the Site.

C. Based upon credible evidence, Ecology issued PLP status letters to the PLPs pursuant to RCW 70.105D.040, RCW 70.105D.020(21), and WAC 173-340-500. After providing for notice and opportunity for comment, reviewing any comments submitted, and concluding that credible evidence supported a finding of potential liability, Ecology issued determinations to each of the PLPs that they were PLPs under RCW 70.105D.040.

D. Pursuant to RCW 70.105D.030(1) and -.050(1), Ecology may require PLPs to investigate or conduct other remedial actions with respect to any release or threatened release of hazardous substances, whenever it believes such action to be in the public interest. Based on the foregoing facts, Ecology believes the work required by this Order is in the public interest.

E. Under WAC 173-340-430, an interim action is a remedial action that is technically necessary to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance, that corrects a problem that may become substantially worse or cost substantially more to address if the remedial action is delayed, or that is needed to provide for completion of a site hazard assessment, remedial investigation/feasibility study or design of a cleanup action.

F. That in order to facilitate a single feasibility study, per WAC 173-340-350(8), Ecology has determined that the PLPs receiving this Enforcement Order shall work with the AO PLPs to develop the FFS and conduct other actions required by Section VII (Work to be Performed) and Agreed Order No. DE 9240’s Scope of Work.

VII. WORK TO BE PERFORMED

Based on the Findings of Fact and Ecology Determinations, it is hereby ordered that the EO PLPs execute the actions described in 1) the Scope of Work attached to this Order (Exhibit B), and 2) the existing Site Operation and Maintenance Manuals as referenced in Exhibit B of this order. Ecology expects that all PLPs, both AO PLPs, under the Agreed Order, and EO PLPs, under the Enforcement Order, will work jointly in contributing to and performing these actions. These actions shall be conducted in accordance with Chapter 173-340 WAC unless otherwise specifically provided for herein:

A. The EO PLPs shall conduct the remedial actions fully described in Exhibit B to this Order (Scope of Work, Schedule, and ARARs). As part of the Scope of Work, the EO PLPs shall prepare a FFS Work Plan. The Work Plan and other deliverables and each element thereof shall be designed, implemented, and completed in accordance with both MTCA (Chapter 70.105D RCW) and its implementing regulations (Chapter 173-340 WAC).

B. The EO PLPs shall submit all necessary plans or other deliverables to implement the Scope of Work (Exhibit B) to Ecology for review and approval according to the Schedule of Deliverables in Exhibit B. Upon approval by Ecology, such deliverables become integral and enforceable parts of this Order. The EO PLPs will then proceed with implementation in accordance with the schedule approved in the Work Plan and other deliverables.

C. As provided in the Scope of Work and Schedule, attached as Exhibit B, the EO PLPs shall commence and thereafter complete all tasks in the time frames and framework indicated unless Ecology grants an extension in accordance with Section VIII.J (Extension of Schedule).

D. The EO PLPs shall submit a singular, draft FFS report for Ecology's review, comment, and approval in accordance with the Schedule. The FFS will build upon the remedial concepts, considerations and objectives identified in the 1999 FS, taking into consideration information and data generated during the 5-year interim action performance period, and during Phases I and II of the AIAs. The FFS will provide a concise, comprehensive evaluation of viable

remedial options that can meet remedy selection requirements under MTCA for the Site. The FFS will assess the agreed upon remedial alternatives presented in the FFS Work Plan in view of MTCA threshold requirements and site uncertainties, and will provide the basis for selection of a final site remedy which complies with MTCA and WAC 173-340-350(8). Upon submission of the draft final FFS report, Ecology will provide for a 30-day public comment period of the FFS Report.

E. The EO PLPs shall submit to Ecology progress reports as required in the FFS Scope of Work. The reports shall address progress made during the period, work in progress, problem areas, key activities, deviations from the work and sampling plans, deliverables submitted, field work and data generated, subcontracting, analytical services performed, and key staff changes.

F. If, at any time after the first exchange of comments on drafts, Ecology determines that insufficient progress is being made in the preparation of any of the deliverables required by this Section, Ecology may complete and issue the final deliverable. Ecology will provide advance notice to the EO PLPs of its decision to complete the final deliverable. The EO PLPs may then seek dispute resolution pursuant to Section VIII.I (Resolution of Disputes).

VIII. TERMS AND CONDITIONS OF ORDER

A. Public Notice

RCW 70.105D.030(2)(a) requires that, at a minimum, this Order be subject to concurrent public notice. Ecology shall be responsible for providing such public notice and reserves the right to modify or withdraw any provisions of this Order should public comment disclose facts or considerations which indicate to Ecology that this Order is inadequate or improper in any respect.

B. Remedial Action Costs

The EO PLPs shall pay to Ecology costs incurred by Ecology pursuant to this Order and consistent with WAC 173-340-550(2). These costs shall include work performed by Ecology or its contractors for, or on, the Site under Chapter 70.105D RCW, including remedial actions and

Order preparation, negotiation, oversight, and administration. These costs shall include work performed both prior to and subsequent to the issuance of this Order. Ecology's costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2). The EO PLPs shall pay the required amount within thirty (30) days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general statement of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Pursuant to WAC 173-340-550(4), failure to pay Ecology's costs within ninety (90) days of receipt of the itemized statement of costs will result in interest charges at the rate of twelve percent (12%) per annum, compounded monthly.

In addition to other available relief, pursuant to RCW 19.16.500, Ecology may utilize a collection agency and/or, pursuant to RCW 70.105D.055, file a lien against real property subject to the remedial actions to recover unreimbursed remedial action costs.

C. Implementation of Remedial Action

If Ecology determines that the EO PLPs have failed without good cause to implement the remedial action required by this Order, in whole or in part, Ecology may, after notice to the EO PLPs, perform any or all portions of the remedial action that remain incomplete. If Ecology performs all or portions of the remedial action because of the EO PLPs' failure to comply with its obligations under this Order, the EO PLPs shall reimburse Ecology for the costs of doing such work in accordance with Section VIII.B (Remedial Action Costs), provided that the EO PLPs are not obligated under this Section to reimburse Ecology for costs incurred for work inconsistent with or beyond the scope of this Order.

Except where necessary to abate an emergency situation, the EO PLPs shall not perform any remedial actions at the Site outside those remedial actions required by this Order, unless Ecology concurs, in writing, with such additional remedial actions.

D. Designated Project Coordinators

The project coordinator for Ecology is:

Charles Gruenenfelder, L.H.G.
Eastern Regional Office, Department of Ecology
4601 N. Monroe Street
Spokane, WA 99205-1295
(509) 329-3439
E-Mail: chgr461@ecy.wa.gov

Within ten (10) days of the effective date of this Order the EO PLPs shall inform Ecology of the identity and contact information of their project coordinator.

Each project coordinator shall be responsible for overseeing the implementation of this Order. Ecology's project coordinator will be Ecology's designated representative for the Site. To the maximum extent possible, communications between Ecology and the EO PLPs, and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Order shall be directed through the project coordinators. The project coordinators may designate, in writing, working level staff contacts for all or portions of the implementation of the work to be performed required by this Order.

Any party may change its respective project coordinator. Written notification shall be given to the other party at least ten (10) calendar days prior to the change.

E. Performance

All geologic and hydrogeologic work performed pursuant to this Order shall be under the supervision and direction of a geologist licensed in the State of Washington or under the direct supervision of an engineer registered in the State of Washington, except as otherwise provided for by Chapters 18.220 and 18.43 RCW.

All engineering work performed pursuant to this Order shall be under the direct supervision of a professional engineer registered in the State of Washington, except as otherwise provided for by RCW 18.43.130.

All construction work performed pursuant to this Order shall be under the direct supervision of a professional engineer or a qualified technician under the direct supervision of a professional engineer. The professional engineer must be registered in the State of Washington, except as otherwise provided for by RCW 18.43.130.

Any documents submitted containing geologic, hydrologic or engineering work shall be under the seal of an appropriately licensed professional as required by Chapter 18.220 RCW or RCW 18.43.130.

The EO PLPs shall notify Ecology in writing of the identity of any engineer(s) and geologist(s), contractor(s) and subcontractor(s), and others to be used in carrying out the terms of this Order, in advance of their involvement at the Site.

F. Access

Ecology or any Ecology authorized representative shall have the full authority to enter and freely move about all property at the Site that the EO PLPs either own, control, or have access rights to at all reasonable times for the purposes of, *inter alia*: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Order; reviewing the EO PLPs' progress in carrying out the terms of this Order; conducting such tests or collecting such samples as Ecology may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Order; and verifying the data submitted to Ecology by the EO PLPs. The EO PLPs shall make all reasonable efforts to secure access rights for those properties within the Site not owned or controlled by the EO PLPs where remedial activities or investigations will be performed pursuant to this Order. Ecology or any Ecology authorized representative shall give reasonable notice to the EO PLPs' designated project coordinator, if identified, before entering any Site property owned or controlled by the EO PLPs unless an emergency prevents such notice. All persons who access the Site pursuant to this Section shall comply with any applicable Health and Safety Plan(s). Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of Site property access.

G. Sampling, Data Submittal, and Availability

With respect to the implementation of this Order, the EO PLPs shall make the results of all sampling, laboratory reports, and/or test results generated by it or on its behalf available to Ecology. Pursuant to WAC 173-340-840(5), all sampling data shall be submitted to Ecology in both printed and electronic formats in accordance with Section VII (Work to be Performed),

Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any subsequent procedures specified by Ecology for data submittal.

If requested by Ecology, the EO PLPs shall allow Ecology and/or its authorized representative to take split or duplicate samples of any samples collected by the EO PLPs pursuant to implementation of this Order. The EO PLPs shall notify Ecology seven (7) days in advance of any sample collection or work activity at the Site. Ecology shall, upon request, allow the EO PLPs and/or its authorized representative to take split or duplicate samples of any samples collected by Ecology pursuant to the implementation of this Order, provided that doing so does not interfere with Ecology's sampling. Without limitation on Ecology's rights under Section VIII.F (Access), Ecology shall notify the EO PLPs' designated project coordinator, if identified, prior to any sample collection activity unless an emergency prevents such notice.

In accordance with WAC 173-340-830(2)(a), all hazardous substance analyses shall be conducted by a laboratory accredited under Chapter 173-50 WAC for the specific analyses to be conducted, unless otherwise approved by Ecology.

H. Retention of Records

During the pendency of this Order, and for ten (10) years from the date of completion of work performed pursuant to this Order, the EO PLPs shall preserve all records, reports, documents, and underlying data in its possession relevant to the implementation of this Order and shall insert a similar record retention requirement into all contracts with project contractors and subcontractors. Upon request of Ecology, the EO PLPs shall make all records available to Ecology and allow access for review within a reasonable time.

I. Resolution of Disputes

The EO PLPs may request Ecology to resolve factual or technical disputes which may arise during the implementation of this Order. Such request shall be in writing and directed to the signatory, or his/her successor(s), of this Order. Ecology resolution of the dispute shall be binding and final. The EO PLPs are not relieved of any requirement of this Order during the

pendency of the dispute and remains responsible for timely compliance with the terms of this Order unless otherwise provided by Ecology in writing.

J. Extension of Schedule

1. An extension of schedule shall be granted only when a request for an extension is submitted in a timely fashion, generally at least thirty (30) days prior to expiration of the deadline for which the extension is requested, and good cause exists for granting the extension.

All extensions shall be requested in writing. The request shall specify:

- a. The deadline that is sought to be extended;
- b. The length of the extension sought;
- c. The reason(s) for the extension; and
- d. Any related deadline or schedule that would be affected if the extension were granted.

2. The burden shall be on the EO PLPs to demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension. The existence of good cause shall be determined by Ecology in its sole discretion. Good cause may include, but may not be limited to:

- a. Circumstances beyond the reasonable control and despite the due diligence of the EO PLPs including delays caused by unrelated third parties or Ecology, such as (but not limited to) delays by Ecology in reviewing, approving, or modifying documents submitted by the EO PLPs;
- b. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or other unavoidable casualty; or
- c. Endangerment as described in Section VIII.K (Endangerment).

However, neither increased costs of performance of the terms of this Order nor changed economic circumstances shall be considered circumstances beyond the reasonable control of the EO PLPs.

3. Ecology shall act upon any written request for extension in a timely fashion. Ecology shall give the EO PLPs written notification of any extensions granted pursuant to this Order. A requested extension shall not be effective until approved by Ecology.

4. An extension shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. Ecology may grant schedule extensions exceeding ninety (90) days only as a result of:

- a. Delays in the issuance of a necessary permit which was applied for in a timely manner;
- b. Other circumstances deemed exceptional or extraordinary by Ecology; or
- c. Endangerment as described in Section VIII.K (Endangerment).

K. Endangerment

In the event Ecology determines that any activity being performed at the Site is creating or has the potential to create a danger to human health or the environment on or surrounding the Site, Ecology may direct the EO PLPs to cease such activities for such period of time as it deems necessary to abate the danger. The EO PLPs shall immediately comply with such direction.

In the event the EO PLPs determine that any activity being performed at the Site is creating or has the potential to create a danger to human health or the environment, the EO PLPs may cease such activities. The EO PLPs shall notify Ecology's project coordinator as soon as possible, but no later than twenty-four (24) hours after making such determination or ceasing such activities. Upon Ecology's direction the EO PLPs shall provide Ecology with documentation of the basis for the determination or cessation of such activities. If Ecology disagrees with the EO PLPs' cessation of activities, it may direct the EO PLPs to resume such activities.

If Ecology concurs with or orders a work stoppage pursuant to Section VIII.K (Endangerment), the EO PLPs' obligations with respect to the ceased activities shall be suspended until Ecology determines the danger is abated, and the time for performance of such activities, as well as the time for any other work dependent upon such activities, shall be

extended in accordance with Section VIII.J (Extension of Schedule) for such period of time as Ecology determines is reasonable under the circumstances.

Nothing in this Order shall limit the authority of Ecology, its employees, agents, or contractors to take or require appropriate action in the event of an emergency.

L. Reservation of Rights

This Order is not a settlement under Chapter 70.105D RCW. Ecology's signature on this Order in no way constitutes a covenant not to sue or a compromise of any of Ecology's rights or authority. Ecology will not, however, bring an action against the EO PLPs to recover remedial action costs paid to and received by Ecology under this Order. In addition, Ecology will not take additional enforcement actions against the EO PLPs regarding remedial actions required by this Order, provided the EO PLPs comply with this Order.

Ecology nevertheless reserves its rights under Chapter 70.105D RCW, including the right to require additional or different remedial actions at the Site should it deem such actions necessary to protect human health and the environment, and to issue orders requiring such remedial actions. Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural resources resulting from the release or threatened release of hazardous substances at the Site.

M. Transfer of Interest in Property

No voluntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by the EO PLPs without provision for continued implementation of all requirements of this Order and implementation of any remedial actions found to be necessary as a result of this Order.

Prior to the EO PLPs' transfer of any interest in all or any portion of the Site, and during the effective period of this Order, the EO PLPs shall provide a copy of this Order to any prospective purchaser, lessee, transferee, assignee, or other successor in said interest; and, at least thirty (30) days prior to any transfer, the EO PLPs shall notify Ecology of said transfer.

Upon transfer of any interest, the EO PLPs shall restrict uses and activities to those consistent with this Order and notify all transferees of the restrictions on the use of the property.

N. Compliance with Applicable Laws

1. All actions carried out by the EO PLPs pursuant to this Order shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits, except as provided in RCW 70.105D.090. The permits or specific federal, state or local requirements that the agency has determined are applicable and that are known at the time of entry of this Order have been identified in Exhibit B.

2. Pursuant to RCW 70.105D.090(1), the EO PLPs are exempt from the procedural requirements of Chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 RCW and of any laws requiring or authorizing local government permits or approvals. However, the EO PLPs shall comply with the substantive requirements of such permits or approvals. The exempt permits or approvals and the applicable substantive requirements of those permits or approvals, as they are known at the time of entry of this Order, have been identified in Exhibit B.

The EO PLPs have a continuing obligation to determine whether additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Order. In the event either Ecology or the EO PLPs determines that additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Order, it shall promptly notify the other party of its determination. Ecology shall determine whether Ecology or the EO PLPs shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, the EO PLPs shall promptly consult with the appropriate state and/or local agencies and provide Ecology with written documentation from those agencies of the substantive requirements those agencies believe are applicable to the remedial action. Ecology shall make the final determination on the additional substantive requirements that must be met by the EO PLPs and on how the EO PLPs must meet those requirements. Ecology shall inform the EO PLPs in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this

Order. The EO PLPs shall not begin or continue the remedial action potentially subject to the additional requirements until Ecology makes its final determination.

3. Pursuant to RCW 70.105D.090(2), in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70.105D.090(1) would result in the loss of approval from a federal agency that is necessary for the State to administer any federal law, the exemption shall not apply and the EO PLPs shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70.105D.090(1), including any requirements to obtain permits.

IX. SATISFACTION OF ORDER

The provisions of this Order shall be deemed satisfied upon the EO PLPs' receipt of written notification from Ecology that the EO PLPs have completed the remedial activity required by this Order, and that the EO PLPs have complied with all other provisions of this Enforcement Order.

X. ENFORCEMENT

Pursuant to RCW 70.105D.050, this Order may be enforced as follows:

A. The Attorney General may bring an action to enforce this Order in a state or federal court.

B. The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for investigative and remedial actions and orders related to the Site.

C. In the event the EO PLPs refuse, without sufficient cause, to comply with any term of this Order, the EO PLPs will be liable for:

1. Up to three (3) times the amount of any costs incurred by the State of Washington as a result of its refusal to comply; and

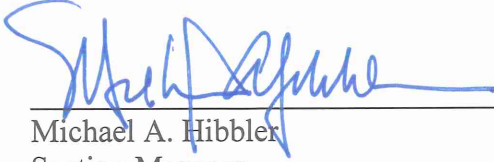
2. Civil penalties of up to twenty-five thousand dollars (\$25,000) per day for each day it refuses to comply.

D. This Order is not appealable to the Washington Pollution Control Hearings Board.

This Order may be reviewed only as provided under RCW 70.105D.060.

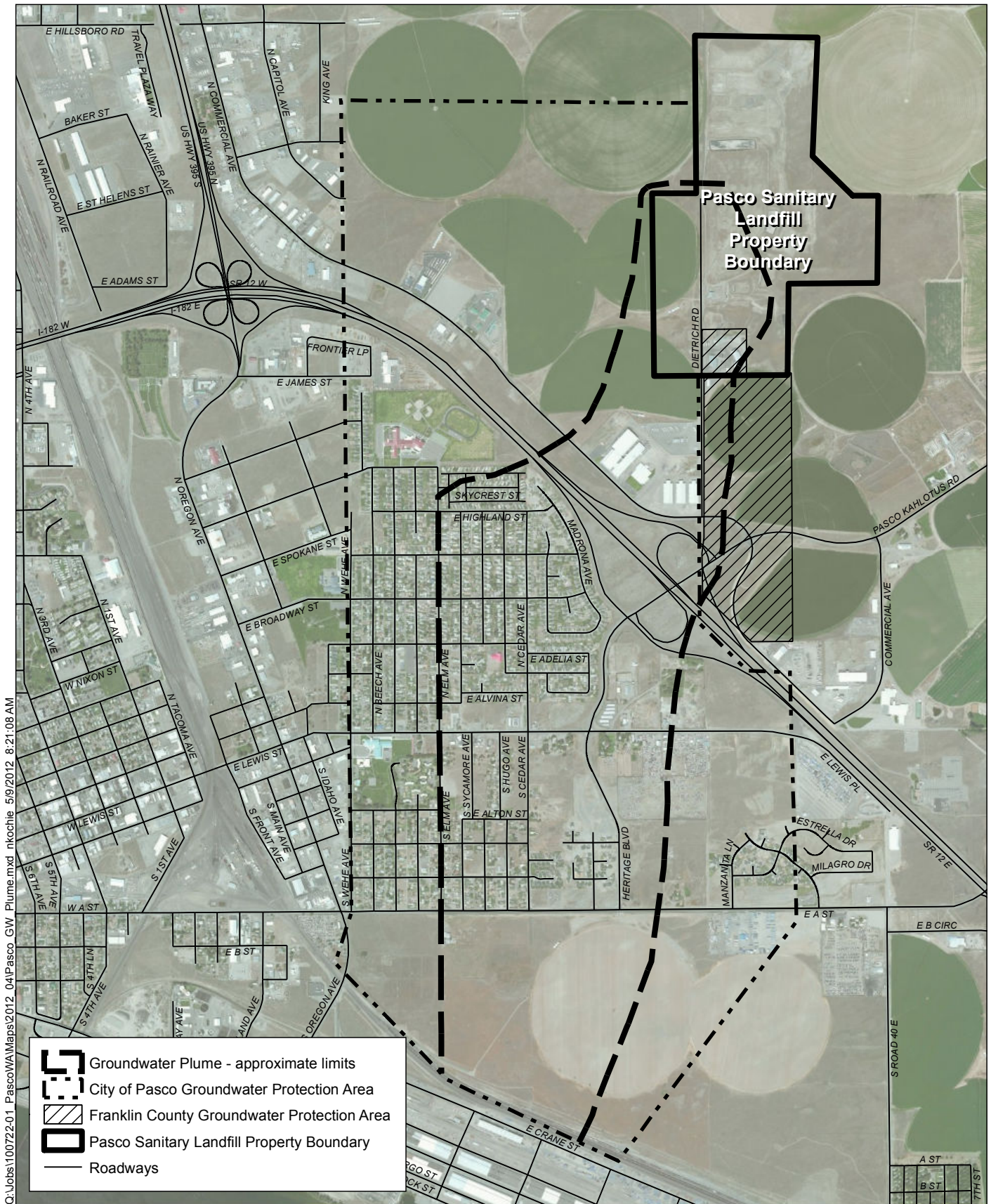
Effective date of this Order: 10/31/2012

**STATE OF WASHINGTON,
DEPARTMENT OF ECOLOGY**



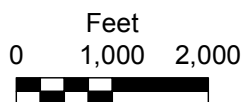
Michael A. Hibbler
Section Manager
Toxics Cleanup Program
Eastern Regional Office
Telephone: (509) 329-3568

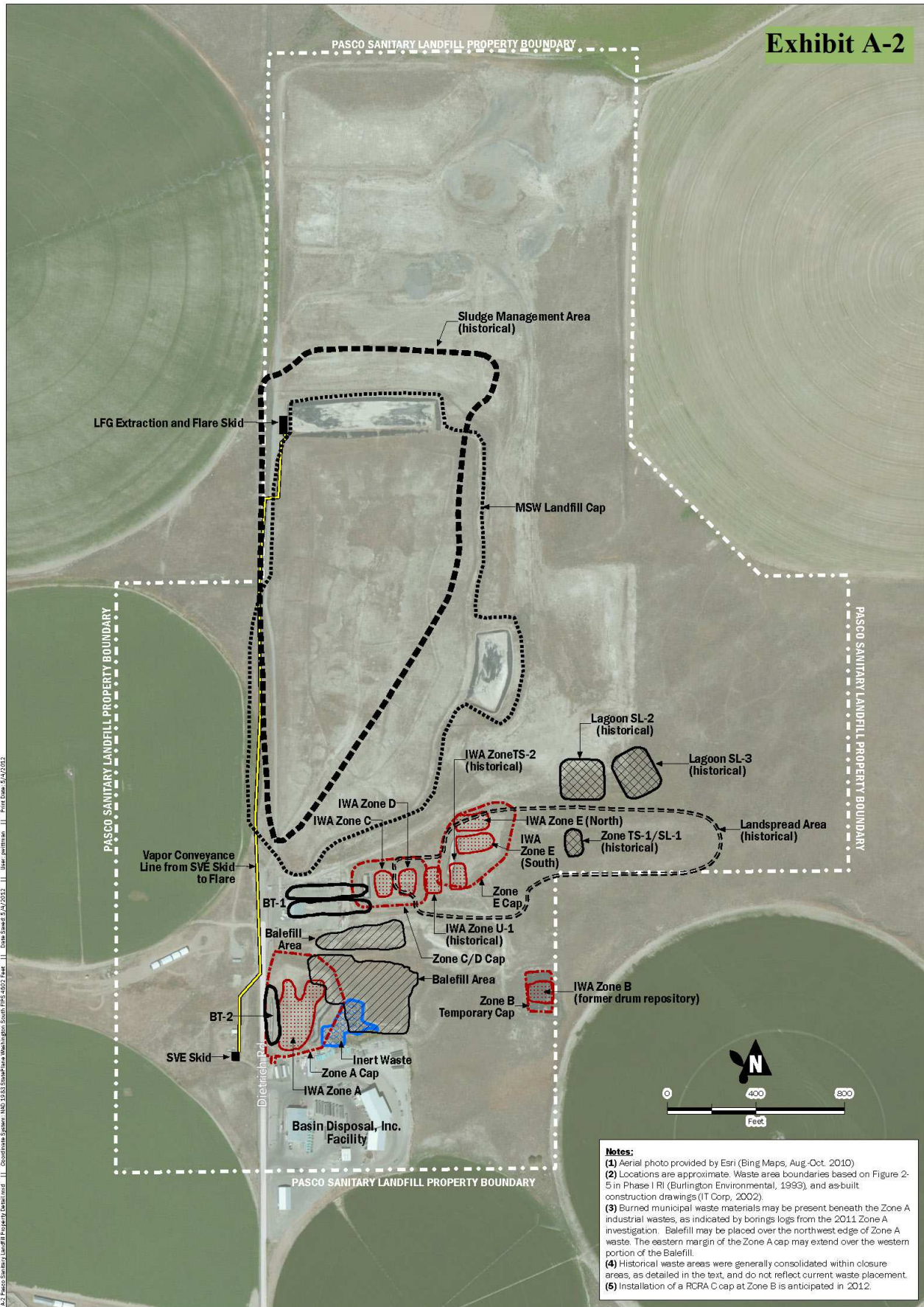
Exhibit A-1 - Pasco Landfill NPL Site



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NOTE:
Site encompasses both the landfill property as well as the off-site groundwater plume area.





Notes:
 (1) Aerial photo provided by Esri (Bing Maps, Aug-Oct. 2010)
 (2) Locations are approximate. Waste area boundaries based on Figure 2-5 in Phase I RI (Burlington Environmental, 1993), and as-built construction drawings (T Corp, 2002).
 (3) Burned municipal waste materials may be present beneath the Zone A industrial wastes, as indicated by borings logs from the 2011 Zone A investigation. Balefill may be placed over the north west edge of Zone A waste. The eastern margin of the Zone A cap may extend over the western portion of the Balefill.
 (4) Historical waste areas were generally consolidated within closure areas, as detailed in the text, and do not reflect current waste placement.
 (5) Installation of a RCRA C cap at Zone B is anticipated in 2012.

GSF File: T:\GIS\ASB - Pasco Landfill\Working\Exhibit A-2 Pasco Sanitary Landfill Property Detail.mxd | Coordinate System: NAD 83 StatePlane Washington South FIPS 4802 Feet | Date Saved: 5/17/2012 | User: jhuffman | Print Date: 5/17/2012

	Industrial Waste Areas		Sludge Management Area		Balefill Areas
	IWA Caps		MSW Landfill Cap		Burn Trenches
	Sludge Lagoons		Landspread Area		Inert Waste Disposal Area

Exhibit A-2
Pasco Sanitary Landfill Property - Detail
 Pasco Landfill Site
 Pasco, Washington

	MAY-2012	BY: PSB / PPW	FIGURE NO. A-2
	PROJECT NO. 060265-014	REV BY: PPW	

Exhibit B
Pasco Landfill NPL Site
Site-wide Operations and Focused
Feasibility Study
Scope of Work

Work under Enforcement Order No. DE 9406 includes (1) the continuation of ongoing interim remedial actions (including operations, maintenance, monitoring and reporting) at the Pasco Sanitary Landfill Site, and (2) the completion of a Focused Feasibility Study (FFS) for the Site conducted in conformance with WAC 173-340-350(8). This feasibility study effort will be focused because (1) an initial Feasibility Study (FS) was conducted in 2000 and provided an initial screening of remedial alternatives, (2) interim actions have been occurring for over 10 years, and provide a direct, empirical evaluation of remedial system effectiveness, and (3) remedial action objectives and the known nature and extent of site contamination have not changed significantly since the original FS was prepared.

The EO PLPs shall perform the following:

Task 1 – Continued Operation, Maintenance, Monitoring and Reporting of Site-wide Interim Remedial Actions

The EO PLPs shall continue to operate, maintain, monitor and report on the on-going interim remedial actions at the Site. Work shall be performed in accordance with existing Site Operation and Maintenance Manuals, and/or any Ecology-approved updates or revisions to these Manuals. Operation and Maintenance Plans shall be prepared in general accordance with WAC 173-340-400(4)(c).

Subtask A: Soil Vapor Extraction System Operations and Maintenance

Major Elements:

The *Soil Vapor Extraction System Operations and Maintenance Manual* shall be updated. The update shall reflect and embody substantial O & M related changes made in response to the expansion of the Soil Vapor Extraction (SVE) system, including but not limited to:

- Components of the SVE System
- Description of new and existing vapor extraction wells, vapor monitoring wells and gas probes
- Description of operational procedures to provide ongoing performance optimization of the SVE system
- Operational thresholds and maintenance protocols for the inspection for, and removal of, biological growth within SVE wells
- SVE piping, valving controls and operational controls
- Additional SVE blowers, instrumentation and control changes, and electronic monitoring and management systems

- Condensate and LNAPL collection, storage, sampling, and management systems
- Waste characterization, management and manifesting protocols for dangerous wastes subject to WAC 173-303 requirements and 40 CFR Part 265
- SVE vapor monitoring locations and changes in vapor sampling and field monitoring protocols
- Job descriptions to implement O&M Activities
- Reporting and records management, including but not limited to: airflow rates, VOC removal rates, condensate generation and management information, and remaining carbon treatment capacity

Deliverables: Updated *Soil Vapor Extraction System As-Built Report and Operations and Maintenance Manual*

Applicable additions to Quarterly and Annual Reports under Subtask E

Subtask B: Operations and Maintenance Manual for the Municipal Solid Waste Landfill, Balefill Disposal Areas, and Inert Waste Disposal Area

Major Elements:

An *Operations and Maintenance Manual for the Municipal Solid Waste Landfill, Balefill Disposal Areas, and Inert Waste Disposal Area* (O&M Manual) will be prepared, and will compile in one document what was originally provided under three documents, including:

- *Operations and Maintenance Manual – Landfill Gas Collection Control and Flare* (PSC, 2002a);
- *Operations and Maintenance Manual – Landfill Caps (Vol I and II)* (PSC, 2002b); and
- *Operations and Maintenance Manual – Pasco Landfill Interim Action – Pasco MSW Landfill and Industrial Areas* (IT Corporation, 2002).

The O&M Manual will reflect Ecology-approved O&M-related details and/or modifications that have been identified and implemented since 2002 , including but not limited to:

- Components, O&M, and Monitoring of the Landfill Gas Collection System (e.g., changes in Landfill Gas Collection strategies to minimize landfill gas migration and groundwater impacts, without inducing excessive atmospheric intrusion);
- Components, O&M, and Monitoring of the Landfill Gas Flare and Flare Control System (e.g., improvements in flare temperature control, replacement and maintenance of SVE inlet valve, allowable ranges of MSW inlet and SVE inlet flow rates, measures to increase flare efficiency, flare control system inspection, etc.);
- Components, O&M, and Monitoring of the Condensate Management System (e.g., modifications to manage condensate at the SVE inlet, alternative off-site disposal, etc.);
- Components, maintenance and Monitoring of the Landfill Gas Migration Monitoring Network (e.g., new probe installations, on-site structure monitoring, monitoring protocols, etc.);
- Components, Inspection, and Maintenance of the MSW Landfill Cover and Stormwater Control Systems (e.g., identification and monitoring of differential settlement; cover soil

erosion and maintenance measures; vegetative cover performance; weed management; and rodent control measures);

- Components, Inspection, and Maintenance of the Balefill Disposal Area Cover and the Inert Waste Disposal Area Cover (e.g., grading and soil types required to prevent exposure of waste materials or erosion of cover, vegetative cover performance, weed management, rodent control, etc.);
- Institutional Controls – (e.g., Fences, Gates, Signage, Property Survey)
- Job descriptions to implement O&M Activities
- Reporting and records management, including but not limited to: landfill gas collection system monitoring, performance, and required adjustments; landfill gas migration monitoring data (subsurface and structure monitoring); VOC mass loading to flare; flare system performance (including residence time, stack temperature, flow rates); condensate generation and management information; cover systems inspection/maintenance notes; stormwater control systems inspection/maintenance notes; and infrastructure inspection/maintenance notes

Deliverables: *Operations and Maintenance Manual for the MSW Landfill, Balefill Disposal Areas and Inert Waste Disposal Area at the Pasco Sanitary Landfill Site*

Quarterly Performance Monitoring Reports

Annual Performance Monitoring Reports

Subtask C: Landfill Caps – Waste Zones (A, C/D, and E) Operations, Maintenance and Monitoring

Major Elements:

A manual addressing the necessary operations, maintenance and monitoring of landfill caps at Industrial Waste Zones (A, C/D and E) shall be prepared. The new manual shall update previous O&M-related documentation that focused specifically on engineered caps and stormwater control systems installed at industrial waste Zones A, C/D and E. The *Landfill Caps – Waste Zones (A, C/D, and E) Operations and Maintenance Manual* shall address several substantial O & M related changes that have occurred at these waste areas, including but not limited to:

- Components of the individual Cover Systems
- Stormwater Control Systems and Upgrades
- Inspection, Maintenance, Cap Surface Surveys and Repair protocols
- Cap subsidence monitoring and response thresholds
- Institutional Controls – (e.g., Fences, Gates, Signage, Property Survey)
- Vegetative Cover Performance and Weed Management
- Rodent Control
- Job descriptions to implement O&M Activities
- Cap system replacement protocols

- Reporting and records management, including but not limited to: inspection notes, subsidence survey results, and maintenance and repair actions

Deliverables: Updated *Landfill Cap Operation and Maintenance Manual for Industrial Waste Zones (A, C/D and E)*

Applicable additions to Quarterly and Annual Reports under Subtask E

Subtask D: Zone B Landfill Cap Inspection and Maintenance Plan

Major Elements:

An updated Zone B *Landfill Cap Inspection and Maintenance Plan* shall be prepared in response to required modifications to the May 12, 2010 Final Interim Remedial Action Work Plan for the Pasco Zone B RCRA Cap. Elements of the plans shall include, but are not limited to:

- Components of the Zone B Cap System
- Stormwater Control Systems
- Job descriptions to implement O&M Activities
- Inspection, Maintenance, Cap Surface Surveys and Repair protocols
- Cap subsidence monitoring and response thresholds
- Institutional Controls – Fences, Gates, Signage, Property Survey
- Vegetative Cover Performance and Weed Management
- Rodent Control
- Cap system replacement protocols
- Reporting and Records Management, including but not limited to: inspection notes, subsidence survey results, and maintenance and repair actions

Deliverables: Updated *Zone B Landfill Cap Inspection and Maintenance Plan*

Applicable additions to Quarterly and Annual Reports under Subtask E

Subtask E: Site-wide Groundwater Performance and Protection Monitoring – Operations and Maintenance

Major Elements:

A Site-wide Groundwater Monitoring Performance and Protection O&M Manual shall be prepared which describes the groundwater monitoring activities that will be implemented during the period of performance of Enforcement Order No. DE 9406. Groundwater monitoring shall continue at the Site throughout the period of performance defined by that Order. Development of this updated O&M Manual is expected to build upon the original 2007 IA Groundwater O&M Manual (and associated addenda), and should consider more recent documentation such as the April 23, 2012 memorandum "*Pasco Landfill: Proposed Modifications to the Existing Interim Action Quarterly Ground Water Monitoring Program*". In developing the O&M Manual for Site-wide Groundwater Monitoring, the EO PLPs shall develop an appropriate suite of chemical analytes, monitoring frequency, QA/QC protocols, and

well network to satisfy the groundwater monitoring requirements during the period of performance of Enforcement Order No. DE 9406, including the requirements of WAC 173-340-410. Applicable portions of the groundwater monitoring program also shall comply with the requirements of Chapter 173-351 WAC. The analytical suite shall be sufficiently broad to encompass known risk- contributing constituents or concern detected in site groundwater, along with chemical constituents known to be present in source zone wastes and/or in subsurface vadose zone soils.

The O&M Manual shall include, but is not limited to, a presentation of the following:

- Proposed on-site and off-site monitoring well network (including residential wells)
- Tabulation of well details and well construction diagrams for each well
- Existing groundwater sampling equipment, rationale for pump intake placement, and sampling protocols
- Description of field parameter measurements and instrumentation
- Sample collection, handling, packaging, and transport requirements
- Analytical suite for each routine monitoring event
- Monitoring frequency
- QA/QC samples (duplicates, trip blanks, matrix spike/matrix spike duplicates, laboratory control samples, etc.)
- Required method detection limits and reporting limits.
- Data review and validation
- Data management and compliance with Ecology Environmental Information Management (EIM) database requirements
- Management of investigation derived wastes
- Well rehabilitation protocols and procedures
- Reporting and Records Management, including but not limited to: ground water elevation data, evaluation of vertical gradients, contaminants detected in ground water, well stabilization parameters, natural attenuation parameters, and investigative derived waste generation and handling documentation

Deliverables: *Site-wide Groundwater Performance and Protection Monitoring -- Operations, Maintenance and Monitoring Manual*

Quarterly Groundwater Monitoring and Interim Action Performance Monitoring Data Reports

Annual Groundwater Monitoring and Interim Action Performance Monitoring Reports

Subtask F: Institutional Controls

Major Elements:

Institutional Controls shall be implemented in accordance with WAC 173-340-440(1). Institutional

Controls are intended to prohibit activities that may interfere with the integrity of existing and future remedial actions and limit activities that may result in exposure of humans to hazardous substances from the Pasco Sanitary Landfill Site. Institutional Controls shall apply to the area shown on Exhibit A to this Order. Any restrictive covenants shall contain all elements of WAC 173-340-440(9).

Ground water restrictions in the form of zoning and/or building overlays have been implemented by PLPs, the City of Pasco and Franklin County, respectively, through an agreement between these jurisdictions and the other PLPs. These ground water restrictions shall continue to apply within the area shown on Exhibit A of the Enforcement Order and shall provide for appropriate access and enforcement provisions. Ecology retains the right to review and approve any legislative action taken by the City of Pasco and/or Franklin County to institute the required ground water restrictions. The EO PLPs retain ultimate overall responsibility for implementation of institutional controls at this site.

In accordance with WAC 173-340-840(5), the EO PLPs shall submit sampling data according to Ecology Environmental Information Data Submittal Guide. Data shall be formatted for entry into Ecology's Environmental Information Management (EIM) database.

Key Institutional Control elements for the Pasco Sanitary Landfill Site include:

- Site Access Controls, including fencing, signage and restrictive covenants
- Ground Water Restrictions in the form of zoning and/or building overlays
- Annual Update of Beneficial Use Survey within the Ground Water Protection Area
- The potential for groundwater monitoring data to require expanding the Ground Water Protection Area

Deliverables: Updated *Institutional Controls Plan*

Applicable additions to Quarterly and Annual Reports under Subtask E

Subtask G: Monthly EO PLP Project Status Reports

Progress reports shall be completed on a monthly basis or on an alternative frequency approved by Ecology. They shall contain:

1. A list of on-site activities that has taken place during the period;
2. A detailed description of any deviations from required tasks not otherwise documented in project plans;
3. Descriptions of all deviations from the schedule, and planned deviations in the upcoming month;
4. Work in progress; and
5. A list of deliverables for the upcoming month.

Task 2 – Preparation of Focused Feasibility Study Work Plan

The EO PLPs shall prepare a Work Plan for performing a Focused Feasibility Study (FFS) for the Site. The FFS Work Plan will specifically describe the fundamental approaches, assumptions, and decision criteria

that will be used to perform the actual feasibility study analysis. The Work Plan shall provide sufficient detail so that the FFS analysis, as described in Task 3 below, can be performed and can satisfy the requirements of WAC 173-340-350(8). The FFS Work Plan shall describe the processes, techniques, and methods of analysis that the FFS will employ to address a variety of Site-specific attributes, conditions and unknowns.

Ecology believes the bulleted items listed below are particularly relevant to the Pasco Sanitary Landfill Site. The FFS Work Plan should explain and describe how the FFS analysis will address and embody these important site-specific concepts, in addition to the other core elements of the feasibility study analysis described in WAC 173-340-350(8):

- A discussion of source characteristics associated with each major waste repository/waste management area (waste types, original volume/mass disposed, and the estimated volume/mass still remaining).
- A discussion of historical waste disposal practices in areas outside of the defined industrial waste area zones (A through E), balefill /inert waste landfill and the MSW Landfill.
- Conceptual site model refinements developed through collection and analysis of post-RI data and information (e.g., Phase I and Phase II Additional Interim Actions).
- A discussion of all categories of detected soil and groundwater contaminants, and identification of site-specific Indicator Hazardous Substances for which final cleanup levels will be established, as described in WAC 173-340-703.
- A discussion of natural processes (physical, chemical and/or biological) that are known to affect and/or control the long-term fate and transport of site contaminants, and site-specific evidence demonstrating the importance of these processes (in addition to other engineering controls) that may reduce restoration timeframes.
- The estimated quantity of contaminants (VOCs and others) captured and treated by interim action remedial systems to date.
- A discussion of contaminants (VOCs and others) that have been biodegraded and/or otherwise destructively treated or immobilized by documented and confirmed natural attenuation process.
- A discussion of anticipated source zone changes over time and how such changes may be reflected in a Cleanup Action Plan and Consent Decree for the Site.
- A discussion of anticipated life-cycle costs associated with long-term operations, maintenance, and monitoring and associated financial assurance factors.
- A discussion of remedial system sizing requirements to ensure that each remedial alternative can adequately capture and treat estimated reasonable worst-case high magnitude (i.e., large mass flux as compared to baseline) transient events.
- Implications associated with declining methane production in the MSW Landfill, how this trend may affect short-term and long-term reliance on and management of the flare, and possible impacts on other remedial systems that may rely on the flare to achieve specific remedial objectives.
- A review and screening, as appropriate, of other remedial technologies – beyond just the existing interim actions – that may have become more mature and broadly-accepted since the original FS was conducted.

Deliverable: Focused Feasibility Study Work Plan (draft and final)

Task 3 – Focused Feasibility Study Analysis and Reporting

The EO PLPs shall perform the specific elements of the FFS as described in the Ecology-approved FFS Work Plan discussed in Task 2. The FFS analysis shall be conducted in accordance with, and satisfy the requirements of, WAC 173-340-350(8). A draft FFS Report will be prepared and submitted to Ecology for review. Upon resolution of Ecology and public comments, the EO PLPs shall prepare a final FFS report.

Deliverable: Focused Feasibility Study Report (draft and final)

Task 4 – Supplemental Data Collection and Treatability Evaluation (Contingency Task)

Prior to the EO PLPs receiving notice from Ecology regarding successful completion of Enforcement Order No. DE 9406, and contingent upon Ecology's approval, the EO PLPs shall, if necessary, conduct additional data collection in accordance with approved Work Plans submitted to and approved by Ecology. In the evaluation of remedial alternatives and/or during revision of the site conceptual model, Ecology and/or the EO PLPs may determine the need to assess remedial technologies not currently in place at the Site. Ecology will consider any EO PLP requests to implement pilot remedial systems and/or perform additional site assessment and data collection on a case by case basis. Sampling and Analysis Plans (SAP), Quality Assurance Project Plans (QAPP), and Health and Safety Plans (HSP) shall be prepared in accordance with the Model Toxics Control Act, (Ch. 70.105D RCW) and Cleanup Regulation (Ch. 173-340 WAC) and appropriate federal guidance.

Schedule

Task 1 – Continued Operation, Maintenance, Monitoring and Reporting of Site-wide Interim Remedial Actions

Subtask A - Updated Soil Vapor Extraction System Operations and Maintenance Manual

An Updated Soil Vapor Extraction System Operations and Maintenance Manual shall be due 90 days following the completion of SVE Startup Testing

Subtask B - Operations and Maintenance Manual for the Municipal Solid Waste Landfill, Balefill Disposal Areas, and Inert Waste Disposal Area

An Operations and Maintenance Manual for the Municipal Solid Waste Landfill, Balefill Disposal Areas, and Inert Waste Disposal Area shall be due 60 days following Effective Date of Order

Quarterly and Annual Municipal Solid Waste Landfill Performance Monitoring Reports

First Quarter Calendar Year Monitoring Report: Due first business day following June 15 of the calendar year

Second Quarter Calendar Year Monitoring Report: Due first business day following September 15 of the calendar year

Third Quarter Calendar Year Monitoring Report: Due first business day following December 15 of the calendar year

Fourth Quarter and Annual Performance Monitoring Report: Due first business day following March 15 of the following calendar year

Subtask C - Updated Landfill Caps – Waste Zones (A, C/D and E) Operations, Maintenance and Monitoring Manual

An Updated Landfill Cap Operations, Maintenance and Monitoring Manual for Industrial Waste Zones (A, C/D and E) shall be due 90 days following Effective Date of Order

Subtask D - Updated Zone B Landfill Cap Inspection and Maintenance Plan

An Updated Zone B Landfill Cap Inspection and Maintenance Plan shall be provided to Ecology as part of the Revised Remedial Action Work Plan for the Zone B Interim Measure.

Subtask E – Updated Site-wide Groundwater Performance and Protection Monitoring -- Operations, Maintenance and Monitoring Manual

An Updated Site-wide Groundwater Performance and Protection Monitoring -- Operations, Maintenance and Monitoring Manual shall be due 60 days following the Effective Date of Order

Quarterly and Annual Groundwater Monitoring and Interim Action Performance Monitoring Reports

First Quarter Calendar Year Monitoring Report: Due first business day following June 15 of the calendar year

Second Quarter Calendar Year Monitoring Report: Due first business day following September 15 of the calendar year

Third Quarter Calendar Year Monitoring Report: Due first business day following December 15 of the calendar year

Fourth Quarter and Annual Groundwater Monitoring and Interim Action Performance Monitoring Report: Due first business day following March 15 of the following calendar year

Subtask F – Updated Institutional Controls Plan

An Updated Institutional Controls Plan shall be due 60 days following Effective Date of Order

Subtask G – Monthly EO PLP Project Status Reports

Due Friday before the second Tuesday of each following month

Task 2 – Preparation of Focused Feasibility Study Work Plan

A Draft FFS Work Plan shall be due 60 days following Effective Date of Order

Task 3 – Preparation of draft Focused Feasibility Study Report

A draft FFS Report shall be due 180 days following Ecology's approval of the FFS Work Plan

Task 4 – Supplemental Data Collection and Treatability Evaluation

As approved or directed by Ecology

Upon Ecology's determination of a need for Task 4 activities, schedules for EO PLP-generated work plans, work implementation, and document submittals will be established and adopted as a part of the enforceable Enforcement Order schedule. The schedules for the Focused Feasibility Work Plan and the Focused Feasibility Study Report may be adjusted in accordance with the schedules for any Task 4 activities.

Identified Applicable Relevant and Appropriate Requirements

Federal Requirements

- 42 USC 300, et seq. Safe Drinking Water Act of 1974
 - 40 CFR 141 National Primary Drinking Water Standards

 - 40 CFR 143 National Secondary Drinking Water Standards

- 33 USC 1251, as amended. Clean Water Act of 1977
 - 40 CFR 131 Water Quality Standards

- 42 USC 6901, et seq. Resource Conservation and Recovery Act
 - 40 CFR 257 Criteria for Classification of Solid Waste Disposal Facilities and Practices

 - 40 CFR 261 Identification and Listing of Wastes

 - 40 CFR 265 Closure and Post-Closure

 - 40 CFR 265AA, 265BB, and 265CC Air Emission Standards for Process Vents, Air Emission Standards for Equipment Leaks, and Air Emission Standards for Tanks, Surface Impoundments, and Containers

- 42 USC 7401 Clean Air Act of 1977
 - 40 CFR 50 National Ambient Air Quality Standards

 - 40 CFR 58 Ambient Air Quality Monitoring

 - 40 CFR 60 Standards of Performance for New Stationary Sources

 - 40 CFR 61 National Emission Standards for Hazardous Air Pollutants

 - 40 CFR 63 National Emission Standards for Hazardous Air Pollutants for Source Categories

- 49 USC 1801, et seq. Hazardous Materials Transportation Act
 - 49 CFR 171 Hazardous Materials Regulation

 - 49 CFR 172 Hazardous Materials Tables, Communications Requirements, and Emergency Response Information Requirements

- 7 USC 136 Federal Insecticide, Fungicide, and Rodenticide Act
 - 40 CFR 150, et seq. FIFRA Rules

- 29 USC 651, et seq. Occupational Safety and Health Act
 - 29 CFR 1910, et seq. Safety and Health Rules

State Requirements

- RCW 70.94 and 43.21A Clean Air Act

WAC 173-400 General Regulations for Air Pollution Sources

WAC 173-460 Controls for New Sources for Toxic Air Pollutants

WAC 173-470 Ambient Air Quality Standards for Particulate Matter

WAC 173-490 Emission Standards and Controls for Sources Emitting Volatile Organic Compounds (VOCs)

RCW 70.95 Solid Waste Management Act

WAC 173-351 Criteria for Municipal Solid Waste Landfills

WAC 173-304 Minimum Functional Standards for Solid Waste Handling

RCW 70.105 Hazardous Waste Management Act

WAC 173-303 Dangerous Waste Regulations

RCW 70.105D Model Toxics Control Act

WAC 173-340 Model Toxics Control Act Cleanup Regulation

RCW 90.48 and 90.54 Water Pollution Control/Water Resource Act of 1971

WAC 173-201A Surface Water Quality Standards

WAC 173-154 Protection of Upper Aquifer Zones

WAC 173-200 Water Quality Standards for Ground Waters of the State of Washington

WAC 173-216 State Waste Discharge Program

WAC 246-290 Department of Health Standards for Public Water Supplies

RCW 43.21C State Environmental Policy Act

WAC 197-11 SEPA Rules

RCW 49.17 Washington Industrial Safety and Health

WAC 296-62 General Occupational Health Standards

RCW 18.104 Water Well Construction

WAC 173-160 Minimum Standards for Construction and Maintenance of Wells

WAC 173-162 Rules and Regulations Governing the Licensing of Well Contractors and Operators

Local Requirements

Chapter 17.56, Franklin County Code, I-3 Heavy Industrial Zone

Chapter 16.06, City of Pasco Municipal Code, Utility Service Requirements for Building Permits

EXHIBIT C

AGREED ORDER No. DE 9240

**STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY**

In the Matter of Remedial Action by:

AGREED ORDER

Akzo Nobel Canada Inc.; Basin Disposal, Inc.; Bayer CropScience, Inc.; The Boeing Company; BNSF Railway Company; Crown Beverage Packaging, LLC; Daimler Trucks North America, LLC; Leonard and Glenda Dietrich; Franklin County; Georgia-Pacific, LLC; Goodrich Corporation on behalf of Kalama Specialty Chemicals, Inc.; Intalco Aluminum; 3M Company; PACCAR Inc.; Pasco Sanitary Landfill, Inc.; PCC Structural, Inc.; Pharmacia Corporation; Piute Energy & Transportation; Simpson Timber Company; The Standard Register Company (fka UARCO); Union Oil of California, as successor-in-interest to Collier Carbon and Chemical Corporation; and Weyerhaeuser NR Company.

No. DE 9240

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EXHIBIT A	Site Location Map and Diagram
EXHIBIT B	Scope of Work, Schedule, and ARARs
EXHIBIT C	Agreed Order Potentially Liable Persons
EXHIBIT D	Ecology Policy Number 840, Data Submittal Requirements
EXHIBIT E	Public Participation Plan

I. INTRODUCTION

The mutual objective of the State of Washington, Department of Ecology (Ecology) and the potentially liable persons (PLPs) that execute this Agreed Order (Order) is to provide for remedial action at a facility where there has been a release or threatened release of hazardous substances. The PLPs that execute this Order shall be hereinafter referred to as the “AO PLPs.” Ecology may issue an enforcement order to the PLPs that do not execute this Order.

This Order requires the AO PLPs to conduct a Focused Feasibility Study (FFS) per WAC 173-340-350(8) to evaluate a focused set of remedial alternatives per WAC 173-340-350 through 173-340-380 to address soil and groundwater contamination at the Pasco Landfill NPL Site (Site) by implementing the agreed Scope of Work attached hereto as Exhibit B. This Order further requires ongoing operation, maintenance, and monitoring of Ecology-approved interim actions that are necessary to protect human health and the environment from the release or threatened release of hazardous substances at the Site. Ecology will develop a draft Cleanup Action Plan per WAC 173-340-350 through 173-340-380 to address soil and groundwater contamination at the Site following completion of the FFS by the AO PLPs. This Order does not include the implementation of a Cleanup Action Plan. Upon the entry of this Order by Ecology, it will supersede and replace Agreed Order Nos. DE 00TCPER-1324 and DE 00TCPER-1326. This Order will also supersede and replace Enforcement Order Nos. DE 00TCPER-1325 and DE 00TCPER-1327 for the AO PLPs subject to those enforcement orders. Ecology believes the actions required by this Order are in the public interest.

II. JURISDICTION

This Agreed Order is issued pursuant to the Model Toxics Control Act (MTCA), RCW 70.105D.050(1).

III. PARTIES BOUND

This Agreed Order shall apply to and be binding upon Ecology and the AO PLPs, their successors and assigns. The undersigned representative of each AO PLP hereby certifies that he or she is fully authorized to enter into this Order and to execute and legally bind such AO PLP to

comply with this Order. The AO PLPs agree to undertake all actions required by the terms and conditions of this Order. No change in ownership or corporate status shall alter the AO PLPs' responsibility under this Order. The AO PLPs shall provide a copy of this Order to all agents, contractors, and subcontractors retained to perform work required by this Order, and shall ensure that all work undertaken by such agents, contractors, and subcontractors complies with this Order.

IV. DEFINITIONS

Unless otherwise specified herein, the definitions set forth in Chapter 70.105D RCW and Chapter 173-340 WAC shall control the meanings of the terms in this Order.

A. Site: Refers to the Pasco Landfill NPL Site, which is generally located approximately 1.5 miles northeast of the City of Pasco, Washington, in the southwest quarter of Section 15, and the northwest quarter of Section 22, Township 9 North, Range 30 East, Willamette Meridian, in Franklin County, Washington. The Site is defined by the extent of contamination caused by the release of hazardous substances at the Site. The Site is more particularly described in the Site Diagram, which is attached to this Order as Exhibit A, is an integral part of this Order, and is incorporated by this reference. The Site constitutes a Facility under RCW 70.105D.020(5).

B. Parties: Refers to the State of Washington, Department of Ecology, and the AO PLPs.

C. Potentially Liable Persons (PLPs): Refers to all entities potentially liable for the investigation and cleanup of the Site, regardless of whether they have entered into this Order.

D. AO PLPs: Refers to the PLPs that enter into this Order. A list of the AO PLPs is provided in Exhibit C.

E. Agreed Order or Order: Refers to this Order and each of the exhibits to this Order. All exhibits are integral and enforceable parts of this Order. The terms "Agreed Order" or "Order" shall include all exhibits to this Order.

F. GPA: Refers to the Groundwater Protection Area originating at the Site and depicted on Exhibit A-1 to Exhibit A.

G. IWA: Refers to the Industrial Waste Disposal Areas at the Site and depicted on Exhibit A.

H. SLA: Refers to the Sanitary Landfill Area at the Site and depicted on Exhibit A. The term “SLA” shall be interchangeable with MSW, or Municipal Solid Waste Area.

I. MSW: Refers to the Municipal Solid Waste Area at the Site and depicted on Exhibit A. The term “MSW” shall be interchangeable with SLA, or Sanitary Landfill Area.

V. FINDINGS OF FACT

Ecology makes the following findings of fact, without any express or implied admissions of such facts by any PLP:

A. The Site is located near the intersection of Kahlotus Road with United States Routes 12 and 395, at latitude 46 degrees, 15’07” North and longitude 119 degrees, 03’13” West. The approximate location and boundaries of the Site are depicted in Exhibit A. The Site consists of the area illustrated and extends laterally and vertically as far as the plume of contamination which exceeds applicable cleanup levels in groundwater resulting from onsite contamination. Exhibit A.

B. In 1958, the Franklin County Planning Commission authorized John Dietrich, d/b/a Pasco Garbage Service, to establish and operate a garbage disposal facility at this Site. The facility operated as a burning dump until 1971, at which point it was converted to a sanitary landfill.

C. Chemical Processors, Inc., and John and Marjorie Dietrich, d/b/a Basin Disposal Co., Inc., agreed to form a third company, Resource Recovery Corporation (CR2), to operate the landfill. CR2 was incorporated in Washington on August 8, 1972. The CR2 Operational Plan, dated August 28, 1972, envisioned the development of additional disposal facilities for both drummed and liquid wastes. Drummed wastes were to be buried, and bulk liquids were to be discharged to lagoons and evaporated.

D. On or about January 3, 1973, CR2 submitted a Waste Discharge Permit Application (the Application) to Ecology, by which it sought permission to collect, transport to, and dispose of various industrial, commercial, and agricultural wastes at the disposal facility. On March 21, 1973, Ecology issued Waste Discharge Permit No. 5301 (the Permit) to CR2 to govern the operation of the disposal facility. The industrial waste lagoons and drum disposal sites were operated at the disposal facility through the end of 1974. Industrial wastes were segregated and disposed of in five zones of the IWA, designated as Zones A, B, C, D, and E. *See* Exhibit A. Those areas designated on Exhibit A as Zone U-1 (historical) and Zone TS-2 (historical) were used as holding areas for industrial wastes.

E. On September 24, 1973, Franklin County notified CR2 that it was no longer permitted to dispose of industrial wastes originating from outside of Franklin and Benton Counties at the facility and that CR2 would need to obtain a new special use permit in order to continue operating the sanitary landfill portion of the facility. On November 5, 1973, CR2 submitted a special use permit application to Franklin County seeking permission to continue to operate the facility as a sanitary landfill and industrial waste disposal facility. Franklin County subsequently issued an interim order allowing CR2 to continue operating the sanitary landfill, but barring the disposal of industrial waste at the facility until the County made a decision on CR2's special use permit application.

F. On February 11, 1974, Franklin County granted CR2 a special use permit that allowed CR2 to continue operating the sanitary landfill and to resume operating the industrial waste disposal facilities until May 2, 1974. CR2 subsequently entered into a Performance Agreement with Franklin County and Ecology, whereby Franklin County allowed CR2 to operate the industrial waste facility through December 31, 1974.

G. Zone A consisted of a drum disposal area and reportedly contains approximately 35,000 drums of mixed organic and inorganic industrial wastes. Zone B consisted of a drum disposal area and contained approximately 5,000 drums of chlorinated herbicide manufacturing wastes. Zone C consisted of an unlined pond that was used to evaporate water from various

industrial wastes. Zone D consisted of an unlined pond that was used for the disposal of non-containerized industrial wastes. Approximately 3,000,000 gallons of wastes were disposed of in Zones C and D. Zone E consisted of a bulk waste disposal area where approximately 11,000 tons of chlor-alkali sludge and carbon electrode wastes were reportedly deposited.

H. Following expiration of the Permit, CR2 continued to operate the sanitary landfill portion of the facility, accepting local solid and industrial waste under permit from the Benton-Franklin District Health Department. In 1981, Pasco Sanitary Landfill, Inc. (PSL) was formed to operate the landfill. PSL currently owns the Pasco Sanitary Landfill property, which is depicted in Exhibit A.

I. In February 1990, the Site was listed as a National Priority List (NPL) site by the United States Environmental Protection Agency. This listing was based on the identification of hazardous substances in Site media, including groundwater. Ecology was established as the lead agency for the cleanup investigations and remedial actions taken at the Site.

J. In 1992, a Phase I Remedial Investigation (RI) was begun by a group of PLPs. The purpose of the Phase I RI was to gain additional information on the nature and extent of contamination in the soil, soil-gas, and groundwater near potential contaminant sources at the Site. Findings of the Phase I RI confirmed the presence of site-related contamination in soil, soil-gas, and groundwater at levels exceeding then applicable MTCA cleanup levels.

K. In November 1994, Ecology issued Enforcement Order No. DE 94TC-E103 to certain PLPs, requiring them to perform a Phase II RI and Feasibility Study (FS). The purpose of the Phase II RI was to further define and characterize the source(s), nature, degree, and extent of contamination at the Site. The purpose of the FS was to develop and evaluate remedial measures to reduce risks to human health and the environment in accordance with WAC 173-340. Results of the Phase II RI Report confirmed that hazardous substances had been released to the environment, within the meaning of RCW 70.105D.020(20). The results of the Phase I and Phase II RI provided sufficient information regarding the nature and extent of contamination at the Site which allowed for the preparation of a Risk Assessment/Cleanup Levels Analysis and

a FS.

L. The FS for the Site was completed in accordance with Enforcement Order DE 94TC-E103 and WAC 173-340-350. The FS report was accepted as final by Ecology in October 1999 after public notice and opportunity to comment. The FS proposed a five-year performance monitoring period during which time the preferred remedy would be monitored, evaluated, and modified (if necessary) to optimize the performance of the remedy.

M. In or around May of 1997, certain PLPs undertook Interim Remedial Measures (IRMs) at the Site to reduce potential risks to human health and the environment. The 1997 IRMs included installation and pilot-scale testing of two engineered remediation systems: a soil vapor extraction (SVE) system and a groundwater treatment system (NoVOCsTM). The pilot SVE system was installed at Zone A to remove volatile organic compounds in soil vapors from beneath and adjacent to the waste zone. The pilot NoVOCsTM groundwater treatment system was installed near Zone A in 1997.

N. In 2000, Ecology and a group of PLPs entered into Agreed Order No. DE 00TCPER-1324, which required the implementation and completion of certain interim actions at the IWA and GPA. Also in 2000, Ecology issued Enforcement Order No. DE 00TCPER-1325 to a separate group of PLPs, which required them to implement and complete those interim actions at the IWA and GPA. The interim actions required by Agreed Order No. DE 00TCPER-1324 and Enforcement Order No. DE 00TCPER-1325 included: the installation of engineered landfill caps at Zones A, C, D, and E of the IWA; an expansion of the SVE and NoVOCsTM systems at Zone A; removal of the drums and installation of a temporary cover at Zone B of the IWA; and implementation of institutional controls. Ecology determined that before a final site remedy could be selected under MTCA, a five-year operational period was necessary to evaluate the performance of the interim action systems.

O. In 2000, Ecology and a group of PLPs entered into Agreed Order No. DE 00TCPER-1326, which required the implementation and completion of certain interim actions for the SLA at the Site. Also in 2000, Ecology issued Enforcement Order No. DE 00TCPER-

1327 to a separate group of PLPs, which required the same interim actions to be implemented and completed at the SLA. The interim actions required by Agreed Order No. DE 00TCPER-1326 and Enforcement Order No. DE 00TCPER-1327 included: the installation of an engineered landfill cap at the MSW Landfill; completion of a landfill gas collection system and flare; and implementation of institutional controls. This work was completed and approved by Ecology pursuant to Agreed Order No. DE 00TCPER-1326.

P. In an April 23, 2007 letter, Ecology provided its evaluation of the Interim Action Performance Monitoring activities. Ecology concluded that additional system improvements, enhancements or additional remedial actions were necessary to address significant data gaps and uncertainties in the understanding of site conditions, and assess the overall effectiveness of the interim remedial systems. Ecology determined that the SVE and NoVOCsTM treatment systems were underperforming and provided an insufficient level of treatment to meet all MTCA threshold criteria in the selection of cleanup actions.

Q. In 2002, Ecology approved the Operations and Maintenance Manual, Landfill Gas Collection Control and Flare, Pasco Sanitary Landfill, Pasco, Washington, prepared by Philip Service Corporation dated July 15, 2002. In 2009, Ecology approved a Memorandum regarding Addendum to Pasco Municipal Solid Waste Landfill Operations and Maintenance Manual, prepared by Aspect Consulting dated April 17, 2009. In 2011, Ecology approved the Revised Flare Performance Report, Pasco Municipal Solid Waste Landfill, prepared by Aspect Consulting dated June 29, 2011. Collectively, these documents guide the interim remedial activities at the MSW Landfill. This work began in October 2002 and is ongoing as of October 2012.

R. In October and November of 2007, a group of PLPs proposed to undertake investigative tasks at the IWA as part of a continuation of the interim actions required by Agreed Order No. DE 00TCPER-1324. On February 15, 2008, that same group of PLPs submitted to Ecology a draft Work Plan for Additional Interim Actions (AIAs) for these tasks. Also in February of 2008, that group of PLPs formally requested that it be allowed to undertake

additional interim actions at the IWA pursuant to Agreed Order No. DE 00TCPER-1324. On May 9, 2008, the Attorney General's Office conveyed Ecology's agreement to that group of PLPs' request to conduct AIAs under Agreed Order No. DE 00TCPER-1324. The approved AIAs included: installation of new monitoring wells at the Site; evaluation of alternative SVE system operations; assessment and verification of the NoVOCsTM system operations and facilitated mechanisms of contaminant reduction; and inspection maintenance and modifications (as needed) to the current SVE and NoVOCsTM systems.

S. In fall 2008, an assessment of the NoVOCsTM system revealed that the NoVOCsTM was not performing according to design expectations. Between November 2010 and June 2011, the four NoVOCsTM wells were decommissioned.

T. In 2009, a sub-group of PLPs performing the AIAs made a request to Ecology to modify the scope and schedule for Phase I of the AIAs and be allowed to perform certain tasks under the Phase II AIAs at the Site. These tasks included: upgrades to the Zone A SVE system; supplemental soil sampling and analytical testing of Zone A subsurface soils; installation of new Zone A groundwater monitoring wells; installation of additional property boundary and downgradient plume area groundwater monitoring wells; investigation of soil conditions beneath Zone A using non-vertical borehole drilling and sampling techniques; and maintenance of subsidence on the Zone A cap. Ecology stated in a letter dated September 18, 2009, that the SVE system upgrade was intended to address only soil/vadose zone contamination, consistent with the intent of the 2000 Orders, and was not intended to serve as a replacement for the NoVOCsTM system, nor used as a stand-alone groundwater treatment remedial system.

U. In May 2010, Ecology approved the Phase II Volume I AIA Work Plan. The Work Plan described upgrades to the interim action SVE system, and the installation of additional groundwater monitoring wells within Zone A. In May 2010, Ecology approved the Engineering Design Report for SVE System Upgrades submitted by a group of PLPs, which details the engineering design of SVE upgrades. This work began in the summer of 2010 and is ongoing as of October 2012.

V. In May 2010, Ecology approved the Work Plan for the Pasco Zone B RCRA C cap. This work includes the excavation of contaminated soil directly adjacent to Zone B, containing the soil within the limits of the planned RCRA C cap, and the installation of the RCRA C cap. Confirmation sampling indicated that it is necessary to modify the original design and an update to the Work Plan is forthcoming. This work began in October 2010 and is ongoing as of October 2012.

W. In January 2011, Ecology approved the Phase II AIA Volume II Work Plan to conduct soil investigations beneath Zone A. The Phase II AIA Volume II Work Plan also specifies the installation of four additional intermediate-depth groundwater monitoring wells within the downgradient plume area and the performance of cap maintenance in response to localized subsidence of the Zone A cap. The intermediate-depth monitoring wells were installed in February and March 2011. Cap maintenance under the O&M plan for the Zone A cap is ongoing as of October 2012.

VI. ECOLOGY DETERMINATIONS

Ecology makes the following determinations, without any express or implied admission of such determinations by the AO PLPs:

A. Each PLP is potentially liable pursuant to RCW 70.105D.040 for the release of hazardous substances at the Site, a facility as defined in RCW 70.105D.020(5). The PLPs arranged for the disposal of hazardous substances at the “facility,” and/or transported hazardous substances to the “facility,” as that term is defined by RCW 70.105D.020(5), and/or are or were “owners or operators” as defined in RCW 70.105D.020(17) of a “facility” as defined in RCW 70.105D.020(5).

B. Based upon all factors known to Ecology, a “release” or “threatened release” of “hazardous substance(s)” as defined in RCW 70.105D.020(25) and RCW 70.105D.020(10), respectively, has occurred at the Site.

C. Based upon credible evidence, Ecology issued PLP status letters to certain PLPs pursuant to RCW 70.105D.040, RCW 70.105D.020(21), and WAC 173-340-500. After

providing for notice and opportunity for comment, reviewing any comments submitted, and concluding that credible evidence supported a finding of potential liability, Ecology issued determinations to each of those PLPs that they were PLPs under RCW 70.105D.040.

D. Pursuant to RCW 70.105D.030(1) and .050(1), Ecology may require PLPs to investigate or conduct other remedial actions with respect to any release or threatened release of hazardous substances, whenever it believes such action to be in the public interest. Based on the foregoing facts, Ecology believes the work required by this Order is in the public interest.

E. Under WAC 173-340-430, an interim action is a remedial action that is technically necessary to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance, that corrects a problem that may become substantially worse or cost substantially more to address if the remedial action is delayed, or that is needed to provide for completion of a site hazard assessment, remedial investigation/feasibility study, or design of a cleanup action.

VII. WORK TO BE PERFORMED

Based on the Findings of Fact and Ecology Determinations, it is hereby ordered that the AO PLPs take the following actions at the Site, as more fully described in 1) the FFS Scope of Work attached to this Order as Exhibit B, and 2) the existing Site Operation and Maintenance Manuals as referenced in Exhibit B of this Order, and that these actions be conducted in accordance with Chapter 173-340 WAC unless otherwise specifically provided for herein:

A. The AO PLPs shall conduct the remedial actions fully described in Exhibit B to this Order (Scope of Work, Schedule, and ARARs). As part of the Scope of Work, the AO PLPs shall prepare a FFS Work Plan. The Work Plan and other deliverables and each element thereof shall be designed, implemented, and completed in accordance with both MTCA (Chapter 70.105D RCW) and its implementing regulations (Chapter 173-340 WAC).

B. The AO PLPs shall submit all necessary plans or other deliverables to implement the Scope of Work (Exhibit B) to Ecology for review and approval according to the Schedule of Deliverables in Exhibit B. Upon approval by Ecology, such deliverables become integral and

enforceable parts of this Order. The AO PLPs will then proceed with implementation in accordance with the schedule approved in the Work Plan and other deliverables.

C. As provided in the agreed Scope of Work and Schedule, attached as Exhibit B, the AO PLPs shall commence and thereafter complete all tasks in the time frames and framework indicated unless the Department grants an extension in accordance with Section VIII.K (Extension of Schedule).

D. The AO PLPs shall submit a draft FFS report for Ecology's review, comment, and approval in accordance with the agreed upon schedule. The FFS will build upon the remedial concepts, considerations, and objectives identified in the 1999 FS, taking into consideration information and data generated during the 5-year interim action performance period, and during Phases I and II of the AIAs. The FFS will provide a concise, comprehensive evaluation of viable remedial options that can meet remedy selection requirements under MTCA for the Site. The FFS will assess the agreed upon remedial alternatives presented in the FFS Work Plan in view of MTCA threshold requirements and site uncertainties, and will provide the basis for selection of a final site remedy which complies with MTCA and WAC 173-340-350(8). Upon Ecology's approval, Ecology will provide for a 30-day public comment period of the FFS Report.

E. The AO PLPs shall submit to Ecology progress reports as required in the FFS Scope of Work. The reports shall address progress made during the period, work in progress, problem areas, key activities, deviations from the work and sampling plans, deliverables submitted, field work and data generated, subcontracting, analytical services performed, and key staff changes.

F. If, at any time after the first exchange of comments on drafts, Ecology determines that insufficient progress is being made in the preparation of any of the deliverables required by this Section, Ecology may complete and issue the final deliverable. Ecology will provide advance notice to the AO PLPs of its decision to complete the final deliverable. The AO PLPs may then seek dispute resolution pursuant to Section VIII.J (Resolution of Disputes).

VIII. TERMS AND CONDITIONS OF ORDER

A. Public Notice

RCW 70.105D.030(2)(a) requires that, at a minimum, this Order be subject to concurrent public notice. Ecology shall be responsible for providing such public notice and reserves the right to modify or withdraw any provisions of this Order should public comment disclose facts or considerations which indicate to Ecology that this Order is inadequate or improper in any respect.

B. Remedial Action Costs

The AO PLPs shall pay to Ecology costs incurred by Ecology pursuant to this Order and consistent with WAC 173-340-550(2). These costs shall include work performed by Ecology or its contractors for, or on, the Site under Chapter 70.105D RCW, including remedial actions and Order preparation, negotiation, oversight, and administration. These costs shall include work performed subsequent to the issuance of this Order. Ecology's costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2). The AO PLPs shall pay the required amount within thirty (30) days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general statement of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Pursuant to WAC 173-340-550(4), failure to pay Ecology's costs within ninety (90) days of receipt of the itemized statement of costs will result in interest charges at the rate of twelve percent (12%) per annum, compounded monthly.

In addition to other available relief, pursuant to RCW 19.16.500, Ecology may utilize a collection agency and/or, pursuant to RCW 70.105D.055, file a lien against real property subject to the remedial actions to recover unreimbursed remedial action costs.

C. Implementation of Remedial Action

If Ecology determines that the AO PLPs have failed without good cause to implement the remedial action required by this Order, in whole or in part, Ecology may, after notice to the AO

PLPs, perform any or all portions of the remedial action that remain incomplete. After Ecology has provided such notice, the AO PLPs may seek dispute resolution pursuant to Section VIII.J. If Ecology performs all or portions of the remedial action because of the AO PLPs' failure to comply with its obligations under this Order, the PLPs shall reimburse Ecology for the costs of doing such work in accordance with Section VIII.B (Remedial Action Costs), provided that the AO PLPs are not obligated under this Section to reimburse Ecology for costs incurred for work inconsistent with or beyond the scope of this Order.

Except where necessary to abate an emergency situation, the AO PLPs shall not perform any remedial actions at the Site outside those remedial actions required by this Order, unless Ecology concurs, in writing, with such additional remedial actions.

D. Designated Project Coordinators

The project coordinator for Ecology is:

Charles Gruenfelder, L.H.G.
Eastern Regional Office, Department of Ecology
4601 N. Monroe Street
Spokane, WA 99205-1295
(509) 329-3439
E-mail: chgr461@ecy.wa.gov

The project coordinator for Zones A, C, D, and E of the IWA is:

Mike Riley, Ph.D.
Anchor QEA LLC
101 N. Capital Way, Suite 107
Olympia, WA 98501
(360) 528-2442
E-mail: mriley@anchorqea.com

The project coordinator for the MSW, burn trenches, balefill areas, and inert waste area is:

William (Chip) Goodhue, P.E.
Aspect Consulting LLC
350 Madison Avenue N.
Bainbridge Island, WA 98110-1810
(206) 780-9370
E-mail: cgoodhue@aspectconsulting.com

The project coordinator for Zone B of the IWA is:

Sean Gormley, EAC, CHMM
AMEC

7376 SW Durham Road
Portland, OR 97224
(503) 639-3400
E-mail: sean.gormley@amec.com

The project coordinators shall be responsible for overseeing the implementation of this Order. Ecology's project coordinator will be Ecology's designated representative for the Site. To the maximum extent possible, communications between Ecology and the AO PLPs, and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Order shall be directed through the project coordinators. The project coordinators may designate, in writing, working level staff contacts for all or portions of the implementation of the work to be performed required by this Order.

Any party may change its respective project coordinator. Written notification shall be given to the other party at least ten (10) calendar days prior to the change.

E. Performance

All geologic and hydrogeologic work performed pursuant to this Order shall be under the supervision and direction of a geologist licensed in the State of Washington or under the direct supervision of an engineer registered in the State of Washington, except as otherwise provided for by Chapters 18.220 and 18.43 RCW.

All engineering work performed pursuant to this Order shall be under the direct supervision of a professional engineer registered in the State of Washington, except as otherwise provided for by RCW 18.43.130.

All construction work performed pursuant to this Order shall be under the direct supervision of a professional engineer or a qualified technician under the direct supervision of a professional engineer. The professional engineer must be registered in the State of Washington, except as otherwise provided for by RCW 18.43.130.

Any documents submitted containing geologic, hydrologic, or engineering work shall be under the seal of an appropriately licensed professional as required by Chapter 18.220 RCW or RCW 18.43.130.

The AO PLPs shall notify Ecology in writing of the identity of any engineer(s) and geologist(s), contractor(s) and subcontractor(s), and others to be used in carrying out the terms of this Order, in advance of their involvement at the Site.

F. Access

Ecology or any Ecology authorized representative shall have the full authority to enter and freely move about all property at the Site that the AO PLPs either own, control, or have access rights to at all reasonable times for the purposes of, *inter alia*: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Order; reviewing the AO PLPs' progress in carrying out the terms of this Order; conducting such tests or collecting such samples as Ecology may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Order; and verifying the data submitted to Ecology by the AO PLPs. The AO PLPs shall make all reasonable efforts to secure access rights for those properties within the Site not owned or controlled by the AO PLPs where remedial activities or investigations will be performed pursuant to this Order. Ecology or any Ecology authorized representative shall give reasonable notice before entering any Site property owned or controlled by the AO PLPs unless an emergency prevents such notice. All persons who access the Site pursuant to this Section shall comply with any applicable Health and Safety Plan(s). Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of Site property access.

G. Sampling, Data Submittal, and Availability

With respect to the implementation of this Order, the AO PLPs shall make the results of all sampling, laboratory reports, and/or test results generated by it or on its behalf available to Ecology. Pursuant to WAC 173-340-840(5), all sampling data shall be submitted to Ecology in both printed and electronic formats in accordance with Section VII (Work to be Performed), Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any subsequent procedures specified by Ecology for data submittal.

If requested by Ecology, the AO PLPs shall allow Ecology and/or its authorized representative to take split or duplicate samples of any samples collected by the AO PLPs pursuant to implementation of this Order. The AO PLPs shall notify Ecology seven (7) days in advance of any sample collection or work activity at the Site. Ecology shall, upon request, allow

the AO PLPs and/or their authorized representative(s) to take split or duplicate samples of any samples collected by Ecology pursuant to the implementation of this Order, provided that doing so does not interfere with Ecology's sampling. Without limitation on Ecology's rights under Section VIII.F (Access), Ecology shall notify the AO PLPs five (5) days prior to any sample collection activity unless an emergency prevents such notice.

In accordance with WAC 173-340-830(2)(a), all hazardous substance analyses shall be conducted by a laboratory accredited under Chapter 173-50 WAC for the specific analyses to be conducted, unless otherwise approved by Ecology.

H. Public Participation

A Public Participation Plan is required for this Site and has been developed by Ecology and is included as Exhibit E. Ecology shall maintain the responsibility for public participation at the Site. However, the AO PLPs shall cooperate with Ecology, and shall:

1. If agreed to by Ecology, develop an appropriate mailing list, and prepare drafts of public notices and fact sheets at important stages of the remedial action, such as the submission of work plans, the FFS Report, and engineering design reports. As appropriate, Ecology will edit, finalize, and distribute such fact sheets and prepare and distribute public notices of Ecology's presentations and meetings.

2. Notify Ecology's project coordinator prior to the preparation of all press releases and fact sheets, and before major meetings with the interested public and local governments. Likewise, Ecology shall notify the AO PLPs prior to the issuance of all press releases and fact sheets, and before major meetings with the interested public and local governments. For all press releases, fact sheets, meetings, and other outreach efforts by the AO PLPs that do not receive prior Ecology approval, the PLPs shall clearly indicate to its audience that the press release, fact sheet, meeting, or other outreach effort was not sponsored or endorsed by Ecology.

3. When requested by Ecology, participate in public presentations on the progress of the remedial action at the Site. Participation may be through attendance at public meetings to assist in answering questions or as a presenter.

4. When requested by Ecology, arrange and/or continue information repositories to be located at the following locations:

- a. Pasco Public Library
1320 W Hopkins
Pasco, WA 99301
- b. Ecology's Eastern Regional Office
4601 N. Monroe
Spokane, WA 99205
- c. Ecology's Website at:
<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=1910>

At a minimum, copies of all public notices, fact sheets, and documents related to public comment periods shall be promptly placed in these repositories. A copy of all documents related to this Site will be maintained in the repository located at Ecology's Eastern Regional Office in Spokane.

I. Retention of Records

During the pendency of this Order, and for ten (10) years from the date of completion of work performed pursuant to this Order, the AO PLPs shall preserve all records, reports, documents, and underlying data in its possession relevant to the implementation of this Order and shall insert a similar record retention requirement into all contracts with project contractors and subcontractors. Upon request of Ecology, the AO PLPs shall make all such records available to Ecology and allow access for review within a reasonable time. The AO PLPs do not waive any rights they might have under applicable law to limit disclosure of documents protected by the attorney work product and/or attorney-client privilege, or by any other privilege recognized under applicable law. If an AO PLP withholds any requested records based on an assertion of privilege, it shall provide Ecology with a privilege log specifying the records withheld and the applicable privilege.

J. Resolution of Disputes

1. In the event a dispute arises as to an approval, disapproval, proposed change, or other decision or action by Ecology's project coordinator, or an itemized billing statement under

Section VIII.B (Remedial Action Costs), the Parties shall utilize the dispute resolution procedure set forth below.

a. Upon receipt of Ecology's project coordinator's written decision or the itemized billing statement, the AO PLPs have fourteen (14) days within which to notify Ecology's project coordinator in writing of its objection to the decision or itemized statement.

b. The Parties' project coordinators shall then confer in an effort to resolve the dispute. If the project coordinators cannot resolve the dispute within fourteen (14) days, Ecology's project coordinator shall endeavor to issue a written decision within seven (7) days.

c. The AO PLPs may then request regional management review of the decision. This request shall be submitted in writing to the Eastern Region Toxics Cleanup Section Manager within seven (7) days of receipt of Ecology's project coordinator's written decision.

d. The Section Manager shall conduct a review of the dispute and shall endeavor to issue a written decision regarding the dispute within thirty (30) days of the AO PLPs' request for review. The Section Manager's decision shall be Ecology's final decision on the disputed matter.

2. The Parties agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used.

3. Implementation of these dispute resolution procedures shall not provide a basis for delay of any activities required in this Order, unless Ecology agrees in writing to a schedule extension.

K. Extension of Schedule

1. An extension of schedule shall be granted only when a request for an extension is submitted in a timely fashion, generally at least fourteen (14) days prior to expiration of the

deadline for which the extension is requested, and good cause exists for granting the extension.

All extensions shall be requested in writing. The request shall specify:

- a. The deadline that is sought to be extended;
- b. The length of the extension sought;
- c. The reason(s) for the extension; and
- d. Any related deadline or schedule that would be affected if the extension were granted.

2. The burden shall be on the AO PLPs to demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension. Good cause may include, but may not be limited to:

- a. Circumstances beyond the reasonable control and despite the due diligence of the AO PLPs including delays caused by unrelated third parties or Ecology, such as (but not limited to) delays by Ecology in reviewing, approving, or modifying documents submitted by the AO PLPs;
- b. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or other unavoidable casualty; or
- c. Endangerment as described in Section VIII.M (Endangerment).

However, neither increased costs of performance of the terms of this Order nor changed economic circumstances shall be considered circumstances beyond the reasonable control of the PLPs.

3. Ecology shall act upon any written request for extension in a timely fashion. Ecology shall give the AO PLPs written notification of any extensions granted pursuant to this Order. A requested extension shall not be effective until approved by Ecology. Unless the extension is a substantial change, it shall not be necessary to amend this Order pursuant to Section VIII.L (Amendment of Order) when a schedule extension is granted.

4. An extension shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. Ecology may grant schedule extensions exceeding ninety (90) days only as a result of:

- a. Delays in the issuance of a necessary permit which was applied for in a timely manner;
- b. Other circumstances deemed exceptional or extraordinary by Ecology; or
- c. Endangerment as described in Section VIII.M (Endangerment).

L. Amendment of Order

The project coordinators may verbally agree to minor changes to the work to be performed without formally amending this Order. Minor changes will be documented in writing by Ecology within seven (7) days of verbal agreement.

Except as provided in Section VIII.N (Reservation of Rights), substantial changes to the work to be performed shall require formal amendment of this Order. This Order may only be formally amended by the written consent of both Ecology and the AO PLPs. The AO PLPs shall submit a written request for amendment to Ecology for approval. Ecology shall indicate its approval or disapproval in writing and in a timely manner after the written request for amendment is received. If the amendment to this Order represents a substantial change, Ecology will provide public notice and opportunity to comment. Reasons for the disapproval of a proposed amendment to this Order shall be stated in writing. If Ecology does not agree to a proposed amendment, the disagreement may be addressed through the dispute resolution procedures described in Section VIII.J (Resolution of Disputes).

M. Endangerment

In the event Ecology determines that any activity being performed at the Site is creating or has the potential to create a danger to human health or the environment on or surrounding the Site, Ecology may direct the AO PLPs to cease such activities for such period of time as it deems necessary to abate the danger. The AO PLPs shall immediately comply with such direction.

In the event the AO PLPs determine that any activity being performed at the Site is creating or has the potential to create a danger to human health or the environment, the AO PLPs may cease such activities. The AO PLPs shall notify Ecology's project coordinator as soon as possible, but no later than twenty-four (24) hours after making such determination or ceasing such activities. Upon Ecology's direction the AO PLPs shall provide Ecology with documentation of the basis for the determination or cessation of such activities. If Ecology disagrees with the AO PLPs' cessation of activities, it may direct the AO PLPs to resume such activities. If the PLPs disagree with Ecology's direction to resume activities, the PLPs may commence dispute resolution in accordance with Section VIII.J (Resolution of Disputes).

If Ecology concurs with or orders a work stoppage pursuant to Section VIII.M (Endangerment), the AO PLPs' obligations with respect to the ceased activities shall be suspended until Ecology determines the danger is abated, and the time for performance of such activities, as well as the time for any other work dependent upon such activities, shall be extended in accordance with Section VIII.K (Extension of Schedule) for such period of time as Ecology determines is reasonable under the circumstances.

Nothing in this Order shall limit the authority of Ecology, its employees, agents, or contractors to take or require appropriate action in the event of an emergency.

N. Reservation of Rights / No Settlement

This Order is not a settlement under Chapter 70.105D RCW. Ecology's signature on this Order in no way constitutes a covenant not to sue or a compromise of any of Ecology's rights or authority. Ecology will not, however, bring an action against the AO PLPs to recover remedial action costs paid to and received by Ecology under this Order. In addition, Ecology will not take additional enforcement actions against the AO PLPs regarding remedial actions required by this Order, provided the AO PLPs comply with this Order.

Ecology nevertheless reserves its rights under Chapter 70.105D RCW, including the right to require additional or different remedial actions at the Site should it deem such actions necessary to protect human health and the environment, and to issue orders requiring such

remedial actions. Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural resources resulting from the release or threatened release of hazardous substances at the Site.

By entering this Order, the AO PLPs do not admit any liability or responsibility for the Site. The AO PLPs expressly reserve all rights and claims that exist or may arise under state or federal law, including but not limited to the right to seek cost recovery or contribution against any PLP or other person, and the right to petition Ecology for reimbursement of costs under RCW 70.105D.050.

O. Transfer of Interest in Property

No voluntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by the AO PLPs without provision for continued implementation of all requirements of this Order and implementation of any remedial actions found to be necessary as a result of this Order.

Prior to the AO PLPs' transfer of any interest in all or any portion of the Site, and during the effective period of this Order, the AO PLPs shall provide a copy of this Order to any prospective purchaser, lessee, transferee, assignee, or other successor in said interest; and, at least thirty (30) days prior to any transfer, the AO PLPs shall notify Ecology of said transfer. Upon transfer of any interest, the AO PLPs shall restrict uses and activities to those consistent with this Order and notify all transferees of the restrictions on the use of the property.

P. Compliance with Applicable Laws

1. All actions carried out by the AO PLPs pursuant to this Order shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits, except as provided in RCW 70.105D.090. The permits or specific federal, state, or local requirements that the agency has determined are applicable and that are known at the time of entry of this Order have been identified in Exhibit B.

2. Pursuant to RCW 70.105D.090(1), the AO PLPs are exempt from the procedural requirements of Chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 RCW and of any laws

requiring or authorizing local government permits or approvals. However, the AO PLPs shall comply with the substantive requirements of such permits or approvals. The exempt permits or approvals and the applicable substantive requirements of those permits or approvals, as they are known at the time of entry of this Order, have been identified in Exhibit B.

The AO PLPs have a continuing obligation to determine whether additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Order. In the event either Ecology or the AO PLPs determines that additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Order, it shall promptly notify the other party of its determination. Ecology shall determine whether Ecology or the AO PLPs shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, the AO PLPs shall promptly consult with the appropriate state and/or local agencies and provide Ecology with written documentation from those agencies of the substantive requirements those agencies believe are applicable to the remedial action. Ecology shall make the final determination on the additional substantive requirements that must be met by the AO PLPs and on how the AO PLPs must meet those requirements. Ecology shall inform the AO PLPs in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Order. The AO PLPs shall not begin or continue the remedial action potentially subject to the additional requirements until Ecology makes its final determination.

3. Pursuant to RCW 70.105D.090(2), in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70.105D.090(1) would result in the loss of approval from a federal agency that is necessary for the State to administer any federal law, the exemption shall not apply and the AO PLPs shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70.105D.090(1), including any requirements to obtain permits.

Q. Financial Assurances - RESERVED

R. Indemnification

The AO PLPs agree to indemnify and save and hold the State of Washington, its employees, and agents harmless from any and all claims or causes of action for death or injuries to persons or for loss or damage to property to the extent arising from or on account of acts or omissions of the AO PLPs, their officers, employees, agents, or contractors in entering into and implementing this Order. However, the AO PLPs shall not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action to the extent arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State, in entering into or implementing this Order.

IX. SATISFACTION OF ORDER

The provisions of this Order shall be deemed satisfied upon the AO PLPs' receipt of written notification from Ecology that the AO PLPs have completed the remedial activity required by this Order, as amended by any modifications, and that the AO PLPs have complied with all other provisions of this Agreed Order.

X. ENFORCEMENT

Pursuant to RCW 70.105D.050, this Order may be enforced as follows:

A. The Attorney General may bring an action to enforce this Order in a state or federal court.

B. The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for investigative and remedial actions and orders related to the Site.

C. In the event the AO PLPs refuse, without sufficient cause, to comply with any term of this Order, the AO PLPs will be liable for:

a. Up to three (3) times the amount of any costs incurred by the State of Washington as a result of its refusal to comply; and

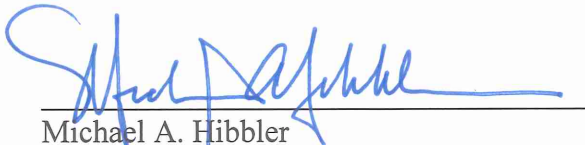
b. Civil penalties of up to twenty-five thousand dollars (\$25,000) per day for each day it refuses to comply.

D. This Order is not appealable to the Washington Pollution Control Hearings Board.

This Order may be reviewed only as provided under RCW 70.105D.060.

Effective date of this Order: 10/31/2012

**STATE OF WASHINGTON,
DEPARTMENT OF ECOLOGY**



Michael A. Hibbler
Section Manager
Toxics Cleanup Program
Eastern Regional Office
Telephone: (509) 329-3568

POTENTIALLY LIABLE PERSON

SL Shestak

Name of signatory: STEVEN L SHESTAK

Title of signatory: Director, Enterprise Remediation

For: The Boeing Co.

Address: 2201 Seal Beach Blvd M/C 110-SE17
Seal Beach, CA 90740-1515

Telephone: 818-466-8822

POTENTIALLY LIABLE PERSON



Name of signatory: ROBERT C. LOCKEMER

Title of signatory: DIRECTOR REMEDIATION

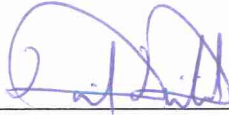
For: BAYER CROPSCIENCE

Address: 2 T.W. ALEXANDER DR.

RTP, NC 27709

Telephone: 919-549-2930

POTENTIALLY LIABLE PERSON

 for Basin Disposal Inc.

Name of signatory: DARRICK DIETRICH

Title of signatory: President

For: Basin Disposal Inc.

Address: 2021 N Commercial Ave
PASCO, WA 99301

Telephone: 509 547-2476

POTENTIALLY LIABLE PERSON

Name of signatory: Glenda Dietrich

Title of signatory: none

For: _____

Address: 4615 Hilltop Dr.
Pasco, wa, 99301

Telephone: _____

POTENTIALLY LIABLE PERSON

Name of signatory: James Oute

Title of signatory: None

For: _____

Address: 4615 Hilltop Dr
PASCO WA 99301

Telephone: _____

POTENTIALLY LIABLE PERSON



Name of signatory: KETHER A. SHEMIE

Title of signatory: SECRETARY

For: PIUTE ENERGY & TRANSPORTATION COMPANY

Address: C/O CT CORPORATION SYSTEM

520 PIKE STREET, SEATTLE, WASHINGTON

Telephone: 514 878-6429.

POTENTIALLY LIABLE PERSON

RA Paschke

Name of signatory: Robert A. Paschke

Title of signatory: Manager, Corporate Environmental Programs

For: 3M

Address: 3M Center

St. Paul, MN. 55144

Telephone: 651-737-3634

POTENTIALLY LIABLE PERSON



Name of signatory: Richard L. Fortner

Title of signatory: Associate General Counsel

For: Daimler Trucks North America LLC

Address: 4747 N. Channel Avenue

Portland OR 97217

Telephone: 503-745-8810

POTENTIALLY LIABLE PERSON



Name of signatory: Martine Bazinet

Title of signatory: VP Legal Affairs & Secretary

For: AKZO NOBEL CANADA INC.

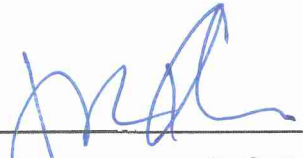
Address: 2505 de la Metropole Street

Longueuil, Quebec, J4G 1E5

Telephone: (450) 442-7957

POTENTIALLY LIABLE PERSON

emms



Name of signatory: Jeffrey R. Klieve

Title of signatory: Director, Environmental Affairs, Monsanto
Company


For: Pharmacia Corporation by its attorney-in-fact Monsanto
Company

Address: 800 N. Lindbergh Blvd (LCIB)

St Louis MO 63167

Telephone: 314 694 3712

POTENTIALLY LIABLE PERSON



Name of signatory: James Winter

Title of signatory: Vice President

For: Intalco Aluminum Corporation

Address: 201 Isabella Street

Pittsburgh, PA 15212

Telephone: (412) 553-2296

POTENTIALLY LIABLE PERSON

THE STANDARD REGISTER COMPANY

By: Gerard D. Sowa

Name of signatory: Gerard D. Sowa

Title of signatory: VP, General Counsel & Secretary

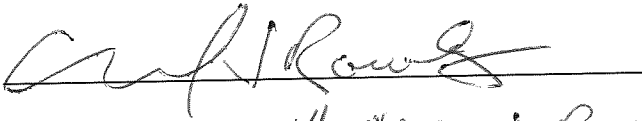
For: The Standard Register Company

Address: 600 Albany Street

Dayton, OH 45417

Telephone: (937) 221-1940

POTENTIALLY LIABLE PERSON



Name of signatory: MICHAEL J ROWLEY

Title of signatory: asst Secy

For: Crown Beverage Company, INC.

Address: ONE CROWN WAY

PHILA., PA 19154

Telephone: 215-552-3756

POTENTIALLY LIABLE PERSON

Andrew L. Seiple

Name of signatory: Andrew L. Seiple

Title of signatory: Senior Counsel

For: PACCAR Inc

Address: 777 106th Ave NE
Belleuve WA 98004

Telephone: 425 468-7498

POTENTIALLY LIABLE PERSON

Joseph P. Jackowski

Name of signatory: JOSEPH P. JACKOWSKI

Title of signatory: SR. LEGAL COUNSEL

For: WEYERHAEUSER NR COMPANY

Address: P.O. BOX 9777

FEDERAL WAY, WA 98003-9777

Telephone: 253-924-3461

POTENTIALLY LIABLE PERSON

Union Oil Company of California, a California Corporation



Name of signatory: Grace P. Nerona

Title of signatory: Assistant Secretary

For: _____

Address: _____

Telephone: _____

POTENTIALLY LIABLE PERSON

Betsy Stauffer
SIMPSON TIMBER COMPANY

Name of signatory: Betsy Stauffer

Title of signatory: Vice President + General Counsel

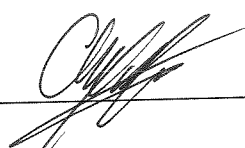
For: Simpson Timber Company

Address: 917 E. 11th St.

Tacoma, WA 98421

Telephone: (253) 779-6406

POTENTIALLY LIABLE PERSON



Name of signatory: CHRIS MYERS
Title of signatory: DIRECTOR OF EHS
For: PCC STRUCTURALS INC
Address: 4600 SE HANNEY DR
PORTLAND OR 97206
Telephone: 503-777-3881

POTENTIALLY LIABLE PERSON

Sally L. Geib

Name of signatory: Sally L. Geib

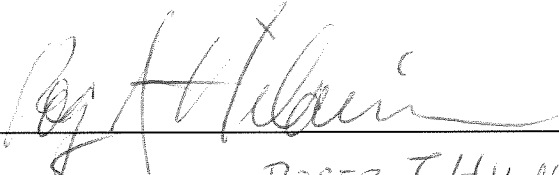
Title of signatory: Vice President, Associate General
Counsel and Assistant Secretary

For: Goodrich Corporation on behalf of Kalama Specialty
Chemicals, Inc.

Address: Four Coliseum Centre
2730 West Tyvola
Charlotte, NC 28217

Telephone: (704) 423-7086

POTENTIALLY LIABLE PERSON



Name of signatory: ROGER J HILARIDES

Title of signatory: SENIOR VICE PRESIDENT

For: GEORGIA-PACIFIC LLC

Address: 133 PEACH TREE ST NE
ATLANTA, GA 30303

Telephone: 404.652.4000

POTENTIALLY LIABLE PERSON

Brad Peck

Name of signatory: Brad Peck

Title of signatory: Chairman, Franklin County Commissioners

For: Franklin County, Washington

Address: 1016 N. 4th

Pasco WA 99301

Telephone: 509-545-3535

POTENTIALLY LIABLE PERSON

Name of signatory: Ray Dutrieil

Title of signatory: President

For: Pasco Sanitary Landfill, Inc.

Address: P.O. Box 424

Pasco, Washington 99301

Telephone: 509 545 8155

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DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE

POTENTIALLY LIABLE PERSON



Name of signatory: ALLEN M. STEBMAN

Title of signatory: GENERAL DIRECTOR ENVIRONMENTAL

For: BNSF RAILWAY

Address: 2600 Lou MEYER DR

FORT WORTH, TX 76131

Telephone: 817 352 1954

Exhibit D

Agreed Order Potentially Liable Persons

Akzo Nobel Canada Inc.

Basin Disposal, Inc.

Bayer CropScience, Inc.

BNSF Railway Company

The Boeing Company

Crown Beverage Packaging, LLC

Daimler Trucks North America. LLC

Leonard and Glenda Dietrich

Franklin County

Georgia-Pacific, LLC

Goodrich Corporation on behalf of Kalama Specialty Chemicals, Inc.

Intalco Aluminum

3M Company

PACCAR Inc.

Pasco Sanitary Landfill, Inc.

PCC Structurals, Inc.

Pharmacia Corporation

Piute Energy & Transportation

Simpson Timber Company

EXHIBIT D

The Standard Register Company (fka UARCO)

Union Oil of California, successor-in-interest to Collier Carbon and
Chemical Corporation

Weyerhaeuser NR Company

EXHIBIT E
ECOLOGY POLICY 840 – DATA SUBMITTAL
REQUIREMENTS



Toxics Cleanup Program Policy

Policy 840

Resource Contact: Policy and Technical Support Staff *Effective:* August 1, 2005

References: WAC 173-340-840(5) *Revised:* September 9, 2005

<http://www.ecy.wa.gov/eim/>

<http://www.ecy.wa.gov/programs/tcp/smu/sedqualfirst.htm>

<http://www.ecy.wa.gov/biblio/0309043.html>

Replaces: Procedure 840

Policy 840: Data Submittal Requirements

Purpose: Contaminated site investigations and cleanups generate a large volume of environmental monitoring data that need to be properly managed to facilitate regulatory decisions and access to this data by site owners, consultants, and the general public. The purpose of this policy is to describe the requirements for submitting environmental monitoring data generated/collected during the investigation and cleanup of contaminated sites under the Model Toxics Control Act (MTCA) and the Sediment Management Standards.

Application: This policy applies to Ecology staff, potentially liable parties, prospective purchasers, state and local agencies, and Ecology contractors that investigate or manage the cleanup of contaminated sites.

- 1. Unless Otherwise Specified by Ecology, all Environmental Monitoring Data Generated during Contaminated Site Investigations and Cleanups shall be Required to be Submitted to Ecology in both a Written and Electronic Format.**
-

Environmental monitoring data include biological, chemical, physical, and radiological data generated during site investigations and cleanups under the Model Toxics Control Act Cleanup Regulation (WAC 173-340) and the Sediment Management Standards (WAC 173-204).

Data generated/collected during site investigations and cleanups conducted under an order, agreed order or consent decree, permit, grant, loan, contract, interagency agreement, memorandum of understanding or during an independent remedial action, are considered environmental monitoring data under this policy.

Data generated/collected for non site-specific studies, site hazard assessments that result in no further action and initial site investigations are not considered environmental monitoring data under this policy.

- 2. Orders, Agreed Orders, Consent Decrees, or Permits Issued After the Effective Date of this Policy Shall Include a Condition that Site-Specific Data be Submitted in Compliance with this Policy.**
-

Reports on such work that do not include documentation that the data have been submitted in compliance with this policy shall be deemed incomplete and a notice of such provided to the

Policy 840 Data Submittal Requirements

submitter. These reports generally should not be reviewed until that information is provided. The assistant attorney general assigned to the site should be consulted in these situations.

3. Reports on Independent Remedial Actions Submitted for Review After October 1, 2005, Under Ecology's Voluntary Cleanup Program Shall Not be Reviewed Until the Data Have Been Submitted in Compliance with this Policy.

Such reports shall be deemed incomplete, and a notice to this effect provided to the submitter.

4. Grants, Contracts, Interagency Agreements or Memoranda of Understanding Issued After the Effective Date of this Policy Shall Include a Condition that Site-Specific Data be Submitted in Compliance with this Policy.

Reports on such work shall not be accepted as complete until the data have been submitted in compliance with this policy. If a payment or transfer of funds is involved in the transaction, the relevant payment or transfer shall be withheld until this requirement has been met.

Example language to include in these documents is attached in Appendix A.

5. Data Generated During Upland Investigations and Cleanups Shall be Submitted Electronically Using Ecology's Environmental Information Management System (EIM).

EIM is Ecology's main database for environmental monitoring data. Proper submission of data through this system meets the requirement of submitting such data in an electronic format. Electronic data shall be submitted to Ecology simultaneously with the accompanying printed report.

Additional information on EIM, including instructions for data submittal, can be found on Ecology's EIM web site at <http://www.ecy.wa.gov/eim/>. TCP's EIM Coordinator also is available for technical assistance to site managers and consultants using EIM.

6. Data Submitted Electronically Using EIM Shall be Checked by the Toxics Cleanup Program's EIM Coordinator Prior to Loading the Data into EIM.

Normally, notice that data have been submitted through EIM will come to TCP's EIM Coordinator. Upon receipt of such a notice the EIM Coordinator should notify the site manager. Similarly, if the Ecology site manager receives a notice of an EIM submittal, they should notify TCP's EIM Coordinator. Upon receipt of the data, TCP's EIM Coordinator reviews the submittal for quality control and officially loads the data into the system.

7. Data Generated During Sediment Investigations and Cleanups shall be Submitted Electronically Using Ecology's Sediment Quality Information System (SEDQUAL).

SEDQUAL is Ecology's data management system for sediment-related data. Proper submission of data through this system meets the requirement of submitting such data in an electronic format. Electronic data shall be submitted to Ecology simultaneously with the accompanying printed report.

8. Sediment Sampling Data Shall be Submitted to Ecology Using the SEDQUAL Data Entry Templates.

At a minimum, the following SEDQUAL data entry templates must be completed:

1. **Reference & Bibliography:** Describes lab reports and publications that relate to the data being entered;
2. **Survey:** Sample number;
3. **Station:** Specifies geographic location of the sediment sample. Sample latitude/longitude coordinates must be entered using the North American Datum of 1983 in U.S. Survey feet (NAD 83, U.S. feet);
4. **Sample:** Describes sample characteristics such as depth; and
5. **Sediment Chemistry:** Reports chemical concentration data in dry weight units.

The following additional templates must also be completed where these measurements/observations have been made:

1. **Bioassay:** Bioassay test results;
2. **Bioassay Control:** Bioassay control test results;
3. **Benthic Infauna:** Species abundance & diversity;
4. **Tissue:** Describes the organism collected;
5. **Bioaccumulation:** Reports tissue chemical concentrations; and
6. **Histopathology:** Reports tissue pathology such as tumors or lesions.

9. Electronic Data Formats Shall be Verified to be Compatible with SEDQUAL Prior to Submittal.

Because SEDQUAL uses ASCII protocol and comma delimited text files, data format verification shall be conducted prior to submittal to Ecology. Data shall be verified by downloading the SEDQUAL database, importing the data into the database, correcting errors, and then exporting the corrected templates.

For additional information on sediment sampling and analysis plan requirements, see Ecology publication 03-09-043 "Sediment Sampling and Analysis Plan Appendix", April, 2003. A copy of this document can be obtained from Ecology's publication office or downloaded from the following web site: <http://www.ecy.wa.gov/biblio/0309043.html>

Additional information on SEDQUAL can be found at:

<http://www.ecy.wa.gov/programs/tcp/smu/sedqualfirst.htm>. TCP's SEDQUAL Coordinator is also available for technical assistance to site managers and consultants using SEDQUAL.

10. Sediment Sampling Data Shall Also be Submitted to Ecology in a Printed Report.

Printed reports shall present the data in both dry weight and total organic carbon normalized units in data tables that compare the results to applicable state regulatory criteria.

11. Data Submitted Electronically Using SEDQUAL Shall be Checked by the Toxics Cleanup Program's SEDQUAL Coordinator Prior to Loading the Data into SEDQUAL.

Normally, SEDQUAL data submittals will come to TCP's SEDQUAL Coordinator. Upon receipt of a submittal, the Coordinator should notify the site manager. Similarly, if the Ecology site manager receives a SEDQUAL submittal, they should notify TCP's SEDQUAL Coordinator. Upon receipt of the data, TCP's SEDQUAL Coordinator reviews the submittal for quality control and officially loads the data into the system.

Approved:



James J. Pendowski, Program Manager
Toxics Cleanup Program

Policy Disclaimer: This policy is intended solely for the guidance of Ecology staff. It is not intended, and cannot be relied on, to create rights, substantive or procedural, enforceable by any party in litigation with the state of Washington. Ecology may act at variance with this policy depending on site-specific circumstances, or modify or withdraw this policy at any time.

APPENDIX A: MODEL GRANT AND PERMIT CONDITION

The following condition is to be inserted in permits, grants, loans, contracts, interagency agreements, memorandum of understandings where site-specific environmental monitoring data is expected to be generated:

All sampling data shall be submitted to Ecology in both printed and electronic formats in accordance with WAC 173-340-840(5) and Ecology Toxics Cleanup Program Policy 840: Data Submittal Requirements. Electronic submittal of data is not required for site hazard assessments that result in no further action and initial site investigations. (FOR GRANTS & CONTRACTS ADD: Failure to properly submit sampling data will result in Ecology withholding payment and could jeopardize future grant funding)

EXHIBIT F

FINAL AMENDED PUBLIC PARTICIPATION PLAN For the Enforcement Order for the Focused Feasibility Study

PASCO SANITARY LANDFILL

**Facility Site ID No. 575
Cleanup Site ID No. 1910**

Prepared by the

Washington State Department of Ecology

For **ADA** accommodations or documents in an alternate format call Carol Bergin
509/329-3546, 711 (relay service), or 877-833-6341 (TTY).

Para asistencia en Español Richelle Perez 360/407-6971

Если вам нужна помощь на русском, звоните Larissa Braaten 509/710-7552

OCTOBER 2012

PUBLIC PARTICIPATION PLAN

Introduction

The Pasco Sanitary Landfill is near Dietrich Road by the intersection of Kahlotus Road with U.S. Highway 12 and covers nearly 250 acres. It is located about 1.5 miles northeast of the city of Pasco, Franklin County, Washington. Details about the site may be found in the Site Background section of this Public Participation Plan (Plan).

This Public Participation Plan is part of an Enforcement Order issued by the Washington State Department of Ecology (Ecology) to certain potentially liable persons (PLPs) responsible for investigation and cleanup at the Pasco Sanitary Landfill site. Current or former owners or operators as well as any other PLPs who may be responsible for contamination at a site may be held responsible for investigating and cleaning up the contamination according to the standards set under the Model Toxics Control Act (MTCA). MTCA is the regulatory guide for environmental cleanup in Washington State.

Ecology initially named 44 PLPs as legally responsible for site cleanup; however, not all 44 PLPs have been participating in the cleanup. Currently, due to mergers, dissolutions, and other transactions, there are 32 PLPs named in Agreed Order No. DE9240 and Enforcement Order No. DE 9406. The Agreed Order and its exhibits are also going through a public comment process, concurrent with the Enforcement Order. The Agreed Order requires the PLPs who signed the Agreed Order to conduct a Focused Feasibility Study as well as other activities described below. The Enforcement Order similarly requires the PLPs who did not agree to participate in signing the Agreed Order to conduct a Focused Feasibility Study as well as other activities described below.

The following is the list of the 32 PLPs named in either the Agreed Order or the Enforcement Order. For details about who signed the Agreed Order and who will be issued an Enforcement Order by Ecology, please see those Orders.

- Akzo Nobel Canada, Inc.
- Basin Disposal, Inc.
- Bayer CropScience, Inc.
- Blount, Inc.
- The Boeing Company
- BNSF Railway Company
- Crown Beverage Packaging, LLC
- Daimler Trucks North America, LLC
- Leonard and Glenda Dietrich
- E.I. Du Pont De Nemours and Co, Inc.
- Franklin County
- Georgia-Pacific, LLC
- Goodrich Corporation on behalf Kalama Specialty Chemicals, Inc.
- Intalco Aluminum
- 3M Company

- Morton International LLC
- PACCAR Inc.
- Pasco Sanitary Landfill, Inc.
- PCC Structural, Inc.
- Pharmacia Corporation
- Piute Energy & Transportation
- PPG Industries
- Puget Sound Naval Shipyards
- Sandvik Special Metals, LLC
- Simpson Timber Company
- The Standard Register Company (formerly known as UARCO)
- Union Oil of California, as successor-in-interest to Collier Carbon and Chemical Corporation
- United States Air Force
- United States Department of Agriculture (Forest Service)
- United States Department of the Interior (Bureau of Reclamation)
- Weyerhaeuser NR Company
- Zep Manufacturing

As noted above, the Agreed Order and Enforcement Order require the PLPs to conduct a Focused Feasibility Study. The study will evaluate specific cleanup alternatives to address contaminants in soil and groundwater at the site.

The Agreed Order and Enforcement Order also require ongoing operation, maintenance, and monitoring of any Ecology-approved, interim actions that might be necessary before the final cleanup action is developed and implemented. These short-term or interim actions would be considered necessary to protect human health and the environment from the release or threatened release of hazardous substances at the site.

Some of the wastes disposed of at the site include a variety of industrial wastes, solid wastes, bulk liquids, drummed liquids and sludges, septic tank waste, sewage sludges, animal fat emulsions, metallic wastes, and other materials. Documented contamination at the site consists of organic and inorganic chemicals.

Overview of Public Participation Plan

The Model Toxics Control Act (MTCA) was passed in the November 1988 general election by a citizens' initiative. MTCA provides guidelines and requirements for the cleanup of contaminated sites in Washington State. The law sets strict standards to ensure cleanup at sites is protective of human health and the environment. Public participation is an important part of the MTCA process.

There are three primary purposes of the Public Participation Plan:

- Inform the public about ways to participate in the decision-making process related to the site cleanup.
- Gather information from the public that will help Ecology plan for site-related cleanup.

- Provide background about the proposed cleanup, and outline Ecology's roles and responsibilities regarding cleanup activities.

Public participation needs are assessed at each site based on public interest and the degree of risk posed by contaminants. Individuals who live near a site, community groups, businesses, organizations, and other interested parties are provided an opportunity to become involved in commenting on the cleanup process. Citizen groups living near contaminated sites may apply for public participation grants to receive technical assistance in understanding the cleanup process and to create additional public participation avenues.

A Public Participation Plan includes requirements for public notice such as:

- Identifying available site-related documents and the locations for review.
- Providing public comment periods.
- Holding public meetings or hearings.

Additional forms of participation may be personal interviews, involvement in citizen advisory groups, questionnaires, or workshops.

This Plan complies with MTCA regulations (Chapter 173-340-600 WAC). Ecology maintains responsibility for public participation at the site. Ecology will determine final approval of the Plan as well as any amendments.

A glossary of terms used in this Plan is included as Appendix C. Documents relating to the cleanup action may be reviewed at the repositories listed on page 9 of this Plan. If individuals are interested in knowing more about the site or have comments regarding the Plan, please contact one of the individuals listed below.

<p>WA Department of Ecology Contacts:</p> <p>Para asistencia en Español Richelle Perez 360/407-6971</p> <p>WA Department of Ecology Eastern Regional Office 4601 N. Monroe Spokane, WA 99205-1295</p> <p>Chuck Gruenenfelder, Site Manager 509/329-3439 or e-mail: charles.gruenenfelder@ecy.wa.gov</p> <p>Jeremy Schmidt, P.E. 509/329-3484 or e-mail: jeremy.schmidt@ecy.wa.gov</p> <p>Carol Bergin, Public Involvement 509/329-3546 or e-mail: carol.bergin@ecy.wa.gov</p> <p>Kari Johnson, Public Disclosure 509/329-3415 or e-mail: kari.johnson@ecy.wa.gov</p>	<p>PLP Contacts:</p> <p>For PLPs who have signed the Agreed Order: Barbara Smith, Public Affairs 206/343-0250 Barbara@harrisandsmith.com</p>
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Public Participation and the Model Toxics Control Act (MTCA)

As mentioned previously, current or former owners or operators as well as any other potentially liable persons (PLPs) of a site may be held responsible for cleanup of contamination according to the standards set under the Model Toxics Control Act (MTCA). MTCA is the regulatory guide for environmental cleanup in Washington State.

Ecology’s Toxics Cleanup Program investigates reports of contamination that may threaten human health and the environment. If an investigation confirms the presence of contaminants, a site is ranked from 1-5 and placed on a Hazardous Sites List. A rank of 1 represents the greatest threat to human health and the environment and a rank of 5 the least threat.

The Pasco Sanitary Landfill site was not ranked by Ecology because the U.S. Environmental Protection Agency (EPA) placed it on their National Priorities List (NPL) in 1990. Sites on this list are called “Superfund” sites and are considered a high priority for investigation and cleanup. EPA turned this site over to the Washington State Department of Ecology (Ecology) to act as the regulatory authority for cleanup. Since this site is an EPA site being managed by Ecology, cleanup must meet both the EPA CERCLA and Ecology MTCA regulatory standards.

Consultants for the PLPs manage the investigation and cleanup work, and Ecology provides the regulatory oversight. The PLPs identified for this Site are listed on pages 2 and 3 of this Plan.

Site Background

The landfill originally operated as an open burn facility from 1958 through 1971. The facility had permits that allowed them to receive different types of household, commercial, and industrial waste. Operations from 1972 through 2001 involved accepting commercial and household waste.

Between 1972 and 1974, the industrial waste area accepted over 35,000 drums and several tons of bulk liquids, septic tank waste, sewage sludges, and animal fat emulsions.

The landfill is divided into four main areas that received these various types of wastes.

- **New Waste Area:** Received general garbage until it closed in 2001.
- **Municipal Waste Area:** Received household and commercial garbage until it closed in 1993.
- **Balefill/Inert Waste Area:** Received municipal waste and construction debris until closed in 1989.
- **Industrial Waste Section:** Divided into five zones that all closed in 1974.
 - Zone A** contains an estimated 35,000 55-gallon drums. The drums contain solvent and paint sludges, cleaners, and other industrial waste.
 - Zone B** formerly stored nearly 5,000 drums of herbicide-manufacturing waste. The drums were removed in 2002.
 - Zones C and D** contain approximately three million gallons of plywood resin waste, wood treatment and preservative waste, lime sludge, cutting oils, paint and paint solvent waste, and other bulk liquid waste. These two zones were combined in 2002.
 - Zone E** contains approximately 11,000 tones of sludge from a chlor-alkali process.

Monitoring of groundwater at the site began in 1983. Results of this monitoring, along with additional studies, indicated that Volatile Organic Compounds (VOCs) had been released to the environment from the site. Several of these chemicals, many known as solvents, were found in concentrations of concern to human health and the environment.

Many studies, extensive monitoring, and cleanup activities occurred at the site between 1983 and the present. Several chemicals associated with the wastes disposed at the landfill have been found in soil and groundwater. Contamination is found in groundwater under the landfill, and it forms what is called a plume. The groundwater plume extends nearly 2 miles beyond the landfill's southern boundary past "A" street.

The studies and monitoring efforts provided information about the amount, type, and location of the contamination. In response to these findings, many steps were taken to minimize the release of hazardous substances from the site. Some of these steps included:

- Providing municipal water supplies to residences affected by the contaminants.
- Connecting homes and businesses whose wells were impacted by volatile organic compounds (VOCs) to the Pasco city water system.
- Creating a groundwater protection area that includes the plume boundaries, limiting well water use, and annually surveying the affected public. Pasco and Franklin

Counties entered an agreement with the PLPs in 2001 to help implement these measures.

- Removing nearly 5,500 cubic yards of herbicide waste buried in drums from the Zone B area of the landfill.
- Installing interim treatment systems for soil and groundwater at the landfill and upgrading the systems in 2011.
- Placing protective covers over specific landfill areas.
- No longer accepting waste at any of the landfill areas.
- Routinely monitoring groundwater quality, both on and off-site, throughout the groundwater plume.
- Providing ongoing maintenance and improvements to treatment system operations.
- Installing a landfill gas collection and treatment system at the former Municipal Solid Waste Landfill

Treatment systems are in place to address soil-related contamination. These engineered systems have shown some positive influence on groundwater contamination. These systems also have been upgraded and modernized to improve their efficiency and ability to capture and treat site-related contaminants.

Ecology and the participating PLPs plan to enter into an agreement to conduct a study that is focused on determining what methods can best clean up the contaminants in soil and groundwater. The study will identify and evaluate cleanup options. The study also will provide critical information that will move the cleanup forward.

Community Background

Community Overview

The City of Pasco is located at the confluence of the Columbia, Yakima, and Snake rivers. It is the county seat for Franklin County and is one of Washington's major trade centers. The Pasco Sanitary Landfill is located in a mixed use neighborhood 1.5 miles northeast of the City of Pasco. The neighborhood contains residential, commercial, and industrial properties. Irrigated farmland, a dairy and other agrarian operations are well established.

Growth in the area has been significant since the beginning of investigation and cleanup at the site. Many of the open space areas have been turned into housing developments. Pasco is one of the fastest growing cities in Washington. The population in 2009 was 58,647, which is more than double the population in 2000. Statistical information from 2010 indicates Hispanics make up 54% of the population. Nearly 50% of the population speaks Spanish at home.

Community Concerns

Historically, many steps have been taken to inform the community about the site and engage citizens in the cleanup process. These activities are listed in the timeline that begins on page 10. In the early years of outreach, the public participated in the meetings and provided written comments. In 1997 representatives of Ecology, the Benton-Franklin County Department of Public Health

and the PLPs went door-to-door to discuss the Interim Action to extend city water service to Lewis Street residents. In 1999, another public outreach effort was launched to discuss the conclusions of the Remedial Investigation and Feasibility Study. A public meeting was held on the RI/FS in June 1999.

In the past few years there has been a decline in response to the fact sheet comment periods. New efforts are being made to re-engage the community about the site.

Ecology met with leaders in the Hispanic community in Pasco to discuss ways to increase outreach to residents living near the site. Ecology is working to incorporate these ideas into outreach for the site. Follow-up meetings and outreach will take place when Ecology receives the report of findings based on the Agreed Order and Enforcement Order for the Focused Feasibility Study. Ecology will conduct additional outreach when a draft Cleanup Action Plan has been developed and goes out for public comment. Ecology will coordinate this outreach effort with PLP outreach specialists who want to be involved.

Community interviews will be conducted in the newly developed areas near the site to learn more about what residents already know about the site, how they would like Ecology to communicate with them, and how they would like to be involved. A Spanish translator will work with Ecology in conducting the interviews. Anyone interested in participating in a formal community interview may contact Carol Bergin at Ecology by phone 509/329-3546 or by e-mail at carol.bergin@ecy.wa.gov

The general concerns expressed by the community over the years have fallen into the following main categories:

- Are the air, soil, and water on and near the site safe for human health and the environment?
- Is drinking water safe?
- Is groundwater safe for irrigation purposes?
- Will the site impact property values?

The work being conducted at the site focuses on addressing these questions as well as technical, environmental, and legal issues. Questions regarding property values are outside Ecology's regulatory authority and might be best answered by contacting the local county assessor's office and real estate professionals.

Public Participation Activities and Timeline

The following are public participation efforts which will occur until the cleanup actions are completed:

- ❖ A **mailing list** has been developed for people who live near the site. It also includes businesses, organizations, elected officials, and other individuals who have expressed interest in the cleanup process for the site.

- ❖ People on the mailing list will receive copies of fact sheets developed regarding the cleanup process via first class mail. Additionally, individuals, organizations, local, state and federal governments, and any other interested parties will be added to the mailing list upon request. Other people who are interested may request to be added to the mailing list by contacting Carol Bergin at the Department of Ecology (*see* page 5 of this Plan for Carol’s contact information).
- ❖ **Public Repositories** have been established and documents may be reviewed at the following locations:

Mid-Columbia Library
 1320 Hopkins Street
 Pasco, WA 99301-5097
 509/545-1019

Washington State Department of Ecology
 Eastern Regional Office
 4601 North Monroe
 Spokane, WA 99205-1295
 Contact: Kari Johnson 509/329-3515
 e-mail: kari.johnson@ecy.wa.gov

Ecology’s website: <https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=1910>

At specific stages of the cleanup process, **fact sheets** are created by Ecology, reviewed by the PLPs who are involved in cleanup, and distributed to individuals on the mailing list. These fact sheets explain the current status of the cleanup process, give a brief background, and ask for comments from the public. A **30-day comment period** allows the public time to comment during the cleanup process.

Display ads or legal notices are published in the **Tri-City Herald** and in the **LaVoz** Hispanic newspapers to inform the general public. These notices correlate with the 30-day comment period and associated stage of the cleanup process. They are also used to announce public meetings, workshops, open houses, or hearings.

- ❖ **Public meetings, workshops, open houses and public hearings** are held based upon the level of community interest. If ten or more persons request a public meeting or hearing based on the subject of the public notice, Ecology will hold a meeting or hearing and gather comments. Public meetings must be held in a facility that meets the Americans with Disabilities Act (ADA).

It is anticipated that public meetings, open houses, or hearings will be held at the Ellen Ochoa Middle School, if it is available. The date, time and locations of hearings, meetings, workshops, or open houses will be announced in a legal notice in the newspaper, fact sheets, or display ads in accordance with the Model Toxics Control Act (MTCA).

- ❖ Written comments received during the 30-day comment periods may be responded to in a **Responsiveness Summary**. The Responsiveness Summary may be sent to those who make written comments and will be available for public review at the Repositories listed at the top of this page.

Answering Questions from the Public

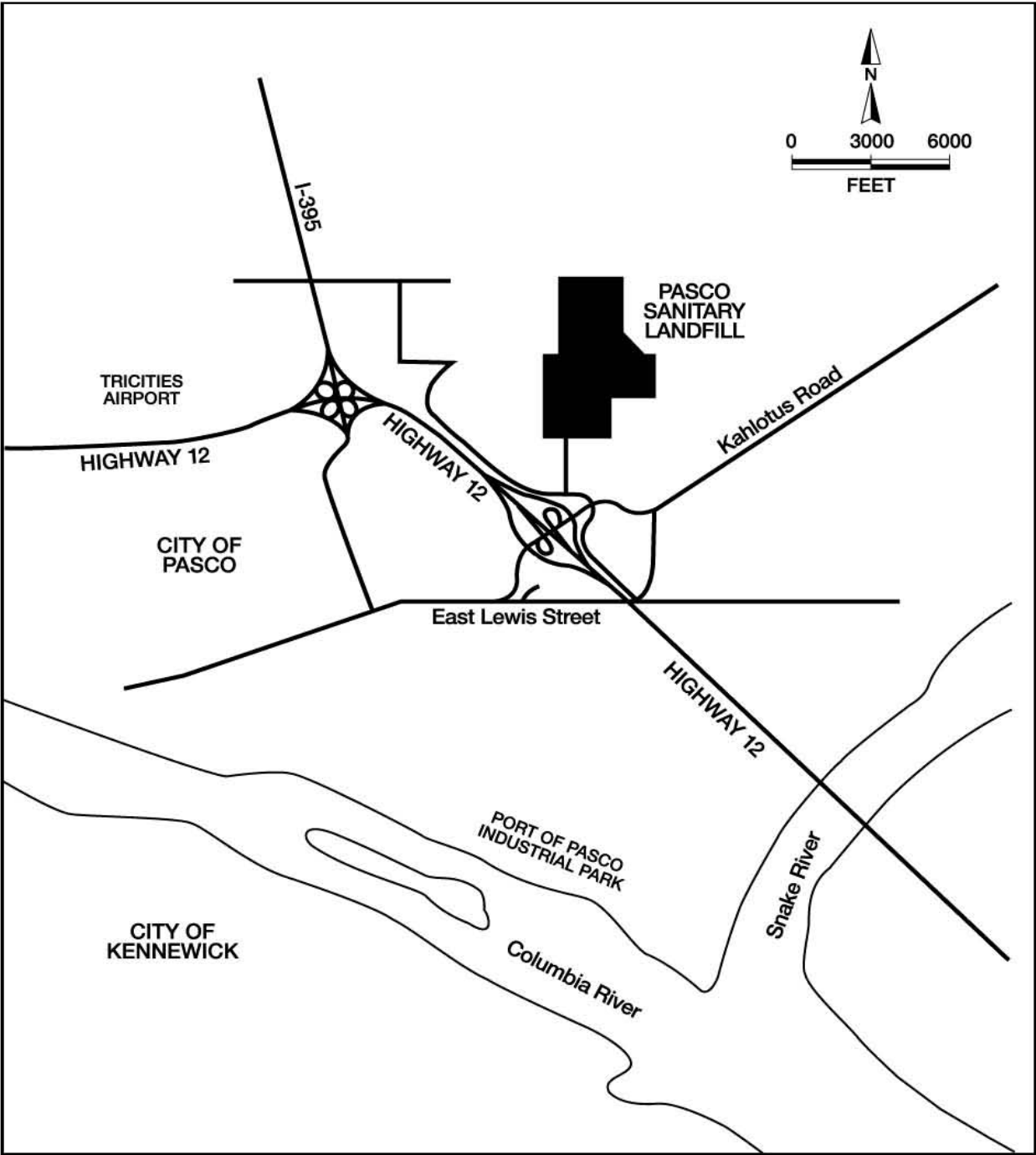
Individuals may want to ask questions about the site, the cleanup process and how to get involved. A list of contacts is provided on page 5 of this Plan.

PUBLIC PARTICIPATION AND ASSOCIATED ACTIONS

Date	Document or Activity
October 15, 2012	Responsiveness Summary for the Agreed Order and Enforcement Order for the Focused Feasibility Study and Ongoing Interim Actions.
August 20 through September 19, 2012	Draft Agreed Order and Enforcement Order for the Focused Feasibility Study and Ongoing Interim Actions. Fact Sheet and 30-day public comment period.
January 16, 2012	Negotiations begin for the Agreed Order for the Focused Feasibility Study. A notice was placed in Ecology's Site Register on January 12, 2012 announcing the beginning of negotiations. Negotiations were completed May 14, 2012. A thirty (30) day signature period for the Agreed Order ended on July 5, 2012.
July 9 through August 10, 2010	Interim Actions for Zone A and Zone B, Design Documents and SEPA DNS Fact Sheet and 30-day comment period
October 2007	Fact Sheet – Progress Report
July 5 – August 6, 2000	Draft Orders for Interim Actions Fact Sheet and 30-day comment period
June 15 – July 16, 1999	Remedial Investigation/Feasibility Study (RI/FS) Fact Sheet and 30-day comment period
June 24, 1999	Open House re: RI/FS
April, 1999	PLPs meet with individual property owners and residents
April 1998	Remedial Investigation and Interim Action Documents Complete Fact Sheet
December 16, 1996 - January 14, 1997	Enforcement Order Amendment for Interim Action Fact Sheet and 30-day comment period
March 26, 1996	Fact Sheet about Open House and Drinking Water Sampling
March 1996	Results: Drinking Water Well Sampling in

	Pasco Focus Sheet
February 1996	Sampling Well Water in Pasco Questions and Answers Focus Sheet
October 25 - November 23, 1994	Phase II Remedial Investigation/Feasibility Study Enforcement Order and 30-day comment period
January 28 - February 28, 1994	Phase I Remedial Investigation Report Fact Sheet and 30-day comment period

**APPENDIX A
SITE MAP**



**APPENDIX B
MAILING LIST
(Retained in Ecology's Eastern Regional Office
Made available upon request)**

APPENDIX C GLOSSARY

Agreed Order: A legal document issued by Ecology which formalizes an agreement between the department and potentially liable persons (PLPs) for the actions needed at a site. An agreed order is subject to public comment. If an order is substantially changed, an additional comment period is provided.

Applicable State and Federal Law: All legally applicable requirements and those requirements that Ecology determines are relevant and appropriate requirements.

Area Background: The concentrations of hazardous substances that are consistently present in the environment in the vicinity of a site which are the result of human activities unrelated to releases from that site.

Carcinogen: Any substance or agent that produces or tends to produce cancer in humans.

Chronic Toxicity: The ability of a hazardous substance to cause injury or death to an organism resulting from repeated or constant exposure to the hazardous substance over an extended period of time.

Cleanup: The implementation of a cleanup action or interim action.

Cleanup Action: Any remedial action, except interim actions, taken at a site to eliminate, render less toxic, stabilize, contain, immobilize, isolate, treat, destroy, or remove a hazardous substance that complies with cleanup standards; applicable state and federal laws; utilizes permanent solutions to the maximum extent practicable; includes adequate monitoring to ensure the effectiveness of the cleanup action; and complies with other regulatory requirements for a cleanup action.

Cleanup Action Plan: A document which identifies the cleanup action and specifies cleanup standards and other requirements for a particular site. After completion of a comment period on a Draft Cleanup Action Plan, Ecology will issue a final Cleanup Action Plan.

Cleanup Level: The concentration of a hazardous substance in soil, water, air or sediment that is determined to be protective of human health and the environment under specified exposure conditions.

Cleanup Standard: Includes the cleanup level, the location on the site where that cleanup level must be attained, and any additional regulatory requirements that apply to a cleanup action because of the type of action and/or the location of the site.

Cleanup Process: The process for identifying, investigating, and cleaning up hazardous waste sites.

Consent Decree: A legal document filed with and approved by a court which formalizes an agreement reached between the state and potentially liable persons (PLPs) on the actions needed at a site. A decree is subject to public comment. If a decree is substantially changed, an additional comment period is provided.

Containment: A container, vessel, barrier, or structure, whether natural or constructed, which confines a hazardous substance within a defined boundary and prevents or minimizes its release into the environment.

Contaminant: Any hazardous substance that does not occur naturally or occurs at greater than natural background levels.

Enforcement Order: A legal document, issued by Ecology, requiring remedial action. Failure to comply with an enforcement order may result in substantial liability for costs and penalties. An enforcement order is subject to public comment. If an enforcement order is substantially changed, an additional comment period is provided.

Environment: Any plant, animal, natural resource, surface water (including underlying sediments), ground water, drinking water supply, land surface (including tidelands and shorelands) or subsurface strata, or ambient air within the state of Washington.

Exposure: Subjection of an organism to the action, influence or effect of a hazardous substance (chemical agent) or physical agent.

Exposure Pathways: The path a hazardous substance takes or could take from a source to an exposed organism. An exposure pathway describes the mechanism by which an individual or population is exposed or has the potential to be exposed to hazardous substances at or originating from the site. Each exposure pathway includes an actual or potential source or release from a source, an exposure point, and an exposure route. If the source exposure point differs from the source of the hazardous substance, exposure pathway also includes a transport/exposure medium.

Facility: Any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly-owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, vessel, or aircraft; or any site or area where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed or, placed, or otherwise come to be located.

Feasibility Study (FS): A study to evaluate alternative cleanup actions for a site. A comment period on the draft report is required. Ecology selects the preferred alternative after reviewing those documents.

Free Product: A hazardous substance that is present as a nonaqueous phase liquid (that is, liquid not dissolved in water).

Groundwater: Water found beneath the earth's surface that fills pores between materials such as sand, soil, or gravel. In aquifers, groundwater occurs in sufficient quantities that it can be used for drinking water, irrigation, and other purposes.

Hazardous Sites List: A list of sites identified by Ecology that requires further remedial action. The sites are ranked from 1 to 5 to indicate their relative priority for further action.

Hazardous Substance: Any dangerous or extremely hazardous waste as defined in RCW 70.105.010 (5) (any discarded, useless, unwanted, or abandoned substances including, but not limited to, certain pesticides, or any residues or containers of such substances which are disposed of in such quantity or concentration as to pose a substantial present or potential hazard to human health, wildlife, or the environment because such wastes or constituents or combinations of such wastes; (a) have short-lived, toxic properties that may cause death, injury, or illness or have mutagenic, teratogenic, or carcinogenic properties; or (b) are corrosive, explosive, flammable, or may generate pressure through decomposition or other means,) and (6) (any dangerous waste which (a) will persist in a hazardous form for several years or more at a disposal site and which in its persistent form presents a significant environmental hazard and may affect the genetic makeup of man or wildlife; and is highly toxic to man or wildlife; (b) if disposed of at a disposal site in such quantities as would present an extreme hazard to man or the environment), or any dangerous or extremely dangerous waste as designated by rule under Chapter 70.105 RCW: any hazardous substance as defined in RCW 70.105.010 (14) (any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the characteristics or criteria of hazardous waste as described in rules adopted under this chapter,) or any hazardous substance as defined by rule under Chapter 70.105 RCW; petroleum products.

Hazardous Waste Site: Any facility where there has been a confirmation of a release or threatened release of a hazardous substance that requires remedial action.

Independent Cleanup Action: Any remedial action conducted without Ecology oversight or approval, and not under an order or decree.

Initial Investigation: An investigation to determine that a release or threatened release may have occurred that warrants further action.

Interim Action: Any remedial action that partially addresses the cleanup of a site.

Mixed Funding: Any funding, either in the form of a loan or a contribution, provided to potentially liable persons from the state toxics control account.

Model Toxics Control Act (MTCA): Washington State's law that governs the investigation, evaluation and cleanup of hazardous waste sites. Refers to RCW 70.105D. It was approved by voters at the November 1988 general election and known is as Initiative 97. The implementing regulation is WAC 173-340.

Monitoring Wells: Special wells drilled at specific locations on or off a hazardous waste site where groundwater can be sampled at selected depths and studied to determine the direction of groundwater flow and the types and amounts of contaminants present.

Natural Background: The concentration of hazardous substance consistently present in the environment which has not been influenced by localized human activities.

National Priorities List (NPL): EPA's list of hazardous waste sites identified for possible long-term remedial response with funding from the federal Superfund trust fund.

Owner or Operator: Any person with any ownership interest in the facility or who exercises any control over the facility; or in the case of an abandoned facility, any person who had owned or operated or exercised control over the facility any time before its abandonment.

Polynuclear Aromatic Hydrocarbon (PAH): A class of organic compounds, some of which are long-lasting and carcinogenic. These compounds are formed from the combustion of organic material and are ubiquitous in the environment. PAHs are commonly formed by forest fires and by the combustion of fossil fuels.

Potentially Liable Person (PLP): Any person whom Ecology finds, based on credible evidence, to be liable under authority of RCW 70.105D.040.

Public Notice: At a minimum, adequate notice mailed to all persons who have made a timely request of Ecology and to persons residing in the potentially affected vicinity of the proposed action; mailed to appropriate news media; published in the local (city or county) newspaper of largest circulation; and opportunity for interested persons to comment.

Public Participation Plan: A plan prepared under the authority of WAC 173-340-600 to encourage coordinated and effective public involvement tailored to the public's needs at a particular site.

Recovery By-Products: Any hazardous substance, water, sludge, or other materials collected in the free product removal process in response to a release from an underground storage tank.

Release: Any intentional or unintentional entry of any hazardous substance into the environment, including, but not limited to, the abandonment or disposal of containers of hazardous substances.

Remedial Action: Any action to identify, eliminate, or minimize any threat posed by hazardous substances to human health or the environment, including any investigative and monitoring activities of any release or threatened release of a hazardous substance and any health assessments or health effects studies.

Remedial Investigation (RI): A study to define the nature and extent of contamination at a site. When combined with a study to evaluate alternative cleanup actions it is referred to as a Remedial Investigation/Feasibility Study (RI/FS). In both cases, a comment period on the draft report is required.

Responsiveness Summary: A compilation of all questions and comments to a document open for public comment and their respective answers/replies by Ecology. A Responsiveness Summary is not required by regulation, but may be provided at Ecology's discretion. Where provided it is typically mailed, at a minimum, to those who provided comments.

Risk Assessment: The determination of the probability that a hazardous substance, when released into the environment, will cause an adverse effect in exposed humans or other living organisms.

Sensitive Environment: An area of particular environmental value, where a release could pose a greater threat than in other areas including: wetlands; critical habitat for endangered or threatened species; national or state wildlife refuge; critical habitat, breeding or feeding area for fish or shellfish; wild or scenic river; rookery; riparian area; big game winter range.

Site: *See Facility.*

Site Characterization Report: A written report describing the site and nature of a release from an underground storage tank, as described in WAC 173-340-450 (4) (b).

Site Hazard Assessment (SHA): An assessment to gather information about a site to confirm whether a release has occurred and to enable Ecology to evaluate the relative potential hazard posed by the release. If further action is needed, an RI/FS is undertaken.

Site Register: Publication issued every two weeks of major activities conducted statewide related to the study and cleanup of hazardous waste sites under the Model Toxics Control Act. To receive this publication, please call (360) 407-7200.

Surface Water: Lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the state of Washington or under the jurisdiction of the state of Washington.

TCP: Toxics Cleanup Program at Ecology

Total Petroleum Hydrocarbons (TPH): A scientific measure of the sum of all petroleum hydrocarbons in a sample (without distinguishing one hydrocarbon from another). The "petroleum hydrocarbons" include compounds of carbon and hydrogen that are derived from naturally occurring petroleum sources or from manufactured petroleum products (such as refined oil, coal, and asphalt).

Toxicity: The degree to which a substance at a particular concentration is capable of causing harm to living organisms, including people, plants and animals.

Underground Storage Tank (UST): An underground storage tank and connected underground piping as defined in the rules adopted under Chapter 90.76 RCW.

Washington Ranking Method (WARM): Method used to rank sites placed on the hazardous sites list. A report describing this method is available from Ecology.