FINAL
OFF-PROPERTY PORTION CLEANUP ACTION PLAN

FORMER PACIFIC WOOD TREATING CO. SITE
111 WEST DIVISION STREET, RIDGEFIELD, WASHINGTON
FACILITY ID 1019, CLEANUP SITE ID 3020

February 13, 2025

DEPARTMENT OF ECOLOGY
State of Washington

Issued by:
WASHINGTON STATE DEPARTMENT OF ECOLOGY
TOXICS CLEANUP PROGRAM
SOUTHWEST REGIONAL OFFICE
300 DESMOND DR SE
LACEY, WASHINGTON 98503

CONTENTS

TABLES AND ILLUSTRATIONS

FOLLOWING PLAN:

TABLES

FIGURES

ACRONYMS AND ABBREVIATIONS

ARPA	Archaeological Resources Protection Act
bgs	below ground surface
CAP	cleanup action plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
the City	City of Ridgefield
CSM	conceptual site model
CUL	cleanup level
CWA	Clean Water Act
DCA	disproportionate-cost analysis
dioxins	chlorinated dibenzo-p-dioxins and dibenzofurans
Ecology	Washington State Department of Ecology
EF	exposure frequency
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
FS	feasibility study
FWPCA	Federal Water Pollution Control Act
FWQC	federal water quality criteria
IHS	indicator hazardous substance
LDR	Land-Disposal Restriction
LRIS	Lake River Industrial Site
MBTA	Migratory Bird Treaty Act
MCL	maximum contaminant level
MCLG	maximum contaminant level goal
MTCA	Model Toxics Control Act
NAAQS	national ambient air quality standards
ng/kg	nanograms per kilogram
NGVD	National Geodetic Vertical Datum of 1929/1947
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
OPP	off-property portion
the Order	Agreed Order No. DE 11057
OSHA	Occupational Safety and Health Administration
POC	point of compliance
the Port	Port of Ridgefield
PWT	Pacific Wood Treating Co.
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
REL	remediation level
RI	remedial investigation
RMC	Ridgefield Municipal Code

ACRONYMS AND ABBREVIATIONS (CONTINUED)

ROW	right-of-way
SDWA	Safe Drinking Water Act
SEPA	State Environmental Policy Act
site	former PWT site; the site includes the LRIS, Port-owned properties, upland off-property areas, and nearby surface water bodies Lake River and Carty Lake
SMP	soil management plan
SSAP	site-specific sampling and analysis plan
TCLP	toxicity characteristic leaching procedure
TEE	terrestrial ecological evaluation
TEQ	toxicity equivalent
TSD	treatment, storage, and disposal
USC	U.S. Code
WAC	Washington Administrative Code
WISHA	Washington Industrial Safety and Health Administration

1 INTRODUCTION

This final cleanup action plan (CAP) presents the proposed cleanup action for the off-property portion (OPP) of the Pacific Wood Treating Co. (PWT) site (the site) in Ridgefield, Washington (see Figure 1-1). The OPP is adjacent to the Port of Ridgefield's (the Port) waterfront property, formerly known as the Lake River Industrial Site (LRIS). PWT operated a wood-treating facility at the LRIS from 1964 to 1993. These operations resulted in the release of hazardous chemicals, including chlorinated dibenzo-p-dioxins and dibenzofurans (referred to in this CAP as dioxins). A remedial investigation and feasibility study (RI/FS) determined that dioxins were present in public rights-of-way (ROWs) and residential yards in the OPP at levels exceeding the Model Toxics Control Act (MTCA) Method B cleanup level (CUL) for the dioxin toxicity equivalent (TEQ) of 13 nanograms per kilogram (ng/kg) (MFA, 2013, 2025).

This CAP was prepared under the authority of Agreed Order No. DE 11057 (the Order) between the Port and the Washington State Department of Ecology (Ecology). This CAP was prepared pursuant to the authority of Chapter 70.105D.050(1) of the Revised Code of Washington (RCW) and the requirements of the Washington State MTCA cleanup regulation, as established in Chapter 173-340-380 of the Washington Administrative Code (WAC 173-340). This CAP provides an overview of the PWT site history and environmental conditions associated with the OPP, summarizes the cleanup action alternatives considered, and presents the proposed cleanup action for media containing concentrations of indicator hazardous substances (IHSs) that exceed relevant CULs. The cleanup action decision is based on the OPP RI/FS report (MFA, 2025) and other relevant documents in the administrative record.

1.1 Definition of Site and Off-Property Portion

The site, located at and near 111 West Division Street in Ridgefield, Washington (see Figure 1-1), is defined by the extent of contamination caused by the release of hazardous substances from the former PWT operations. The site constitutes a "Facility" under RCW 70A.305.020(8). It includes those portions of the LRIS, Port-owned properties, Carty Lake, Lake River, and OPP that were impacted by former PWT operations.

The OPP consists of the Phase 1, Phase 2, and Phase 3 OPP areas (see Figure 1-2). The Phase 1 OPP is the initial area where ROWs and properties are identified in the Order as requiring RI. The Phase 2 and Phase 3 OPP are areas where RI of ROWs and properties was required by Ecology, based on the RI activities. The OPP boundary therefore defines the investigation area in which both ROWs and properties have been evaluated to determine whether PWT-related contamination is present. For purposes of this CAP, a "property" is defined to include residential properties (which make up most of the OPP) as well as several mixed-use and park/open-space properties.

1.2 Declaration

The remedies selected will be protective of both human health and the environment, including likely vulnerable populations and overburdened communities. They are consistent with the State of Washington's preference for permanent solutions to the maximum extent practicable and include adequate action to ensure their effectiveness.

1.3 Applicability

CULs specified in this CAP are applicable only to the OPP. These criteria were developed as part of an overall remediation process under Ecology oversight and the authority of MTCA and should therefore not be considered as setting precedents for other sites.

1.4 Administrative Record

The documents used to make the decisions discussed in this CAP are on file in the administrative record for the OPP and are listed in the reference section. Multiple investigations have previously characterized the impacts associated with historical PWT operations. These investigations provide background information pertinent to this CAP. The OPP RI/FS captures the most recent understanding of the site and summarizes the results of environmental investigations conducted at the site since 1985 (MFA, 2025).

1.5 Cleanup Process

Cleanup conducted under the MTCA process requires the preparation of specific documents. Key documents and references to the applicable MTCA section requiring their completion are listed below, with descriptions of each task. Some project documents have been completed, and others will be developed as deliverables required under this CAP. All documents referenced here were, or will be, prepared by the Port or Ecology. The schedule for submittal of documents is provided in Section 6.

- The RI/FS report documents the investigations and evaluations conducted at the OPP from the discovery phase to understanding the full extent of contamination and the issuance of the report. The RI collects and presents information on the nature and extent of, and the risks posed by, the contamination. The FS subsequently presents and evaluates cleanup alternatives (WAC 173-340-350 and 173-340-351).
- The CAP sets CULs and standards for the OPP and identifies the selected cleanup actions intended to achieve CULs (WAC 173-340-380). The CAP is issued by Ecology, and allows for public participation and opportunity for comment, as required by WAC 173-340-600.
- The Engineering Design Report outlines details of the selected cleanup action, including any engineered systems and design components from the CAP. Engineering Design Reports were completed for the OPP under interim actions. Engineering Design Reports yet to be completed will be prepared by the Port or Ecology. Public comment is optional (WAC 173-340-400).

- The Operation and Maintenance Plan(s) summarizes requirements for inspection and maintenance of cleanup actions. It includes actions required to operate and maintain equipment, structures, and other remedial systems. Compliance monitoring plans are an element of the Operation and Maintenance Plan and provide details on monitoring activities (if required) to ensure that cleanup actions are performing as intended (WAC 173-340-400). A comprehensive operation and maintenance plan for the PWT site was prepared by the Port and approved by Ecology.
- The Cleanup Action Report is completed following implementation of the cleanup action(s) and provides details on the cleanup activities, along with documentation of adherence to or variance from goals set out in the CAP. The document is to be prepared by the Port or Ecology (WAC 173-340-400).

2 SITE CONDITIONS

2.1 Site Description and History

PWT leased the approximately 40-acre LRIS from approximately 1964 to 1993. PWT's operations involved pressure-treating wood products with oil-based treatment solutions containing creosote; pentachlorophenol; and water-based mixtures of copper, chromium, arsenic, and/or zinc. Potential release and transport mechanisms for these hazardous substances are described in the 2013 site RI/FS report (MFA, 2013). PWT filed for bankruptcy in 1993 and abandoned the LRIS. The Port manages the waterfront property. Multiple upland and in-water cleanup actions have been completed, as shown in Figure 2-1.

The OPP is located in section 24, township 4 north, range 1 west, Willamette Meridian. The Phase 1 OPP includes 49 tax lots and associated ROWs. The Phase 2 OPP includes 59 tax lots and associated ROWs. The Phase 3 OPP includes 15 tax lots and associated ROWs. The OPP is zoned mostly low-density residential, and a few tax lots are zoned parks/open space or central mixed use. The land use is not expected to change. In the OPP vicinity, nonresidential zoning designations (waterfront-mixed use) apply to the Burlington Northern Santa Fe (BNSF) railroad tracks, the Port-owned Railroad Avenue properties, and the Port-owned waterfront property to the west (see Figure 2-2). There is substantial development in the OPP, with minimal viable ecological habitat.

2.1.1 Topography

The OPP is relatively flat, with a slight downward slope from east to west. The elevation ranges from approximately 90 feet National Geodetic Vertical Datum of 1929/1947 (NGVD) in the east to approximately 50 feet NGVD at the western extent.

2.1.2 Area Geology

Four principal geologic units have been identified at the nearby waterfront property (MFA, 2013): fill, younger alluvium, older alluvium, and the upper Troutdale Formation. The younger alluvium (clayey silts, sandy silts, and sands) appears to be thicker to the west near Lake River, and the older alluvium (sandy gravel) appears to be thicker to the east. A silty gravel unit observed beneath the alluvium forms an aquitard and may represent the top of the Troutdale Formation. Note that the waterfront property is west of the OPP and is approximately 10 to 70 feet lower in elevation.

OPP soils are classified as Hillsboro silt loam and are well-drained. Soil samples collected at properties during the course of RI activities generally indicate a sand with silt layer from approximately 0 to 1 foot below ground surface (bgs). In ROWs, sand with silt or gravel with sand/silt is present from approximately 0 to 2 feet bgs. Six soil borings, from 0 to 10 feet bgs, were drilled in ROWs in September 2012. The borings generally indicate gravel with sand fill layer or gravel with silt from approximately 0 to 1 foot bgs, sand and/or silts from approximately 1 to 8 feet bgs, and sand from approximately 8 to 10 feet bgs (MFA, 2013).

Groundwater in the vicinity of the OPP is not used for drinking. The drinking water supply in the OPP neighborhood is provided by the City. That water source is from a well field located approximately 2,000 feet (0.4 mile) east of the OPP in Abrams Park (i.e., Well ID APP678). Based on the Clark County Maps Online database, no domestic drinking water wells were identified in the OPP. While the OPP is located at the northwest edge of the 10 year time of travel for Well ID APP678, the groundwater flow direction mimics topography and flows to the west/northwest toward Lake River, away from the drinking water supply well. The closest domestic drinking water wells belong to the City. Mr. Steven Wall, PE, the City's former public works director, stated that, in the future, water wells will not be installed west of Abrams Park, in the direction of the OPP (Wall, 2006). If additional water needs arise, beyond the installation of additional wells at Abrams Park and/or the I-5 junction, the City will install wells east of I-5.

2.1.3 Climate

Climate information is provided to help inform characteristics which could affect the migration of hazardous substances or the resilience of cleanup action alternatives. According to the Fourth National Climate Assessment, climate trends for the northwest region of the U.S. include: increased temperatures during all seasons under all future scenarios; decreased snowpack; increased wildfires and insect infestations; decreased rainfall and water availability during the dry season; increased flooding during the wet season; a rising sea level; increased storm surge events; more frequent heat waves; and increased risk of landslide and erosion. The OPP is located in an area with predicted increased drought, higher extreme heat, increased frequent heavy magnitude precipitation events resulting in increased streamflow volumes, and increased high fire danger days. Other climate change impacts are not as likely to significantly affect the OPP.

2.2 Environmental Conditions

Multiple investigations have been conducted since 1985 to characterize contamination associated with former PWT operations; these investigations are summarized in the site RI/FS (MFA, 2013). Previous investigations conducted on the OPP demonstrated that the only potential hazardous substances in the OPP were dioxins, and that the presence of dioxins required evaluation of potential risk to human health. No unacceptable risk to ecological receptors is expected.

The OPP RI/FS provides detailed summaries of the RI and previous investigation results, and should be referenced for detailed information regarding the nature and extent of contaminants and risk associated with those contaminants (MFA, 2025).

2.2.1 Soil

Soil characterization on the OPP began in 2010. Results are summarized in the OPP RI/FS (MFA, 2025). Dioxins were identified as IHSs for the OPP. An interim action has been conducted to address these impacts in the Phase 1 OPP and is considered the final cleanup action for that area. The lateral extent of dioxin contamination in the Phase 2 and 3 OPP has been bounded. Soils to the west of the OPP in the LRIS have been remedied as part of previous cleanup actions. Soil concentrations decrease to below the CUL near the eastern OPP boundary. To the south, site concentrations are also below the CUL. The vertical extent of dioxin contamination is bounded, is generally limited to 2 foot bgs or less. The subsurface concentrations are typically much lower than corresponding surface concentrations, reflecting the limited mobility of dioxins.

2.2.2 Groundwater

The hydrophobicity of dioxins, combined with low vapor pressure and low water solubility, further indicates that leaching to subsurface soil and groundwater is typically insignificant in the absence of mechanical disturbance or organic solvents. Similarly, dioxins have little potential for volatilizing from soil (ATSDR, 1998; U.S. Environmental Protection Agency [EPA], 2003). Drinking water is provided by the City, i.e., municipal water supply. Additionally, groundwater in the vicinity of the OPP flows to the west/northwest away from the municipal water supply well. Given these factors, groundwater was not evaluated or considered a threat to human health or the environment at the OPP.

2.3 Conceptual Site Model

The conceptual site model (CSM) describes the physical and chemical conditions on the OPP as described in the RI/FS (MFA, 2025). The primary purpose of the CSM is to describe pathways by which human and ecological receptors may be exposed to site-related chemicals in the environment. According to EPA, a complete exposure pathway consists of four necessary elements: (1) a source and mechanism of chemical release to the environment; (2) an environmental transport medium for a released chemical; (3) a point of potential contact with the impacted medium (referred to as the exposure point); and (4) an exposure route (e.g., incidental sediment ingestion) at the exposure point (EPA, 1989). A brief summary of the key elements of the CSM is provided below.

2.3.1 Sources and Transport

Suspected historical sources of soil impacts include wood-treating chemicals and other substances that were used as part of wood-treating operations during PWT activities from 1964 to 1993. Neither the specific operational activities leading to dioxin formation nor the proximate source(s) have been established. Note that dioxins can also result from anthropogenic combustion sources, which include vehicle/railway emissions, backyard trash burning, structure fires, and burning vegetation treated with chlorinated pesticides (EPA, 2006).

Dioxins are stable compounds and are highly resistant to most environmental degradation processes. Because of their low vapor pressure and low solubility, dioxins will typically be bound to organic matter found in surface soil. Particulates deposited on soils may be reentrained by soil erosion (wind or water) or tracked by vehicles and transported to other areas. Because of their lack of mobility, dioxins are most often found in the upper several centimeters of soil, and the higher the organic carbon content in soil, the less mobile the compounds will be. Dioxins may deposit on vegetation; however, dioxins in soil are not likely to be taken up by plant roots and translocated to the plant shoots because they are hydrophobic and bind strongly to soil. The hydrophobicity of dioxins, combined with low vapor pressure and low water solubility, further indicates that leaching to subsurface soil and groundwater is typically insignificant in the absence of mechanical disturbance or organic solvents. Similarly, dioxins have little potential for volatilizing from soil (ATSDR, 1998; EPA, 2003).

Primary suspected transport mechanisms that may have impacted the OPP include vehicle tracking, wind transport and deposition, and secondary dispersion (e.g., stormwater) to soils. Historically, trucks transporting treated lumber left the LRIS driving southeast through the OPP, using primarily Division Street, 3rd Avenue (and possibly Main Street), and finally Pioneer Street (see Figure 2-2 for street locations). Reportedly, while completing a Vietnam-era contract with the U.S. Department of Defense, trucks left the LRIS with wood still dripping treatment chemicals. Soil vehicle tracking also likely occurred at that time. The area near Pioneer Street includes commercial buildings and is predominantly paved, such that soil impacts are not expected in this neighborhood.

Wind transport of particulates from the LRIS toward the OPP is another suspected transport mechanism. Wind transport likely would have occurred primarily in the driest months of the year (June through September). Available wind data (from 1978 to 2016) were obtained from the National Oceanic and Atmospheric Administration National Climatic Data Center for the Scappoose Airport, 6 miles west of the site. Approximately 49 percent of the time, wind direction was classified as "calm" or "variable." When a significant wind speed was observed, wind with a north/northwest/west component was predominant (43 percent of the time). The wind direction provided in the database is the direction from which the wind originates. Therefore, wind blows predominately from the northwest toward the south to southeast to east (i.e., from the LRIS toward the OPP). Near the eastern Phase 2 boundary (between 4th Avenue and 5th Avenue), surface elevations increase by approximately 20 to 30 feet. Any surface deposition that potentially affected this area (e.g., via vehicle tracking or wind) would migrate back to the west if soil particulates were transported in stormwater. Based on the above fate and transport considerations, PWT-related impacts associated with this secondary transport mechanism are expected to decrease with distance from the LRIS and are not expected outside the OPP.

2.3.2 Exposure Scenarios

Potential human receptors include residents/park users (adults and children) and workers (e.g., construction). Potential soil exposure pathways include direct contact (incidental soil ingestion, dermal contact, or inhalation) and secondary ingestion (consumption of chemicals in or on produce). Incidental ingestion of soils may occur during activities (e.g., playing in yards, gardening, yard improvement projects [digging]) followed by hand-to-mouth contact. Children may ingest significantly more soils than adults because of more frequent hand-to-mouth contact and/or more time spent in close proximity to soils (EPA, 2011). Dermal contact with dioxins in soil is considered an insignificant exposure pathway relative to incidental soil ingestion, and the inhalation pathway for dioxins in soil is insignificant relative to the ingestion/dermal-contact pathways. Transfer of dioxins in soil to homegrown vegetables and other plants is also considered an insignificant exposure pathway. The low vapor pressure of dioxins prevents any substantial vapor flux from contaminated (and often long-weathered) soils, and suspension of local soils, with subsequent deposition on plants, is expected to be nominal for dioxins because of normal washing, processing, and/or cooking of vegetables (Paustenbach et al., 2006). These findings support limited potential exposure to dioxins in soil from the dermal-contact, inhalation, and produce-consumption pathways. Incidental ingestion is considered a potentially complete exposure pathway.

Human receptors are unlikely to have direct exposure to groundwater. Based on the discussion provided in Section 2.1.2, groundwater is not used for drinking, and given the availability, reliability, and relatively low cost of municipal water, it is unlikely that water-supply wells will be developed at or near the OPP in the foreseeable future (see Section 2.1.2). Furthermore, dioxins do not readily leach to groundwater, and the associated exposure pathway is considered incomplete. Similarly, dioxins do not readily migrate to subsurface soils or volatilize to air, and the associated exposure pathways are considered insignificant.

Potential exposure of likely vulnerable populations and overburdened communities was also considered for the CSM and cleanup action development (WAC 173-340-380(5)(c)). Ridgefield is not considered an "economically disadvantaged," city, town, or unincorporated portion of the county as defined in WAC 173-322A-100(15) and (16). According to the Washington State Department of Health, Ridgefield ranks low to moderate for all assessed environmental health disparity categories, where a rank of 1 corresponds to low (minimal impacts) and 10 to high (significant impacts): environmental exposures (rank of 5); environmental effects (rank of 4); socioeconomic factors (rank of 1); and sensitive populations (rank of 1) (MFA, 2025). Based on the cleanup goal of eliminating potential for human contaminated soil exposure, disproportionate impacts to likely vulnerable populations and overburdened communities are unlikely to occur.

The potential for adverse effects to ecological receptors was assessed in the RI work plan (based on the terrestrial ecological evaluation [TEE] completed in 2012), and no unacceptable risks to ecological receptors are expected (MFA, 2015). The ecological receptor pathways are therefore incomplete.

3 CLEANUP REQUIREMENTS

MTCA requires that cleanup actions comply with the following minimum regulatory requirements (WAC 173-340-360):

Protect human health and the environment—Cleanup actions that achieve CULs at the applicable point of compliance (POC) and comply with applicable laws are presumed to be protective of human health and the environment, as well as likely vulnerable populations and overburdened communities.

Comply with cleanup standards and applicable state and federal laws—The primary components of cleanup standards are CULs, RELs, and POCs (see WAC 173-340-700 through 760). CULs determine the concentration at which a substance does not threaten human health or the environment. All material that exceeds a CUL is addressed through a remedy that prevents exposure to the material. A REL defines a medium-specific hazardous substance concentration above or below which a particular cleanup action component will be used. RELs, by definition, exceed CULs. POCs represent the locations on the OPP where CULs must be met. Applicable or relevant and appropriate requirements based on federal and state laws are provided in WAC 173-340-710.

Provide for compliance monitoring—Each cleanup action must include plans for compliance monitoring to ensure that human health and the environment are protected during construction, operation, and maintenance activities; to confirm that the actions have attained cleanup standards, RELs, and other performance standards; and to confirm the long-term effectiveness of the action once cleanup standards, RELs, and other performance standards have been attained (see WAC 173-340-410 and 173-340-720 through 760).

The final cleanup standards are presented below by OPP areas and their associated media. Applicable federal, state, and local laws are presented in Section 3.2.

3.1 Cleanup Levels and Points of Compliance

CULs developed for the OPP are described in the RI/FS (MFA, 2025). CULs were developed consistent with MTCA to be protective of human health. The potential for adverse effects to ecological receptors was assessed in the RI work plan (based on the TEE completed in 2012), and no unacceptable risks to ecological receptors are expected (MFA, 2015). CULs and their respective POCs are summarized below. A summary of OPP concentrations for all media relative to selected CULs is provided in Appendix A.

Dioxins were identified as an IHS for the OPP. Potential exposure scenarios were evaluated and the incidental ingestion/inhalation pathway (soil and dust particles) is considered potentially complete for residents, park users, and workers. The Method B CUL of 13 ng/kg for 2,3,7,8-tetrachloro dibenzo-p-dioxin is protective of persons ingesting dioxins in soil and dust particles and is selected as the soil CUL for comparison with dioxin TEQs.

The dioxin TEQ concentration at Davis Park south (property 062) (13.6 ng/kg) marginally exceeds the CUL of 13 ng/kg. However, this corresponds with an estimated excess cancer risk level that does not exceed 1 in 1 million to one significant figure ($1x10^{-6}$), based on the residential-use exposure assumptions. In addition, the cancer risk level ($1x10^{-6}$) is less than the acceptable level for total cumulative risk of 1 in 100,000 ($1x10^{-5}$), based on presence of the single chemical (dioxins). Dioxin concentrations at Davis Park therefore do not exceed acceptable risk levels based on protection of both residential and park uses. Unacceptable risks to park users are therefore not expected. Because of this, no remedial action is required at Davis Park.

The CUL for dioxins is provided in Table 3-1. The POC for human exposure via direct contact is 0 to 15 feet bgs for soil throughout the OPP (WAC 173-340-740 (6)(d)).

3.2 Applicable Federal, State, and Local Laws

In addition to the cleanup standards developed through MTCA, applicable laws and regulations must be considered in the selection and implementation of the cleanup action. MTCA requires the cleanup standards to be "at least as stringent as all applicable state and federal laws" (WAC 173-340-700(6)(a)). Besides establishing requirements for cleanup standards, applicable state and federal laws may impose procedural (permitting) requirements for performing cleanup actions (WAC 173-340-710). In other cases, the cleanup actions must comply with the substantive requirements of the law but are exempt from the procedural requirements of the law (RCW 70.105D.090; WAC 173-340-710(9)).

For remedial actions conducted under a consent decree, order, or agreed order, MTCA provides an exemption from the procedural requirements of RCW 70.94 (Air), 70.95 (Solid Waste), 70.105 (Hazardous Waste), 75.20 (Hydraulic Permit), 90.48 (Water Quality), and 90.58 (Shorelands), and the procedural requirements of any laws requiring or authorizing local government permits or approvals (RCW 70.105D.090). Given the Port's existing agreed order with Ecology (the Order), the cleanup actions meet the permit exemption provisions of MTCA, obviating compliance with procedural requirements of the various local and state regulations that would otherwise apply. Ecology is required to ensure compliance with the substantive provisions of RCW 70.94, 70.95, 70.105, 75.20, 90.48, and 90.58, and the substantive provisions of laws requiring or authorizing local government permits or approvals. Ecology makes the final decision regarding which substantive provisions are applicable.

Persons conducting remedial actions have a continuing obligation to determine whether additional permits or approvals are required, or whether substantive requirements for permits or approvals must be met. In the event that either the Port or Ecology becomes aware of additional permits or approvals or substantive requirements that apply to the remedial action, they shall promptly notify the other party of this knowledge (WAC 173-340-710(9)(e)).

Interim actions were conducted on the Phase 1 OPP in accordance with the Order. Applicable laws and associated procedural and substantive requirements were met (MFA, 2025).

Applicable local, state, and federal laws are evaluated in the OPP RI/FS; those relevant to remedial actions to be conducted on the OPP are summarized below, and have been developed to ensure conformance with the substantive provisions of these laws, regulations, and rules (MFA, 2025).

3.2.1 Applicable Federal Laws

Clean Water Act—The Federal Water Pollution Control Act (FWPCA) Amendments of 1972, commonly referred to as the Clean Water Act (CWA), set forth a number of provisions that require the development of regulations to protect the nation's waters. Section 402 of the CWA requires the development of comprehensive programs for preventing, reducing, or eliminating pollution in the nation's waterways. National Pollutant Discharge Elimination System (NPDES) requirements are specified in Section 402. This program has been delegated to the State of Washington (see Section 3.2.2).

The objective of the CWA (33 U.S. Code [USC] 1251-1376 and 40 Code of Federal Regulations [CFR] 129 and 131) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Sections 303 and 304 of the CWA require EPA to issue ambient surface water quality criteria for the protection of aquatic life and human health. The federal water quality criteria (FWQC), as specified in 40 CFR 131, are non-enforceable guidelines to be used by states to set water quality standards for surface water. FWQC, based on chronic and acute effects to aquatic life, have been developed for 120 priority toxic pollutants and 45 non-priority pollutants for marine waters and freshwater.

During construction, water will be directed through erosion- and sediment-control features to meet water quality standards. The OPP work should not cause releases of water to the surrounding waterways. Any water discharged to Carty Lake or Lake River will be required to meet the FWQC. The State of Washington has been delegated as the authority to implement the CWA and has rules and regulations corresponding to all of those stated in the CWA. Therefore, for the Port, any discharges to surface water will be managed under the state program.

Migratory Bird Treaty Act—The federal Migratory Bird Treaty Act (MBTA) of 1918 makes it unlawful to kill or harass migratory birds by any means unless permitted by regulations. Furthermore, the MBTA requires that identified ecosystems of special importance to migratory birds be protected against pollution, detrimental alterations, and other environmental degradations. Implementing the remedial action in conformance with MTCA will protect wildlife, including migratory birds. Consequently, no additional actions are needed to conform to the MBTA.

Safe Drinking Water Act—The Safe Drinking Water Act (SDWA) was initially passed by Congress in 1974 and then amended in 1986. The SDWA establishes maximum contaminant levels (MCLs) and maximum contaminant level goals (MCLGs) for the protection of the nation's public water systems. EPA has established MCLs in 40 CFR Part 141 as the maximum permissible concentrations of specific contaminants in water that is delivered to any user of a public water system. While non-enforceable, MCLGs represent the maximum level beyond which persons drinking the water may experience adverse effects.

Under the SDWA amendments, EPA is required, every three years, to develop a list of contaminants that must be regulated in the form of MCLs or MCLGs. Those regulations must be finalized within a year of their proposal. In addition, EPA identifies contaminants that are under consideration for listing as MCLs, as well as contaminants that are under consideration for modification of the MCL concentration.

The State of Washington has authorization from EPA to administer and enforce this act. Washington State-specific MCLs and MCLGs incorporate the federal standards by reference.

The OPP remedial action will have no effect on groundwater or any other water source used as drinking water.

National Pretreatment Standards for Discharges to a Publicly Owned Sewer System—In general, the discharge of wastewater to publicly owned treatment works is considered an off-site activity. Requirements of the National Pretreatment Program include general and specific discharge prohibitions (40 CFR 403). The remedial action does not include discharge to a publicly owned sewer system; therefore, this requirement is not applicable.

Natural Resources Damages—The Natural Resource Damage provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Oil Pollution Act of 1990, and the CWA allow natural-resource trustees to assess damages for losses arising from injury to public natural resources caused by the release of oil or hazardous substances. The 43 CFR 11.62 provides the definitions of injury to a natural resource, particularly the injury to surface-water resources, groundwater resources, air resources, geologic resources, and biological resources. The definition of injury either must be met or is likely to be met for natural resource damages to be included for a given facility or property.

Once natural resource damages have been established by federal, state, or Native American Tribe trustees, the responsible party must take actions to restore the damaged resource. These actions can take the form of cash payment to a trustee, or the responsible party can undertake its own restoration projects, or both. Consistent with MTCA, the remedial design will establish means and methods to ensure that the remedial action minimizes short-term risks during implementation. Consequently, natural resource damages caused by remedial action implementation will be avoided.

Solid Waste Disposal Act—The Solid Waste Disposal Act (42 USC 6921 Subtitle C) incorporated under the federal Resource Conservation and Recovery Act (RCRA, 40 CFR §§ 260 through 266) contains requirements for "cradle to grave" management of materials that meet the RCRA definition of hazardous waste. These requirements may apply to waste generated during a remedial action.

RCRA defines hazardous waste as either waste specifically listed in 40 CFR § 261 Subpart D or waste exhibiting one of four hazardous characteristics: ignitability, corrosivity, reactivity, or toxicity, as determined by the toxicity characteristic leaching procedure (TCLP). Requirements to determine whether waste being generated is hazardous, whether by sampling and analysis or by process knowledge, are listed in 40 CFR § 262.11. The source of the material at the site cannot be determined; therefore, under the guidelines provided by EPA, the dioxin-contaminated soil is not designated as hazardous waste, and this requirement is not applicable.

The Solid Waste Disposal Act (42 USC 6921 Subtitle C) incorporated under RCRA (40 CFR § 264) provides design standards for treatment, storage, and disposal (TSD) facilities. The TSD requirements for hazardous waste are normally associated with facilities applying for, or having received, a RCRA permit. No treatment of the material is associated with the remedial action. Material will be disposed off site at a Subtitle D landfill facility with an existing permit. This requirement is not applicable.

Land-Disposal Restrictions—Land-Disposal Restrictions (LDRs) for RCRA wastes characterized as toxic (40 CFR § 268) require that the waste be treated to specified concentrations before placement in a land-based unit. LDRs would apply to wastes removed from the site that exceed treatment standards for waste codes or that fail a TCLP analysis. No waste characterized as toxic under RCRA is known to be present on site; this requirement is not applicable.

U.S. Department of Transportation Hazardous Materials Regulations—The U.S. Department of Transportation has published regulations, including requirements regarding communications and emergency response, shipping, and packaging (40 CFR 171 through 180), that govern the transportation of hazardous materials to or from the site.

The provisions of 40 CFR § 263 establish minimum standards that apply to persons transporting hazardous waste by air or water. The remedial action does not involve the off-site transportation of hazardous waste; this requirement is not applicable.

National Ambient Air Quality Standards—EPA has established national ambient air quality standards (NAAQS) for a variety of potentially airborne substances known as criteria pollutants. NAAQS are all applicable or relevant and appropriate requirements for any conditions at a site that may result in emissions of any listed criteria pollutant to the air. Criteria pollutants include carbon monoxide, nitrogen dioxide, ozone, lead, particulates smaller than 10 micrometers, and sulfur dioxide. The selected remedial alternative involves soil handling and excavation. The air emissions generated by handling soil at the site are subject to applicable air-quality standards established to control or prevent the emission of air contaminants. Based on the contaminants present at the site, the applicable criteria pollutant would be particulate matter (dust).

Occupational Safety and Health Administration—Federal Occupational Safety and Health Administration (OSHA) regulations pertaining to hazardous waste sites are addressed under 29 CFR 1910.120, the Hazardous Waste Operations and Emergency Response Standard. This standard applies to cleanup and corrective actions, as well as to operations involving hazardous waste, that are conducted at a permitted TSD facility, unless the employer can demonstrate that the operations do not involve employee exposure or the reasonable possibility of employee exposure to safety or health hazards. All work will be performed under a site health and safety plan in conformance with applicable federal and state OSHA regulations.

Cultural Resources—The following federal laws and acts pertain to the protection of cultural resources: the Antiquities Act (1906) lays out penalties for the unauthorized excavation of archaeological sites and requires permits for excavations on federal lands; the 1966 National Historic Preservation Act (NHPA) requires federal agencies to address effects of their actions on significant cultural resources; the 1978 American Indian Religious Freedom Act requires federal agencies to consult with traditional religious leaders on potential impacts to rights and practices (42 USC 1996); the 1979 Archaeological Resources Protection Act (ARPA) establishes protections for archaeological resources on federal and Tribal lands; the 1990 Native American Graves Protection and Repatriation Act deals with the disposition of indigenous Tribal cultural items recovered on Tribal or federal lands; and 36 CFR 79 (Curation of Federally-Owned and Administered Archaeological Collections) was codified in 1990 to "establish definitions, standards, procedures and guidelines to be followed by Federal agencies to preserve collections of prehistoric and historic material remains, and associated

records…" as stipulated in the Antiquities Act, the Reservoir Salvage Act, NHPA, and ARPA (36 CFR 79.1). Applicable federal laws are further detailed in the OPP RI/FS (MFA, 2025).

Systematic archaeological surveys have been conducted to determine if archaeological resources are present at the OPP. No discoveries of archeological or historical resources were made during the Phase 1 interim action construction in 2016/2017. In January 2024, additional archaeological survey was conducted for the Phase 2 and 3 areas. Archaeologists identified one temporary isolate and recommended that the resource was not eligible for listing. It was recommended cleanup can proceed in the surveyed area as planned, and that no additional archaeological investigations are necessary prior to the start of project activities; that an inadvertent discovery plan be developed and kept on site at all times during ground-disturbing work and that the contractor receive inadvertent discovery plan training; and that should unanticipated archaeological or historical resources be encountered during project activities, all ground-disturbing activity in the vicinity of the find should be halted and the Washington State Department of Archaeology and Historic Preservation should be notified immediately (MFA, 2025). The remedial action will be conducted consistent with a cultural resource monitoring and inadvertent discovery plan to address any archaeological discoveries made during the proposed action.

3.2.2 Applicable State Laws

Model Toxics Control Act—MTCA governs the investigation and cleanup of contaminated sites in Washington (Chapter 70.105D RCW). A contaminant is defined by MTCA 173-340-200 as any hazardous substance that does not occur naturally or that occurs at concentrations greater than natural levels. MTCA contains provisions controlling site cleanup activities, including site discovery, priority, listing, investigation, and cleanup; liability provisions; administrative options for remedial actions, payment of costs, and funding; public participation; cleanup standards; and other general provisions. The law regulates the cleanup of sites contaminated with CERCLA hazardous substances, all state and federal RCRA hazardous and dangerous wastes, and petroleum products. All elements of the remedial design and remedial action will comply with MTCA.

Water Quality Standards—In Washington, water quality standards for surface waters of the state are promulgated under Chapter 173-201A WAC. The purpose of this chapter is to establish water quality standards for surface waters of Washington State that are consistent with public health and related public enjoyment, and with the propagation and protection of fish, shellfish, and wildlife, pursuant to the provisions of Chapter 90.48 RCW. The criteria listed in Chapter 173-201A WAC for surface water quality provide protective numbers for both freshwater and marine aquatic life regarding both acute and chronic exposure to toxic substances.

Water quality standards for groundwater are also promulgated under Chapter 173-200 WAC. This chapter implements the FWPCA and Chapters 90.48 and 90.54 of the RCW, as well as the federal Water Resources Act of 1971. Chapter 173-200 WAC applies to all groundwaters of the state that occur in a saturated zone, in a stratum beneath the land surface, or below a surface-water body. The water quality standards listed in Chapter 173-200 WAC apply to cleanup actions conducted under MTCA that involve potable groundwater. No water will be generated during construction. Stormwater

will be directed through erosion- and sediment-control best management practices to meet the water quality standards. In addition, state water quality standards are considered screening criteria.

Washington Dangerous Waste Regulations—Washington regulations identify RCRA F-listed and K-listed waste as dangerous waste (WAC 173-303-9904). Designated dangerous waste may be treated, stored, or disposed of at a permitted TSD facility. Material generated on site will not be considered dangerous waste; this requirement is not applicable.

National Pollutant Discharge Elimination System—Chapter 173-220 WAC establishes a state permit program, applicable to the discharge of pollutants and other wastes and materials to the surface waters of the state, operating under state law as part of the NPDES created by Section 402 of the FWPCA. Permits issued under this chapter are intended to satisfy the requirements for discharge permits issued under both Section 402(b) of the FWPCA and Chapter 90.48 RCW.

NPDES construction stormwater permits are required for construction sites of 1 acre or larger. The selected remedial action alternative will have a construction footprint larger than one acre. As the NPDES program is a federal program administered by the state, the MTCA exemption for state and local permits does not apply. The project will obtain coverage for the proposed work under the state's NPDES construction stormwater general permit. As the project involves the disturbance of soil with known contamination, the notice of intent for coverage under the NPDES general permit will include a description of this contamination.

Shoreline Management Act—The state Shoreline Management Act (Chapter 173-22 WAC) regulates any action within 200 feet of the ordinary high-water mark of a shoreline. Shorelines in towns and cities are regulated by shoreline master programs (Chapter 173-26 WAC) adopted by local municipalities. The proposed locations for remedial actions are outside the shoreline's jurisdiction; this requirement is not applicable.

Air Quality Standards—WAC 173-400, -460, and -470 establish provisions for general regulation of air pollution sources, ambient air quality standards, and acceptable levels for particulate matter, and stipulate requirements for new sources of toxic air pollutant emissions. These regulations may be applicable to cleanup actions at the site; for example, to control particulate emissions generated during soil excavation activities, or emissions resulting from air stripping or other groundwater treatment technologies. These standards are typically administered and enforced by the local clean air agency, which in this case would be the Southwest Clean Air Agency. Chapter 173-401 operating permits may be required for fugitive emissions from new sources. Emission standards for volatile organic compounds are set in Chapter 173-490. The remedial work includes soil handling. During soil excavation activities, it may be necessary to implement engineering controls such as soil wetting to control particulate emissions. Air testing may be required to show that emissions meet the substantive requirements of applicable air quality permits and rules. If results illustrate that substantive requirements have not been met, the design will require modification.

Noise Regulations—Maximum environmental noise levels have been determined and are contained in Chapter 173-60 WAC. Approved procedures for measurement of environmental noise are contained in Chapter 173-58 WAC. During design, expected noise levels will be estimated and compared to the limitations established in 173-60 WAC. The need to adjust the approach to meet

these requirements will be determined. For example, the noise level regulations may limit the hours of operation for some parts of the remedial action. Outfitting construction equipment with additional noise-minimizing equipment (larger or additional mufflers, etc.) may be required.

State Environmental Policy Act—The State of Washington administers and enforces a program equivalent to the federal National Environmental Policy Act. The State Environmental Policy Act (SEPA), contained in Chapter 43.21C RCW, provides the framework for agencies to consider the environmental consequences of a proposal before taking action. It also gives agencies the ability to condition or deny a proposal because of identified likely significant adverse impacts. The act is implemented through the SEPA Rules and Procedures, Chapters 197-11 and 173-802 WAC, respectively.

SEPA review is a comprehensive assessment of potential environmental, economic, and cultural impacts from a specific development project or a proposed policy, plan, or program. The SEPA review process requires the preparation of an environmental checklist, which may be achieved by review of the environmental impacts and proposal of mitigation measures. The completed checklist helps to identify potential environmental impacts associated with the proposed action. Following a threshold determination, the lead agency will issue either a Determination of Non-Significance that will allow the action or permitting process to continue, or a Determination of Significance that will require that an environmental impact statement (EIS) be prepared before agency action can be taken. Typically, one checklist or EIS is required for a project, although it may require modification or application of numerous permits by federal, state, or local agencies. SEPA review will be conducted for the project design. The Port or Ecology can act as the lead agency for SEPA review. The Port prepared a SEPA checklist in 2023 to be reviewed during Ecology's evaluation of the project design.

Cultural Resources—Under the Washington State Governor's Executive Order 05-05, archaeological and cultural resources must be evaluated to satisfy federal regulations 36 CFR 800. RCW 27.44 (Indian Graves and Records) addresses the need to protect graves, cairns, and glyptic marks, and includes associated penalties, civil actions, and procedures. RCW 27.5 (Archaeological Sites and Resources) lays out the State of Washington's interest in protecting archaeological resources and establishes and empowers the Washington State Department of Archaeological and Historic Preservation to complete an inventory and a study, make National Register of Historic Places nominations, and identify and excavate the "state's archeological resources" (RCW 27.53.020). WAC 25-48 establishes procedures for implementing the permit sections of RCW 27.53. WAC 25-46 establishes regulation procedures for historic archaeological resources on, in, or under aquatic lands owned by the state; RCW 79.105.600 deals with "archaeological activities" on state aquatic lands and addresses shoreline management (via RCW 79.105). RCW 42.56.300 exempts disclosure of the location of archaeological sites.

The remedial action will be conducted consistent with a cultural resource monitoring and inadvertent discovery plan to address any archaeological discoveries made during the proposed action (see Section 3.2.1 for additional details).

Washington Industrial Safety and Health Administration—Washington Industrial Safety and Health Administration (WISHA) regulations pertaining to hazardous waste sites are addressed under WAC 296-843, Hazardous Waste Operations. This standard applies to cleanup and corrective actions

at MTCA-regulated sites. All work will be performed under a site health and safety plan in conformance with the applicable WISHA regulations.

3.2.3 Applicable Local Laws

Shoreline Master Program—A cleanup action or "substantial development" conducted along any shoreline of statewide significance in the city is regulated under the Shoreline Master Program (Chapter 18.820 of the Ridgefield Municipal Code [RMC]). A Substantial Development Permit (SDP) is required for such an action. In 2012, the City adopted an updated Shoreline Master Program. The proposed locations for remedial actions are outside the shoreline jurisdiction.

City of Ridgefield Critical Areas Ordinance—The City Critical Areas Ordinance designates and regulates projects that may impact ecologically sensitive areas, including wetlands and fish and wildlife habitat conservation areas; and/or geophysical hazards such as geologically hazardous areas and frequently flooded areas (RMC 18.280.120). The OPP remedial action area is part of a category 2 critical aquifer recharge area. The OPP remedial action area is also identified as having a low to moderate liquefaction susceptibility, as indicated on the Alternative Liquefaction Susceptibility Map of Clark County, Washington. Relative to these items, the remedial design will meet the substantive requirements of the critical areas ordinance.

Street Tree Program—Work adjacent to street trees is regulated under Section 12.12 of the RMC. The RMC requires a permit for excavation within the drip line of any street tree and for the removal of any street tree. As a condition to the granting of a street tree permit, the director may require the applicant to relocate or replace trees. If a tree is interfering with the use of any utility that has been granted a franchise by the City, it is required that notice of removal and/or excavation within the dripline be given to the director, but a permit is not required. Removal and work within the drip line of street trees will meet the substantive requirements of the street tree program. Street trees will be protected during the proposed work; excavation near street trees will be conducted under the oversight of a certified arborist.

Street/Right-of-Way Excavation Permit—Excavations in the city ROWs are regulated under Section 12.15 of the RMC. An excavation permit is required for work that involves disturbing the surface of any street, alley, sidewalk, curb, drainage-way, or other structure in city ROWs. Standards for work in the city ROWs are described in the City Engineering Standards for Public Works Construction. Work in city ROWs will be completed consistent with the substantive requirements of the applicable sections of these standards.

4 SELECTED CLEANUP ACTIONS

The cleanup action for the OPP incorporates actions targeted to the residential areas (i.e., residential yards and ROWs). Cleanup actions were determined based on findings of the OPP RI/FS (MFA, 2025), and are described in the sections below.

4.1 Interim Action

An interim action was completed in 2016 and 2017 in the Phase 1 area of the OPP (see Figure 4-1). Soil on properties and adjacent ROWs that exceeded the dioxin CUL were remedied consistent with the IAWP (MFA, 2016a). The interim action objectives were to remove soil from residential properties and adjacent ROWs that exceeded the Model Toxics Control Act (MTCA) Method B CUL for the dioxin toxicity equivalent of 13 nanograms per kilogram. The completed interim action removed contaminated soil and was technically necessary to reduce threats to human health and the environment (MFA, 2025).

Prior to interim action, all required agency approvals and permits were acquired. A robust, project-specific construction quality assurance program was implemented during construction to verify that the work was constructed to the performance standards detailed in the construction drawings and described in the technical specifications, which, in turn, fulfilled the requirements of the interim action prescribed. This included: construction submittals, meetings, daily reports, construction surveying, and import material testing. Public communications included pre-cleanup outreach with affected homeowners, restoration design outreach with homeowners, and general public outreach in coordination with Ecology including signage and flyers with general information about the remedial actions being conducted, with Ecology and MFA contact information for interest or questions about the program. A cultural resource contractor conducted shovel probes and determined that no archaeological resources were present in properties surveyed prior to construction begin. The contractor prepared an inadvertent discovery plan, which was implemented during the construction. No discoveries of archeological or historical resources were made during interim action construction.

The construction was divided into two phases: remediation and restoration. Remediation activities consisted of site preparation including topographical survey to document existing topographic conditions and site features; a site walk-through; structural survey to document the building conditions; and targeted removal of fences and stumps for access. The construction contractor submitted a temporary erosion control plan and provided a certified erosion and sediment control lead for the duration of the project. This included a minimum of weekly inspections and submitted monthly discharge monitoring reports to Ecology to comply with the reporting requirements of the permit.

The excavation of contaminated soil during 2016 began on July 20 and continued through September 30. Excavation continued at the remaining properties and ROWs in June 2017 and was completed by September 2017. The base of each excavation was surveyed to verify that the required excavation depth had been met. To the extent possible, excavated soil was loaded directly into trucks and trailers (truck and pup) and hauled off site for disposal. Plastic sheeting was placed under trucks and trailers during loading activities to minimize the tracking of contaminated material onto roadway surfaces. In accordance with an Ecology-approved waste determination memorandum, excavated soil was transported to Wasco County Landfill in The Dalles, Oregon (a Subtitle D landfill facility) for disposal. Trucks hauling excavated soil were tarped to minimize loss of material during transport. A total of 7,728 tons (5,038 in 2016 and 2,690 in 2017) of contaminated soil and associated debris (i.e., vegetation and demolition debris) was hauled off site and disposed of.

Restoration activities included clean fill (soil) placement and landscaping to a condition equal to or better than prior to disturbance. Clean backfill materials included clean topsoil and driveway gravel (crushed surface base course). The backfill material was placed to the design grade, using front-end loaders, skid steers, and hand tools. Survey measurements, provided in electronic format to MFA, ensured adequate backfill quantity and appropriate drainage. In some cases, field alterations were made in order to accommodate a homeowner's request or conditions that had changed since the design was finalized.

MFA provided restoration design to the properties on an individual basis. Restoration plans were completed by a landscape architect and approved by the homeowner prior to construction. Homeowners were provided with two options for landscape restoration: (1) restore with lawn and mulched bed(s), or (2) restore with the same or in-kind landscaping that was to be removed. Ground covers, shrubs, and trees were installed in accordance with the contract drawings to the extent possible. During construction, when daytime temperatures were too hot for effective transplanting, shrubs and trees originally identified for transplant in the contract drawings were either protected in place or replaced in kind. Lawn warranties were extended until either September 30 or for 30 days (whichever would come later) after installation. Lawn maintenance included watering and mowing as needed. Owners were instructed to keep people and pets off the lawns during the maintenance period or risk voiding the lawn warranty. Lawn maintenance became the responsibility of the homeowner after the 30-day maintenance period. After restoration, a final walkthrough was conducted with each homeowner to clarify that lawn and plant care was the responsibility of the homeowner following the end of the 30-day maintenance period. In some cases, it was determined that additional work (e.g., patching sod) was necessary; the work was subsequently completed by the contractor. Homeowners were given yard maintenance flyers listing lawn and plant care tips and suggested fertilizing and maintenance activities. Homeowners signed a close-out agreement documenting that all work and maintenance on the property had been completed (or would be completed) and that the homeowner was responsible for yard maintenance.

Post-construction inspection of all existing building foundations and structures assessed during the pre-construction survey at each property was conducted to ensure that foundations and structures had not been damaged during remediation and restoration activities.

Restoration of ROWs was designed to match pre-remediation conditions. In most cases, hydroseed was placed in locations where the ROW had been remediated. At driveways and other areas where gravel had been present before remediation, coarse gravel was placed between the street and the property to provide access and parking. No catch basins, utilities, or appurtenances were installed in the ROW during restoration; existing utility features were preserved.

In total, 29 properties and associated ROWs were remedied (MFA, 2025).

4.2 Cleanup Action

The selected cleanup for residential areas (properties and ROWs) not addressed as part of the interim action is removal and restoration. Soil in residential areas (yards and ROWs) with dioxin concentrations exceeding the CUL will be removed and areas will be restored (see OPP RI/FS [MFA, 2025]).

The recommended cleanup action components are summarized below:

- Excavation of soil with dioxin concentrations exceeding 13 ng/kg TEQ in residential areas. The vertical extents of excavation will be further refined during design.
- Soil around large trees to remain will be excavated under the oversight of a certified arborist to preserve the trees.
- Clean fill material will be imported and placed to restore residential yards and ROWs.
- Excavated material will be disposed of as nonhazardous material waste at a Subtitle D landfill facility. The excavated material will not be designated as either a RCRA-listed hazardous waste or a RCRA characteristic waste (see further detail in the OPP RI/FS [MFA, 2025]).
- Fencing which requires removal for construction and smaller vegetation will be restored.
- ROW features (pathways, signage, etc.) removed or disturbed during construction will be restored.

The interim action was completed consistent with the selected cleanup actions described above.

4.3 Types, Levels, and Amounts of Contamination Remaining

A summary of soil analytical results compared with CULs for the OPP is provided in Appendix A, Tables A-1 through A-3. Figure 4-1 shows the sample locations and Figure 4-2 shows remaining areas in the OPP with exceedances of CULs still requiring cleanup.

5 ALTERNATIVES CONSIDERED AND BASIS FOR REMEDY SELECTION—RESIDENTIAL AREAS

5.1 Cleanup Technologies

Consistent with WAC 173-340-351, individual cleanup action components (technologies) were reviewed and screened to identify applicable methods for remediating the soils. A preliminary screening of applicable, commonly used remediation methods was completed (including technologies discussed in the Federal Remediation Technologies Roundtable screening matrix [FRTR, 2008]). Effectiveness and implementability of the technologies were assessed for the dioxin contamination in soil on residential properties and ROWs (residential areas), resulting in a single appropriate technology—removal and restoration. This was discussed with and agreed to by Ecology at a meeting on July 29, 2015.

5.2 Feasibility Study Alternatives

Remedial alternatives were developed using the individual cleanup technologies retained from the technology screening process, taking into account applicable MTCA requirements for cleanup actions (WAC 173-340-360(3)). Ecology's expectations for the development of alternatives and the selection of cleanup actions were also considered (WAC 173-340-370).

Remedial alternatives were previously evaluated for the Phase 1 interim action consistent with FS procedures provided in WAC 173-340-350 and WAC 173-340-355 (MFA, 2016). The selected cleanup alternative for the interim action is consistent with the selected alternative identified in this CAP. Final cleanup was conducted in 2016–2017 (see Section 4.1) consistent with WAC 173-340-360 requirements. Cleanup has not been completed at the Phase 2 and 3 OPP areas (see Figure 4-2).

The following section provides summary of the FS alternatives evaluated for areas not addressed as part of the interim action (MFA, 2025).

5.2.1 Residential Areas

A single appropriate technology—removal and restoration—was readily identified for residential areas in the OPP. A No Action alternative was not evaluated because the soil CUL exceedances would remain and clearly does not meet the requirements for a cleanup action in WAC 173-340-360.

The primary components of the alternative are:

- Predesign sampling to refine vertical cleanup extent
- Removal of soil to the CUL in properties and ROWs
- Restoration of property and ROW landscaping

A site-specific sampling and analysis plan (SSAP), defining sampling locations and depth of samples to supplement existing sampling data, has been prepared. Sampling has defined the vertical extent at all yards except one, where additional sampling is ongoing. Additional vertical extent sampling will be necessary for some ROWs. The sample results will inform the vertical extent of the proposed soil removal.

Removed soil would be replaced with clean soil or, in the case of ROWs, soil or clean gravel consistent with existing conditions. Excavated soil would be transported by truck and disposed of as nonhazardous material at a Subtitle D landfill facility. Landscaping would be restored.

5.3 Rationale for Selecting Proposed Alternative

This section describes the rationale by which the preferred cleanup action alternative for the OPP was selected. The selected cleanup action meets the general requirements pursuant to WAC 173-340-360(3)(a), which are described in section 5.3.1. In addition, the selected cleanup actions meet action-specific and media-specific requirements and public concerns and tribal rights and interests were considered (WAC 173-340-360(3)(b)(c)(d)). The MTCA general requirements were used as the criteria

for evaluating cleanup actions as outlined in WAC 173-340-360(3), and consistent with disproportionate-cost analysis (DCA) requirements as outlined in WAC 173-340-360(4).

5.3.1 General Requirements

The cleanup action must meet the MTCA requirements (WAC 173-340-360(3)(a)), which include the following ten requirements:

- Protection of human health and the environment, including likely vulnerable populations and overburdened communities
- Compliance with cleanup standards
- Compliance with applicable state and federal laws
- Prevent or minimize present and future releases and migration of hazardous substances
- Provide resilience to climate change impacts that have a high likelihood of occurring
- Provisions for compliance monitoring
- Not rely primarily on institutional controls and monitoring at a site
- Not rely primarily on dilution and dispersion
- Provide for a reasonable restoration time frame
- Use permanent solutions to the maximum extent practicable

Requirements one through eight above are discussed in this section and requirements nine and ten are discussed in the sections that follow.

5.3.1.1 Protection of Human Health and the Environment

The single appropriate technology (removal and restoration) is protective of human health and the environment, including likely vulnerable populations and overburdened communities. This alternative involves removal of impacted soil in areas with dioxin concentrations above the CUL and replacing it with clean soil. Through excavation, direct or indirect contact and exposure would be prevented for the long term.

5.3.1.2 Compliance with Cleanup Standards

The cleanup will be conducted consistent with MTCA (WAC 173-340).

5.3.1.3 Compliance with Applicable State and Federal Laws

The cleanup will be conducted consistent with applicable state and federal laws, as discussed in Appendix J.

5.3.1.4 Hazardous Substance Release

This alternative involves removal of impacted soil in areas with dioxin concentrations above the CUL and replacing it with clean soil. Therefore, the cleanup will minimize present and future releases and migration of hazardous substances in the environment.

5.3.1.5 Climate Change

This alternative involves removal of impacted soil in areas with dioxin concentrations above the CUL and replacing it with clean soil. Therefore, the cleanup is resilient to climate change impacts that have a high likelihood of occurring including increased drought, higher extreme heat, increased frequent heavy magnitude precipitation events resulting in increased streamflow volumes, and increased high fire danger days. Greater risk would remain if contaminated soil was not removed.

5.3.1.6 Provision for Compliance Monitoring

Compliance monitoring, as required by WAC 173-340-410 and 173-340-740 through 173-340-750, consists of protection monitoring, performance monitoring, and confirmation monitoring to determine short- and long-term safety and effectiveness of the implemented alternative.

Protection monitoring is conducted to confirm that human health and the environment are adequately protected during construction, operation, and maintenance periods. Performance monitoring confirms that the cleanup has attained cleanup standards or other performance standards, including those outlined in any permits. Confirmation monitoring may be included to verify the long-term effectiveness of the interim action and/or final cleanup action.

Protection monitoring would consist of engineering oversight to verify safe material-handling procedures, effective health and safety measures, effective erosion- and sediment-control measures, and dust monitoring. Engineering controls would be applied as necessary to protect residents from exposure and unsafe conditions. Performance monitoring, in the form of confirmation sampling, includes samples collected as part of the RI sampling effort. These analytical data are used to set the vertical extents of the excavations prior to construction; a topographic survey of each property will be conducted following excavation and prior to backfill to verify that the soil above the CUL has been removed. Additional monitoring may be conducted consistent with sampling procedures provided in the SAP (MFA, 2015) to refine vertical extent or, at properties where it is infeasible to remove portions of soil (e.g., along steep slopes), to verify that the CUL has been met. The combination of this performance monitoring sampling and the post-soil-excavation/preconstruction topographic survey data will serve as confirmation monitoring.

5.3.1.7 Institutional Controls

This alternative does not rely primarily on institutional controls.

5.3.1.8 Dilution and Dispersion

This alternative involves removal of impacted soil in areas with dioxin concentrations above the CUL and replacing it with clean soil. Therefore, the cleanup does not rely primarily on dilution and dispersion.

5.3.2 Disproportionate-Cost Analysis

Disproportionate-cost analysis (DCA) is conducted to determine whether a cleanup action uses permanent solutions to the maximum extent practicable. Costs are determined to be disproportionate to benefits if the incremental cost of a more expensive alternative over that of a lower-cost alternative exceeds the incremental degree of benefits achieved by the more expensive alternative. As outlined in WAC 173-340-360(4) and (5), DCA includes evaluation criteria that are a mix of qualitative and quantitative factors.

As there is only one feasible alternative that was identified in coordination with Ecology, a full DCA was not performed (MFA, 2025). The sections below illustrate how this alternative meets criteria established by the DCA process, including protectiveness, permanence, long-term effectiveness, management of implementation risks, technical and administrative implementability, consideration of public concerns, and cost. Summaries of the analyses, primary assumptions, unit costs, and number of units for all significant project elements are included in the OPP RI/FS (MFA, 2025). Net present value calculations are also included for operation, maintenance, and monitoring costs, if applicable.

Protectiveness

Overall protectiveness of human health and the environment, including likely vulnerable populations and overburdened communities, includes the degree to which existing risks are reduced, the time required to reduce risk at a site and attain cleanup standards, on-site and off-site risks resulting from implementing the selected alternative, and improvement of the overall quality of the environment. The selected alternative is protective to the acceptable excess cancer risk level of 1 in 1 million standard for residential use, as soil above the CUL will be removed from the site.

Permanence

Permanence is a factor by which the cleanup action permanently reduces the toxicity, mobility, or volume of hazardous substances. The adequacy of the alternative in destroying the hazardous substances, the reduction or elimination of hazardous-substance releases and sources of releases, the degree of irreversibility of the waste-treatment process, and the characteristics and quantity of treatment residuals generated are all considered under this criterion.

MTCA states that, when selecting an alternative, preference shall be given to "permanent solutions to the maximum extent practicable." A permanent solution is defined in WAC 173-340-200 as a cleanup action in which the cleanup standards of WAC 173-340-700 through 760 are met without further action being required at the site being cleaned up, or at any other site involved with the cleanup action, other than the approved disposal of any residue from the treatment of hazardous substances.

The selected alternative has a very high level of permanence. Soil exceeding the CUL is removed.

Effectiveness over the Long Term

Long-term effectiveness includes the degree of certainty that the alternative will be successful; the reliability of the alternative for the period of time during which hazardous substances are expected to remain on site at concentrations that exceed CULs; the resilience of the alternative to climate change

impacts; the magnitude of residual risk with the alternative in place; and the effectiveness of controls required to manage treatment residues or remaining wastes.

The selected alternative (removal and restoration) provides excellent long-term effectiveness because soil will be permanently removed, eliminating the area and volume of soils exceeding the CUL.

Management of Implementation Risks

Management of implementation risks addresses the risk to human health, including likely vulnerable populations and overburdened communities, and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks. Short-term risks to remediation workers, the general public, and the environment are assessed under this criterion. Generally, short-term risks are expected to be linearly related to the amount of material handled, treated, and/or transported/disposed of (e.g., worker injury/cubic yards excavated [equipment failure], public exposure/cubic yards per mile transported [highway accident], release to environment/gallons treated [treatment system upset]).

As an invasive remedial technology, the selected alternative (removal and restoration) rates low for implementation risk. This alternative involves construction to remove impacted soil. This construction will disturb soil, increasing the potential for improper handling during the removal process, and may result in the generation of dust that could transport contamination and lead to inhalation exposure. Although simple measures such as pre-wetting soil before removal can be an effective dust deterrent. Most of the construction associated with this alternative will take place in a location immediately adjacent to private homes. Construction equipment can be dangerous if operated improperly or if the public enters work areas. This alternative increases the likelihood of conflicts between the general public and construction activities.

Management of implementation risks for the selected cleanup alternative are achievable through active coordination between construction oversight personnel, construction contractor(s), property owners and tenants. Risks are also mitigated using construction methods to reduce or eliminate dust or spread of contaminated media.

Technical and Administrative Implementability

Technical and administrative implementability addresses the ability to implement the alternative and includes consideration of whether the alternative is technically possible; the availability of necessary off-site facilities, services, and materials; administrative and regulatory requirements; scheduling; size; complexity; monitoring requirements; access for construction operations and monitoring; and integration with existing facility (or locally applicable) operations and other current or potential cleanup actions.

The selected alternative is implementable from a technical and administrative standpoint. However, compared with less invasive technologies, the selected alternative (removal and restoration) will require more coordination with area property owners.

Consideration of Public Concerns

Consideration of public concerns addresses concerns from individuals, community groups, local governments, tribes, federal and state agencies, and any other organization that may have an interest in or knowledge of the site and that may have a preferred alternative, including likely vulnerable populations and overburdened communities.

Ecology and the Port have addressed community concerns throughout project activities (see Section 6.2). Additional issues or concerns were considered by Ecology as part of the draft CAP public comment period, as stipulated in WAC 173-340-600 and consistent with requirements set forth in WAC 173-340-380(2). The public comment period for the project was open between January 9 and February 10, 2025. No comments were received and no changes to the documents were requested. Community concerns will also be factored into local permit processes, including responding to any City permitting concerns.

The selected alternative likely will include concerns related to required construction activities, noise, disruptions to property owners, and actions related to the disturbance of contaminated soil. These and similar concerns were raised during the 2016–2017 interim action construction activities. Management of such concerns will continue throughout the project as part of public outreach activities (see Section 6.2), including Ecology and Port-contractor site visits and communications with property owners and tenants.

Cost

Table 5-1 provides summary cost estimates for residential properties and ROWs for the selected alternative. Primary cost assumptions for each property or ROW segment are provided in Appendix B and are informed by the interim action costs. Interim action costs are not included in these estimates.

5.3.3 Reasonable Restoration Time Frame

WAC 173-340-360(4) contains guidance for determining reasonable restoration time frames. The following must be taken into consideration: potential risks posed by the site to human health and the environment; the practicability of achieving a shorter restoration time frame; current use of the site, surrounding areas, and associated resources that are, or that may be, affected by releases from the site; likely effectiveness and reliability of institutional controls; ability to control and monitor migration of hazardous substances from the site; toxicity of the hazardous substances at the site; and the natural processes that reduce concentrations of hazardous substances and that have been documented to occur at the site or under similar conditions.

The selected alternative can be executed within a reasonable time frame of one year.

5.3.4 Expectations for Alternatives

WAC 173-340-370 outlines Ecology's expectations for the development of alternatives and the selection of cleanup actions. Based on the above evaluations, the single feasible alternative is likely to ensure compliance with the expectations. Each of the expectation criteria is summarized below:

Treatment of Waste and Hazardous Substances

Ecology generally expects that treatment technologies will be emphasized at sites containing liquid wastes, high concentrations of hazardous substances, highly mobile hazardous materials, and discrete areas of hazardous materials that lend themselves to treatment. The site contains no liquid wastes; the hazardous-substance concentrations are not especially high and, in fact, generally correspond with less than a 1 in 100,000 excess cancer risk level; and dioxins are not highly mobile.

The selected alternative complies with Ecology's expectation.

Minimization of Long-Term Management at Small Sites

Ecology also favors the minimization of long-term management for small sites through the use of destruction, detoxification, and/or removal to bring concentrations on site to below CULs.

The selected alternative requires no long-term management at the site to bring concentrations below CULs; the selected alternative complies with Ecology's expectation.

Use of Engineering Controls at Large Sites

Ecology recognizes the need to use engineering controls, such as containment, for sites where there are large volumes of low-level contamination and where treatment is impractical.

The selected alternative does not include long-term engineering controls; this criterion is not applicable.

Minimize Stormwater Contamination and Off-Site Migration; Control Runoff to Avoid Surface Water Contamination

Ecology also expects that measures will be taken to avoid stormwater contamination and its subsequent migration off site. In addition, contamination of surface water near the OPP should be avoided through the control of runoff and groundwater discharge or migration.

The selected alternative will remove soils exceeding the CUL. The project will employ stormwater best management practices during construction (covering exposed soil with plastic sheeting to prevent runoff as used during the interim action). Because the contaminants have limited mobility, standard construction practices to limit turbid discharges from the site will avoid contamination of surface water.

Minimize Direct Contact and Migration by Consolidating Hazardous Substances

Ecology expects that when hazardous substances remain on site at concentrations that exceed CULs, those hazardous substances will be consolidated to the maximum extent practicable where needed to minimize the potential for direct contact and migration of hazardous substances.

Under the selected alternative, no hazardous substances at concentrations that exceed CULs will remain at residential areas; this criterion is not applicable.

Control Groundwater Discharge or Migration to Avoid Surface Water Contamination

Groundwater is not a consideration for the OPP, as the contamination is surficial, the water table is greatly removed from the contaminated layer and dioxins are not very mobile or water-soluble. This criterion is not applicable.

Allow Natural Attenuation

Ecology acknowledges that natural attenuation may be appropriate where criteria are met.

The selected alternative does not rely on natural attenuation or degradation of dioxins; this criterion is not applicable.

No Significantly Greater Overall Threat to Human Health and the Environment as Compared to Other Alternatives

Ecology expects that any cleanup actions chosen with consideration of WAC 173-340-370 will not result in a significantly greater overall threat to human health and the environment than with other alternatives. The selected alternative will minimize threats to human health and the environment during the cleanup action.

5.3.5 Selected Alternative Summary

Alternative 1 (removal and restoration) is selected for residential areas. Soil in yards and ROWs with dioxin concentrations exceeding the CUL will be removed and areas will be restored. The total estimated costs for the selected alternative is provided in Table 5-1.

6 IMPLEMENTATION OF CLEANUP ACTION

6.1 Cleanup Areas

Interim action (removal of contaminated soil and restoration) was conducted in 2016 and 2017 to remedy a portion of the OPP. The interim action is described in detail in Section 4.1. Cleanup has not been conducted for 15 yards and ROWs as shown on Figure 4-2. Recommended cleanup components include excavation and off-site disposal of soil with dioxin concentrations exceeding 13 ng/kg TEQ in residential areas, placement of clean fill, restoration of fencing, vegetation, and ROW features (as applicable).

6.2 Integrating Community Concerns

A public participation plan was prepared by Ecology and was implemented in coordination with the Port (see Appendix C). The plan describes the tools that Ecology uses to inform the public during project activities. The plan is intended to address concerns from individuals, community groups, local governments, tribes, federal and state agencies, and any other organization that may have an interest

in or knowledge of the OPP, including likely vulnerable populations and overburdened communities. Ecology and the Port will continue coordination to ensure that future project activities account for community input.

In coordination with the Port, Ecology held a public community meeting, provided public notice, distributed fact sheets, and solicited comments before and during the project. Multiple visits with property owners and tenants were conducted. Letters were provided to property owners and tenants before and after sampling activities. An example results letter showing sample locations, sample results, and description of next steps is provided as Appendix D. These efforts ensured that owners and tenants were aware of overall project activities as well as property-specific activities and were provided multiple opportunities for input. Solicitation of comments continued at important stages of the project, such as the submission of the draft CAP and will continue during any future cleanup activities. Common community concerns include noise and traffic, short- and long-term risks, socioeconomic impacts, cleanup and restoration procedures, and the time frame of project activities.

Additional permitting requirements that further address community concerns are detailed in Section 3.2.

6.3 Schedule for Implementation

Cleanup of the OPP is currently under way. Cleanup of 29 properties and adjacent ROWs was completed as an interim action between 2016 and 2017 (see Section 4.1). This interim action is considered a final cleanup action for this area.

The schedule for the cleanup of the remaining 15 properties and ROWs will be based on the sources, timing, and funding for these actions. Currently, cleanup planning activities are underway for 10 properties and adjacent ROWs, with cleanup construction planned for 2025. It is anticipated that cleanup activities will be conducted for the remaining 5 properties and ROWs when additional funding becomes available. Ecology requires documentation of the cleanup actions that will be conducted; this may include, but is not limited to, documentation of coordination with property owners, SSAPs that inform predesign sampling, engineering design reports, construction plans and specifications, and construction completion (as-built) reports.

Table 6-1 summarizes required deliverables and the anticipated schedule for submittal. Each document will be submitted to Ecology for review and approval. Review comments will be incorporated before the next phase of work proceeds. As appropriate, some documents may be combined to cover related work or work being conducted simultaneously.

LIMITATIONS

The services undertaken in completing this plan were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This plan is solely for the use and information of our client unless otherwise noted. Any reliance on this plan by a third party is at such party's sole risk.

Opinions and recommendations contained in this plan apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this plan.

REFERENCES

ATSDR. 1998. Toxicological profile for chlorinated dibenzo-p-dioxins. Agency for Toxic Substances and Disease Registry, U.S. Department of Health and Human Services, Public Health Service, Atlanta, Georgia. December.

Ecology. 2005. Arsenic-contaminated soils, questions and discussion materials prepared for the Science Advisory Board. Washington State Department of Ecology. December.

EPA. 1989. Risk assessment guidance for superfund (RAGS). Vol. 1, human health evaluation manual (part A), interim final. EPA/540/I-89/002. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, DC. December.

EPA. 2003. Exposure and human health risk assessment of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) and related compounds. Part I, estimating exposure to dioxin-like compounds. Vol. 2, sources of dioxin-like compounds in the United States. Office of Research and Development, U.S. Environmental Protection Agency, Washington, DC. December.

EPA. 2006. An inventory of sources and environmental releases of dioxin-like compounds in the United States for the years 1987, 1995 and 2000. EPA/600/P-03/002F. National Center for Environmental Assessment, U.S. Environmental Protection Agency, Washington, DC. Available from: National Technical Information Service, Springfield, Virginia, and online at https://cfpub.epa.gov/ncea/dioxin/recordisplay.cfm?deid=235432 (accessed November 19, 2020) August 24, 2020.

EPA. 2011. Exposure factors handbook. 2011 ed. EPA/600/R-09/052F. National Center for Environmental Assessment, Office of Research and Development, U.S. Environmental Protection Agency. September.

FRTR. 2008. Technology screening matrix. Federal Remediation Technologies Roundtable. http://www.frtr.gov/scrntools.htm (accessed November 19, 2020). July 14, 2008.

MFA. 2013. Former PWT site remedial investigation and feasibility study report. Prepared for Port of Ridgefield. Maul Foster & Alongi, Inc. July 1.

MFA. 2015. Off-property portion remedial investigation work plan. Prepared for Port of Ridgefield. Maul Foster & Alongi, Inc. April 2.

MFA. 2016. Off-property portion interim action work plan. Prepared for Port of Ridgefield. Maul Foster & Alongi, Inc. April 4.

MFA. 2017. Memorandum (re: recommended remediation level for parks and recreational areas, former Pacific Wood Treating Co. site off-property portion) to C. Rankine, Washington State Department of Ecology, from P. Wiescher, Maul Foster & Alongi, Inc. November 1.

MFA. 2018. Phase 1 off-property portion construction completion report. Prepared for Port of Ridgefield. Maul Foster & Alongi, Inc. April 6.

MFA. 2025. Off-property portion remedial investigation and feasibility study report. Prepared for Port of Ridgefield. Maul Foster & Alongi, Inc. February 13.

Paustenbach, D. J., K. Fehling, P. Scott, M. Harris, and B. Kerger. 2006. Identifying soil cleanup criteria for dioxins in urban residential soils: how have 20 years of research and risk assessment experience affected the analysis? Journal of Toxicology and Environmental Health, Part B 9:87–145.

Wall, S. 2006. Telephone communication (re: City of Ridgefield municipal water supply) with A. Hughes, Maul Foster & Alongi, Inc., Vancouver, Washington. June.

TABLES

Table 3-1
Off-Property Portion Cleanup Levels
Former PWT Site
Ridgefield, Washington

	Soil Cleanup Level[(a)]
Dioxins (ng/kg)	
Dioxin TEQ	13

NOTES:
CUL = cleanup level.
ng/kg = nanograms per kilogram.
PWT = Pacific Wood Treating Co.
TEQ = toxicity equivalent.
[(a)]Residential areas, including right-of-ways.

Table 5-1
Estimated Cleanup Costs
Former PWT Site
Ridgefield, Washington

Residential Area Properties Cost (RR)		$	1,652,234
ROW Cost (RR)		$	1,171,161
Subtotal		$	2,823,395
Tax	8.4%	$	237,165
Contingency	30%	$	847,020
Total Cost Estimate Including Contingency		$	3,907,580

NOTES:

Estimated costs are for the Phase 2 and 3 off-property portion.

PWT = Pacific Wood Treating Co.

ROW = right-of-way.

RR = soil removal and restoration (selected alternative).

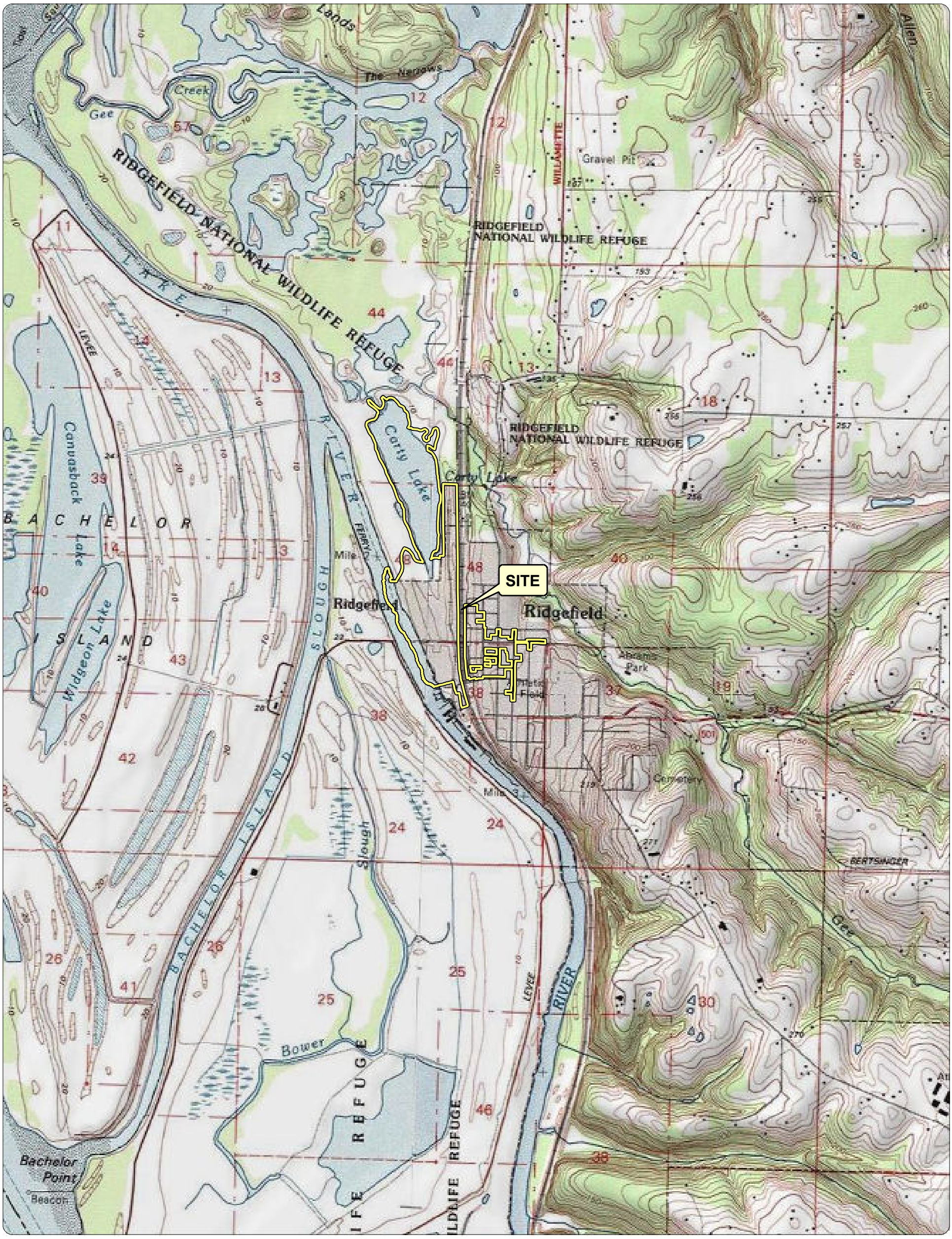
MAUL FOSTER ALONGI

Table 6-1
Schedule of Deliverables
Former PWT Site
Ridgefield, Washington

Cleanup Phase	Engineering Design Report	Construction Plans and Specifications	Operation and Maintenance Plan	Cleanup Action Report	Compliance Monitoring Plans
Interim Action (Completed)	Interim Action Work Plans were prepared for each of the interim actions and collectively serve as the Engineering Design Report.	Construction plans and specifications were prepared for each of the interim actions and are available upon request.	Operation and maintenance plans are not a component of the completed cleanup action for the Phase 1 OPP areas as contaminated soil was removed. A comprehensive operation and maintenance plan for the PWT site was prepared by the Port and approved by Ecology in 2024.	The Port prepared a construction completion report for the Phase 1 OPP in 2018.	All soil with concentrations of dioxins above CULs were removed and documented by a combination of performance monitoring sampling and a post-soil-excavation/preconstruction topographic survey. Therefore, compliance monitoring was not necessary.
Phase 1 Cleanup (2025)	10 Residential Areas including ROWs: An Engineering Design Report will be prepared following issuance of this Cleanup Action Plan. This occurred in 2024.	Construction plans and specifications were completed prior to contractor selection. These plans were prepared in 2024.	Operation and maintenance plans are not a component of the completed cleanup action as contaminated soil will be removed.	A construction completion report following completion of the work will be prepared. This is anticipated in winter 2025.	All soil with concentrations of dioxins above CULs will be removed and documented by a combination of performance monitoring sampling and a post-soil-excavation/preconstruction topographic survey. Therefore, compliance monitoring is not planned.
Phase 2 Cleanup (Anticipated 2026)	5 Residential Areas including ROWs: The Engineering Design Report will be prupdated following issuance of this Cleanup Action Plan. This is anticipated in 2025.	Construction plans and specifications will be completed prior to contractor selection. These plans are anticipated in 2025.	Operation and maintenance plans are not a component of the completed cleanup action as contaminated soil will be removed.	A construction completion report following completion of the work will be prepared. This is anticipated in late 2026.	All soil with concentrations of dioxins above CULs will be removed and documented by a combination of performance monitoring sampling and a post-soil-excavation/preconstruction topographic survey. Therefore, compliance monitoring is not planned.

NOTES:
City = City of Ridgefield.
Ecology = Washington State Department of Ecology.
OPP = off-property portion.
Port = Port of Ridgefield.
PWT = Pacific Wood Treating Co.
SMP = soil maintenance plan.

FIGURES



Source: Topographic Quadrangle obtained from ArcGIS Online Services/NGS-USGS TOPO/US Geological Survey (1999)
7.5-minute topographic quadrangle: Ridgefield
Address: Lake River Industrial Site
111 W. Division Street, Ridgefield, WA 98642
Section: 24 Township: 4N Range: 1W Of Willamette Meridian

Legend

Former Pacific Wood Treating Site

Figure 1-1
Site Location

Former PWT Site
Ridgefield, Washington

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com

0 820 1,640
Feet

Print Date: 9/25/2020
Approved By:
Produced By: abixby
Project: 9003.01.39

Source: Aerial photograph (2014), tax lots, and zoning data obtained from Clark County GIS.

Notes:
BNSF = Burlington Northern Sante Fe.
LRIS = Lake River Industrial Site.
Port = Port of Ridgefield.
PWT = Pacific Wood Treating.
RNWR = Ridgefield National Wildlife Refuge.
WWTP = Wastewater Treatment Plant.

Legend

Clark County Tax Lots (2014)

Area Designations

- Port Overpass Property
- LRIS
- City of Ridgefield WWTP
- Port Railroad Avenue Property
- McCuddy's Marina Property
- RNWR-Carty Unit
- RNWR-River S Unit
- BNSF Railroad Property
- Off-Property Portion
- Port Marina Property

Figure 1-2
Site Vicinity Diagram
Former PWT Site
Ridgefield, Washington

0 250 500
Feet

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com

Print Date: 1/16/2024
Approved By: P. Wiescher
Produced By: rroberts
Project: M9003.01.49

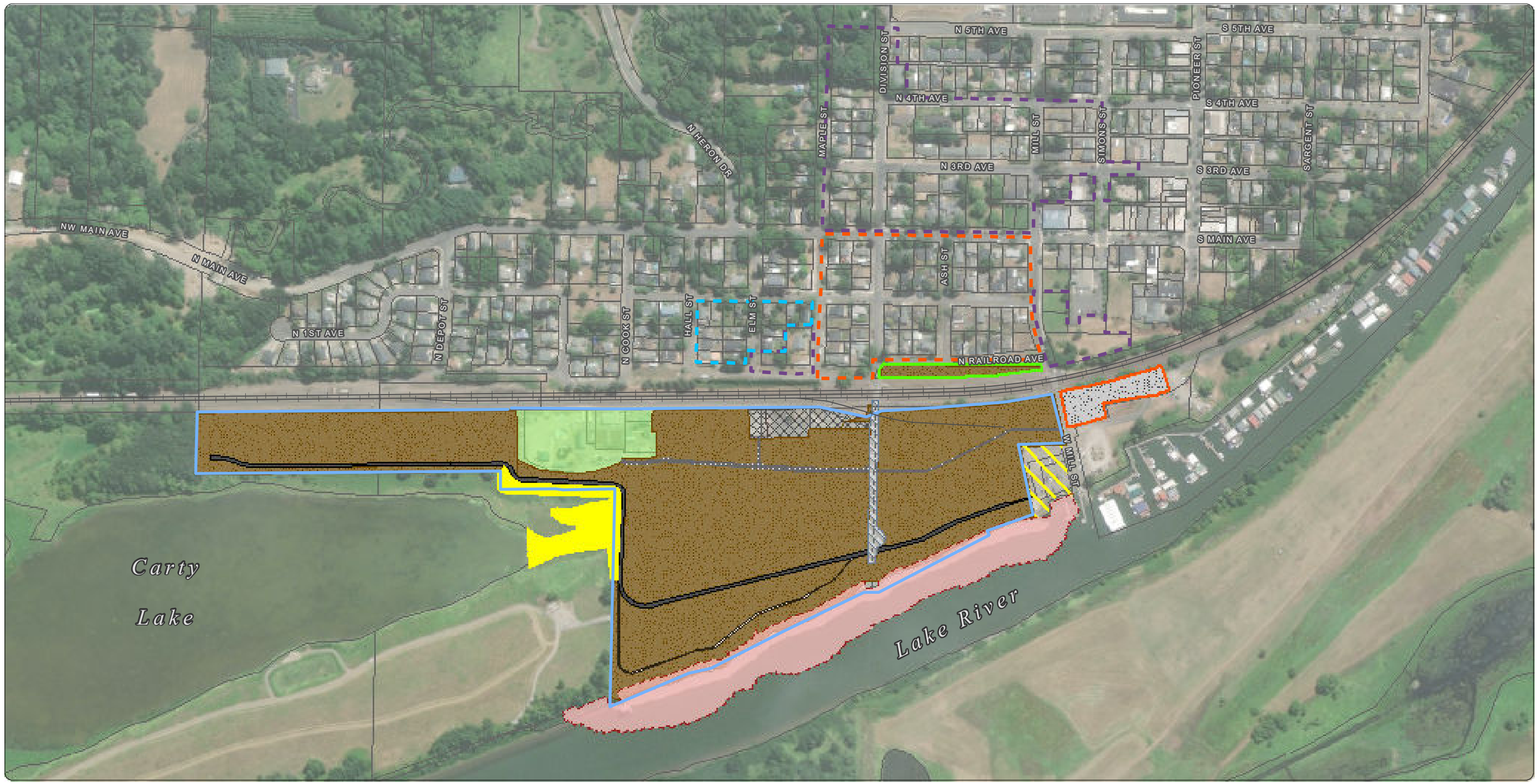
Path: X:\9003.01 Port of Ridgefield\39\RIFS_Report\Fig2-1_Past_Cleanup_Areas.mxd

Print Date: 4/5/2021

Approved By: M. Novak

Produced By: abixby

Project: 9003.01.39



Source: Aerial photograph (2014) and streets obtained from Clark County GIS.

Notes:
1. LRIS = Lake River Industrial Site.

Legend

- Phase 1 Off-Property Portion
- Phase 2 Off-Property Portion
- Phase 3 Off-Property Portion
- Clark County Tax Lots (2014)
- Railroad

Cleanup Areas

- Soil Cap
- Gravel Cap
- Lake River Remedy
- Carty Lake Remedy

- Overpass Property
- Railroad Avenue Property
- Port Marina Property (existing asphalt)
- Wastewater Treatment Plant

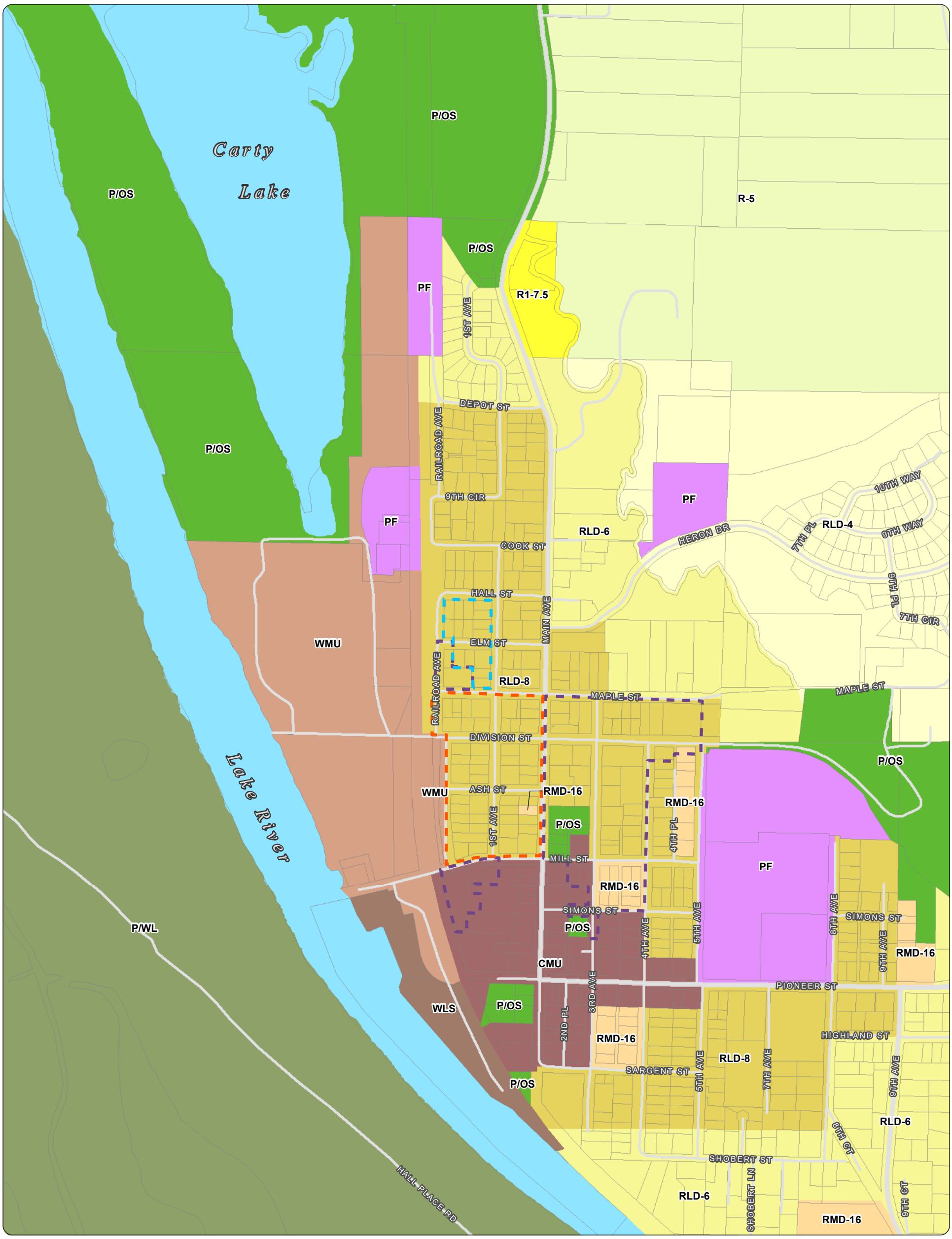
- LRIS Boundary
- Asphalt Surface and Building
- Division Street
- Hard Trail
- Soft Trail
- Access Road

Figure 2-1
Past Cleanup Areas

Former PWT Site
Ridgefield, Washington

0 150 300
Feet

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com



Source: Zoning, tax lots, and roads data obtained from Clark County GIS (2014).

Phase 1 Off-Property Portion
Phase 2 Off-Property Portion
Phase 3 Off-Property Portion
Clark County Tax Lots (2014)

Legend

Zoning

- Single Family Residential (R1-7.5)
- Residential Low Density - 4 (RLD-4)
- Residential Low Density - 6 (RLD-6)
- Residential Low Density - 8 (RLD-8)
- Residential Medium Density (RMD-16)
- Rural-5 (R-5)
- Parks/Open Space (P/OS)
- Parks/Wildlife Refuge (P/WL)
- Public Facilities (PF)
- Central Mixed Use (CMU)
- Waterfront Low Scale (WLS)
- Waterfront Mixed Use (WMU)
- Water

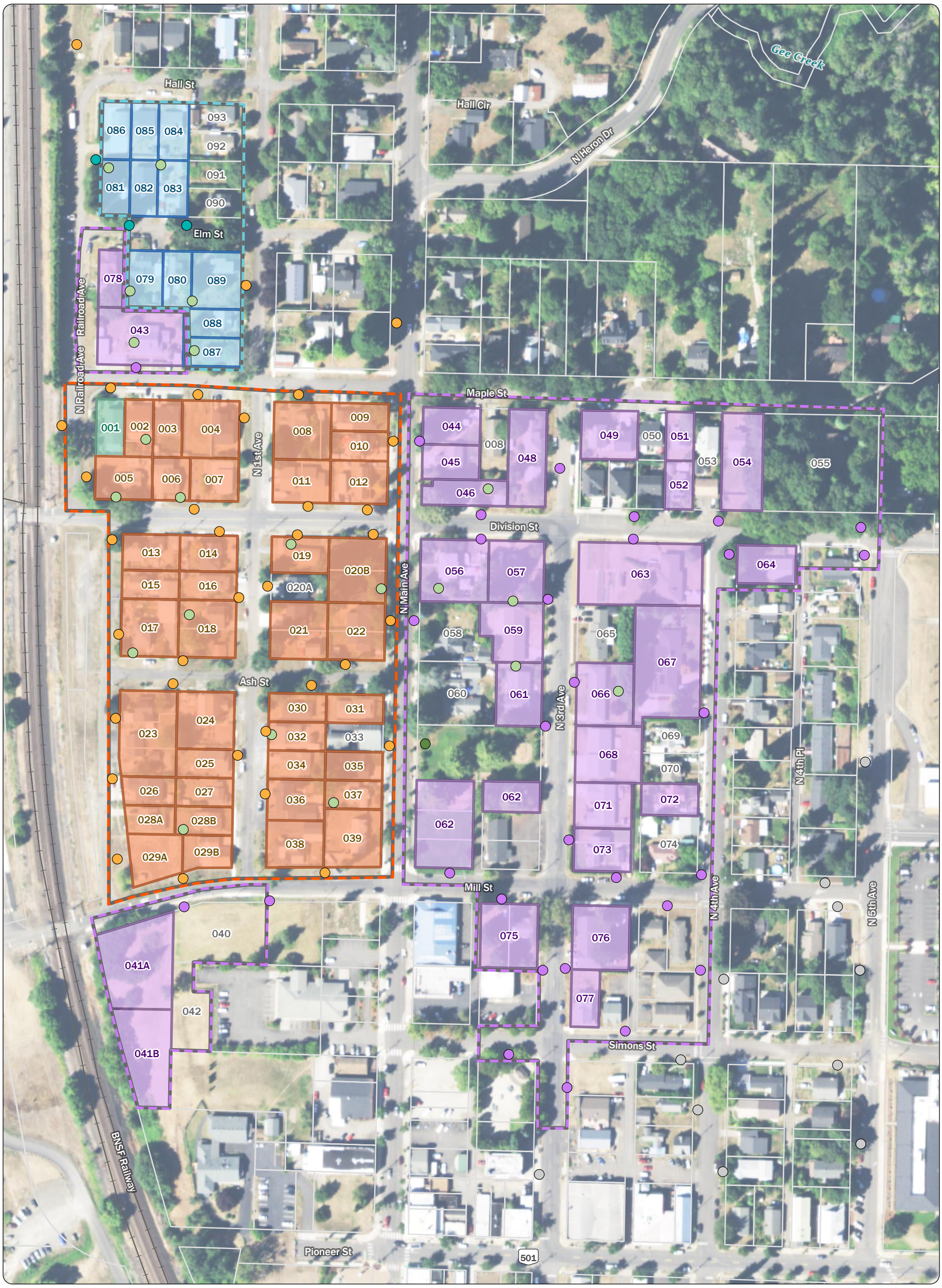
Figure 2-2
Zoning Designations

Former PWT Site
Ridgefield, Washington

0 240 480
Feet

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com

Path: X:\9003.01 Port of Ridgefield\39\RIFS_Report\Fig2-2_Zoning Designations.mxd
Print Date: 4/5/2021
Approved By: pwiescher
Produced By: rroberts
Project: 9003.01.39



Notes
One ISM sampling area was identified for each property, with the exception of 013 and 018. For these properties, a front yard and backyard sampling area was identified. See text for details.
ISM = Incremental Sampling Methodology.
ROW = right of way.
A composite sample was also collected at property 004. See text for details.

Data Source
Aerial photograph obtained from the U.S. Department of Agriculture; parcels obtained from Clark County (2024).

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com

Legend

Sample Locations
- Discrete Property Surface Sample
- Discrete Property Subsurface Sample
- Phase 1 ROW Sample
- Phase 2 ROW Sample
- Phase 2 ROW Archive Sample
- Phase 3 ROW Sample

Sampling Areas
- Composite Sampling Area
- Phase 1 ISM Sampling Area
- Phase 2 ISM Sampling Area
- Phase 3 ISM Sampling Area

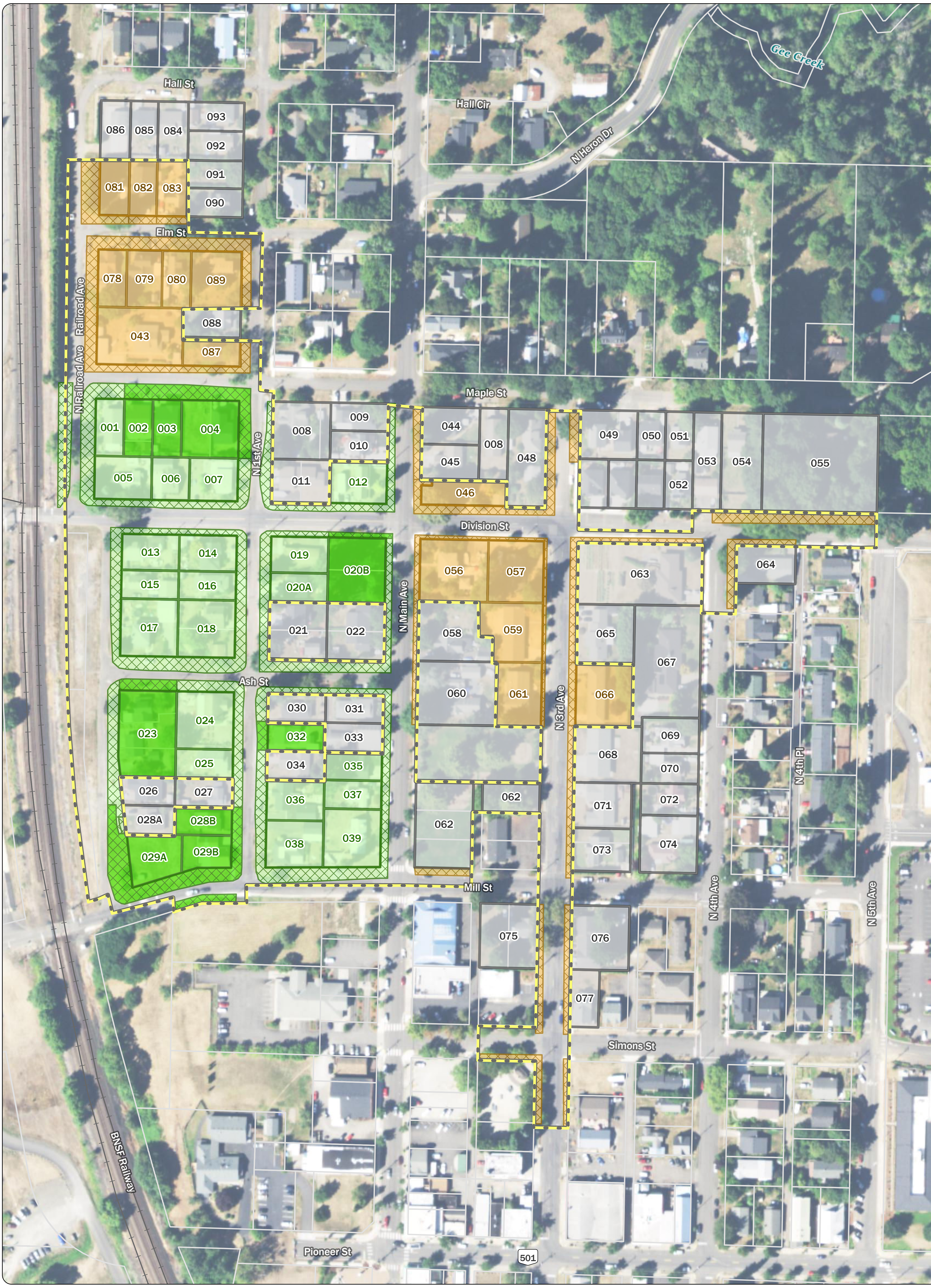
- Phase 1 Off Property Portion
- Phase 2 Off Property Portion
- Phase 3 Off Property Portion
- Parcel
- Railroad

Figure 4-1
Soil Sample Locations

Former Pacific Wood Treating Site
Ridgefield, WA

0 80 160
Feet

Print Date: 3/25/2024
Reviewed By: cwise
Produced By: jroberts
Project: M9003.01.061



Note
ROW = right of way.

Data Source
Aerial photograph obtained from the U.S. Department of Agriculture; parcels obtained from Clark County (2024).

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com

Legend

Property Cleanup Status

- Cleanup Property (Not Completed)
- 2016 Cleanup Property (Completed)
- 2017 Cleanup Property (Completed)
- No Cleanup Needed

Right of Way Cleanup Status

- ROW Cleanup Area (Not Completed)
- 2016 ROW Cleanup Area (Completed)
- 2017 ROW Cleanup Area (Completed)

- Off-Property Portion Site
- Parcel
- Railroad

Figure 4-2
Cleanup Status

Former Pacific
Wood Treating Site
Ridgefield, WA

0 80 160
Feet

Path: X:\9003.01 Port of Ridgefield\61\Projects\Pro\M9003_01_061_001_Cleanup_Status.aprx\Fig 8-1 Cleanup Status 20240415
Print Date: 5/29/2024
Reviewed By: cwise
Produced By: jroberts
Project: M9003.01.061

APPENDIX A

ANALYTICAL SUMMARY

APPENDIX A—
CLEANUP LEVEL SCREENING CONTENTS

The following tables present media concentrations and cleanup levels for the OPP.

TABLES

MAUL FOSTER ALONGI

Table A-1
2010–2012 OPP Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location ID	MTCA Method B Soil CUL	SS-34	SS-35	SS-36	SS-43	SS-44	SS-45	SS-46	SS-47	SS-48	SS-49	SS-54	SS-55
Sample ID		SS-34	SS-35	SS-36	SS-43	SS-44	SS-45	SS-46	SS-47	SS-48	SS-49	SS-54	SS-55
Sample Date		06/17/2010	06/17/2010	06/17/2010	09/21/2010	09/21/2010	09/21/2010	05/24/2011	05/24/2011	05/24/2011	05/24/2011	05/24/2011	05/24/2011
Sample Depth (feet bgs)		0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Area		Residential	Residential	Residential	Phase 1 OPP	Phase 1 OPP	Phase 1 OPP	Residential	Phase 1 OPP	Phase 1 OPP	Phase 1 OPP	Phase 1 OPP	Phase 2 OPP
Dioxins and Furans (ng/kg)													
1,2,3,4,6,7,8-HpCDD	--	9.7	59	68	1100	550	160	21	1400	670	590	21	140
1,2,3,4,6,7,8-HpCDF	--	1.5 J	7.8	8.2	170	110	25	5.3	190	160	93	12	26
1,2,3,4,7,8,9-HpCDF	--	0.33 U	0.63 J	0.61 J	11	6.1	2.1 J	0.22 U	13	10	5.5	0.12 U	0.24 U
1,2,3,4,7,8-HxCDD	--	0.17 J	0.61 J	0.33 U	14	7.5	2.5 J	0.091 U	14	8.8	9.5	0.38	0.18 U
1,2,3,4,7,8-HxCDF	--	0.35 J	1.4 J	2.1 J	25	12	2.3 J	0.072 U	50	16	13	0.09 U	0.24 U
1,2,3,6,7,8-HxCDD	--	0.54 J	3.1 J	3.3 J	72	32	9	0.11 U	71	30	33	0.11 U	7.5
1,2,3,6,7,8-HxCDF	--	0.15 U	0.74 J	0.99 J	16	4.9	1.3 J	1.1 U	31 U	28 U	16 U	0.14 U	0.09 U
1,2,3,7,8,9-HxCDD	--	0.25 J	1.3 J	1.4 J	34	16	4.9	0.077 U	32	15	19	0.14 U	0.13 U
1,2,3,7,8,9-HxCDF	--	0.18 U	0.39 J	0.66 J	6.6	3.4 J	0.7 J	0.081 U	13	0.17 U	0.15 U	0.13 U	0.17 U
1,2,3,7,8-PeCDD	--	0.15 J	0.37 J	0.35 J	8.2	3.9 J	1.3 J	0.077 U	5.6	0.27 U	0.17 U	0.18 U	0.12 U
1,2,3,7,8-PeCDF	--	0.088 U	0.18 U	0.41 J	4.6	3.1 J	0.53 J	0.14 U	7.6	3.3 U	0.2 U	0.14 U	0.12 U
2,3,4,6,7,8-HxCDF	--	0.21 J	0.81 J	1.2 J	17	8.6	2 J	0.068 U	27	11	11	0.11 U	0.12 U
2,3,4,7,8-PeCDF	--	0.13 J	0.8 J	1.4 J	11	6	1.2 J	0.19 U	23	7.3	9.5	0.13 U	8
2,3,7,8-TCDD	--	0.13 U	0.12 U	0.2 U	3.1	0.76 J	0.28 J	0.11 U	2.3	4.5	0.12 U	0.16 U	0.12 U
2,3,7,8-TCDF	--	0.24 J	0.25 J	0.3 J	1.9 U	1.7 U	1 U	0.51	3.1	3	1.3	0.16 U	0.28 U
OCDD	--	69	370	500	6500 J	3500	1400	150	11000 J	5200	3500	130	770
OCDF	--	4.3 J	17	10	210	150	79	18	230	510	160	0.13 U	36
Total HpCDDs	--	19	100	140	2000	960	270	38	2200	1100	980	34	230
Total HpCDFs	--	4.3 J	8.4	24	460	270	76	18	410	520	250	34	73
Total HxCDDs	--	3.4 J	14	15	330	170	51	5.8	310	170	190	6.2	35
Total HxCDFs	--	1.8 J	12	17	350	190	40	6.8	540	230	200	22	99
Total PeCDDs	--	0.24 J	1.4 J	0.88 J	31	24	7.8	0.77 J	30	30	25	0.11 U	5.7 J
Total PeCDFs	--	1.3 J	6.8	9.7	79	56	14	1.1 J	180	76	95	5 J	120
Total TCDDs	--	0.37 J	0.12 U	0.23 J	8.7	7.4	4.3	0.86 J	9.1	19	4.6	0.16 U	0.36 J
Total TCDFs	--	1.2	1.6	1.3	15	16	5.8	0.088 U	29	47	22	0.45 J	20
Dioxin TEQ	**13**	0.49	2.3	2.8	**48**	**23**	6.6	0.57	**57**	**27**	**20**	0.64	5.2

MAUL FOSTER ALONGI

Table A-1
2010–2012 OPP Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location ID	MTCA Method B Soil CUL	SS-56	SS-57	SS-58	SS-59	SS-43-Comp-0-6	SS-44-Comp-0-6	SS-47-Comp-0-6	SS-48-Comp-0-6	SS-49-Comp-0-6	SS-57-Comp-0-6
Sample ID		SS-56	SS-57	SS-58	SS-59	SS-43-Comp	SS-44-Comp	SS-47-Comp	SS-48-Comp	SS-49-Comp	SS-57-Comp
Sample Date		05/24/2011	05/24/2011	05/24/2011	05/24/2011	09/20/2012	09/20/2012	09/20/2012	09/20/2012	09/20/2012	09/20/2012
Sample Depth (feet bgs)		0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Area		Phase 1 OPP	Phase 1 OPP	Residential	Residential	Phase 1 OPP	Phase 1 OPP	Phase 1 OPP	Phase 1 OPP	Phase 1 OPP	Phase 1 OPP
Dioxins and Furans (ng/kg)											
1,2,3,4,6,7,8-HpCDD	--	82	670	63	54	83	9.3	590	9.9	31	4.2 U
1,2,3,4,6,7,8-HpCDF	--	12	100	11	9.6	12	1.6 J	55 U	2.3 J	3.4 J	0.65 U
1,2,3,4,7,8,9-HpCDF	--	0.69	6.5	0.3 U	0.52	0.65 J	0.13 U	6.1	0.22 U	0.23 J	0.28 U
1,2,3,4,7,8-HxCDD	--	0.22 U	9.7	0.15 U	0.15 U	0.99 J	0.14 U	5.4	0.25 U	0.64 J	0.16 U
1,2,3,4,7,8-HxCDF	--	0.12 U	21 U	2.9 U	0.24 U	1.4 J	0.15 U	29	0.24 U	0.56 J	0.25 U
1,2,3,6,7,8-HxCDD	--	0.14 U	40	0.15 U	0.15 U	4 J	0.58 J	36	0.64 J	1.8 J	0.5 J
1,2,3,6,7,8-HxCDF	--	0.097 U	11	0.17 U	0.24 U	0.51 J	0.2 U	16 U	0.2 U	0.3 J	1.7 U
1,2,3,7,8,9-HxCDD	--	0.13 U	18	0.15 U	0.13 U	2 J	0.3 J	11	0.31 J	1 J	0.42 J
1,2,3,7,8,9-HxCDF	--	0.15 U	0.18 U	0.15 U	0.12 U	0.11 U	0.085 U	6.1	0.26 U	0.12 U	0.23 U
1,2,3,7,8-PeCDD	--	0.42	0.16 U	0.48	0.2 U	0.41 U	0.16 U	1.8 J	0.18 U	0.21 J	0.17 U
1,2,3,7,8-PeCDF	--	0.14 U	0.11 U	0.28 U	0.22 U	0.31 U	0.15 U	4.4 J	0.19 U	0.18 U	0.26 U
2,3,4,6,7,8-HxCDF	--	0.1 U	13	0.074 U	0.11 U	0.94 J	0.14 U	13	0.27 J	0.59 J	0.78 J
2,3,4,7,8-PeCDF	--	0.11 U	13	0.12 U	0.16 U	0.58 J	0.13 U	5.9	0.21 J	0.59 J	0.38 J
2,3,7,8-TCDD	--	0.26 U	0.19 U	0.12 U	0.12 U	0.13 J	0.1 U	0.19 U	0.37 J	0.12 U	0.18 U
2,3,7,8-TCDF	--	0.23 U	1.4	0.12 U	0.24 U	0.19 J	0.13 U	1.1 U	0.16 U	0.2 U	0.25 U
OCDD	--	460	3500	360	330	440	74	4600	78	170	31
OCDF	--	0.15 U	110	13	16	12	2.6 J	87	5.9 J	5.2 J	1.1 U
Total HpCDDs	--	140	1200	110	97	130	18	1100	18	51	4.6 J
Total HpCDFs	--	28	260	31	25	26	4.1 J	160	6.4	8.7	1.5 J
Total HxCDDs	--	18	190	20	16	20	2.8 J	140	3.6 J	9.1	3.3 J
Total HxCDFs	--	28	270	24	24	19	2.3 J	310	3 J	8.7	8.7
Total PeCDDs	--	1.4 J	23	1.3 J	1.5 J	0.7 J	0.16 U	5.8	0.18 U	0.73 J	0.17 U
Total PeCDFs	--	11	150	14	13	6.7	1.1 J	120	1.4 J	6	12
Total TCDDs	--	0.098 U	4.7	0.12 U	0.56 J	0.54 J	0.1 U	0.19 U	0.67 J	0.44 J	0.18 U
Total TCDFs	--	0.48 J	26	3.6	1.7	0.89 J	0.13 UJ	7.7	0.22 U	1.5	2.5
Dioxin TEQ	**13**	1.7	**23**	1.6	1.0	2.6	0.41	**22**	0.85	1.4	0.63

Table A-1
2010–2012 OPP Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

NOTES:

Bold indicates values that exceed MTCA Method B Soil CUL.

-- = no value.

bgs = below ground surface.

CUL = cleanup level.

J = Estimated value. Value used in calculations.

MTCA = Model Toxics Control Act.

ND = not detected.

ng/kg = nanograms per kilogram.

OPP = off-property portion.

PWT = Pacific Wood Treating Co.

TEQ = toxicity equivalent.

U = Not detected. One half the reported concentration used in TEQ and Total PAH calculations.

Table A-2
OPP Property Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (feet bgs)	Sample Type	Area	Dioxin TEQ[(a)(1)(2)] (ng/kg)	1,2,3,4,6,7,8-HpCDD (ng/kg)	1,2,3,4,6,7,8-HpCDF (ng/kg)	1,2,3,4,7,8,9-HpCDF (ng/kg)	1,2,3,4,7,8-HxCDD (ng/kg)	1,2,3,4,7,8-HxCDF (ng/kg)	1,2,3,6,7,8-HxCDD (ng/kg)	1,2,3,6,7,8-HxCDF (ng/kg)	1,2,3,7,8,9-HxCDD (ng/kg)
Property 001	COMP-A0I001-0.5	11/20/2015	0-0.5	Composite	Phase 1 OPP	**52.7**	992	241	16.3	25.5	29.4	110	15.1 U	63.7
Property 002	ISM-A0I002-0.5	11/20/2015	0-0.5	ISM	Phase 1 OPP	**15.1**	322	157	3.98	4.89	9.82	20.2	4.64	12.6
Property 002	SBS-A01002-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	5.41	159	19	1.27 J	2.2 J	2.63 J	7.23	1.38 J	5.91
Property 003	ISM-A0I003-0.5	02/09/2016	0-0.5	ISM	Phase 1 OPP	**15.4**	334	48.4	2.73	4.83	6.75	16.1	3.36	13
Property 004	COMP-AOI004-0.5	07/28/2015	0-0.5	Composite	Phase 1 OPP	13.0	320	42.1	2.63 J	4.65 J	5.98	20.3	2.81 J	12.4
Property 004	ISM-AOI004-0.5	07/12/2017	0-0.5	ISM	Phase 1 OPP	**18.6**	456	57.3	4	6.68	8.7	27.5	4.34 J	16.2
Property 005	ISM-AOI005-0.5	04/16/2015	0-0.5	ISM	Phase 1 OPP	**68.8**	1,810	249	15.3	18.1	44.4	94.6	22	55.5
Property 005	SBS-AOI005-1.0	04/16/2015	0.5-1.0	Discrete	Phase 1 OPP	**60.7**	1,900	288	17.6	17.1	48.3	93.5	21.4	51
Property 005	SBS-AOI005-1.0-DUP	04/16/2015	0.5-1.0	Discrete Dup	Phase 1 OPP	**69.8**	2,180	316	19.5	20.3	56	104	25.5	60.4
Property 006	ISM-AOI006-0.5	04/16/2015	0-0.5	ISM	Phase 1 OPP	**39.8**	930	123	6.94	10	18.1	46.9	8.23	29.1
Property 006	SBS-AOI006-1.0	04/16/2015	0.5-1.0	Discrete	Phase 1 OPP	**23.6**	572	74.6	4.32	5.03	12.8	26.6	5.29	14.1
Property 007	ISM-AOI007-0.5	04/16/2015	0-0.5	ISM	Phase 1 OPP	**53.1**	1,650	246	15.2	11.7	58.8	81.8	22.3	35.9
Property 008	ISM-AOI008-0.5	05/21/2015	0-0.5	ISM	Phase 1 OPP	11.4	288	46.8	2.76	3.19	4.07	12.7	2.15	8.79
Property 009	ISM-A0I009-0.5	11/20/2015	0-0.5	ISM	Phase 1 OPP	5.88	124	28.8	2.33	1.55	6.79	5.35	1.54	3.75
Property 010	ISM-AOI010-0.5	12/02/2015	0-0.5	ISM	Phase 1 OPP	4.12	142	18.1	1.03	0.974	1.9	4.38	0.694	2.69
Property 011	ISM-AOI011-0.5	04/16/2015	0-0.5	ISM	Phase 1 OPP	10.7	341	71.4	4.05	3.17	4.95	15.7	3.21	9.88
Property 012	ISM-AOI012-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	**18.4**	542	101	5.4	6.27	12.6	24.6	7.46	15.1
Property 013	ISM-AOI013-0.5-B	04/16/2015	0-0.5	ISM	Phase 1 OPP	**47.0**	1,450	199	11.4	13.8	31.7	72	14.9	38.9
Property 013	ISM-AOI013-0.5-F	04/16/2015	0-0.5	ISM	Phase 1 OPP	**106**	3,560	500	29.8	28.2	91.6	159	37.5	66.4
Property 014	ISM-AOI014-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	**40.0**	1,230	205 UJ	10.7	14.8	32.2	58	15.7	31.6
Property 015	ISM-AOI015-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	**183**	4,080	584	26.3	80	74	285	83.7	191
Property 016	ISM-AOI016-0.5	05/07/2015	0-0.5	ISM	Phase 1 OPP	**34.4**	972	142	8.19	13.1	24	46.7	11.8	30.5
Property 017	ISM-AOI017-0.5-A	04/23/2015	0-0.5	ISM Triplicate	Phase 1 OPP	**45.2**	1,180	214	13.6	18.6	22.9	63.8	14.4	40
Property 017	ISM-AOI017-0.5-B	04/23/2015	0-0.5	ISM Triplicate	Phase 1 OPP	**30.5**	836	139	7.28	11.3	16.6	41.3	9.41	23.3
Property 017	ISM-AOI017-0.5-C	04/23/2015	0-0.5	ISM Triplicate	Phase 1 OPP	**42.6**	1,100	187	10.1	15.2	22.5	54.9	12.5	36.5
Property 017	SBS-AOI017-1.0	04/23/2015	0.5-1.0	Discrete	Phase 1 OPP	10.3	175	25.8	3.43	3.69	5.52	10.4	3.66	6.93
Property 018	ISM-AOI018-0.5-B-A	04/16/2015	0-0.5	ISM Triplicate	Phase 1 OPP	**14.0**	379	96.1	3.62	4.4	8.65	20.2	4.57	14.1
Property 018	ISM-AOI018-0.5-B-B	04/16/2015	0-0.5	ISM Triplicate	Phase 1 OPP	**13.7**	444	73.2	3.39	4.62	7.66 U	21.4	3.98	14.8 U
Property 018	ISM-AOI018-0.5-B-C	04/16/2015	0-0.5	ISM Triplicate	Phase 1 OPP	12.1	390	66.4	2.96	4.32	6.73 U	20.1	3.47	13 U
Property 018	ISM-AOI018-0.5-F	04/16/2015	0-0.5	ISM	Phase 1 OPP	**18.3**	553	78.6	4.04	6.43	9.91	27.8	5.2	17.1
Property 018	SBS-AOI018-1.0	04/16/2015	0.5-1.0	Discrete	Phase 1 OPP	1.85	54.9	9.37	0.466 J	0.609 J	1.16 U	2.74	0.607 J	2.03 U
Property 019	ISM-AOI019-0.5	06/22/2015	0-0.5	ISM	Phase 1 OPP	**22.2**	529	81.3	4.46	5.92	17.2	30.1	6.87	16.9
Property 019	SBS-A01019-1.5	03/25/2016	1.0-1.5	Discrete	Phase 1 OPP	**22.7**	800	94.5	6.5	7.57	16.1	31.4	7.36	19.7
Property 020B	ISM-AOI020B-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	**25.6**	734	134	5.95	8.4	16.7	33.2	8.46	24.8
Property 020B	SBS-AOI020B-1.0	04/30/2015	0-0.5	Discrete	Phase 1 OPP	4.17	119	23.3	0.907	1.12	2.41	4.93	1.23	4.65
Property 021	ISM-AOI021-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	3.44	115	17.6	0.856 J	1.06	1.49	4	0.774 J	3.74
Property 022	ISM-AOI022-0.5	12/02/2015	0-0.5	ISM	Phase 1 OPP	8.65	252	34.4	2.12	2.33	4.94	12.4	2.2	6.39
Property 023	ISM-AOI023-0.5	06/15/2016	0-0.5	ISM	Phase 1 OPP	**18.6**	569	83.5	5.63	6.27	9.57	26.8	4.79	18.4
Property 024	ISM-AOI024-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	**15.1**	397	81.4	4.04	4.18	8.03	16.7	7.22	13.7
Property 025	ISM-AOI025-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	**17.4**	454	80.6	3.96	5.87	8.34	23.3	5.35	20.7

Table A-2
OPP Property Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (feet bgs)	Sample Type	Area	Dioxin TEQ[(a)(1)(2)] (ng/kg)	1,2,3,4,6,7,8-HpCDD (ng/kg)	1,2,3,4,6,7,8-HpCDF (ng/kg)	1,2,3,4,7,8,9-HpCDF (ng/kg)	1,2,3,4,7,8-HxCDD (ng/kg)	1,2,3,4,7,8-HxCDF (ng/kg)	1,2,3,6,7,8-HxCDD (ng/kg)	1,2,3,6,7,8-HxCDF (ng/kg)	1,2,3,7,8,9-HxCDD (ng/kg)
Property 026	ISM-AOI026-0.5	09/21/2015	0-0.5	ISM	Phase 1 OPP	9.22	273	37.1	2.09	2.66	4.46	14.2	2.24	7.29
Property 027	ISM-AOI027-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	10.6	309	49.1	2.48	3.4	5.4	13.8	2.6	11.8
Property 028A	ISM-AOI028A-0.5	12/02/2015	0-0.5	ISM	Phase 1 OPP	7.91	227	31.8	1.86	2.72	3.75	10.9	1.82	7.26
Property 028B	ISM-AOI028B-0.5	12/02/2015	0-0.5	ISM	Phase 1 OPP	**15.9**	424	89.4	4.22	5.24	8.1	24.6	4.48	13.6
Property 028B	SBS-A01028B-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	**14.0**	479	54.7	3.77 J	4.86 J	9.12	19.3	4.06 J	12.4
Property 029A	ISM-AOI029A-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	**17.1**	475	73	4.09	5.21	8.26	23	4	23.1
Property 029B	ISM-AOI029B-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	**27.7**	763	130	6.97	10.5	13.7	38.5	7.73	23.8
Property 030	ISM-AOI030-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	9.49	299	49	2.21	3.66	5.19	12.5	2.41	9.36
Property 030	ISM-AOI030-0.5	05/21/2015	0-0.5	ISM Dup	Phase 1 OPP	11.4	337	45.1	2.45	4.41	5.3	15.3	2.47	12.3
Property 031	ISM-AOI031-0.5	04/16/2015	0-0.5	ISM	Phase 1 OPP	11.9	397	65.9	3.4	4.15	6.15 U	18.8	3.24	11.8 U
Property 032	ISM-AOI032-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	**16.4**	390	80.2	3.88	5.72	9.61	19.6	5.7	13.1
Property 032	SBS-AOI032-1.0	04/23/2015	0.5-1.0	Discrete	Phase 1 OPP	5.24	169	36.9	1.61	2	1.77	6.3	1.23	5.4
Property 034	ISM-AOI034-0.5	12/02/2015	0-0.5	ISM	Phase 1 OPP	9.68	215	40.5	2.36	2.67	7.17	10.6	3.01	7.63
Property 035	ISM-AOI035-0.5	12/23/2015	0-0.5	ISM	Phase 1 OPP	**48.4**	430	342	19	8.75	81.1	25.9	37	26.1
Property 036	ISM-AOI036-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	**29.4**	563	122	6.37	8.11	13.8	28.2	7.03	19
Property 037	ISM-A0I037-0.5	11/20/2015	0-0.5	ISM	Phase 1 OPP	**17.7**	417	75.7	4.69	4.54	11.5	20.6	4.34	12.1
Property 037	SBS-A01037-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	0.730	19.3	2.4 J	0.311 J	0.364 J	0.528 J	0.963 J	0.272 J	0.906 J
Property 038	ISM-AOI038-0.5	05/29/2015	0-0.5	ISM	Phase 1 OPP	**31.3**	747	129	6.61	14.1	13.1	37.5	7.06	37.7
Property 039	ISM-AOI039-0.5	05/29/2015	0-0.5	ISM	Phase 1 OPP	**18.3**	428	94.7	6.6	4.77	17.4	19	4.85	12.1
Property 041A	ISM-AOI041A-0.5	05/04/2016	0-0.5	ISM	Phase 2 OPP	11.7	415	49.3	3.03 U	4.04	8.08	17.6	3.64	11
Property 041B	ISM-AOI041B-0.5	05/04/2016	0-0.5	ISM	Phase 2 OPP	**192**	5,510	1,010	57	40.1	248	284	102	111
Property 043	ISM-AOI043-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	**16.1**	360	52.5	3.36	3.67	7.06	17.6	5.09	10.4
Property 043	AOI-043-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 2 OPP	**53.4**	984 J	131 J	12.0 J	14.1 J	22.9 J	66.5 J	16.1 J	34.0 J
Property 043	AOI-043-1.5-2.0	12/06/2023	1.5-2.0	Discrete	Phase 2 OPP	**30.2**	576 J	81.6 J	5.64 J	9.79 J	14.9 J	36.4 J	9.62 J	18.7 J
Property 043	AOI043-2.0-2.5	03/13/2024	2.0-2.5	Discrete	Phase 3 OPP	4.41	67.5 J	8.08 J	0.733 UJK	1.51 UJ	2.77 J	4.66 J	1.99 J	3.33 J
Property 043	AOI043-2.5-3.0	03/13/2024	2.5-3.0	Discrete	Phase 3 OPP	0.562	6.29	0.935 J	0.274 U	0.33 U	0.347 J	0.629 J	0.200 UJK	0.421 J
Property 044	ISM-AOI044-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	6.92	184	29.2	1.6 J	1.79 J	3.87	7.51	1.87 J	4.23 U
Property 045	ISM-AOI045-0.5	08/07/2017	0-0.5	ISM	Phase 2 OPP	5.04	139	20.9	1.16 J	1.57 J	3.18	6.24	1.46 J	3.06
Property 046	ISM-AOI046-0.5	06/14/2017	0-0.5	ISM	Phase 2 OPP	**20.3**	557	82.6	5.33	5.15	19.8	25.3	7.15	12.2
Property 046	AOI-046-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 2 OPP	1.64	44.5	6.73	0.445 J	0.379 U	1.56 J	2.18 J	0.63 J	0.909 J
Property 048	ISM-AOI048-0.5	08/07/2017	0-0.5	ISM	Phase 2 OPP	9.25	277	56.9	3.35	2.09 J	5.66	9.32	2.38 J	4.29
Property 049	ISM-AOI049-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	3.40	99.5	17.7	1.01 J	0.809 UJ	1.58 J	3.47	0.904 J	1.97
Property 051	ISM-AOI051-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	5.08	102	25.3	1.41 J	1.19 J	3.99	3.5	1.48 UJ	2.45
Property 052	ISM-AOI052-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	6.85	170	30	1.36 J	1.39 J	1.99 J	6.59	1.56 J	3.26
Property 054	ISM-AOI054-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	2.48	63.7	11.3	0.605 U	0.75 UJ	1.16 UJ	2.15 J	0.684 UJ	1.4 J
Property 056	ISM-AOI056-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	**22.4**	740	106	5.68	6.35	14.9	26.5	6.84	12 U
Property 056	AOI-056-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 2 OPP	3.28	78.8	10.9	0.808 J	1.21 J	2.04 J	4.05	1.14 J	2.21 J
Property 057	ISM-AOI057-0.5	06/14/2017	0-0.5	ISM	Phase 2 OPP	**20.8**	537	80	4.6	4.72	13.4	23.6	6.8	10.9
Property 057	AOI057-1.0-1.5	12/15/2023	1.0-1.5	Discrete	Phase 2 OPP	1.34	41.9 J	5.01 J	0.56 UJ	0.654 UJ	0.768 UJK	1.95 J	0.402 J	0.733 UJK
Property 059	ISM-AOI059-0.5	08/07/2017	0-0.5	ISM	Phase 2 OPP	**46.3**	1,750	244	14.2	11	19.7	67.8	11.5	24.1

Table A-2
OPP Property Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (feet bgs)	Sample Type	Area	Dioxin TEQ[(a)(1)(2)] (ng/kg)	1,2,3,4,6,7,8-HpCDD (ng/kg)	1,2,3,4,6,7,8-HpCDF (ng/kg)	1,2,3,4,7,8,9-HpCDF (ng/kg)	1,2,3,4,7,8-HxCDD (ng/kg)	1,2,3,4,7,8-HxCDF (ng/kg)	1,2,3,6,7,8-HxCDD (ng/kg)	1,2,3,6,7,8-HxCDF (ng/kg)	1,2,3,7,8,9-HxCDD (ng/kg)
Property 061	ISM-AOI061-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	**22.2**	835	104	7.09	4.09	9.75	22.3	4.81	8.28
Property 061	AOI-061-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 2 OPP	6.99	220	31.4	2.05 J	1.51 J	3.33 J	13.7	2.21 J	3.09
Property 062	ISM-AOI062-0.5	06/14/2017	0-0.5	ISM	Phase 2 OPP	**13.6**	366	59.6	3.99	3.89	9.07	16.9	4.01	8.92
Property 063	ISM-AOI063-0.5-1	06/14/2017	0-0.5	ISM Triplicate	Phase 2 OPP	4.27	103 J	19 J	1.14 J	1.07 J	2.39 J	4.52 J	1.2 J	2.32 J
Property 063	ISM-AOI063-0.5-2	06/14/2017	0-0.5	ISM Triplicate	Phase 2 OPP	11.1	295 J	61.3 J	3.87 J	2.79 J	7.4 J	12.7 J	3.85 J	6.06 J
Property 063	ISM-AOI063-0.5-3	06/14/2017	0-0.5	ISM Triplicate	Phase 2 OPP	7.71	145 J	32.8 J	2.11 J	1.83 J	5.07 J	7.04 J	3.24 J	3.87 J
Property 064	ISM-AOI064-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	11.2	187	35.1	2.47	1.73 UJ	4.56	6.74 U	2.7	2.98 U
Property 066	ISM-AOI066-0.5-1	03/09/2017	0-0.5	ISM Triplicate	Phase 2 OPP	**17.0**	595	80.1	5.5	4.97	7.5	17.4	6.39	12
Property 066	ISM-AOI066-0.5-2	03/09/2017	0-0.5	ISM Triplicate	Phase 2 OPP	**44.7**	1,600	243	15.8	13.8	23.4	44.4	11.4	30.6
Property 066	ISM-AOI066-0.5-3	03/09/2017	0-0.5	ISM Triplicate	Phase 2 OPP	**20.7**	777	108	7	6.51	8.98	21.1	6.37	14.1
Property 066	AOI-066-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 2 OPP	2.99	73.1	11.2	1.08 J	1.21 J	1.12 J	3.36	1.21 J	2.51
Property 067	ISM-AOI067-0.5	03/09/2017	0-0.5	ISM	Phase 2 OPP	2.07	63.6	8.88	0.533 J	0.581 J	1.14 J	2.51	0.613 J	1.46 J
Property 068	ISM-AOI068-0.5	05/23/2017	0-0.5	ISM	Phase 2 OPP	9.29	277	38.2	3.05	2.53	5.28	11.3	2.54	6.39
Property 071	ISM-AOI071-0.5	06/14/2017	0-0.5	ISM	Phase 2 OPP	11.2	320	45.2	2.65	2.78	8.31	15.1	3.6	6.55
Property 072	ISM-AOI072-0.5	03/09/2017	0-0.5	ISM	Phase 2 OPP	9.32	349	49.9	4.19	2.52	3.31	12.6	2.2 J	6.4
Property 073	ISM-AOI073-0.5	05/23/2017	0-0.5	ISM	Phase 2 OPP	12.5	361	48.2	2.57	3.15	8.19	15.6	3.84	7.61
Property 075	ISM-AOI075-0.5	05/23/2017	0-0.5	ISM	Phase 2 OPP	11.6	322	44.2	2.38 J	2.95 U	6.07	14.5	3.06	7.85
Property 076	ISM-AOI076-0.5	03/09/2017	0-0.5	ISM	Phase 2 OPP	9.53	256	42.9	2.3	2.33	5.5	10.3	3.2	5.81
Property 077	ISM-AOI077-0.5	03/09/2017	0-0.5	ISM	Phase 2 OPP	11.6	316	59.5	2.93	2.71	7.83	12.3	3.97	6.26
Property 078	ISM-AOI078-0.5	08/18/2017	0-0.5	ISM	Phase 2 OPP	**21.1**	552	73.9	3.91	7.02	8.27	29.5	5.65	17.7
Property 079	ISM-A0I079-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	**40.8**	827	111	6.4	12.6	13.6	45.5	10.8	27.8
Property 079	AOI079-1.0-1.5	12/15/2023	1.0-1.5	Discrete	Phase 3 OPP	**23.0**	482 J	58.1 J	3.38 J	8.53 J	8.89 J	34.3 J	5.18 J	18.4 J
Property 079	AOI-079-1.5-2.0	12/15/2023	1.5-2.0	Discrete	Phase 3 OPP	5.16	113 J	13.9 J	0.739 J	2.32 J	2.02 J	8.67 J	1.32 J	5.31 J
Property 080	ISM-A0I080-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	**31.7**	538	117	8.26	7.85	37.9	27.5	11.6	15.4
Property 081	ISM-A0I081-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	**16.4**	399	49.8	2.7 J	5.29	5.58	23.9	3.43 J	13.4
Property 081	AOI081-1.0-1.5	12/15/2023	1.0-1.5	Discrete	Phase 3 OPP	2.00	43.7 J	5.61 J	0.513 UJ	0.812 UJK	0.717 J	3.25 J	0.419 UJK	2.13 J
Property 082	ISM-A0I082-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	**15.9**	329	53.5	3.6 J	3.82 J	8.09	15.5	5.28	8.43
Property 083	ISM-A0I083-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	**19.3**	449	70.5	4.35 J	4.81 J	13.9	22.3	6.32	10.1
Property 083	AOI-083-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 3 OPP	**14.1**	244	49.2	2.62 J	3.74	6.18 J	14.7	3.86	7.85
Property 083	AOI-083-1.5-2.0	12/06/2023	1.5-2.0	Discrete	Phase 3 OPP	4.09	83.7 J	15.5 J	0.567 J	1.27 J	2.18 J	4.87 J	1.15 J	2.45 J
Property 084	ISM-A0I084-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	5.41	157	24.8	1.24 J	1.59 J	1.86 J	7.46	1.27 J	3.84 J
Property 085	ISM-A0I085-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	5.42	140	18.8	1.17 J	1.8 J	1.94 J	7.26	1.16 J	4.17 J
Property 086	ISM-A0I086-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	11.1	301	37	2.16 J	3.25 J	3.84 J	16.3	2.33 J	7.85
Property 087	ISM-A0I87-0.5	1/29/2020	0-0.5	ISM	Phase 3 OPP	**14.1**	311	50.8	2.53 J	4.48 J	5.02	15.9	3.67 J	9.36
Property 087	AOI-087-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 3 OPP	10.4	203 J	28.0 J	7.40 UJ	6.83 UJ	4.01 UJK	17.1 J	3.83 UJ	11.0 J
Property 088	ISM-AOI88-0.5	2/17/2020	0-0.5	ISM	Phase 3 OPP	9.9	204 J	59 J	7.63 J	2.94 UJ	18.3 J	8.91 J	3.81 J	4.26 UJ
Property 089	ISM-A0I89-0.5	1/29/2020	0-0.5	ISM	Phase 3 OPP	**20.4**	428	86.3	6.63	6.9	14.2	23.9	4.97	13.6
Property 089	AOI-089-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 3 OPP	**19.2**	597	46.8	2.41 J	6.74	5.68 J	35.2	3.54	13.5
Property 089	AOI-089-1.5-2.0	12/06/2023	1.5-2.0	Discrete	Phase 3 OPP	1.44	44.5 J	4.21 J	0.476 UJ	0.465 UJ	0.572 J	2.67 J	0.221 UJK	1.24 J

Table A-2
OPP Property Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (feet bgs)	Sample Type	Area	1,2,3,7,8,9-HxCDF (ng/kg)	1,2,3,7,8-PeCDD (ng/kg)	1,2,3,7,8-PeCDF (ng/kg)	2,3,4,6,7,8-HxCDF (ng/kg)	2,3,4,7,8-PeCDF (ng/kg)	2,3,7,8-TCDD (ng/kg)	2,3,7,8-TCDF (ng/kg)	OCDD (ng/kg)	OCDF (ng/kg)
Property 001	COMP-A0I001-0.5	11/20/2015	0-0.5	Composite	Phase 1 OPP	0.615	11.8	4.53	9.61	5.48	1.09	1.43	2,130 J	349
Property 002	ISM-A0I002-0.5	11/20/2015	0-0.5	ISM	Phase 1 OPP	0.236 J	2.24	1.29	4.68	3.37	0.549	0.703	2,210	108
Property 002	SBS-A01002-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	0.146 UJ	0.815 J	0.621 UJ	1.06 J	0.774 UJ	0.296 J	0.841 U	926	25.8
Property 003	ISM-A0I003-0.5	02/09/2016	0-0.5	ISM	Phase 1 OPP	0.135 J	2	0.847	2.65	1.64	3.71	1.33	1,760	66.3
Property 004	COMP-AOI004-0.5	07/28/2015	0-0.5	Composite	Phase 1 OPP	0.176 J	2.49 J	1.28 J	2.35 J	1.46 J	0.856 J	0.74 J	1,860	68.6
Property 004	ISM-AOI004-0.5	07/12/2017	0-0.5	ISM	Phase 1 OPP	0.618 U	4.13 J	1.78 J	2.75 J	2.85 J	0.762 J	1.67	2,740	112
Property 005	ISM-AOI005-0.5	04/16/2015	0-0.5	ISM	Phase 1 OPP	0.854 J	8.29	5.7	14	9.1	8.64	2.28	9,800	265
Property 005	SBS-AOI005-1.0	04/16/2015	0.5-1.0	Discrete	Phase 1 OPP	0.9 J	6.98	5.77	13.6	8.31	0.845	1.89	10,800	354
Property 005	SBS-AOI005-1.0-DUP	04/16/2015	0.5-1.0	Discrete Dup	Phase 1 OPP	1.14	7.94	6.96	15.3	10.8	1.12	2.65	11,800	372
Property 006	ISM-AOI006-0.5	04/16/2015	0-0.5	ISM	Phase 1 OPP	0.487 J	4	2.36	5.11	3.14	10.8	0.9 U	4,960	148
Property 006	SBS-AOI006-1.0	04/16/2015	0.5-1.0	Discrete	Phase 1 OPP	0.329 J	1.98	1.51	3.36	2.21	6.74	0.68 J	2,890	79.1
Property 007	ISM-AOI007-0.5	04/16/2015	0-0.5	ISM	Phase 1 OPP	1.12	4.25	6.39	12	10.2	0.317	1.98	11,800	207
Property 008	ISM-AOI008-0.5	05/21/2015	0-0.5	ISM	Phase 1 OPP	0.276 J	1.92	0.829 J	1.46	0.999 J	1.87	0.95 J	1,720	90.2
Property 009	ISM-A0I009-0.5	11/20/2015	0-0.5	ISM	Phase 1 OPP	0.118 J	0.627 J	0.414 J	1.05	0.814	1.12	0.404 J	841	62.2
Property 010	ISM-AOI010-0.5	12/02/2015	0-0.5	ISM	Phase 1 OPP	0.0691 J	0.396 J	0.236 J	0.67	0.371 J	0.359	0.636 J	1,410	42.1
Property 011	ISM-AOI011-0.5	04/16/2015	0-0.5	ISM	Phase 1 OPP	0.19 U	1.45	0.83 J	2.24	1.04	0.142 J	0.5 J	1,810	141
Property 012	ISM-AOI012-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	0.27 J	2.45	1.88	4.93	2.57	0.471 UJ	2.03	3,500	122
Property 013	ISM-AOI013-0.5-B	04/16/2015	0-0.5	ISM	Phase 1 OPP	0.833 J	6.25	5	9.39	6.27	0.964	2.67	8,790	288
Property 013	ISM-AOI013-0.5-F	04/16/2015	0-0.5	ISM	Phase 1 OPP	1.8	8.81	11	23.4	15.7	3.79	3.08	20,400	557
Property 014	ISM-AOI014-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	0.608 J	5.4	4.33	9.89	5.93	0.589	0.76 U	7,750	219
Property 015	ISM-AOI015-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	1	45.5	14.6	45.9	14.1	3.37	4.92	19,400	375
Property 016	ISM-AOI016-0.5	05/07/2015	0-0.5	ISM	Phase 1 OPP	0.462 J	5.87	3.56	7.48	5.06	0.485 J	1.61	5,390	166
Property 017	ISM-AOI017-0.5-A	04/23/2015	0-0.5	ISM Triplicate	Phase 1 OPP	0.47 J	7.15	3.52	8.15	4.32	3.37	1.48	7,020	290
Property 017	ISM-AOI017-0.5-B	04/23/2015	0-0.5	ISM Triplicate	Phase 1 OPP	0.273 UJ	4.39	2.4	6.01	3.14	2.77	0.95 J	5,060	172
Property 017	ISM-AOI017-0.5-C	04/23/2015	0-0.5	ISM Triplicate	Phase 1 OPP	0.327 J	6.84	3.34	7.47	4.54	4.13	2.4 U	6,960	230
Property 017	SBS-AOI017-1.0	04/23/2015	0.5-1.0	Discrete	Phase 1 OPP	1.78	2.47	2.26	3.14	2.33	1.22	0.51 U	863	31
Property 018	ISM-AOI018-0.5-B-A	04/16/2015	0-0.5	ISM Triplicate	Phase 1 OPP	0.25 J	2.14	1.28	3.17	1.72	0.324	0.84 U	1,990	87.6
Property 018	ISM-AOI018-0.5-B-B	04/16/2015	0-0.5	ISM Triplicate	Phase 1 OPP	0.229 U	2.32	1.4	2.78	1.73	0.326	1 U	2,480	107
Property 018	ISM-AOI018-0.5-B-C	04/16/2015	0-0.5	ISM Triplicate	Phase 1 OPP	0.207 J	2.05	1.04	2.41	1.31	0.255	0.66 J	2,070	84.6
Property 018	ISM-AOI018-0.5-F	04/16/2015	0-0.5	ISM	Phase 1 OPP	0.323 J	2.8	1.45	3.48	2.02	0.461	0.84 J	2,940	97.1
Property 018	SBS-AOI018-1.0	04/16/2015	0.5-1.0	Discrete	Phase 1 OPP	0.107 U	0.319 J	0.293 J	0.44 J	0.3 J	0.109 U	0.668 U	290	9.09
Property 019	ISM-AOI019-0.5	06/22/2015	0-0.5	ISM	Phase 1 OPP	0.304 J	3.27	2.18	4.57	3.23	2.69	1.25	2,540	67.4
Property 019	SBS-A01019-1.5	03/25/2016	1.0-1.5	Discrete	Phase 1 OPP	0.337 U	1.69 J	2.29 J	5.81	3.9 J	0.262 J	1.4 U	5,350	155
Property 020B	ISM-AOI020B-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	0.268 J	3.26	2.1	5.52	2.98	1.54	1.34	3,800	187
Property 020B	SBS-AOI020B-1.0	04/30/2015	0-0.5	Discrete	Phase 1 OPP	0.056	0.496	0.377	0.92	0.554	0.272	0.32	745	33.8
Property 021	ISM-AOI021-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	0.103 U	0.478 J	0.233 J	0.556 J	0.313 J	0.116 U	0.13 U	946	34.8
Property 022	ISM-AOI022-0.5	12/02/2015	0-0.5	ISM	Phase 1 OPP	0.101 J	1.01	0.726	1.55	0.956	0.895	0.863	1,510	63.7
Property 023	ISM-AOI023-0.5	06/15/2016	0-0.5	ISM	Phase 1 OPP	0.191 J	2.51	1.44	2.94	2.27	0.662	0.97 J	3,520	133
Property 024	ISM-AOI024-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	0.208 J	2.09	1.53	7.04	3.21	0.501	1.93	2,600	138
Property 025	ISM-AOI025-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	0.234 J	2.86	1.56	3.69	2.05	0.695	1.44	2,740	122

Table A-2
OPP Property Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (feet bgs)	Sample Type	Area	1,2,3,7,8,9-HxCDF (ng/kg)	1,2,3,7,8-PeCDD (ng/kg)	1,2,3,7,8-PeCDF (ng/kg)	2,3,4,6,7,8-HxCDF (ng/kg)	2,3,4,7,8-PeCDF (ng/kg)	2,3,7,8-TCDD (ng/kg)	2,3,7,8-TCDF (ng/kg)	OCDD (ng/kg)	OCDF (ng/kg)
Property 026	ISM-AOI026-0.5	09/21/2015	0-0.5	ISM	Phase 1 OPP	0.135 U	1.61	1.05	1.95	1.15	0.29 U	0.85 J	1,900	71.6
Property 027	ISM-AOI027-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	0.137 J	1.58	0.763 J	2.2	1.03	0.488	0.64 J	2,050	73.9
Property 028A	ISM-AOI028A-0.5	12/02/2015	0-0.5	ISM	Phase 1 OPP	0.122 J	1.27	0.678 J	1.45	0.899 J	0.382	1.06	1,470	50.8
Property 028B	ISM-AOI028B-0.5	12/02/2015	0-0.5	ISM	Phase 1 OPP	0.247 J	2.32	1.44	3.76	2.13	0.859	1.25	2,190	168
Property 028B	SBS-A01028B-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	0.339 UJ	1.22 J	1.43 J	3.42 J	2.36 J	0.266 J	0.71 J	3,050	99.3
Property 029A	ISM-AOI029A-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	0.249 J	2.79	1.55	3.35	1.96	0.359	1.14	3,050	75.4
Property 029B	ISM-AOI029B-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	0.322 J	5.24	2.48	5.96	3.48	0.713	0.79 U	5,080	208
Property 030	ISM-AOI030-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	0.465 U	1.2	0.581 U	2.29	1	0.625 U	0.45 J	1,800	72.3
Property 030	ISM-AOI030-0.5	05/21/2015	0-0.5	ISM Dup	Phase 1 OPP	0.165 U	2.15	0.926 J	1.69	1.2	0.265 J	0.699 J	1,720	74.4
Property 031	ISM-AOI031-0.5	04/16/2015	0-0.5	ISM	Phase 1 OPP	0.168 U	1.95	0.983 J	2.23	1.39	0.248	1.27	2,170	176
Property 032	ISM-AOI032-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	0.24 J	3.4	1.65	5.05	2.45	0.599	1.39	2,470	154
Property 032	SBS-AOI032-1.0	04/23/2015	0.5-1.0	Discrete	Phase 1 OPP	0.158 U	0.851 J	0.243 J	1.16	0.349 J	0.18 U	0.371 U	893	105
Property 034	ISM-AOI034-0.5	12/02/2015	0-0.5	ISM	Phase 1 OPP	0.13 J	1.58	1.04	2.94	1.71	1.02	1.25	1,330	62.6
Property 035	ISM-AOI035-0.5	12/23/2015	0-0.5	ISM	Phase 1 OPP	1.75	5.8	14.7	55.7	26.4	1.2	10.8	1,050	476
Property 036	ISM-AOI036-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	0.263 J	4.45	2.15	6.01	3.4	7.33	2.24	3,560	250
Property 037	ISM-A0I037-0.5	11/20/2015	0-0.5	ISM	Phase 1 OPP	0.205 J	1.95	1.24	3.16	1.97	3.63	0.99	2,460	145
Property 037	SBS-A01037-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	0.165 J	0.245 J	0.216 J	0.236 J	0.225 J	0.202 U	0.258 J	126	7.62 J
Property 038	ISM-AOI038-0.5	05/29/2015	0-0.5	ISM	Phase 1 OPP	0.283 U	6.94	1.86	4.97	2.67	1.81	1.51	3,960	282
Property 039	ISM-AOI039-0.5	05/29/2015	0-0.5	ISM	Phase 1 OPP	0.231 U	2.71	1.33	3.11	2.43	2.45	1.34	2,580	140
Property 041A	ISM-AOI041A-0.5	05/04/2016	0-0.5	ISM	Phase 2 OPP	0.285 U	1.61 U	1.2 U	2.59	2.06 U	0.353	0.6 U	2,530	74.9
Property 041B	ISM-AOI041B-0.5	05/04/2016	0-0.5	ISM	Phase 2 OPP	3.31	10.9	31.1	56	55.6	0.563	9.1	38,200	752
Property 043	ISM-AOI043-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	2.19	3.15	1.35 UJ	7.46	8.23	0.469 U	0.971	2,110	51.3
Property 043	AOI-043-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 2 OPP	7.24 J	11.7 J	4.36 UJK	21.1 J	30.4 J	2.07 UJK	2.27 UJ	6,280 J	152 J
Property 043	AOI-043-1.5-2.0	12/06/2023	1.5-2.0	Discrete	Phase 2 OPP	1.45 J	6.33 J	3.05 J	5.93 J	17.3 J	0.998 J	1.72 J	3,640 J	75.3 J
Property 043	AOI043-2.0-2.5	03/13/2024	2.0-2.5	Discrete	Phase 3 OPP	0.947 J	0.954 UJK	0.678 J	2.17 J	3.88 J	0.385 UJ	0.545 UJ	335 J	8.03 J
Property 043	AOI043-2.5-3.0	03/13/2024	2.5-3.0	Discrete	Phase 3 OPP	0.392 U	0.246 U	0.133 U	0.247 U	0.562 UJK	0.131 U	0.121 U	29.3	1.05 J
Property 044	ISM-AOI044-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	1.18 J	1.36 UJ	0.927 UJ	2.44	1.94 J	0.998	0.713 U	1,240	47.5
Property 045	ISM-AOI045-0.5	08/07/2017	0-0.5	ISM	Phase 2 OPP	0.816 J	0.849 UJ	0.668 UJ	2.05 J	1.82 J	0.483 U	0.756	962	27
Property 046	ISM-AOI046-0.5	06/14/2017	0-0.5	ISM	Phase 2 OPP	4.59	2.09 J	2.3 J	7.81	7.16	0.326 UJ	0.806	3,530	78.9
Property 046	AOI-046-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 2 OPP	0.245 UJK	0.339 U	0.325 J	0.651 J	0.850 UJK	0.128 U	0.209 J	353	5.07 J
Property 048	ISM-AOI048-0.5	08/07/2017	0-0.5	ISM	Phase 2 OPP	1.37 UJ	1.36 J	0.945 J	3.53	2.57	0.453 UJ	0.816	1,910	133
Property 049	ISM-AOI049-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	0.446 J	0.505 J	0.46 UJ	1.08 J	0.894 J	0.193 J	0.383 U	784	26.8
Property 051	ISM-AOI051-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	0.984 J	0.587 U	0.587 UJ	1.64 J	1.79 J	1.23	0.539 U	796	41.7
Property 052	ISM-AOI052-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	0.608 J	0.905 J	0.585 UJ	2.19 J	1.78 J	1.21	0.599	1,160	55.8
Property 054	ISM-AOI054-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	0.539 U	0.625 J	0.288 U	0.739 UJ	0.718 J	0.27 U	0.444 J	503	25.7
Property 056	ISM-AOI056-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	3.44	3.16	1.92 J	8.57	5.51	0.472 U	0.934	4,640 J	108
Property 056	AOI-056-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 2 OPP	0.253 J	0.649 J	0.522 J	0.427 J	1.04 J	0.207 U	0.216 U	492	9.48 J
Property 057	ISM-AOI057-0.5	06/14/2017	0-0.5	ISM	Phase 2 OPP	3.57	2.25 J	2.32 J	9.01	9.57	0.946	1.43	3,650	101
Property 057	AOI057-1.0-1.5	12/15/2023	1.0-1.5	Discrete	Phase 2 OPP	0.702 UJ	0.467 UJK	0.270 UJK	0.330 UJK	0.184 UJK	0.138 UJ	0.174 UJ	411 J	9.67 J
Property 059	ISM-AOI059-0.5	08/07/2017	0-0.5	ISM	Phase 2 OPP	5.74	5.27	2.6	13.8	5.52	0.532 U	0.823	11,400 J	400

Table A-2
OPP Property Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (feet bgs)	Sample Type	Area	1,2,3,7,8,9-HxCDF (ng/kg)	1,2,3,7,8-PeCDD (ng/kg)	1,2,3,7,8-PeCDF (ng/kg)	2,3,4,6,7,8-HxCDF (ng/kg)	2,3,4,7,8-PeCDF (ng/kg)	2,3,7,8-TCDD (ng/kg)	2,3,7,8-TCDF (ng/kg)	OCDD (ng/kg)	OCDF (ng/kg)
Property 061	ISM-AOI061-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	3.53	2.04 J	1.8 J	5.97	3.75	0.472 U	1.1 U	10,700 J	378
Property 061	AOI-061-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 2 OPP	0.822 UJK	0.84 J	0.814 J	2.4 J	1.6 J	0.192 U	0.153 U	1,130	27 J
Property 062	ISM-AOI062-0.5	06/14/2017	0-0.5	ISM	Phase 2 OPP	2.11 J	2.03 J	1.49 J	4.92	4.31	0.267 UJ	0.954 U	2,560	135
Property 063	ISM-AOI063-0.5-1	06/14/2017	0-0.5	ISM Triplicate	Phase 2 OPP	0.704 J	0.554 J	0.449 UJ	1.74 J	2.03 J	0.362 UJ	0.659 J	712 J	35.8 J
Property 063	ISM-AOI063-0.5-2	06/14/2017	0-0.5	ISM Triplicate	Phase 2 OPP	1.88 J	1.24 J	1.04 J	5.01 J	4.51 J	0.307 UJ	0.726 J	2,210 J	137 J
Property 063	ISM-AOI063-0.5-3	06/14/2017	0-0.5	ISM Triplicate	Phase 2 OPP	1.54 J	1.07 J	1.49 J	5.4 J	4.78 J	0.282 UJ	1.26 J	944 J	48.8 J
Property 064	ISM-AOI064-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	1.5 J	1.01 J	0.813 UJ	4.92	6.74	3.42	0.595	1,450	72.7
Property 066	ISM-AOI066-0.5-1	03/09/2017	0-0.5	ISM Triplicate	Phase 2 OPP	1.83 J	2.16 J	2.15 J	6.05	2.75	0.28 J	0.834	3,880 J	118
Property 066	ISM-AOI066-0.5-2	03/09/2017	0-0.5	ISM Triplicate	Phase 2 OPP	6.01	5.59	4.24	11.3	5.84	0.536	1.31	12,500 J	339
Property 066	ISM-AOI066-0.5-3	03/09/2017	0-0.5	ISM Triplicate	Phase 2 OPP	2.32 J	2.67	1.8 J	6.33	2.54	0.263 UJ	0.531 U	5,200 J	167
Property 066	AOI-066-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 2 OPP	0.428 UJ	0.762 J	0.429 J	0.712 J	0.483 UJK	0.212 U	0.173 U	469	15.7 J
Property 067	ISM-AOI067-0.5	03/09/2017	0-0.5	ISM	Phase 2 OPP	0.379 J	0.325 UJ	0.376 UJ	0.832 J	0.693 J	0.111 UJ	0.216 UJ	473	12.3
Property 068	ISM-AOI068-0.5	05/23/2017	0-0.5	ISM	Phase 2 OPP	1.39 J	1.34 J	1.1 J	3.14	2.16 J	0.255 J	0.612 U	1,750	68.1
Property 071	ISM-AOI071-0.5	06/14/2017	0-0.5	ISM	Phase 2 OPP	2.06 J	1.29 J	1.43 J	4.61	3.61	0.245 UJ	0.854	2,060	47.1
Property 072	ISM-AOI072-0.5	03/09/2017	0-0.5	ISM	Phase 2 OPP	0.948 J	1.37 UJ	0.676 UJ	2.75	1.38 J	0.302 J	0.383 UJ	2,470	160
Property 073	ISM-AOI073-0.5	05/23/2017	0-0.5	ISM	Phase 2 OPP	2.16 J	1.4 J	1.36 J	4.58	3.56	0.625	0.917	2,240	49.8
Property 075	ISM-AOI075-0.5	05/23/2017	0-0.5	ISM	Phase 2 OPP	1.82 J	1.7 J	1.52 UJ	4.2	3.45	1.2 U	1.07	1,800	47.4
Property 076	ISM-AOI076-0.5	03/09/2017	0-0.5	ISM	Phase 2 OPP	1.26 J	1.6 J	1.62 J	3.67	3	0.311 UJ	1.35	1,520	60.6
Property 077	ISM-AOI077-0.5	03/09/2017	0-0.5	ISM	Phase 2 OPP	1.97 J	1.47 J	1.46 J	5.5	4.42	0.304 J	1	1,740	49.4
Property 078	ISM-AOI078-0.5	08/18/2017	0-0.5	ISM	Phase 2 OPP	2.6	4.08	2.46 J	6.73	4.51	0.768 U	2.94 U	3,140	88.2
Property 079	ISM-A0I079-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	5.08	7.7	3.35 J	19	24.8	0.918 J	2.9	4,700 J	181
Property 079	AOI079-1.0-1.5	12/15/2023	1.0-1.5	Discrete	Phase 3 OPP	1.98 J	5.41 J	2.17 J	5.59 J	6.94 J	0.698 J	1.33 J	2,750 J	56.5 J
Property 079	AOI-079-1.5-2.0	12/15/2023	1.5-2.0	Discrete	Phase 3 OPP	0.339 UJK	1.35 J	0.619 J	0.79 J	0.696 UJK	0.200 UJK	0.532 J	640 J	14.6 J
Property 080	ISM-A0I080-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	8.18	4.78 J	3.99 J	13	16.5	1.57	3.38	3,690	104
Property 081	ISM-A0I081-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	1.81 J	4.14 J	1.57 J	4.85	2.84 J	0.316 J	1.11 U	2,150	63.2
Property 081	AOI081-1.0-1.5	12/15/2023	1.0-1.5	Discrete	Phase 3 OPP	0.561 UJ	0.496 J	0.226 UJK	0.771 J	0.428 UJK	0.141 UJ	0.243 UJ	262 J	7.40 J
Property 082	ISM-A0I082-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	2.71 J	2.81 J	2.91 J	7.22	7.8	0.672 J	2.79	2,230	90.1
Property 083	ISM-A0I083-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	3.57 J	3.08 J	2.92 J	7.88	8.22	0.398 J	2.5	2,860	70.5
Property 083	AOI-083-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 3 OPP	0.507 J	3.54	2.63	2.43 J	6.08	0.911	2.84	1,760	69.6 J
Property 083	AOI-083-1.5-2.0	12/06/2023	1.5-2.0	Discrete	Phase 3 OPP	0.412 J	1.14 J	0.715 J	1.13 J	1.27 UJK	0.312 UJK	1.28 UJK	570 J	24.9 J
Property 084	ISM-A0I084-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	0.667 J	0.892 J	0.675 J	1.78 J	1.15 J	0.144 UJ	0.64 UJ	951	34.7
Property 085	ISM-A0I085-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	0.653 J	1.15 J	0.738 J	1.63 J	1.2 J	0.125 UJ	0.659 UJ	856	34.6
Property 086	ISM-A0I086-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	1.34 J	2.32 J	1.2 J	3.15 J	2.4 J	0.255 J	1.14 U	1,780	58.4
Property 087	ISM-A0I87-0.5	1/29/2020	0-0.5	ISM	Phase 3 OPP	1.53 UJ	2.71 J	1.22 UJ	5.59	7.29	0.4 J	0.885 UJ	2,000	60.7
Property 087	AOI-087-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 3 OPP	6.14 UJ	3.69 UJ	1.88 UJ	6.32 J	3.47 UJK	1.46 UJ	1.45 UJ	1,200 J	28.3 J
Property 088	ISM-AOI88-0.5	2/17/2020	0-0.5	ISM	Phase 3 OPP	2.89 J	1.03 J	0.592 UJ	5.11 J	3.3 J	0.321 UJ	0.467 UJ	2,320 J	69.7 J
Property 089	ISM-A0I89-0.5	1/29/2020	0-0.5	ISM	Phase 3 OPP	3.39 J	3.77 J	1.94 J	6.73	5.67	1.18	1.58	3,110	133
Property 089	AOI-089-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 3 OPP	1.44 J	3.19	1.95 J	1.61 J	3.98	0.303 UJK	0.919	4,280	30.8 J
Property 089	AOI-089-1.5-2.0	12/06/2023	1.5-2.0	Discrete	Phase 3 OPP	0.399 UJ	0.371 UJK	0.230 UJ	0.225 UJK	0.425 UJK	0.155 UJ	0.136 UJ	323 J	3.51 J

Table A-2
OPP Property Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (feet bgs)	Sample Type	Area	Total HpCDDs (ng/kg)	Total HpCDFs (ng/kg)	Total HxCDDs (ng/kg)	Total HxCDFs (ng/kg)	Total PeCDDs (ng/kg)	Total PeCDFs (ng/kg)	Total TCDDs (ng/kg)	Total TCDFs (ng/kg)	Total Organic Carbon (mg/kg)
Property 001	COMP-A0I001-0.5	11/20/2015	0-0.5	Composite	Phase 1 OPP	1,830	644	451	402	44.6	122	11.6	28.8	18,000
Property 002	ISM-A0I002-0.5	11/20/2015	0-0.5	ISM	Phase 1 OPP	541	295	100	141	10.1	65.5	6.82	23.2	18,000
Property 002	SBS-A01002-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	278	49.1	39.3	36.2	3.49 J	17.2	1.73	7.38	7,900
Property 003	ISM-A0I003-0.5	02/09/2016	0-0.5	ISM	Phase 1 OPP	569	121	90	88.6	10.3	23.5	5.63	6.44	17,000
Property 004	COMP-AOI004-0.5	07/28/2015	0-0.5	Composite	Phase 1 OPP	537	109	98.4	76.8	13.1	13	3.27	10.3	21,000
Property 004	ISM-AOI004-0.5	07/12/2017	0-0.5	ISM	Phase 1 OPP	767	156	134	124	24.1 U	60.5	7.69	50 U	28,000
Property 005	ISM-AOI005-0.5	04/16/2015	0-0.5	ISM	Phase 1 OPP	3,020	649	429	537	42.5	150	23.5	56.2	17,000
Property 005	SBS-AOI005-1.0	04/16/2015	0.5-1.0	Discrete	Phase 1 OPP	3,150	792	408	579	30.8	127	7.57	32.4	13,000
Property 005	SBS-AOI005-1.0-DUP	04/16/2015	0.5-1.0	Discrete Dup	Phase 1 OPP	3,770	869	470	651	36.2	147	9.59	44	12,000
Property 006	ISM-AOI006-0.5	04/16/2015	0-0.5	ISM	Phase 1 OPP	1,520	326	214	218	16.8	35.6	13.5	9.18	17,000
Property 006	SBS-AOI006-1.0	04/16/2015	0.5-1.0	Discrete	Phase 1 OPP	936	198	122	144	10.2	23	8.29	5.4	10,000
Property 007	ISM-AOI007-0.5	04/16/2015	0-0.5	ISM	Phase 1 OPP	2,770	657	311	601	16.8	142	2.33	15.5	21,000
Property 008	ISM-AOI008-0.5	05/21/2015	0-0.5	ISM	Phase 1 OPP	468	132	67.7	50.7	9.15	9.77	4.37	6.97	19,000
Property 009	ISM-A0I009-0.5	11/20/2015	0-0.5	ISM	Phase 1 OPP	216	81.1	31.1	46	4.06	12.9	2.82	5.27	14,000
Property 010	ISM-AOI010-0.5	12/02/2015	0-0.5	ISM	Phase 1 OPP	284	53	29.2	23.5	2.03	7.72	1.48	3.14	16,000
Property 011	ISM-AOI011-0.5	04/16/2015	0-0.5	ISM	Phase 1 OPP	549	207	76.8	90.1	7.37	14.7	1.37	5.74	13,000
Property 012	ISM-AOI012-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	906	231	135	160	14.5	57.6	3.61	16.1	17,000
Property 013	ISM-AOI013-0.5-B	04/16/2015	0-0.5	ISM	Phase 1 OPP	2,480	541	349	374	38.9	70.7	16.5	32.5	17,000
Property 013	ISM-AOI013-0.5-F	04/16/2015	0-0.5	ISM	Phase 1 OPP	6,120	1,350	641	1,070	38.4	208	8.76	24.6	16,000
Property 014	ISM-AOI014-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	2,180	284	276	360	29.8	102	6.26	17.9	16,000
Property 015	ISM-AOI015-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	7,470	1,080	2,090	1,060	301	365	28	43.4	18,000
Property 016	ISM-AOI016-0.5	05/07/2015	0-0.5	ISM	Phase 1 OPP	1,700	362	262	311	35.6	118	7.4	23.8	21,000
Property 017	ISM-AOI017-0.5-A	04/23/2015	0-0.5	ISM Triplicate	Phase 1 OPP	1,920	532	329	306	34.2	77	9.97	18	17,000
Property 017	ISM-AOI017-0.5-B	04/23/2015	0-0.5	ISM Triplicate	Phase 1 OPP	1,410	329	209	214	23.3	57.2	6.09	12.4	16,000
Property 017	ISM-AOI017-0.5-C	04/23/2015	0-0.5	ISM Triplicate	Phase 1 OPP	1,850	452	283	291	38	80	10.3	17.2	17,000
Property 017	SBS-AOI017-1.0	04/23/2015	0.5-1.0	Discrete	Phase 1 OPP	292	68.6	45.9	53.9	3.72	13.3	3.34	3.53	11,000
Property 018	ISM-AOI018-0.5-B-A	04/16/2015	0-0.5	ISM Triplicate	Phase 1 OPP	636	213	112	110	14.6	24.5	4.54	11.7	16,000
Property 018	ISM-AOI018-0.5-B-B	04/16/2015	0-0.5	ISM Triplicate	Phase 1 OPP	753	186	119	96.4	13.8	19.4	3.97	12.6	17,000
Property 018	ISM-AOI018-0.5-B-C	04/16/2015	0-0.5	ISM Triplicate	Phase 1 OPP	648	160	109	89.5	12.5	16.6	2.76	6.94	17,000
Property 018	ISM-AOI018-0.5-F	04/16/2015	0-0.5	ISM	Phase 1 OPP	933	196	143	140	15.2	42.7	4.43	13.1	19,000
Property 018	SBS-AOI018-1.0	04/16/2015	0.5-1.0	Discrete	Phase 1 OPP	92.6	21.7	14	13.3	1.06	2.8	0.641	3.33	7,500
Property 019	ISM-AOI019-0.5	06/22/2015	0-0.5	ISM	Phase 1 OPP	866	206	141	188	16.1	62.1	7.32	20.4	19,000
Property 019	SBS-A01019-1.5	03/25/2016	1.0-1.5	Discrete	Phase 1 OPP	1,370	261	163	231	8.49	81.1	2.47	20.6	11,000
Property 020B	ISM-AOI020B-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	1,240	306	181	175	16	27	4.14	7.91	22,000
Property 020B	SBS-AOI020B-1.0	04/30/2015	0-0.5	Discrete	Phase 1 OPP	173	47.8	21.6	15.6	1.47	3.22	0.569	1.67	15,000
Property 021	ISM-AOI021-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	195	48	21.8	14.3	1.6	1.69	0.159 J	0.24	11,000
Property 022	ISM-AOI022-0.5	12/02/2015	0-0.5	ISM	Phase 1 OPP	437	91.8	56.6	58.5	5.09	19.3	2.55	6.99	14,000
Property 023	ISM-AOI023-0.5	06/15/2016	0-0.5	ISM	Phase 1 OPP	993	241	152	121	13.2	16.1	3.83	6.57	18,000
Property 024	ISM-AOI024-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	680	212	90.6	161	12.7	91.2	2.15	41.4	22,000
Property 025	ISM-AOI025-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	764	193	132	101	16.2	22.4	2.98	9.35	15,000

Table A-2
OPP Property Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (feet bgs)	Sample Type	Area	Total HpCDDs (ng/kg)	Total HpCDFs (ng/kg)	Total HxCDDs (ng/kg)	Total HxCDFs (ng/kg)	Total PeCDDs (ng/kg)	Total PeCDFs (ng/kg)	Total TCDDs (ng/kg)	Total TCDFs (ng/kg)	Total Organic Carbon (mg/kg)
Property 026	ISM-AOI026-0.5	09/21/2015	0-0.5	ISM	Phase 1 OPP	453	98.2	71.2	60.2	8.84	9.72	1.03	4.87	16,000
Property 027	ISM-AOI027-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	523	116	76.8	54.6	8.27	8.3	1.16	4.1	20,000
Property 028A	ISM-AOI028A-0.5	12/02/2015	0-0.5	ISM	Phase 1 OPP	404	82.1	58.2	46.7	7.14	14.6	2.77	7.4	15,000
Property 028B	ISM-AOI028B-0.5	12/02/2015	0-0.5	ISM	Phase 1 OPP	744	235	119	132	15	81	7.19	30.7	19,000
Property 028B	SBS-A01028B-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	862	150	99.9	129	6.36	45.1	2.22	12.6	17,000
Property 029A	ISM-AOI029A-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	678	152	97.5	49	7.82	9.05	1.66	3.82	22,000
Property 029B	ISM-AOI029B-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	1,390	329	214	179	34.4	57.7	10.5	18.6	13,000
Property 030	ISM-AOI030-0.5	04/30/2015	0-0.5	ISM	Phase 1 OPP	541	121	79.5	61.2	5.41	8.14	0.625 U	1.69	17,000
Property 030	ISM-AOI030-0.5	05/21/2015	0-0.5	ISM Dup	Phase 1 OPP	571	120	92.6	61.3	11.7	11.9	2.37	5.63	19,000
Property 031	ISM-AOI031-0.5	04/16/2015	0-0.5	ISM	Phase 1 OPP	661	196	96.1	83.5	10.4	19.3	4.03	11.9	16,000
Property 032	ISM-AOI032-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	659	201	114	125	28.8	69.3	12.3	23.5	15,000
Property 032	SBS-AOI032-1.0	04/23/2015	0.5-1.0	Discrete	Phase 1 OPP	285	110	39.1	41.6	3.36	12.2	0.769	4.53	12,000
Property 034	ISM-AOI034-0.5	12/02/2015	0-0.5	ISM	Phase 1 OPP	393	95.4	64	60.4	8.02	28.8	7.58	23.3	19,000
Property 035	ISM-AOI035-0.5	12/23/2015	0-0.5	ISM	Phase 1 OPP	692	639	141	272	41.5	160	4.76	64.2	17,000
Property 036	ISM-AOI036-0.5	04/23/2015	0-0.5	ISM	Phase 1 OPP	951	323	189	165	35.5	67.5	22.1	31.3	13,000
Property 037	ISM-A0I037-0.5	11/20/2015	0-0.5	ISM	Phase 1 OPP	717	211	103	121	13.5	45.1	10.1	16.2	23,000
Property 037	SBS-A01037-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	31.9	5.47	5.97	5.18	0.35 J	2.21 J	0.465 J	0.749 J	10,000
Property 038	ISM-AOI038-0.5	05/29/2015	0-0.5	ISM	Phase 1 OPP	1,280	359	260	156	34.4	27.1	8.14	13.5	20,000
Property 039	ISM-AOI039-0.5	05/29/2015	0-0.5	ISM	Phase 1 OPP	716	284	103	143	16.1	24.7	7.12	14.5	26,000
Property 041A	ISM-AOI041A-0.5	05/04/2016	0-0.5	ISM	Phase 2 OPP	734	145	98.7	107	9.1	32.2	2.05	8.72	13,000
Property 041B	ISM-AOI041B-0.5	05/04/2016	0-0.5	ISM	Phase 2 OPP	9,810	2,880	1,220	3,020	43.9	695	4.72	52.4	16,000
Property 043	ISM-AOI043-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	614	137	90.3	138 UJ	17.1	154 UJ	4.61 U	38.8 UJ	18,000
Property 043	AOI-043-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 2 OPP	1,700 J	357 J	320 J	439 J	56.1 JK	380 JK	13.1 UJK	103 UJK	--
Property 043	AOI-043-1.5-2.0	12/06/2023	1.5-2.0	Discrete	Phase 2 OPP	1,020 J	234 J	211 J	325 J	47.4 JK	310 JK	12.9 JK	95.7 JK	--
Property 043	AOI043-2.0-2.5	03/13/2024	2.0-2.5	Discrete	Phase 3 OPP	117 J	24.2 JK	32.0 J	50.3 JK	11.4 UJK	50.9 JK	1.41 J	17.2 UJK	--
Property 043	AOI043-2.5-3.0	03/13/2024	2.5-3.0	Discrete	Phase 3 OPP	12.0	3.17	3.89 JK	6.76 JK	1.61 UJK	6.92 UK	0.156 UJK	1.78 UK	--
Property 044	ISM-AOI044-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	334	85.4	48 U	52.1	10.1 U	30.5 U	3.69 U	10.5 U	23,000
Property 045	ISM-AOI045-0.5	08/07/2017	0-0.5	ISM	Phase 2 OPP	243	54.8 U	37.6 U	40.3 U	8.72 U	18.1 U	3.49	5.36 U	18,000
Property 046	ISM-AOI046-0.5	06/14/2017	0-0.5	ISM	Phase 2 OPP	943	225 U	119	183 U	11.8 U	55.3 U	2.91 U	9.5 U	18,000
Property 046	AOI-046-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 2 OPP	75.8	16.9	10.6 K	18.8 K	0.431 UJK	7.19 K	0.128 U	1.87 K	--
Property 048	ISM-AOI048-0.5	08/07/2017	0-0.5	ISM	Phase 2 OPP	480	194	55.1 U	84.4 U	8.84	29 U	3.48 U	7.79 U	19,000
Property 049	ISM-AOI049-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	191	48.8	23.2 U	23.2 U	4.38	13.7 U	1.76 U	4.21 U	18,000
Property 051	ISM-AOI051-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	180	72	26.2	39.5 U	4.23 J	22.9 U	2.69 U	5.16 U	24,000
Property 052	ISM-AOI052-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	299	86.7 U	38.6	45.6	7.66 U	24.7 U	3.55 U	7.95 U	21,000
Property 054	ISM-AOI054-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	114	31.4	17 U	13.8 U	4.51 U	9.02	2.22 U	4.25 U	18,000
Property 056	ISM-AOI056-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	1,280	294 U	137 U	197	16.7 U	83.1	3.42 U	12 U	22,000
Property 056	AOI-056-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 2 OPP	134	27.5	23.4 K	26.9 K	2.59	9.05 K	0.313 UJK	1.53	--
Property 057	ISM-AOI057-0.5	06/14/2017	0-0.5	ISM	Phase 2 OPP	919	208	115	178 J	15.4	107 J	6.66 U	36 J	25,000
Property 057	AOI057-1.0-1.5	12/15/2023	1.0-1.5	Discrete	Phase 2 OPP	71.9 J	14.8 J	10.2 JK	12.0 JK	2.23 UJK	5.48 UJK	0.522 UJK	1.20 UJK	--
Property 059	ISM-AOI059-0.5	08/07/2017	0-0.5	ISM	Phase 2 OPP	2,750 J	704 U	278	387 U	23.8 U	78.9 U	4.89 U	7.53 U	16,000

Table A-2
OPP Property Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (feet bgs)	Sample Type	Area	Total HpCDDs (ng/kg)	Total HpCDFs (ng/kg)	Total HxCDDs (ng/kg)	Total HxCDFs (ng/kg)	Total PeCDDs (ng/kg)	Total PeCDFs (ng/kg)	Total TCDDs (ng/kg)	Total TCDFs (ng/kg)	Total Organic Carbon (mg/kg)
Property 061	ISM-AOI061-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	1,410	410	95.4	180	11.3 U	54.1 U	2.12 U	5.25 U	18,000
Property 061	AOI-061-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 2 OPP	344	89.1	49.9	74.2 K	4.72 JK	16.0 K	0.257 UJK	2.73	--
Property 062	ISM-AOI062-0.5	06/14/2017	0-0.5	ISM	Phase 2 OPP	612	174	84.6	106 U	11.4 U	43.3 U	3.17 U	11.2 U	28,000
Property 063	ISM-AOI063-0.5-1	06/14/2017	0-0.5	ISM Triplicate	Phase 2 OPP	179 J	55.2 J	27.2 UJ	35.7 UJ	4.9 UJ	20.7 UJ	1.78 J	9.87 UJ	19,000
Property 063	ISM-AOI063-0.5-2	06/14/2017	0-0.5	ISM Triplicate	Phase 2 OPP	487 J	209 UJ	61.6 J	118 UJ	7.99 UJ	52 UJ	2.89 UJ	13.2 UJ	20,000
Property 063	ISM-AOI063-0.5-3	06/14/2017	0-0.5	ISM Triplicate	Phase 2 OPP	242 J	85 J	43.9 J	69.7 J	11.8 UJ	51.6 UJ	7.16 UJ	31.8 UJ	18,000
Property 064	ISM-AOI064-0.5	03/08/2017	0-0.5	ISM	Phase 2 OPP	325	116	37.4 U	89.1 UJ	7.6	109 UJ	5.82 U	22.8 UJ	19,000
Property 066	ISM-AOI066-0.5-1	03/09/2017	0-0.5	ISM Triplicate	Phase 2 OPP	947	203	106	112 U	16.8 U	44.1	4.73 U	13.7 U	20,000
Property 066	ISM-AOI066-0.5-2	03/09/2017	0-0.5	ISM Triplicate	Phase 2 OPP	2,540 J	674	231	307 U	25.2	78.4 U	8.2 U	20.6 U	20,000
Property 066	ISM-AOI066-0.5-3	03/09/2017	0-0.5	ISM Triplicate	Phase 2 OPP	1,220	279 U	124	134 U	14 U	40.5	1.87 U	5.99 U	24,000
Property 066	AOI-066-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 2 OPP	117	27.8	22.9	19.5 K	3.13	7.05 K	0.212 U	1.02 UK	--
Property 067	ISM-AOI067-0.5	03/09/2017	0-0.5	ISM	Phase 2 OPP	111	24.5	17 U	16.9 U	2.98 UJ	8.47 U	1.13 U	2.31 U	14,000
Property 068	ISM-AOI068-0.5	05/23/2017	0-0.5	ISM	Phase 2 OPP	467	107 U	58.1	63.6 U	7.9 U	24.8	2.19 U	5.96 U	19,000
Property 071	ISM-AOI071-0.5	06/14/2017	0-0.5	ISM	Phase 2 OPP	532	116	66.4 U	100	7.06 U	37.3 U	2.28 U	8.8 U	21,000
Property 072	ISM-AOI072-0.5	03/09/2017	0-0.5	ISM	Phase 2 OPP	627	165	74.3	62.5	10.1 U	23.3 U	2.37 U	8.11 U	16,000
Property 073	ISM-AOI073-0.5	05/23/2017	0-0.5	ISM	Phase 2 OPP	616	122	77.7 U	99.9	13.1 U	36.2	8.03 U	8.53 U	17,000
Property 075	ISM-AOI075-0.5	05/23/2017	0-0.5	ISM	Phase 2 OPP	537	113	75.2 U	83.5	13.3 U	36.8 U	9.02 U	14.3 U	19,000
Property 076	ISM-AOI076-0.5	03/09/2017	0-0.5	ISM	Phase 2 OPP	439	113	59.3 U	75.6 U	14.2	38.1 U	6.53 U	19.3 U	23,000
Property 077	ISM-AOI077-0.5	03/09/2017	0-0.5	ISM	Phase 2 OPP	536	139	70.8 U	103	12.5 U	60.1 U	3.77 U	17.7 U	19,000
Property 078	ISM-AOI078-0.5	08/18/2017	0-0.5	ISM	Phase 2 OPP	921	184	152	131	26.5 U	57.6	8.73	40.5 U	23,000
Property 079	ISM-A0I079-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	1,570	307 J	271 J	319 J	53 J	465 UJ	15.6 UJ	112 J	28,000
Property 079	AOI079-1.0-1.5	12/15/2023	1.0-1.5	Discrete	Phase 3 OPP	821 J	155 J	167 JK	149 JK	25.7 JK	66.0 JK	5.42 JK	21.7 JK	--
Property 079	AOI-079-1.5-2.0	12/15/2023	1.5-2.0	Discrete	Phase 3 OPP	200 J	37.9 J	46.6 J	39.7 JK	7.89 JK	25.8 JK	1.89 UJK	8.30 JK	--
Property 080	ISM-A0I080-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	1,060	309 J	175 J	277 J	40.7 J	162 UJ	18.2 UJ	62.3 UJ	30,000
Property 081	ISM-A0I081-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	718	138 J	119 J	105 J	17.6 UJ	52 UJ	4.14 UJ	11.8 UJ	30,000
Property 081	AOI081-1.0-1.5	12/15/2023	1.0-1.5	Discrete	Phase 3 OPP	75.6 J	14.7 J	17.8 JK	12.6 UJK	2.08 JK	4.94 UJK	1.34 J	2.31 UJK	--
Property 082	ISM-A0I082-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	649	152 J	96 J	124 J	23 J	111 UJ	11.5 UJ	55.7 UJ	27,000
Property 083	ISM-A0I083-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	894	188 J	118 J	170 UJ	19.3 J	104 UJ	7.27 UJ	36.7 UJ	35,000
Property 083	AOI-083-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 3 OPP	453	129	102	93.8	36.9 K	64.4 K	22.4 K	60.7 K	--
Property 083	AOI-083-1.5-2.0	12/06/2023	1.5-2.0	Discrete	Phase 3 OPP	159 J	42.9 J	38.4 J	33.4 JK	13.6 JK	26.5 JK	6.72 UJK	25.0 UJK	--
Property 084	ISM-A0I084-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	291	65.1 J	39.6 J	43.4 UJ	5.86 UJ	22.5 UJ	1.67 UJ	5.52 UJ	16,000
Property 085	ISM-A0I085-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	252	54.6 J	38.9 J	34.7 UJ	6.48 UJ	19.2 UJ	2.51 UJ	7.59 UJ	25,000
Property 086	ISM-A0I086-0.5	8/13/2019	0-0.5	ISM	Phase 3 OPP	543	104 J	77.1 J	72.3 UJ	11.8 J	40.2 UJ	4.6 UJ	11.2 UJ	25,000
Property 087	ISM-A0I87-0.5	1/29/2020	0-0.5	ISM	Phase 3 OPP	564	131 J	91.1 J	110 J	16.6 J	99.6 J	5.22 J	26.5 UJ	21,000
Property 087	AOI-087-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 3 OPP	344 J	67.2 J	76.5 J	64.6 JK	3.69 UJ	35.3 UJK	1.46 UJ	6.93 UJK	--
Property 088	ISM-AOI88-0.5	2/17/2020	0-0.5	ISM	Phase 3 OPP	368 J	206 J	50.9 J	126 J	6.65 J	31.8 J	1.43 UJ	4.7 UJ	25,000
Property 089	ISM-A0I89-0.5	1/29/2020	0-0.5	ISM	Phase 3 OPP	755	268 J	130 J	159 J	26 J	60.6 J	9.2 J	21.9 J	27,000
Property 089	AOI-089-1.0-1.5	12/06/2023	1.0-1.5	Discrete	Phase 3 OPP	998	129	145	121 K	17.4 K	36.0 K	4.98 UK	16.1 K	--
Property 089	AOI-089-1.5-2.0	12/06/2023	1.5-2.0	Discrete	Phase 3 OPP	80.6 J	11.5 J	13.2 J	10.5 JK	2.01 UJK	4.39 UJK	0.511 UJK	1.62 UJK	--

Table A-2
OPP Property Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Notes

Bold indicates values that exceed the Model Toxics Control Act Method B Soil cleanup level of 13.0 ng/kg.

bgs = below ground surface.

Dup = duplicate sample.

ISM = incremental sampling methodology.

J = result is estimated.

JK = result is estimated and an estimated maximum potential concentration.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

OPP = off-property portion.

PWT = Pacific Wood Treating Co.

TEQ = toxicity equivalent.

U = result is non-detect.

UJ = result is non-detect with an estimated detection limit.

UJK = result is non-detect, an estimated value, and an estimated maximum potential concentration.

[a]Dioxin/furan TEQ calculated as the sum of each congener concentration multiplied by the corresponding mammalian TEF value. Detected results qualified as estimated are included in the calculation. Non-detect values are multiplied by one-half.

References

[1]Ecology. 2023. *Cleanup Levels and Risk Calculation (CLARC) table* . Washington State Department of Ecology, Toxics Cleanup Program. August.

[2]Ecology. 2007. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors. Supporting Material for CLARC. Washington State Department of Ecology.

Table A-3
OPP ROW Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (ft bgs)	Sample Type	Area	Dioxin TEQ[(a)(1)(2)] (ng/kg)	1,2,3,4,6,7,8-HpCDD (ng/kg)	1,2,3,4,6,7,8-HpCDF (ng/kg)	1,2,3,4,7,8,9-HpCDF (ng/kg)	1,2,3,4,7,8-HxCDD (ng/kg)	1,2,3,4,7,8-HxCDF (ng/kg)	1,2,3,6,7,8-HxCDD (ng/kg)	1,2,3,6,7,8-HxCDF (ng/kg)
ROW001	SS-ROW001-0.5	05/04/2016	0-0.5	Discrete	Phase 1 OPP	**30.5**	694	80.7	5.37 J	11.7	12.1	45.7	8.18 J
ROW004	SS-ROW004-0.5	05/07/2015	0-0.5	Discrete	Phase 1 OPP	1.12	21.2	6.66	0.303 J	0.391 J	0.517 J	1.09 J	0.378 J
ROW005	SS-ROW005-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	**46.9**	1,400	194	12.3	16.5	31.6	65.3	14.9
ROW005	SBS-ROW005-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	**38.1**	1,230	175	11.4	13.6	24	59.1	11
ROW005	SBS-ROW005-2.0	08/26/2015	1.5-2.0	Discrete	Phase 1 OPP	9.93	279	49.9	3.21	3.89	6.06	14.2	3.09
ROW008	SBS-ROW008-0.5	05/07/2015	0-0.5	Discrete	Phase 1 OPP	10.7	344	57.4	3.06 J	3.8 J	4.74 J	14.3	3.12 J
ROW010W	SS-ROW010W-0.5	11/02/2015	0-0.5	Discrete	Phase 1 OPP	**20.4**	533	114	6.24 J	6.91 J	19.1	28	8 J
ROW010W	SBS-ROW010W-1.5	11/02/2015	1.0-1.5	Discrete	Phase 1 OPP	1.09	27.5	5.45	0.393 J	0.351 J	0.784 J	1.19	0.419 J
ROW011	SS-ROW011-0.5	03/22/2016	0-0.5	Discrete	Phase 1 OPP	**33.9**	1,090	132	9.29	10.3	25.2	48.9	11.2
ROW011	SBS-ROW011-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	**14.8**	370	46.3	4.38 J	3.93 J	11.3	16.3	7.16
ROW012	SS-ROW012-0.5	04/23/2015	0-0.5	Discrete	Phase 1 OPP	10.0	345	44.1	2.5	3.34	4.29	16.3	2.9
ROW013	SS-ROW013-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	**266**	8,550	1,120	71.6	70.7	280	378	109
ROW013	SBS-ROW013-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	**241**	7,280	1,080	68.2	50.5	331	367	107
ROW013	SBS-ROW013-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	7.99	248	40.3	2.41	2.42	8.01	12	3.06
ROW014	SS-ROW014-0.5	04/23/2015	0-0.5	Discrete	Phase 1 OPP	**352**	11,100	1,700	99.9	88.6	403	569	161
ROW014	SS-ROW014-1.0	04/23/2015	0.5-1.0	Discrete	Phase 1 OPP	**70.4**	2,400	358	19.1	17.7	80.7	98.9	32.1
ROW014	SBS-ROW014-2.0	08/26/2015	1.5-2.0	Discrete	Phase 1 OPP	8.63	271	42.4	2.35	2.5	9.42	12.3	3.61
ROW016	SS-ROW016-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	**24.7**	665	105	5.25	8.74	17.3	34.2	8.35
ROW016	SBS-ROW016-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	**28.9**	861	115	8.26	11	24.6	50.5	11.3
ROW016	SBS-ROW016-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	3.8	113	14.9	0.89 J	1.39	2.63	5.02	1.45
ROW018	SS-ROW018-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	**17.9**	521	84.3	5.87	7.71	7.33	22.8	4.41
ROW018	SBS-ROW018-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	10.0	298	50.5	3.27	3.61	4.23	15.9	2.22 U
ROW019	SS-ROW019-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	**23.4**	673	93.5	5.15	7.15	19.6	31.9	7.93
ROW019	SBS-ROW019-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	**15.6**	437	69.1	4.74	4.82	16.2	24.1	6.27
ROW019	SBS-ROW019-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	**40.7**	1,220	197	10.5	12.8	40.9	54.8	16
ROW019	SBS-ROW019-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	7.94	229	40.2	2.14	2.18	9.1	11.3	3.39
ROW022	SS-ROW022-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	**19.5**	572	84.6	4.88	7.19	11.3	26.2	5.68
ROW022	SBS-ROW022-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	**23.1**	600	107	7.29	8.06	15.7	36.5	7.71
ROW022	SBS-ROW022-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	6.77	174	28.4	1.83	2.31	4.1	8.1	2.75
ROW022W	SS-ROW022W-0.5	11/02/2015	0-0.5	Discrete	Phase 1 OPP	**58.9**	1,750	342	20.1	21.4	47.7	84.4	23.3
ROW022W	SBS-ROW022W-1.5	11/02/2015	1.0-1.5	Discrete	Phase 1 OPP	4.98	154	27.6	1.83	1.44	3.41	6.35	1.85
ROW023	SS-ROW023-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	**40.3**	1,240	284	21.4	17	20.2	53.6	9.45
ROW023	SBS-ROW023-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	**38.7**	1,080	240	19.5	14	21.8	60.6	10.2
ROW023	SBS-ROW023-1.5	09/01/2015	1.0-1.5	Discrete	Phase 1 OPP	9.14	263	101	6.57	2.97	6.21	11.9	2.62
ROW023	SBS-ROW023-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	2.39	71.4	21.3	1.71	0.741 J	1.3	2.6	0.626 J
ROW025	SS-ROW025-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	**47.1**	1,430	186	12.1	22.3	17.5	63.6	10.9
ROW025	SBS-ROW025-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	**14.2**	395	60.8	4.26	5.44	6.64	22.4	4.16
ROW025	SBS-ROW025-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	9.10	207	34.9	2.37	3.77	4.73	12.2	2.38
ROW026	SS-ROW026-0.5	05/21/2015	0-0.5	Discrete	Phase 1 OPP	**14.7**	424	72.2	3.8	5.27	8.48	18.8	3.95
ROW026	SBS-ROW026-1.0	05/21/2015	0.5-1.0	Discrete	Phase 1 OPP	**23.6**	653	131	6.46	7.46	16.1	36.2	7.05
ROW026	SBS-ROW026-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	**17.8**	460	83.5	4.72	5.75	15.2	24.9	6.62
ROW026	SBS-ROW026-2.0	08/26/2015	1.5-2.0	Discrete	Phase 1 OPP	8.81	232	44.1	2.47	2.68	8.03	11.9	3.44
ROW029B	SS-ROW029B-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	**34.9**	990	152	9.96	16.2	17.4	45.4	8.97
ROW029B	SBS-ROW029B-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	**19.6**	523	84.4	6.76	8.12	11.8	28.9	5.98 U
ROW029B	SBS-ROW029B-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	10.0	300	51.4	3.36	3.5	5.56	12.1	2.79

Table A-3
OPP ROW Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (ft bgs)	Sample Type	Area	Dioxin TEQ[(a)(1)(2)] (ng/kg)	1,2,3,4,6,7,8-HpCDD (ng/kg)	1,2,3,4,6,7,8-HpCDF (ng/kg)	1,2,3,4,7,8,9-HpCDF (ng/kg)	1,2,3,4,7,8-HxCDD (ng/kg)	1,2,3,4,7,8-HxCDF (ng/kg)	1,2,3,6,7,8-HxCDD (ng/kg)	1,2,3,6,7,8-HxCDF (ng/kg)
ROW030	SS-ROW030-0.5	04/30/2015	0-0.5	Discrete	Phase 1 OPP	**15.4**	430	70.2	3.52	6.25	8.45	21.4	4.38
ROW030	SS-ROW030-1.0	04/30/2015	0.5-1.0	Discrete	Phase 1 OPP	7.42	199	23.9	1.53	3.05	3.63	9.45	1.84
ROW033W	SS-ROW033W-0.5	11/02/2015	0-0.5	Discrete	Phase 1 OPP	**51.0**	999	248	15.1	14.7	36.5	58.3	32
ROW033W	SBS-ROW033W	11/02/2015	1.0-1.5	Discrete	Phase 1 OPP	**26.6**	463	107	8.1	6.1	22.4	25.5	22.3
ROW036	SS-ROW036-0.5	04/23/2015	0-0.5	Discrete	Phase 1 OPP	**16.0**	363	61.6	5.37	6.07	5.95	14.1	3.26
ROW036	SS-ROW036-1.0	04/23/2015	0.5-1.0	Discrete	Phase 1 OPP	0.746	13	2.78	0.214 J	0.266 J	0.447 J	0.539 J	0.261 J
ROWRRW	SS-ROWRRW-0.5	03/22/2016	0-0.5	Discrete	Phase 1 OPP	**22.4**	687	87.3	6.06	8.33	11.8	33.2	6.08
ROWRRW	SBS-ROWRRW-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	3.17	89.3	11.6	1.36 J	1.49 J	2.09 J	4.33 J	1.04 J
ROW-002N	ROW-002N-0.5	08/11/2016	0-0.5	Discrete	Phase 2 OPP	**24.5**	477	72.1	5.05	7.7	12.1	35.2	11.6
ROW010E	SS-ROW010E-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	**23.6**	561	101	6.69	6.84	19.9	29.8	10.7
ROW022E	SS-ROW022E-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	**41.8**	1,250	224	13.6	14.9	39.5	67.5	17
ROW022E	SS-ROW022E-0.5	11/02/2015	0-0.5	Discrete Dup	Phase 2 OPP	**46.8**	1,600	218	14.3	14.3	41.1	72.6	19.6
ROW029BS	SS-ROW029BS-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	**36.1**	990	197	14.5	13.3	26.3	50.3	9.76 J
ROW029BS	SBS-ROW029BS-1.5	11/02/2015	1.0-1.5	Discrete	Phase 2 OPP	2.15	55.6	8.46	0.797 J	0.608 J	1.31	2.37	0.54 J
ROW038S	SS-ROW038S-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	3.78	107	19.1	1 J	1.52 J	1.8 J	4.9 J	0.84 J
ROW-P2-001	ROW-P2-001-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	**23.4**	669 J	108	6.68	6.55	25.4	32.7	9.76
ROW-P2-002	ROW-P2-002-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	**22.5**	472	64.9	5.65	4.76 J	16.8	22.8	7.61
ROW-P2-002	ROW-P2-002-0.5-DUP	04/15/2016	0-0.5	Discrete Dup	Phase 2 OPP	**21.9**	451	63.4	5.51	4.52 J	16.5	23	7.68
ROW-P2-003	ROW-P2-003-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	**51.0**	1,580	213	12.1	13.2	50.4	76.6	20.3
ROW-P2-004	ROW-P2-004-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	**15.9**	568	58.3	3.07 J	3.7 J	7.27	29	3.32 J
ROW-P2-005	ROW-P2-005-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	**46.1**	1,440	197	10.6	12.2	40.4	75	16.4
ROW-P2-006	ROW-P2-006-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	**18.2**	499	86.3	5.29	5.25	17.9	23.6	6.21
ROW-P2-007	ROW-P2-007-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	9.97	335	54.4	3.79	2.81	5.99	13.4	2.26
ROW-P2-008	ROW-P2-008-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	**69.3**	2,200	557	42.9	22.7	45.2	83.3	17.8
ROW-P2-009	ROW-P2-009-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	**26.9**	69.3	39	8.15	2.26	42.6	12	20.3
ROW-P2-010	ROW-P2-010-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	3.53	118	15.3	0.945 J	0.842 J	2.45	5.05	1.04
ROW-P2-011A	ROW-P2-011A-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	**183**	5,290	813	58.9	45.2	228	305	83.8
ROW-P2-011B	ROW-P2-011B-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	**101**	2,880	426	30.1	27	119	150	48
ROW-P2-012	ROW-P2-012-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	9.85	287	34.7	2.05	3.19	7	13.2	2.81
ROW-P2-013	ROW-P2-013-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	3.59	116	13.5	0.862 J	1.28	2.03	5.15	0.821 J
ROW-P2-014	ROW-P2-014-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	7.52	234	29.1	1.86	2.36	5.25	10.3	2.01
ROW-P2-015	ROW-P2-015-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	9.84	308	43.3	2.58	3.38	5.78	15.4	2.28
ROW-P2-016	ROW-P2-016-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	**277**	2,440	1,800	71.4	93	393	606	130
ROW-P2-017	ROW-P2-017-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	**73.2**	2,440	302	17.8	18.5	82.2	105	29.2
ROW-P2-018	ROW-P2-018-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	8.26	209	39.5	2.52	2.22	5.01	10.4	2.38
ROW-P2-019	ROW-P2-019-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	11.5	349	77.2	4.21	3.72	7.39	15.6	3.14
ROW-P2-020	ROW-P2-020-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	**14.3**	454	110	7.07	2.5	8.59	21	3.45
ROW-P2-021	ROW-P2-021-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	**30.8**	857	175	11.6	7.64	34	43.2	12.8
ROW-P2-022	ROW-P2-022-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	2.98	88.6	11.8	0.864 J	0.483 J	1.27	2.64	0.775 J
ROW-P2-033	ROW-P2-033-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	**101**	2,810 J	514	31.1	20	126	150	51.2
ROW-P2-034	ROW-P2-034-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	**29.5**	804	131	7.22	7.67	26.3	42.4	12.3
ROW078N	ROW-078N	11/22/2017	0-0.5	Discrete	Phase 3 OPP	**47.9**	985	150	10.3	19	22.7	60.2	12.4
ROW078NE	ROW-078NE	11/22/2017	0-0.5	Discrete	Phase 3 OPP	**14.0**	271	43.3	3.28 J	4.76 J	10.9	16.6	3.78 J
ROW078NW	ROW-078NW	11/22/2017	0-0.5	Discrete	Phase 3 OPP	**21.2**	445	58.3	3.35 J	7.98	7.41	29.8	4.18 J

Table A-3
OPP ROW Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (ft bgs)	Sample Type	Area	1,2,3,7,8,9-HxCDD (ng/kg)	1,2,3,7,8,9-HxCDF (ng/kg)	1,2,3,7,8-PeCDD (ng/kg)	1,2,3,7,8-PeCDF (ng/kg)	2,3,4,6,7,8-HxCDF (ng/kg)	2,3,4,7,8-PeCDF (ng/kg)	2,3,7,8-TCDD (ng/kg)
ROW001	SS-ROW001-0.5	05/04/2016	0-0.5	Discrete	Phase 1 OPP	33.2	0.315 U	7.29 J	2.07 J	8.95 J	4.93 J	0.604 J
ROW004	SS-ROW004-0.5	05/07/2015	0-0.5	Discrete	Phase 1 OPP	0.876 J	0.143 U	0.259 J	0.1 U	0.301 J	0.148 J	0.111 J
ROW005	SS-ROW005-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	45.4	0.712 J	7.09	4.43	8.7	6.08	0.664
ROW005	SBS-ROW005-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	35.8	0.667 J	5.05	2.68	7.9	4.1	0.503 U
ROW005	SBS-ROW005-2.0	08/26/2015	1.5-2.0	Discrete	Phase 1 OPP	9.58	0.183 J	1.56	1.06	2.03	1.35	0.155 J
ROW008	SBS-ROW008-0.5	05/07/2015	0-0.5	Discrete	Phase 1 OPP	9.15	0.184 UJ	1.65 J	0.763 J	2.16 J	1.01 J	0.283 J
ROW010W	SS-ROW010W-0.5	11/02/2015	0-0.5	Discrete	Phase 1 OPP	17.2	0.314 J	2.53 J	1.81 J	6.04 J	3.54 J	0.392 J
ROW010W	SBS-ROW010W-1.5	11/02/2015	1.0-1.5	Discrete	Phase 1 OPP	0.847 J	0.106 J	0.163 J	0.185 J	0.448 J	0.209 J	0.0968 U
ROW011	SS-ROW011-0.5	03/22/2016	0-0.5	Discrete	Phase 1 OPP	28.1	0.658 J	2.95 J	4.14 J	8.91	7.25	0.473 J
ROW011	SBS-ROW011-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	9.34	1.42 J	1.71 J	2.57 J	7.12	4.84 J	0.828 J
ROW012	SS-ROW012-0.5	04/23/2015	0-0.5	Discrete	Phase 1 OPP	8.66	0.157 J	1.25	0.609 J	2.13	0.862 J	0.189 U
ROW013	SS-ROW013-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	188	4.57	23.4	36.3	60.3	58.6	1.49
ROW013	SBS-ROW013-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	142	5.01	16.3	37.4	66.7	63	2 U
ROW013	SBS-ROW013-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	6.92	0.159 J	0.671 J	1.08	2.12	1.15	0.109 U
ROW014	SS-ROW014-0.5	04/23/2015	0-0.5	Discrete	Phase 1 OPP	208	6.69	25.1	47.7	88.3	69.7	1.36
ROW014	SS-ROW014-1.0	04/23/2015	0.5-1.0	Discrete	Phase 1 OPP	42.4	1.3	4.54	8.48	17.8	12.7	0.217 U
ROW014	SBS-ROW014-2.0	08/26/2015	1.5-2.0	Discrete	Phase 1 OPP	6.41	0.174 J	0.707 J	1.33	2.13	1.58	0.109 U
ROW016	SS-ROW016-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	23.6	0.353 J	4.05	2.78	5.23	4.09	0.435
ROW016	SBS-ROW016-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	28.1	0.419 J	4.9 U	3.58	6.65	4.92	0.426 J
ROW016	SBS-ROW016-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	4.1	0.102 U	0.452 J	0.344 J	1.47	0.642 J	0.101 U
ROW018	SS-ROW018-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	20.4	0.216 J	3.29	1.31	2.71	1.54	0.396
ROW018	SBS-ROW018-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	11.3	0.103 U	1.62	0.776 J	1.61	0.918 J	0.249 J
ROW019	SS-ROW019-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	20.1	0.473 J	3.23	2.77	4.55	4.11	0.803
ROW019	SBS-ROW019-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	13.2	0.24 J	1.66	1.62	3.78	2.55	0.333 J
ROW019	SBS-ROW019-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	31.3	0.526 J	4.13	4.95	10.2	6.79	0.796
ROW019	SBS-ROW019-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	5.91	0.194 J	0.749 J	1.02	1.92	1.54	0.1 U
ROW022	SS-ROW022-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	20.1	0.278 J	2.98	1.79	3.71	2.76	0.43
ROW022	SBS-ROW022-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	24.3	0.311 J	3.54	2.34	5.08	3.57	0.352 J
ROW022	SBS-ROW022-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	6.42	0.119 J	1.11	0.648 J	2.68	1.4	0.193 U
ROW022W	SS-ROW022W-0.5	11/02/2015	0-0.5	Discrete	Phase 1 OPP	44.6	0.755 J	5.6 J	5.24 J	15.3	8.53 J	1.32 J
ROW022W	SBS-ROW022W-1.5	11/02/2015	1.0-1.5	Discrete	Phase 1 OPP	3.51	0.105 U	0.505 J	0.471 J	1.44	0.975 J	0.161 J
ROW023	SS-ROW023-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	42.5	0.439 J	6.08	2.34	6.75	3.09	0.484
ROW023	SBS-ROW023-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	37.5	0.41 J	6.75	2.81	6.76	3.74	0.466 J
ROW023	SBS-ROW023-1.5	09/01/2015	1.0-1.5	Discrete	Phase 1 OPP	8.04	0.136 J	1.02	0.617 J	1.95	0.95 J	0.106 U
ROW023	SBS-ROW023-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	2.36	0.106 U	0.315 J	0.149 J	0.543 J	0.264 J	0.106 U
ROW025	SS-ROW025-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	55.6	0.456 J	8.46	2.99	6.85	3.59	0.715
ROW025	SBS-ROW025-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	15.5	0.19 J	2.62	1.11	2.81	1.4	0.188 U
ROW025	SBS-ROW025-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	9.28	0.458 J	2.08	1.21	1.98	1.2	0.253
ROW026	SS-ROW026-0.5	05/21/2015	0-0.5	Discrete	Phase 1 OPP	13.1	0.22 J	2.59	1.42	2.1	1.88	0.494 J
ROW026	SBS-ROW026-1.0	05/21/2015	0.5-1.0	Discrete	Phase 1 OPP	23.3	0.284 J	3.5	2.43	4.12	3.09	0.566
ROW026	SBS-ROW026-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	15.6	0.229 J	2.69	2.31	3.88	3.19	0.451
ROW026	SBS-ROW026-2.0	08/26/2015	1.5-2.0	Discrete	Phase 1 OPP	7.87	0.218 J	1.11	1.18	1.93	1.68	0.213
ROW029B	SS-ROW029B-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	43.2	0.366 J	6.05	2.39	6.46	3.45	0.573
ROW029B	SBS-ROW029B-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	21.7	0.268 J	3.69	1.66	3.46	2.45	0.342 J
ROW029B	SBS-ROW029B-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	9.61	0.132 J	1.57	0.786 J	2.28	1.15	0.206

Table A-3
OPP ROW Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (ft bgs)	Sample Type	Area	1,2,3,7,8,9-HxCDD (ng/kg)	1,2,3,7,8,9-HxCDF (ng/kg)	1,2,3,7,8-PeCDD (ng/kg)	1,2,3,7,8-PeCDF (ng/kg)	2,3,4,6,7,8-HxCDF (ng/kg)	2,3,4,7,8-PeCDF (ng/kg)	2,3,7,8-TCDD (ng/kg)
ROW030	SS-ROW030-0.5	04/30/2015	0-0.5	Discrete	Phase 1 OPP	20.9	0.151 J	2.78	1.24	2.71	1.47	0.296
ROW030	SS-ROW030-1.0	04/30/2015	0.5-1.0	Discrete	Phase 1 OPP	7.98	0.275 J	1.67	0.703 J	1.19	0.934 J	0.158 J
ROW033W	SS-ROW033W-0.5	11/02/2015	0-0.5	Discrete	Phase 1 OPP	36.3	0.586 J	8.08 J	5.13 J	34.7	16.2	1.15 J
ROW033W	SBS-ROW033W	11/02/2015	1.0-1.5	Discrete	Phase 1 OPP	13.5	0.278 J	3.81	3.17	25.7	12	0.604
ROW036	SS-ROW036-0.5	04/23/2015	0-0.5	Discrete	Phase 1 OPP	15.5	0.22 U	3.88	0.84 J	2.46	3.96	0.913
ROW036	SS-ROW036-1.0	04/23/2015	0.5-1.0	Discrete	Phase 1 OPP	0.555 J	0.0983 UJ	0.183 J	0.146 U	0.27 J	0.205 J	0.114 U
ROWRRW	SS-ROWRRW-0.5	03/22/2016	0-0.5	Discrete	Phase 1 OPP	21.5	0.447 J	3.04 J	2.34 J	4.62 J	3.3 J	0.41 J
ROWRRW	SBS-ROWRRW-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	3.18 J	0.386 UJ	0.658 UJ	0.642 UJ	0.95 J	0.818 UJ	0.275 U
ROW-002N	ROW-002N-0.5	08/11/2016	0-0.5	Discrete	Phase 2 OPP	23.1	0.284 U	4.99	2.1 J	10.6	6.75	0.572 J
ROW010E	SS-ROW010E-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	16.3	0.512 J	3.17	3.08	8.94	5.85	1.66
ROW022E	SS-ROW022E-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	34.9	0.56 J	4.13	4.69	11.2	7.66	0.432
ROW022E	SS-ROW022E-0.5	11/02/2015	0-0.5	Discrete Dup	Phase 2 OPP	35.1	0.717 J	4.62	5.02	12.7	8.08	0.449
ROW029BS	SS-ROW029BS-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	33.8	0.409 J	4.78 J	2.6 J	7.11 J	3.81 J	1.31 J
ROW029BS	SBS-ROW029BS-1.5	11/02/2015	1.0-1.5	Discrete	Phase 2 OPP	1.69	0.124 J	0.271 J	0.261 J	0.371 J	0.276 J	0.304
ROW038S	SS-ROW038S-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	4.65 J	0.221 U	0.638 J	0.21 U	0.672 J	0.261 U	0.186 U
ROW-P2-001	ROW-P2-001-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	15.6	0.526 J	2.32 J	3.64 J	5.27	5.91	0.128 U
ROW-P2-002	ROW-P2-002-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	12.5	0.613 J	4.56 J	2.82 J	7.34	7.97	1.36
ROW-P2-002	ROW-P2-002-0.5-DUP	04/15/2016	0-0.5	Discrete Dup	Phase 2 OPP	12.1	0.553 J	4.44 J	2.74 J	7.37	7.65	1.33
ROW-P2-003	ROW-P2-003-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	35.5	0.958 J	4.59 J	6.72	10.9	11	0.614 J
ROW-P2-004	ROW-P2-004-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	9.64	0.368 J	1.5 J	1.83 J	2.43 J	1.92 J	0.235 J
ROW-P2-005	ROW-P2-005-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	32.8	1.01 J	4.38 J	6.35	10.6	9.81	0.306 U
ROW-P2-006	ROW-P2-006-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	14.4	0.334 J	2.36 J	1.97 J	3.91 J	4.05 J	0.339 J
ROW-P2-007	ROW-P2-007-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	8.05	0.129 J	0.99 J	0.686 J	1.95	1.31	0.311 U
ROW-P2-008	ROW-P2-008-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	50.1	0.533 J	8.03	4.23	14.8	7.24	0.712
ROW-P2-009	ROW-P2-009-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	7.82	0.27 J	7.75	2.5	26.1	18.2	0.855
ROW-P2-010	ROW-P2-010-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	2.89	0.136 J	0.391 J	0.424 J	0.721 J	0.5 J	0.105 U
ROW-P2-011A	ROW-P2-011A-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	122	3.68	12	29	47.9	47.8	0.614
ROW-P2-011B	ROW-P2-011B-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	65.1	1.94	8.77	14.6	26	25.9	0.815
ROW-P2-012	ROW-P2-012-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	8.36	0.183 J	1.48	1.06	2.01	1.55	0.421
ROW-P2-013	ROW-P2-013-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	3.52	0.14 U	0.506 J	0.33 U	0.654 J	0.405 J	0.11 U
ROW-P2-014	ROW-P2-014-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	6.1	0.248 J	1.04	0.871 J	1.69	1.23	0.177 J
ROW-P2-015	ROW-P2-015-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	8.88	0.126 J	1.44	0.83 J	1.77	1.2	0.156 U
ROW-P2-016	ROW-P2-016-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	223	13.2	32.2	135	74.4	107	2.12
ROW-P2-017	ROW-P2-017-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	46.6	0.959 J	5.51	9.67	17.6	15.7	0.38
ROW-P2-018	ROW-P2-018-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	6.32	1.27	1.41	0.783 J	1.75	1.35	0.405
ROW-P2-019	ROW-P2-019-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	9.63	0.12 J	1.54	0.914 J	2.49	1.42	0.206
ROW-P2-020	ROW-P2-020-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	7.44	0.124 U	1.26	1.17	2.49	1.89	0.771
ROW-P2-021	ROW-P2-021-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	20.3	0.43 J	3.46	3.43	5.49	6.46	0.539
ROW-P2-022	ROW-P2-022-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	1.89	0.126 U	0.355 J	0.132 U	0.49 U	0.439 J	0.461
ROW-P2-033	ROW-P2-033-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	53.8	1.71	7.4	13.9	28.5	30.3	0.616
ROW-P2-034	ROW-P2-034-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	22.5	0.413 J	3.76	2.92	7.18	6.82	0.596
ROW078N	ROW-078N	11/22/2017	0-0.5	Discrete	Phase 3 OPP	37.8	6.18	9.97	3.45 J	18.3	18.2	0.922 J
ROW078NE	ROW-078NE	11/22/2017	0-0.5	Discrete	Phase 3 OPP	8.46	2.25 J	2.98 J	1.52 J	4.82 J	5.18	0.369 UJ
ROW078NW	ROW-078NW	11/22/2017	0-0.5	Discrete	Phase 3 OPP	16.6	2.21 J	4.75 J	1.66 J	5.68	3.81 J	1.87

Table A-3
OPP ROW Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (ft bgs)	Sample Type	Area	2,3,7,8-TCDF (ng/kg)	OCDD (ng/kg)	OCDF (ng/kg)	Total HpCDDs (ng/kg)	Total HpCDFs (ng/kg)	Total HxCDDs (ng/kg)	Total HxCDFs (ng/kg)
ROW001	SS-ROW001-0.5	05/04/2016	0-0.5	Discrete	Phase 1 OPP	3.24 U	3,660	135	1,170	243	244	271
ROW004	SS-ROW004-0.5	05/07/2015	0-0.5	Discrete	Phase 1 OPP	0.38 U	122	8.05 J	36.9	14.3	6.79	9.45
ROW005	SS-ROW005-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	1.84	8,630	257	2,380	519	330	382
ROW005	SBS-ROW005-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	1.6 U	6,600	210	2,100	474	294	308
ROW005	SBS-ROW005-2.0	08/26/2015	1.5-2.0	Discrete	Phase 1 OPP	0.48 J	1,590	82.1	517	138	79.7	95.4
ROW008	SBS-ROW008-0.5	05/07/2015	0-0.5	Discrete	Phase 1 OPP	0.32 U	1,980	117	577	159	80.2	94.4
ROW010W	SS-ROW010W-0.5	11/02/2015	0-0.5	Discrete	Phase 1 OPP	1.18 J	3,740	204	906	309	152	227
ROW010W	SBS-ROW010W-1.5	11/02/2015	1.0-1.5	Discrete	Phase 1 OPP	0.15 J	157	11.1	46.3	14.2	6.26	10.7
ROW011	SS-ROW011-0.5	03/22/2016	0-0.5	Discrete	Phase 1 OPP	2.69	7,300	219	1,960	375	235	352
ROW011	SBS-ROW011-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	1.11	2,410	60	598	114	74.7	218
ROW012	SS-ROW012-0.5	04/23/2015	0-0.5	Discrete	Phase 1 OPP	0.569 UJ	2,160	72.6	601	116	74.9	85.6
ROW013	SS-ROW013-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	9.5 U	50,400	1,080	14,900	3,070	1,640	2,940
ROW013	SBS-ROW013-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	11.5	38,300	531	11,800	2,870	1,330	2,180
ROW013	SBS-ROW013-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	0.38 J	1,520	49.6	449	107	59.2	96.5
ROW014	SS-ROW014-0.5	04/23/2015	0-0.5	Discrete	Phase 1 OPP	11.2	66,200	1,440	18,900	4,370	2,190	4,700
ROW014	SS-ROW014-1.0	04/23/2015	0.5-1.0	Discrete	Phase 1 OPP	1.97	15,300	262	4,080	897	418	915
ROW014	SBS-ROW014-2.0	08/26/2015	1.5-2.0	Discrete	Phase 1 OPP	0.24 U	1,730	39.2	482	110	57	111
ROW016	SS-ROW016-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	1.56	3,860	133	1,200	270	190	213
ROW016	SBS-ROW016-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	0.11 U	4,460	112	1,540	320	246	306
ROW016	SBS-ROW016-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	0.17 J	578	16.8	204	36.2	28.3	42.7
ROW018	SS-ROW018-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	0.87 J	2,910	199	916	251	146	115
ROW018	SBS-ROW018-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	1.1 U	1,650	104	526	168	85.2	61.8
ROW019	SS-ROW019-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	1.21	3,540	87.4	1,080	229	144	192
ROW019	SBS-ROW019-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	0.64 J	2,400	46.3	735	178	103	163
ROW019	SBS-ROW019-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	1.31	8,410	160	2,190	493	277	488
ROW019	SBS-ROW019-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	0.28 J	1,660	28.4	391	96.9	50.5	95
ROW022	SS-ROW022-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	1.18	3,220	193	987	237	142	156
ROW022	SBS-ROW022-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	2.05	3,000	173	1,040	320	179	196
ROW022	SBS-ROW022-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	0.67 J	1,170	61.6	329	77	55.1	87.4
ROW022W	SS-ROW022W-0.5	11/02/2015	0-0.5	Discrete	Phase 1 OPP	1.66 J	13,300	920	2,900	1,010	418	617
ROW022W	SBS-ROW022W-1.5	11/02/2015	1.0-1.5	Discrete	Phase 1 OPP	0.21 U	1,130	73.3	265	78.6	31.5	52.4
ROW023	SS-ROW023-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	1.11	6,530	783	1,970	946	277	285
ROW023	SBS-ROW023-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	1.7 U	5,150	469	1,740	852	278	331
ROW023	SBS-ROW023-1.5	09/01/2015	1.0-1.5	Discrete	Phase 1 OPP	0.18 U	1,880	346	411	365	57.4	113
ROW023	SBS-ROW023-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	0.15 U	462	81.8	115	76.9	15.2	23.8
ROW025	SS-ROW025-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	1.73	8,360	385	2,390	512	373	285
ROW025	SBS-ROW025-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	0.787 J	1,930	87.7	666	174	118	97.4
ROW025	SBS-ROW025-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	0.59 J	1,250	58.6	384	95.2	64.9	59.4
ROW026	SS-ROW026-0.5	05/21/2015	0-0.5	Discrete	Phase 1 OPP	0.937 J	2,470	77.8	749	175	106	103
ROW026	SBS-ROW026-1.0	05/21/2015	0.5-1.0	Discrete	Phase 1 OPP	1.52	3,190	102	1,100	309	181	201
ROW026	SBS-ROW026-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	1.16	2,640	89.4	845	223	131	179
ROW026	SBS-ROW026-2.0	08/26/2015	1.5-2.0	Discrete	Phase 1 OPP	0.62 J	1,610	43.7	389	107	60.7	82.5
ROW029B	SS-ROW029B-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	1.34	5,360	311	1,810	424	303	209
ROW029B	SBS-ROW029B-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	1.32	2,540	127	995	250	174	145
ROW029B	SBS-ROW029B-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	0.61 J	2,010	144	579	161	80.9	92.8

Table A-3
OPP ROW Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (ft bgs)	Sample Type	Area	2,3,7,8-TCDF (ng/kg)	OCDD (ng/kg)	OCDF (ng/kg)	Total HpCDDs (ng/kg)	Total HpCDFs (ng/kg)	Total HxCDDs (ng/kg)	Total HxCDFs (ng/kg)
ROW030	SS-ROW030-0.5	04/30/2015	0-0.5	Discrete	Phase 1 OPP	0.495	976	85.7	702	182	122	96.8
ROW030	SS-ROW030-1.0	04/30/2015	0.5-1.0	Discrete	Phase 1 OPP	0.34 U	924	32.4	322	60.1	50.9	42
ROW033W	SS-ROW033W-0.5	11/02/2015	0-0.5	Discrete	Phase 1 OPP	3.27	7,780	637	1,720	763	335	1,040
ROW033W	SBS-ROW033W	11/02/2015	1.0-1.5	Discrete	Phase 1 OPP	1.82	2,880	202	849	304	154	780
ROW036	SS-ROW036-0.5	04/23/2015	0-0.5	Discrete	Phase 1 OPP	2.11 U	2,520	223	630	212	109	87.2
ROW036	SS-ROW036-1.0	04/23/2015	0.5-1.0	Discrete	Phase 1 OPP	0.24 U	99.2	7.13	24.1	7.55	4.13	5.3
ROWRRW	SS-ROWRRW-0.5	03/22/2016	0-0.5	Discrete	Phase 1 OPP	1.9 U	4,530	143	1,240	242	167	195
ROWRRW	SBS-ROWRRW-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	0.449 J	553	22.3	149	32.3	22.1	26.4
ROW-002N	ROW-002N-0.5	08/11/2016	0-0.5	Discrete	Phase 2 OPP	4.21	2,710	78	802	191	169	330
ROW010E	SS-ROW010E-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	1.42	2,580	134	974	290	150	294
ROW022E	SS-ROW022E-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	1.42	3,690	324	2,060	624	310	459
ROW022E	SS-ROW022E-0.5	11/02/2015	0-0.5	Discrete Dup	Phase 2 OPP	1.35	3,210	325	2,760	597	319	483
ROW029BS	SS-ROW029BS-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	1.82 J	7,820	467	1,610	580	242	281
ROW029BS	SBS-ROW029BS-1.5	11/02/2015	1.0-1.5	Discrete	Phase 2 OPP	0.19 J	365	20.9	94.8	24.6	11.9	12.5
ROW038S	SS-ROW038S-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	0.302 J	803	45.1	190	51.7	30.1	23.7
ROW-P2-001	ROW-P2-001-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	0.829 J	5,280	99.8	1,150	295	137	283
ROW-P2-002	ROW-P2-002-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	3.63	3,400	109	822	195	137	221
ROW-P2-002	ROW-P2-002-0.5-DUP	04/15/2016	0-0.5	Discrete Dup	Phase 2 OPP	3.15	3,450	126	776	194	133	215
ROW-P2-003	ROW-P2-003-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	2.74	10,500	197	2,660	564	334	507
ROW-P2-004	ROW-P2-004-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	0.7 J	5,400	88.6	962	177	101	131
ROW-P2-005	ROW-P2-005-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	2.56	9,270	157	2,350	510	303	464
ROW-P2-006	ROW-P2-006-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	0.834 J	3,460	137	829	233	125	181
ROW-P2-007	ROW-P2-007-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	0.72 J	2,860	316	588	210	68	83.1
ROW-P2-008	ROW-P2-008-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	2.11	19,700	2,440	3,680	2,550	385	876
ROW-P2-009	ROW-P2-009-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	3.54	467	23.2	133	93	118	535
ROW-P2-010	ROW-P2-010-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	0.3 U	810	19.5	174	37.2	33.4	33.1
ROW-P2-011A	ROW-P2-011A-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	9.01	29,400	714	8,920	2,180	1,110	1,560
ROW-P2-011B	ROW-P2-011B-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	6.23	16,500	370	4,920	1,130	579	839
ROW-P2-012	ROW-P2-012-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	0.5 J	1,570	55.2	498	89.1	73.4	73.1
ROW-P2-013	ROW-P2-013-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	0.25 J	720	32.4	184	26.4	27.9	22.9
ROW-P2-014	ROW-P2-014-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	0.54 J	1,310	51.8	413	79.6	53.7	54.4
ROW-P2-015	ROW-P2-015-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	0.537 J	1,860 J	93.2	531	120	79.1	73.5
ROW-P2-016	ROW-P2-016-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	56.7	14,100	1,570	4,280	5,620	2,260	5,990
ROW-P2-017	ROW-P2-017-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	3.98	14,100	283	4,280	756	451	785
ROW-P2-018	ROW-P2-018-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	1.84	1,210	71.8	350	114	50.9	40
ROW-P2-019	ROW-P2-019-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	0.97 J	2,190	258	597	257	82.7	103
ROW-P2-020	ROW-P2-020-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	1.25	3,710	528 J	947	404	85.7	165
ROW-P2-021	ROW-P2-021-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	1.63	5,520	373	1,430	589	175	352
ROW-P2-022	ROW-P2-022-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	0.35 U	844	33.5	160	37.4	16.5	23
ROW-P2-033	ROW-P2-033-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	9.56	19,300 J	433	4,640	1,400	609	1,610
ROW-P2-034	ROW-P2-034-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	2.52	4,820	124	1,380	330	186	326
ROW078N	ROW-078N	11/22/2017	0-0.5	Discrete	Phase 3 OPP	2.41	6,720 J	315	1,720	428	368	338 J
ROW078NE	ROW-078NE	11/22/2017	0-0.5	Discrete	Phase 3 OPP	1.65	2,280	69.1	487	123	91 J	106 J
ROW078NW	ROW-078NW	11/22/2017	0-0.5	Discrete	Phase 3 OPP	1.17	2,800	67	797	152	174	128 J

Table A-3
OPP ROW Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (ft bgs)	Sample Type	Area	Total PeCDDs (ng/kg)	Total PeCDFs (ng/kg)	Total TCDDs (ng/kg)	Total TCDFs (ng/kg)	Total Organic Carbon (mg/kg)
ROW001	SS-ROW001-0.5	05/04/2016	0-0.5	Discrete	Phase 1 OPP	36 J	96.8 J	3.61	11.9 J	16,000
ROW004	SS-ROW004-0.5	05/07/2015	0-0.5	Discrete	Phase 1 OPP	0.636 J	3.07 J	0.263 J	0.792 J	4,000
ROW005	SS-ROW005-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	31.6	56.7	4.92	13	15,000
ROW005	SBS-ROW005-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	24.2	55.4	0.583 U	6.54	17,000
ROW005	SBS-ROW005-2.0	08/26/2015	1.5-2.0	Discrete	Phase 1 OPP	8.03	19.1	0.639	6.56	9,900
ROW008	SBS-ROW008-0.5	05/07/2015	0-0.5	Discrete	Phase 1 OPP	9.11	29.8	1.52	6.64	16,000
ROW010W	SS-ROW010W-0.5	11/02/2015	0-0.5	Discrete	Phase 1 OPP	15.5	114	4.97	30	21,000
ROW010W	SBS-ROW010W-1.5	11/02/2015	1.0-1.5	Discrete	Phase 1 OPP	0.505 J	7.29	0.245	2.3	8,400
ROW011	SS-ROW011-0.5	03/22/2016	0-0.5	Discrete	Phase 1 OPP	15.1	199	5.62	43.5	18,000
ROW011	SBS-ROW011-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	5.57	182	1.86	30.3	9,600
ROW012	SS-ROW012-0.5	04/23/2015	0-0.5	Discrete	Phase 1 OPP	4.94	24.7	1.16	6.44	15,000
ROW013	SS-ROW013-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	112	462	13.4	57.4	20,000
ROW013	SBS-ROW013-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	48	423	2 U	15.3	15,000
ROW013	SBS-ROW013-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	2.29	13.6	0.109 U	2.04	6,800
ROW014	SS-ROW014-0.5	04/23/2015	0-0.5	Discrete	Phase 1 OPP	104	1,100	8.54	64.8	19,000
ROW014	SS-ROW014-1.0	04/23/2015	0.5-1.0	Discrete	Phase 1 OPP	20	241	1.64	18.7	11,000
ROW014	SBS-ROW014-2.0	08/26/2015	1.5-2.0	Discrete	Phase 1 OPP	2.43	13.6	0.109 U	1.2	8,400
ROW016	SS-ROW016-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	21.8	43.9	1.87	5.38	20,000
ROW016	SBS-ROW016-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	25	134	5.22	20.6	18,000
ROW016	SBS-ROW016-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	2.25	12.3	0.101 U	2.22	3,800
ROW018	SS-ROW018-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	18.5	18.7	2.49	6.25	19,000
ROW018	SBS-ROW018-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	8.45	22.3	2.71	9.88	18,000
ROW019	SS-ROW019-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	12.4	30.8	1.28	2.41	14,000
ROW019	SBS-ROW019-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	6.57	48.2	0.892 J	4.26	10,000
ROW019	SBS-ROW019-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	17.3	70.3	2.98	13.4	9,100
ROW019	SBS-ROW019-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	2.52	15.5	0.14 J	2.63	4,000
ROW022	SS-ROW022-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	15.4	29.8	3.04	12.3	21,000
ROW022	SBS-ROW022-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	18.9	95.9	3.38	27.1	16,000
ROW022	SBS-ROW022-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	7.03	32.1	1.94	12.9	14,000
ROW022W	SS-ROW022W-0.5	11/02/2015	0-0.5	Discrete	Phase 1 OPP	35.6	288	9.47	62.9	16,000
ROW022W	SBS-ROW022W-1.5	11/02/2015	1.0-1.5	Discrete	Phase 1 OPP	2.7	31.8	1.07	8.05	12,000
ROW023	SS-ROW023-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	26.1	23.7	2.76	5.01	24,000
ROW023	SBS-ROW023-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	30.9	66.1	4.08	15	16,000
ROW023	SBS-ROW023-1.5	09/01/2015	1.0-1.5	Discrete	Phase 1 OPP	4.41	12.3	1.41	3.72	10,000
ROW023	SBS-ROW023-2.0	09/01/2015	1.5-2.0	Discrete	Phase 1 OPP	1.26	2.94	0.215	0.779	11,000
ROW025	SS-ROW025-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	41.7	47.8	6.55	17.9	21,000
ROW025	SBS-ROW025-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	12.5	41	2.19	12	13,000
ROW025	SBS-ROW025-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	8.27	10.1	1.16	3.99	9,200
ROW026	SS-ROW026-0.5	05/21/2015	0-0.5	Discrete	Phase 1 OPP	15.4	20.4	4.57	8.44	20,000
ROW026	SBS-ROW026-1.0	05/21/2015	0.5-1.0	Discrete	Phase 1 OPP	19.4	37	5.07	12.8	12,000
ROW026	SBS-ROW026-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	17.5	29.2	3.85	12.6	9,600
ROW026	SBS-ROW026-2.0	08/26/2015	1.5-2.0	Discrete	Phase 1 OPP	6.98	16.5	1.83	5.34	7,900
ROW029B	SS-ROW029B-0.5	06/08/2015	0-0.5	Discrete	Phase 1 OPP	31.5	37.7	4.35	10.9	16,000
ROW029B	SBS-ROW029B-1.0	06/08/2015	0.5-1.0	Discrete	Phase 1 OPP	15.3	60.6	3.73	14.9	16,000
ROW029B	SBS-ROW029B-1.5	08/26/2015	1.0-1.5	Discrete	Phase 1 OPP	9.66	19.2	1.02	4.84	13,000

Table A-3
OPP ROW Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Location	Sample Name	Collection Date	Collection Depth (ft bgs)	Sample Type	Area	Total PeCDDs (ng/kg)	Total PeCDFs (ng/kg)	Total TCDDs (ng/kg)	Total TCDFs (ng/kg)	Total Organic Carbon (mg/kg)
ROW030	SS-ROW030-0.5	04/30/2015	0-0.5	Discrete	Phase 1 OPP	13.8	15	2.4	4.79	15,000
ROW030	SS-ROW030-1.0	04/30/2015	0.5-1.0	Discrete	Phase 1 OPP	6.13	11.6	1.04	2.29	9,400
ROW033W	SS-ROW033W-0.5	11/02/2015	0-0.5	Discrete	Phase 1 OPP	59.3	1,270	18.5	373	22,000
ROW033W	SBS-ROW033W	11/02/2015	1.0-1.5	Discrete	Phase 1 OPP	38.4	1,010	12.7	277	14,000
ROW036	SS-ROW036-0.5	04/23/2015	0-0.5	Discrete	Phase 1 OPP	22.2	39.7	3.9	60.3	12,000
ROW036	SS-ROW036-1.0	04/23/2015	0.5-1.0	Discrete	Phase 1 OPP	0.796 J	3.47	0.944	3.68	11,000
ROWRRW	SS-ROWRRW-0.5	03/22/2016	0-0.5	Discrete	Phase 1 OPP	13.2	91.2	2.24	20.7	14,000
ROWRRW	SBS-ROWRRW-1.5	03/22/2016	1.0-1.5	Discrete	Phase 1 OPP	1.51 J	12.7	0.158 J	2.63	9,000
ROW-002N	ROW-002N-0.5	08/11/2016	0-0.5	Discrete	Phase 2 OPP	29.3	368	7.91	95.3	29,000
ROW010E	SS-ROW010E-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	20.3	248	7.33	66.8	19,000
ROW022E	SS-ROW022E-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	21.9	220	5.28	38.1	14,000
ROW022E	SS-ROW022E-0.5	11/02/2015	0-0.5	Discrete Dup	Phase 2 OPP	18.1	199	5.41	28.7	15,000
ROW029BS	SS-ROW029BS-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	21.5	84.1	6.54	18.2	15,000
ROW029BS	SBS-ROW029BS-1.5	11/02/2015	1.0-1.5	Discrete	Phase 2 OPP	0.753 J	4.86	0.663	1.46	9,200
ROW038S	SS-ROW038S-0.5	11/02/2015	0-0.5	Discrete	Phase 2 OPP	1.76 J	5.69 J	0.253 J	1.07 J	17,000
ROW-P2-001	ROW-P2-001-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	7.29	92.1	0.439 J	6.03	4,500
ROW-P2-002	ROW-P2-002-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	37.6	130	11.4	63.8	16,000
ROW-P2-002	ROW-P2-002-0.5-DUP	04/15/2016	0-0.5	Discrete Dup	Phase 2 OPP	37.1	111	10.2	54.4	19,000
ROW-P2-003	ROW-P2-003-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	23.4	132	6.11	32.8	16,000
ROW-P2-004	ROW-P2-004-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	5.29	33.6	0.992 J	4	8,400
ROW-P2-005	ROW-P2-005-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	17.1	102	1.46	13.7	15,000
ROW-P2-006	ROW-P2-006-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	12.7	78.2	2.72	15.5	21,000
ROW-P2-007	ROW-P2-007-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	5.79	17	0.896	6.69	22,000
ROW-P2-008	ROW-P2-008-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	32	110	2.77	28	26,000
ROW-P2-009	ROW-P2-009-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	56.8	368	10.1	133	16,000
ROW-P2-010	ROW-P2-010-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	2.7	5.84	0.162 J	1.76	9,200
ROW-P2-011A	ROW-P2-011A-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	40.1	234	3.59	26.9	21,000
ROW-P2-011B	ROW-P2-011B-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	30.8	139	4.93	25.1	15,000
ROW-P2-012	ROW-P2-012-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	8.26	17.8	0.964	4.84	13,000
ROW-P2-013	ROW-P2-013-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	2.12	4.06	0.34	1.08	12,000
ROW-P2-014	ROW-P2-014-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	4.85	11.6	0.522	2.94	17,000
ROW-P2-015	ROW-P2-015-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	7.83	14.6	0.973	4.96	20,000
ROW-P2-016	ROW-P2-016-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	107	988	6.04	110	19,000
ROW-P2-017	ROW-P2-017-0.5	04/15/2016	0-0.5	Discrete	Phase 2 OPP	24.5	141	2.62	25.9	16,000
ROW-P2-018	ROW-P2-018-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	7.31	8.17	1.99	8.62	19,000
ROW-P2-019	ROW-P2-019-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	9.54	17.3	1.45	8.13	28,000
ROW-P2-020	ROW-P2-020-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	9.29	48.4	11.7 J	15.1	35,000
ROW-P2-021	ROW-P2-021-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	16.6	123	5.19	19.5	35,000
ROW-P2-022	ROW-P2-022-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	1.25	18.1	0.461	4.88	16,000
ROW-P2-033	ROW-P2-033-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	46.4	888	14.2	163	23,000
ROW-P2-034	ROW-P2-034-0.5	04/20/2016	0-0.5	Discrete	Phase 2 OPP	21.9	214	6.7	54.3	25,000
ROW078N	ROW-078N	11/22/2017	0-0.5	Discrete	Phase 3 OPP	64.6	248 J	14 J	60.5	29,000
ROW078NE	ROW-078NE	11/22/2017	0-0.5	Discrete	Phase 3 OPP	18.7 J	55.3 J	7.91 U	26.9 J	29,000
ROW078NW	ROW-078NW	11/22/2017	0-0.5	Discrete	Phase 3 OPP	34 J	48.9 J	13.5 J	16.8	30,000

Table A-3
OPP ROW Soil Cleanup Level Screening
Former PWT Site
Ridgefield, Washington

Notes

Bold indicates values that exceed the MTCA Method B Soil CUL of 13.0 ng/kg.

bgs = below ground surface.

Dup = duplicate sample.

J = result is estimated.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

OPP = off-property portion.

PWT = Pacific Wood Treating Co.

ROW = right-of-way.

TEQ = toxicity equivalent.

U = result is non-detect.

[a]Dioxin/furan TEQ calculated as the sum of each congener concentration multiplied by the corresponding mammalian TEF value. Detected results qualified as estimated are included in the calculation. Non-detect values are multiplied by one-half.

References

[1]Ecology. 2023. *Cleanup Levels and Risk Calculation (CLARC) table* . Washington State Department of Ecology, Toxics Cleanup Program. August.

[2]Ecology. 2007. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors. Supporting Material for CLARC. Washington State Department of Ecology.

APPENDIX B

COST ESTIMATES

APPENDIX B COST ESTIMATES

Appendix B-1
Property Cost Estimate
Former PWT Site
Ridgefield, Washington

Item No.	Item	Units	No. of Units	Unit Cost	Cost
1.0	Public Outreach, Design, Permitting, Construction Oversight, and Completion Reporting				
1.1	Design Sampling	LS	1	$ 2,500	$ 2,500
1.2	Public Outreach, Engineering Design, and Permitting	LS	1	$ 120,000	$ 120,000
1.3	Construction Administration and Oversight	LS	1	$ 100,000	$ 100,000
1.4	Completion Reporting	LS	1	$ 13,333	$ 13,333
Total Public Outreach, Design, Permitting, Construction Oversight, and Completion Reporting Cost					**$ 235,833**
2.0	Remedy Construction				
2.1	Mobilization	LS	1	$ 193,333	$ 193,333
2.2	Temporary Facilities and Controls	LS	1	$ 18,000	$ 18,000
2.3	Progress and Construction Surveying	LS	1	$ 66,933	$ 66,933
2.4	Temporary Erosion and Sediment Control	LS	1	$ 22,000	$ 22,000
2.5	Demolition and Salvage	LS	1	$ 9,467	$ 9,467
2.6	Clearing and Grubbing	LS	1	$ 12,000	$ 12,000
2.7	Tree and Stump Removal	LS	1	$ 10,000	$ 10,000
2.8	Excavation of Contaminated Soil	CY	2,744	$ 52	$ 142,688
2.9	Excavation of Contaminated Soil (Restricted Access)	CY	457	$ 177	$ 80,889
2.10	Contaminated Soil Transport and Disposal	Ton	4,802	$ 53	$ 254,506
2.11	Acquisition and Placement of Topsoil	Ton	4,802	$ 88	$ 422,576
2.12	Sod	SY	10,975	$ 13.0	$ 142,675
2.13	Plant Material	LS	1	$ 20,000	$ 20,000
2.14	Landscape Maintenance	LS	1	$ 21,333	$ 21,333
Total Construction Cost					**$ 1,416,401**
Subtotal					**$ 1,652,234**
Tax				**8.40%**	**$ 138,788**
Contingency				**30%**	**$ 495,670**
TOTAL COST ESTIMATE, INCLUDING 30% CONTINGENCY					**$ 2,286,692**

Appendix B-1
Property Cost Estimate
Former PWT Site
Ridgefield, Washington

ASSUMPTIONS:

1. Unit costs based on actual costs of Phase 1 work.
2. Excavation areas approximated from aerial imagery.
3. Excavation depth assumed to be 1 foot; excavation depth in restricted access areas assumed to be 0.5 feet.
4. In situ soil density assumed to be 1.5 cy/ton.

NOTES:

CY = cubic yard.

EA = each.

LF = lineal foot.

LS = lump sum.

PWT = Pacific Wood Treating Co.

SY = square yard.

Appendix B-2
ROW Cost Estimate
Former PWT Site
Ridgefield, Washington

MAUL FOSTER ALONGI

Item No.	Item	Units	No. of Units	Unit Cost	Cost
1.0	Design, Permitting, Construction Oversight, and Completion Reporting				
1.1	Design Sampling	LS	1	$ 2,500	$ 2,500
1.2	Engineering Design and Permitting	LS	1	$ 30,000	$ 30,000
1.3	Construction Administration and Oversight	LS	1	$ 50,000	$ 50,000
1.4	Completion Reporting	LS	1	$ 6,667	$ 6,667
Total Design, Permitting, Construction Oversight, and Completion Reporting Cost					**$ 89,167**
2.0	Remedy Construction				
2.1	Mobilization	LS	1	$ 96,667	$ 96,667
2.2	Temporary Facilities and Controls	LS	1	$ 9,000	$ 9,000
2.3	Progress and Construction Surveying	LS	1	$ 33,467	$ 33,467
2.4	Temporary Erosion and Sediment Control	LS	1	$ 11,000	$ 11,000
2.5	Demolition and Salvage	LS	1	$ 4,733	$ 4,733
2.6	Clearing and Grubbing	LS	1	$ 6,000	$ 6,000
2.7	Tree and Stump Removal	LS	1	$ 5,000	$ 5,000
2.8	Excavation of Contaminated Soil	CY	2,660	$ 52	$ 138,320
2.9	Excavation of Contaminated Soil (Restricted Access)	CY	296	$ 177	$ 52,392
2.1	Contaminated Soil Transport and Disposal	Ton	4,434	$ 53	$ 235,002
2.11	Acquisition and Placement of Topsoil	Ton	4,434	$ 88	$ 390,192
2.12	Sod	SY	7,094	$ 13	$ 92,222
2.13	Landscape Maintenance	LS	1	$ 8,000	$ 8,000
Total Construction Cost					**$ 1,081,995**
Subtotal					**$ 1,171,161**
Tax				**8.40%**	**$ 98,378**
Contingency				**30%**	**$ 351,348**
TOTAL COST ESTIMATE, INCLUDING 30% CONTINGENCY					**$ 1,620,887**

ASSUMPTIONS:

1. Unit costs based on actual costs of Phase 1 work.
2. Excavation areas approximated from aerial imagery.
3. Excavation depth assumed to be 1.5 feet; excavation depth in restricted access areas assumed to be 0.5 feet.
4. In situ soil density assumed to be 1.5 cy/ton.

NOTES:

CY = cubic yard.

LS = lump sum.

PWT = Pacific Wood Treating Co.

SY = square yard.

APPENDIX C

PUBLIC PLAN

PUBLIC PARTICIPATION PLAN

Pacific Wood Treating
111 West Division
Ridgefield, Washington

Facility Site Number 1019
Cleanup Site Number 3020

Prepared by
Washington State Department of Ecology
Southwest Regional Office
Toxics Cleanup Program
PO Box 47775
Olympia, Washington 98504-7775

November 2014

Table of Contents

INTRODUCTION

Public participation plans promote meaningful involvement during cleanups. This plan describes the tools the Washington State Department of Ecology (Ecology) will use to inform the public and gather input about the Pacific Wood Treating cleanup.

LOCATION AND SITE BACKGROUND

The Pacific Wood treating site is located around 111 West Division in Ridgefield. The site includes about 41 acres of port property, sediments in parts of Carty Lake and Lake River adjacent to the site, and some land south and east of the port property (see map on page 3). The extent of contamination sets the site boundary.

Site Background

From 1964-1993, Pacific Wood Treating (PWT) operated on waterfront property it leased from the Port of Ridgefield (Port). PWT pressure treated wood products with a variety of toxic chemicals such as creosote, pentachlorophenol (PCP) and copper/chromium/arsenic (CCA) solutions. PWT released contaminants to the environment through spills, leaking wastewater storage tanks, stormwater runoff and leaks from the buried drain system.

Contamination related to PWT has been found in soil, sediment, and groundwater on and off the port property. Figure 1 shows the extent of the cleanup site and Figure 2 shows the different parts of the cleanup site and property ownership.

Figure 1: Pacific Wood Treating cleanup site

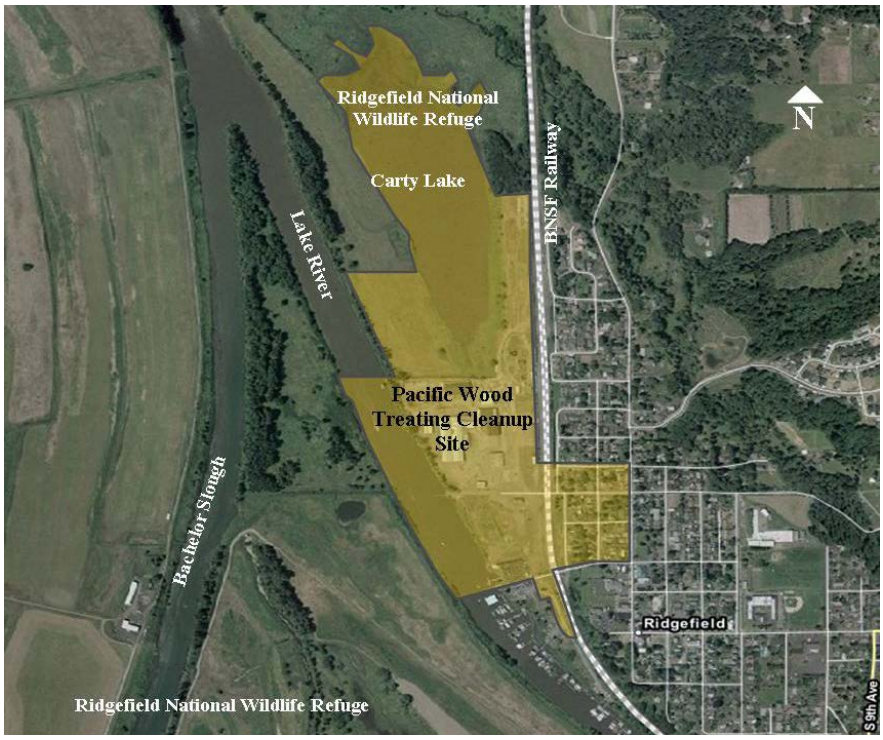
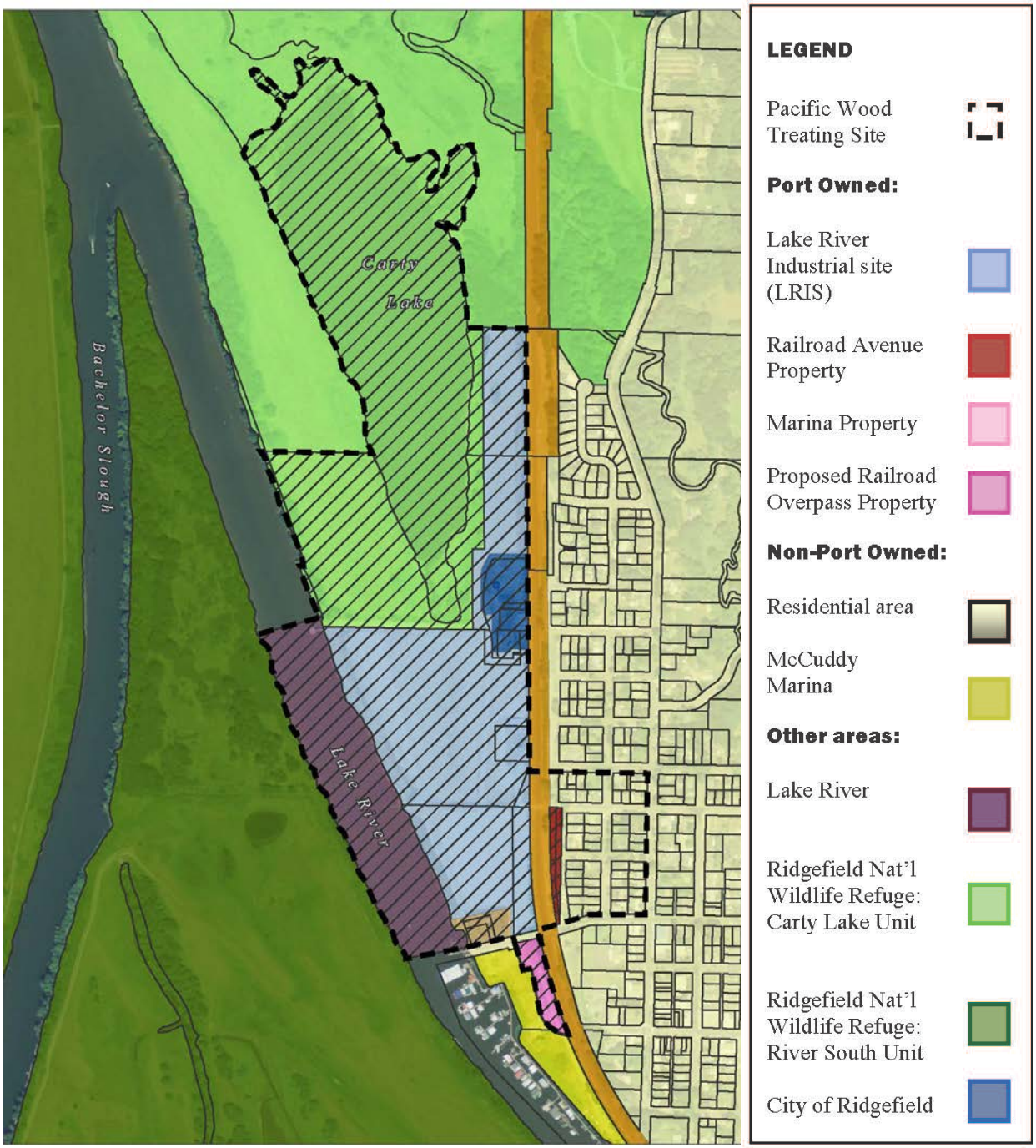


Figure 2: Pacific Wood Treating cleanup areas and property ownership



In 1985, as part of a focused nationwide effort to address impacts from wood treating facilities, the U.S. Environmental Protection Agency (EPA) investigated the property. EPA found wood treating chemicals above state cleanup standards in soil and groundwater. Pacific Wood Treating entered into a legal agreement with the EPA through the Resource Conservation and Recovery Act (RCRA). This agreement required Pacific Wood Treating to determine the full extent of contamination and then clean it up. In 1993, PWT declared bankruptcy.

In 1996 and 2001, the Department of Ecology (Ecology) and the Port entered into agreed orders (legal agreements) to investigate contamination from the former wood treating plant and do interim actions (partial cleanups) on port property. From 1996 - 2013, the Port cleaned up contamination on their property. They removed:

- 24,800 gallons of liquid contamination.
- 1,545,000 pounds of contaminated sludge.
- Contamination from over 144 million gallons of groundwater.

The Port also capped the property using two or more feet of clean soil.

Investigations also found contamination outside port-owned property. In 2013, Ecology and the Port entered into a consent decree legal agreement for the port to clean up other areas with PWT contamination.

In summer 2014, the port began cleaning up off-property areas including the railroad overpass area and sediments in Carty Lake and Lake River. You can learn about those cleanup projects and progress on our website https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3020 or on our blog at http://ecologywa.blogspot.com.

Ecology and the Port are funding the cleanup. So far, Ecology has contributed over $85 million for cleanup through grants and loans funded by the State and Local Toxics Control Accounts. With Ecology's continued financial support, the Port will be able to accelerate plans for redevelopment of this area.

CURRENT ACTIVITY

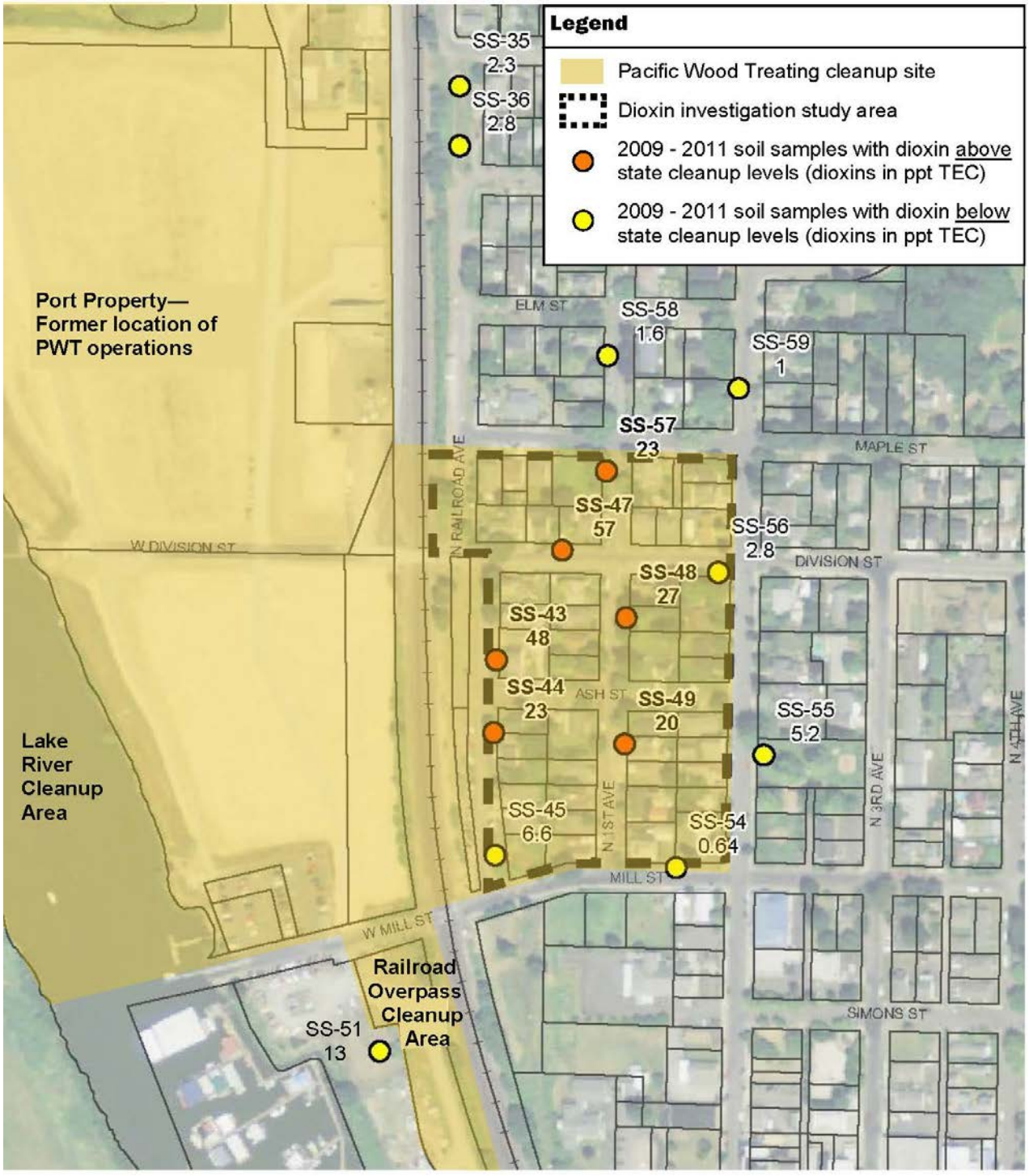
During investigations from 2010 – 2012, the Port found dioxins in soil above state cleanup levels on some public land in the neighborhood east of the port property (see Figure 3 on page 5). Most of the dioxins in off-property soil likely came from air-borne dust while Pacific Wood Treating was operating. Dust may have blown off the port property, been tracked onto roads from truck tires, and come off trucks hauling treated wood on Division St.

Ecology and the port are entering into an agreed order that requires the port to:

- Develop a **sampling plan** for investigating dioxins in yards in the study area.
- Do a **remedial investigation (RI)**, which describes the type and extent of contamination.
- Do a **feasibility study (FS)**, which evaluates cleanup options.
- Develop an **RI/FS report**.
- Unless Ecology decides one is not needed, develop a **preliminary draft cleanup action plan** that proposes cleanup actions.

After the comment period, we will review and respond to your comments and questions. While the port can begin work under the agreed order during the comment period, we will consider your comments as the port moves forward with the investigation. This may include adjusting how the port does the investigation. The port will use the data from this investigation to evaluate if cleanup is needed, and what the cleanup plan should be for the study area.

Figure 3: Pacific Wood Treating off-property dioxin investigation study area



SITE CLEANUP PROCESS

Washington's Model Toxics Control Act (MTCA) requires that cleanups meet standards that are safe for both human health and the environment. For more information on MTCA, please visit Ecology's website at http://www.ecy.wa.gov/biblio/ftc94129.html.

Toxic sites are cleaned up in stages, described below. Each stage has a related report or plan that the public is welcome to review and comment on.

Remedial Investigation & Feasibility Study (RI/FS) - The RI looks at the extent and type of pollution on the site. It also looks at possible human health and environmental impacts. The FS identifies and evaluates different cleanup options.

Interim Actions - Ecology may allow interim actions to partly clean up a site before the final cleanup plan is complete.

Cleanup Action Plan (CAP) - The CAP describes the cleanup methods and how they will meet Ecology's cleanup standards. The Remedial Investigation and Feasibility Study provide the data and analysis to write a CAP. The CAP also takes into account public comments and concerns.

Cleanup - Cleanup removes contaminants from the site, contains them on the site, or treats them to make them less toxic. Based on the information in the off-property dioxin investigation RI/FS, Ecology will select a cleanup action and amend the consent decree for the Port to conduct a cleanup. The CAP will require a public comment period.

Delisting - Ecology keeps track of toxic cleanup sites on the Hazardous Sites List. Once cleanup is complete, the public will have a chance to comment before Ecology takes a site off the list.

You can find more information about toxic cleanups on Ecology's website: http://www.ecy.wa.gov/programs/tcp/cu_support/cu_process__steps_defns.htm.

PUBLIC PARTICIPATION ACTIVITIES AND RESPONSIBILITIES

The purpose of this Public Participation Plan is to promote public understanding and participation in the cleanup. This section of the plan describes how Ecology will share information and receive public comments on cleanup activities. Ecology will use the following public involvement activities during the Pacific Wood Treating cleanup:

Formal Public Comment Periods

Comment periods are the primary method Ecology uses to get feedback from the public on proposed cleanup decisions. Comment periods usually last 30 days. WAC 173-340-600 requires them at key points during the investigation and cleanup process, before final decisions are made. During a comment period, the public can comment in writing. Ecology can only take verbal comments during a public hearing.

After comment periods, Ecology reviews all comments and may respond in a document called a responsiveness summary. Ecology considers whether a document or decision needs to be changed or revised based on public input. If there are major changes, Ecology may hold a second comment period. If there are no major changes, Ecology finalizes the draft document(s).

Public Meetings and Hearings

Ecology may hold public meetings at key points during the investigation and cleanup. Ecology also may offer public meetings for actions expected to be of particular interest to the community. Ecology will also hold a public meeting or hearing if ten or more people request one. These meetings will be at places and times convenient to the public.

Information Repositories

These are places where the public can read and review site information, including public comment period documents. Ecology has two repositories for this site:

- Ridgefield Library, 210 N. Main Ave., Ridgefield 98642. (360) 887-8281.
- Washington State Department of Ecology, 300 Desmond Drive, Lacey 98516. Please call (360) 407-6365 for an appointment.

See also Ecology's website: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3020

Site Register

Ecology's Toxics Cleanup Program uses its bimonthly Site Register to announce public meetings and comment periods, and many other activities. To receive the Site Register by e-mail, contact Seth Preston at (360) 407-6848 or Seth.Preston@ecy.wa.gov. You can also read it on Ecology's website at http://www.ecy.wa.gov/programs/tcp/pub_inv/pub_inv2.html.

Mailing List

Ecology's mailing list for this site includes neighboring landowners and businesses, public agencies, and other known interested parties. Ecology's Southwest Regional Office maintains the list and will update it as needed. Please contact Diana Smith at (360) 407-6255 or Diana.Smith@ecy.wa.gov if you would like to have your address added to or deleted from this mailing list.

Fact Sheets

Ecology will mail fact sheets to people and groups interested in this cleanup. Fact sheets will announce comment periods and public meetings. Ecology also may mail fact sheets with updates on cleanup progress.

Newspaper Display Ads

Ecology will place ads in *The Columbian* to announce public comment periods and public meetings for the site.

Plan Update

Ecology may update this Public Participation Plan as the project moves forward. The public will have a chance to comment on any major changes to the plan.

Contacts

If you have questions or need more information about this plan or the Industrial Petroleum cleanup site, please contact:

Craig Rankine, Cleanup Project Manager
WA Department of Ecology
Vancouver Field Office
2108 Grand Blvd.
Vancouver, WA 98661
Tel: (360) 690-4795
Email: Craig.Rankine@ecy.wa.gov

Diana Smith, Public Involvement Coordinator
WA Department of Ecology
PO Box 47775
Olympia, WA 98504-7775
Tel: (360) 407-6255
Email: Diana.Smith@ecy.wa.gov

GLOSSARY

Agreed Order: A legal agreement between Ecology and a Potentially Liable Person (see below) to conduct work toward a cleanup.

Cleanup: Actions that deal with a release or threatened release of hazardous substances that could affect public health or the environment. Ecology often uses the term "cleanup" broadly to describe response actions or phases of cleanup, such as the remedial investigation/feasibility study.

Consent Decree: A legal agreement between Ecology and a Potentially Liable Person (see below) to conduct work toward a cleanup. It is approved and issued by a court.

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

Dioxins: A family of chemicals with similar chemical structures and effects on living things. They are unintentional byproducts of both human activities and natural processes. They do not break down easily in the environment, and as a result, are found everywhere.

Feasibility Study: This study identifies and evaluates different cleanup options.

Groundwater: Water found beneath the earth's surface that fills spaces between materials such as sand, soil, or gravel. In some areas, groundwater occurs in large enough amounts to be used for drinking water, irrigation and other purposes.

Information Repository: A file containing site information and reports for public review. It is usually located in a public building convenient for local residents, such as a public school, city hall, or library.

Model Toxics Control Act (MTCA): A law passed by Washington voter initiative in 1988. Its purpose is to find, investigate, and clean up places where hazardous substances have been released. It defines Ecology's role and encourages public involvement in cleanup decisions.

Potentially Liable Person: Any individual(s) or company(s) potentially responsible for, or contributing to, the contamination problems at a site. Whenever possible, Ecology requires PLPs to clean up sites.

Remedial Investigation: Looks at the extent and type of pollution on the site. It also looks at possible human health and environmental impacts.

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

Sediments: Settled particles located at the bottom of a lake, river or in wetlands. Sediment(s) also includes settled particulate matter exposed by human activity (e.g., dredging) to the biologically active aquatic zone or to the water column.

Site: Any area where a hazardous substance, other than a consumer product in consumer use, has come to be located.

Toxicity: How much harm a substance causes to living organisms, including people, plants and animals, at a certain concentration.

Voluntary Cleanup Program: An option for cleaning up hazardous waste sites. The program allows a party to clean up a site independently with technical assistance and written opinions from the Department of Ecology on the cleanup.

APPENDIX D

RESULTS LETTERS

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Vancouver Field Office • 2108 Grand Blvd, Vancouver, WA 98661-4622 • (360) 690-7171
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341
If you need this letter in another format, please call (360) 407-6300

DATE

This summer, the Department of Ecology (Ecology) and Port of Ridgefield (port) took soil samples from the yard at ADDRESS. The dioxin level in your yard is above the state cleanup level. We will contact the homeowner in the next few months to discuss soil replacement and yard restoration options, at no cost. The homeowner's consent will be required for any cleanup. The enclosed map shows your results and the yard sample locations. The cleanup plan for your yard may cover a larger area than was sampled.

Additionally, the right-of-way areas near your property are above the state cleanup level. Soil will be replaced in the right-of-ways (see enclosed sampling results neighborhood map). Again, we will contact the homeowner to discuss the cleanup in right-of-ways adjacent to your property, before any work is done. The purpose of this letter is to inform you of the sampling results and help you reduce contact with contaminated soils in your yard and neighborhood now.

What is the health risk?

There is no immediate health concern but there is a long term risk. Long-term, daily exposure to the dioxin level found in your yard raises the risk of certain health problems. The health risk comes from accidently swallowing, or breathing in the dust from soil.

We recommend that you take these healthy actions now to limit you and your family's exposure to soil:

- Wash hands after contact with soil, especially for children.
- Take off shoes at the door or use a doormat.
- Vacuum regularly and dust with a damp cloth.
- Wipe pets' paws and brush off their fur before coming inside.

The enclosed materials offer more advice. Please take the time to review them. For health questions, please contact the WA Department of Health at Lenford.OGarro@doh.wa.gov or (360) 236-3376.

Additional sampling may be needed at your property to determine the depth of soil contamination. We will be contacting you in the next few months to select a sampling date and time that is convenient for you. These samples will inform us about how much soil we will need to remove during cleanup.

We also included a copy of the mailer that will be delivered to your neighborhood to update them on the progress of the cleanup. For the latest information visit our website at https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3020.

If you have questions or concerns, please contact me.

We look forward to working with you!

Sincerely,

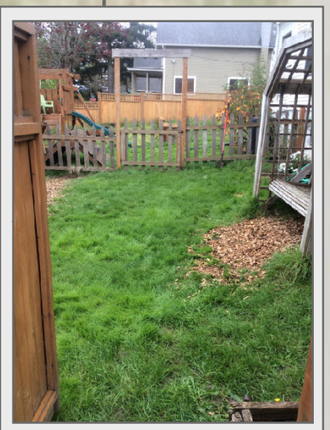
Craig Rankine
Cleanup Project Manager
(360) 690-4795
Craig.Rankine@ecy.wa.gov

Enclosed Materials

- Yard results and sampling locations map
- Neighborhood soil sampling results map
- Soil sampling update neighborhood mailer
- Healthy actions handout
- What happens during soil replacement handout

Your property is eligible for cleanup. The Dioxin level is 39.4 nanograms per kilogram (ng/kg).
Cleanup level for Dioxins is 13 ng/kg. We will contact you in the next few months to work with you on a cleanup plan.
The soil from each sample location on the property was combined into one sample giving an average dioxin level for the Sample Area.

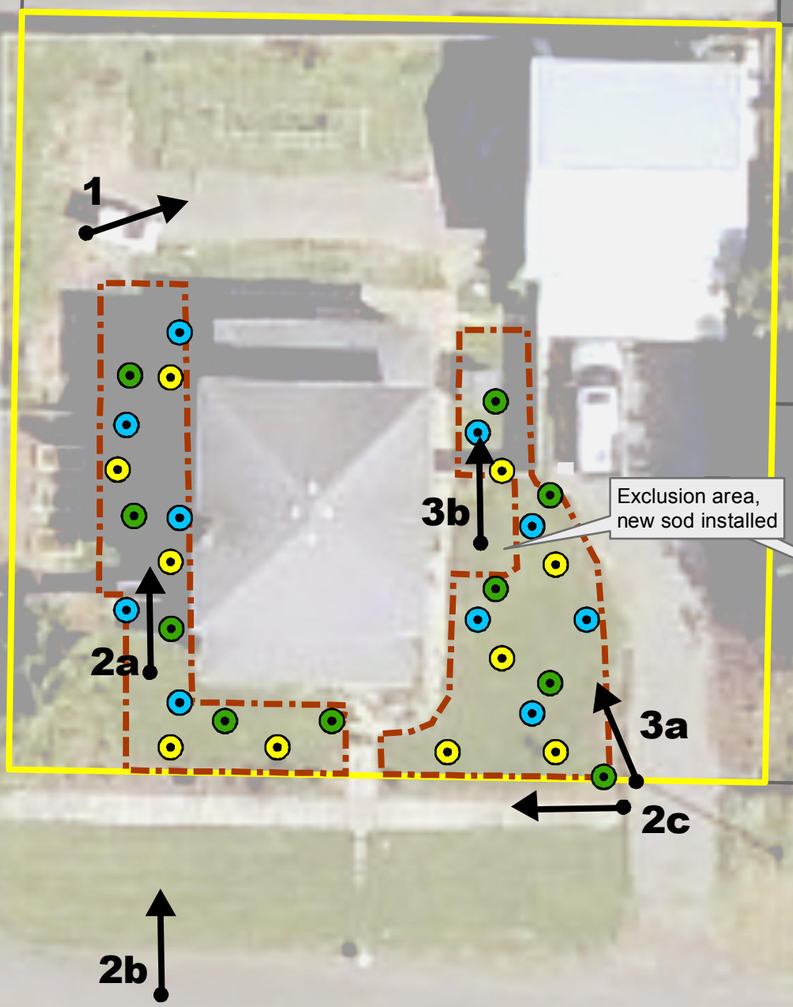
1 Former blacktop driveway exclusion area

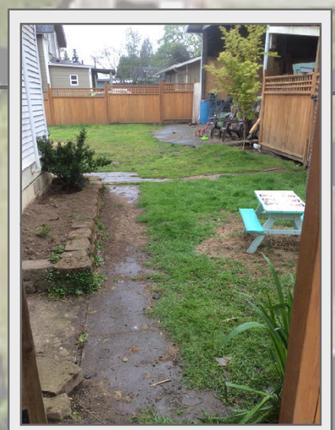


2a Side yard sampling area

2b Front yard sampling area, facing north

2c Front yard sampling area, facing west





3b Side yard sampling area

3a Side / front yard sampling area

Yard Soil Sampling Results and Sample Locations, ADDRESS, Map Number XXX

Ridgefield, Washington

0 10 20
Feet

Legend

- Sampling Area Extent
- Property Boundary
- Clark County Tax Lot Boundary
- Photo Location and Direction

Soil Sample Area

- Series A
- Series B
- Series C

Source: Aerial photograph and tax lots data (2014) obtained from Clark County GIS. Site photos taken 2/13/2015 and 4/13/2015.

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com

Path: X:\9003.01 Port of Ridgefield\39\Off-Property Yard Sampling\Projects\Public\Documents\SSAP 2\MailerFig_AOI-017_6-Ash St.mxd
Print Date: 10/9/2015
Approved By: mnovak
Produced By: jmiller
Project: 9003.01.39

Neighborhood Soil Sampling Results Map

Ridgefield, Washington

0 50 100

Feet

Legend

- Study Area
- Property Location Number
- Yard Soil Sampling Results
  - Dioxins below state cleanup level
  - Dioxins above state cleanup level
- No Sample Results
- Property Excluded
- Right-of-Way Cleanup Area

Source: Aerial photograph obtained from Esri ArcGIS Online. Tax Lot data (2014) obtained from Clark County GIS.

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com

Path: X:\9003.01 Port of Ridgefield\39\Off-Property Yard Sampling\Projects\PublicDocuments\Fig_AffectedParcelsCommunityMap.mxd
Print Date: 10/22/2015
Approved By: P. Wiescher
Produced By: jmiller
Project: 9003.01.39

Update on Off-Property Soil Study

Background

From 1964-1993, Pacific Wood Treating (PWT) operated on the Port of Ridgefield (port) waterfront property at 111 West Division in Ridgefield. PWT pressure treated wood products with a variety of toxic chemicals. Over the past 17 years, the port cleaned up or used a soil cap to cover areas where contamination was found on port property. In this last phase, the Department of Ecology (Ecology) and the port are studying and cleaning up dioxins in the neighborhood east of the port property (off-property area). Ecology and the port are funding the study and cleanup.

In 2009, the port began sampling in right-of-ways to define the extent of contamination in the off-property area. The initial samples were analyzed for multiple wood treating-related compounds such as pentachlorophenol (PCP), arsenic, polycyclic aromatic hydrocarbons (PAHs), and dioxins. Dioxins were the only contaminant found above cleanup levels. It was clear from the right-of-way sample results that dioxins might also be in yards. The yard soil sampling program started spring 2015.

This FAQ is to update you on the progress the port has made in sampling yards in the off-property area, summarize soil sampling results, and provide information about dioxins. We will update this document and our website when we have more information about the project.

Yard Sampling and the Off-Property Study

Q: What is happening now?

A: The port and Ecology are continuing to sample the soil in the off-property area to determine the extent of contamination.

- Sample results from yards and right-of-ways have been sent to owners and tenants (see page 3 map of results).
- Sampling shows contamination does not extend north of Maple Street.
- Additional soil samples are needed from Main and Mill Streets. We will start with the right-of-ways and continue until the extent of contamination is found.
- We are attempting to sample all homes within the off-property area
- Cleanup plans for the right-of-ways and yards will be developed with homeowners. Cleanup will begin summer/fall 2016.
- When the extent of contamination has been defined it will be documented in a series of reports that will be available for public comment.

TOPICS

FOR MORE INFORMATION

Site Investigation

Craig Rankine
Toxics Cleanup Program
PO Box 47775
Olympia, WA 98504-7775
Phone: (360) 690-4795
Craig.Rankine@ecy.wa.gov

Public Involvement

Stacy Galleher
Phone: (360) 407-6255
Stacy.Galleher@ecy.wa.gov

Health-Related Questions

Len O'Garro
WA State Department of Health
Phone: (360) 236-3376
E-mail:
Lenford.OGarro@doh.wa.gov

Ecology's Website

https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3020

Accommodation Requests

To request materials in a format for the visually impaired, call Ecology at (360) 407-6300, Washington Relay Service at 711, or TTY 877-833-6341.

Facility Site ID# 1019

Cleanup Site ID# 3020

Dioxin Information

Q: What are dioxins?

A: Dioxins are a family of chemicals with similar chemical structures and effects on living things. They are byproducts of both human activities and natural processes. They do not break down easily in the environment, and as a result, are found everywhere. Most people are exposed to very low levels of dioxins when they consume food or milk, breathe air, or have contact with dioxin contaminated soils or other materials.

Q: Where do dioxins come from?

A: We believe the elevated levels of dioxins in the off-property area likely came from air-borne dust while Pacific Wood Treating was operating. Dust blew off the port property, was tracked onto roads from truck tires, and came off trucks hauling treated wood on Division St.

Additionally, dioxins are byproducts of both human activities and natural processes. Dioxins can be formed during industrial processes, from home burn barrels*, fireplaces, wood stoves, and exhaust from diesel engines. Natural sources of dioxins are from forest fires or volcanoes.

Due to changes in environmental regulations and industrial processes, emissions of dioxins in the U.S. have decreased significantly since the 1970s.

**Please contact the Southwest Clean Air Agency for more information about the health effects of home burning, and how to reduce your risk. Phone: (360) 574-3058, Website: www.swcleanair.org.*

Q: How could I be exposed to dioxins?

A: Everyone is exposed to low levels of dioxins because they are present throughout our environment. Most exposure comes from food (especially meat and dairy products). Soil, air, and water usually contribute only a small part of our exposure to dioxins. However, because of the soil contamination, people living in and near the off-property area have a greater potential of exposure to soil dioxins. Exposure in the off-property area could occur by accidentally inhaling (breathing) in dust that carries dioxins or ingesting (eating) soil containing dioxins.

Q: Could dioxins affect the health of my family?

A: Long-term exposure to low levels of dioxins, like those found on the PWT site, does not pose an immediate health risk but may pose a long-term health risk. The odds of developing health problems are different for each person.

Based on data from animal studies, there is some concern that exposure to lower levels of dioxins over long periods (or higher levels at sensitive times) might affect human reproduction or cell development. Dioxins may also have harmful effects on the liver, peripheral nerves, the immune system, and may cause certain types of cancer. The health effects associated with low-level dioxin exposure are still being studied.

Q: How can I keep my family safe from possible contamination?

A: There are several ways you can reduce your exposure to dioxins and other types of soil contamination. These healthy actions include:

- Washing your hands before eating, and after playing, or working outside.
- Removing your shoes before going inside.
- Preventing children from eating dirt.
- Washing children's toys and pacifiers often.
- Damp dusting, mopping and vacuuming often.
- Brush and bathe pets often to keep them clean.
- Eating a healthy and balanced diet and with low to moderate amounts of meat and dairy products.
- Washing fruits and vegetables before eating them, especially if they are grown at home.
- Gardening in raised beds with clean soil.
- Wearing gloves when gardening or landscaping.

Q: Are the vegetables in my garden safe?

A: Fruits and vegetables are okay to eat because they take up only a small amount of dioxins that are in soil. However, since garden soils may cling to the edible portions, it is important to peel or wash produce to remove any possible contamination.

Properties and Right-of-Ways Soil Sample Results

DEPARTMENT OF
ECOLOGY
State of Washington
PO Box 47775
Olympia, WA 98504-7775

Please recycle

Pacific Wood Treating
Ridgefield, WA

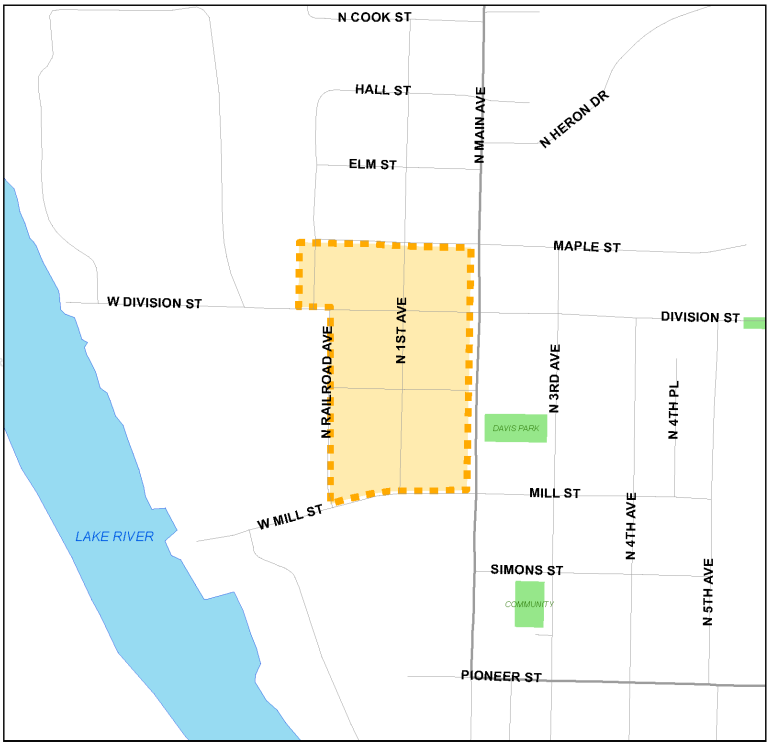
Update on Off-Property Soil Study

Facility Site ID #: 1019

To request ADA accommodation including materials in a format for the visually impaired, call Ecology at (360) 407-6300.

Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

¿Habla Español? Si necesita esta información en español, contáctenos a preguntas@ecy.wa.gov.



Healthy Actions

to remove dirt from your home

WASH YOUR HANDS
before eating

MOP AND VACUUM
once a week

WASH ALL FRUITS & VEGETABLES
before eating

TAKE OFF YOUR SHOES
at the door

CLEAN YOUR PETS
before they enter your home

WEAR SHOES AND GLOVES
when gardening and working outdoors

WASH CHILDREN'S TOYS & PACIFIERS
frequently

Why is it important to do these healthy actions?

There are many unhealthy things in dirt, including harmful chemicals like dioxins that can hurt your body. Some areas in Ridgefield are contaminated with dioxins. These chemicals remain in the soil and can be a long term health risk.

These healthy actions are simple steps you and your family can take to reduce contact with dioxins in the dirt.

Alternate formats available upon request

For more information please contact:

Site Manager
Craig Rankine – Dept. of Ecology
360.690.4795 • Craig.Rankine@ecy.wa.gov

Public Involvement
Stacy Galleher - Dept. of Ecology
360.407.6255 • Stacy.Galleher@ecy.wa.gov

https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3020

DEPARTMENT OF ECOLOGY
State of Washington

Printed on recycled material

Cleanup and Yard Replacement Process

DEPARTMENT OF ECOLOGY
State of Washington

Pacific Wood Treating **October 2015**

This list of frequently asked questions explains how yard replacement works and what to expect during the cleanup process.

Q: While I wait for cleanup, what can I do to protect myself and my family?

A: You can still use the areas of your yard that have dioxins, but we recommend reducing contact with soil. To reduce contact with soil we recommend you cover bare soil with mulch, repair bare patches of lawn, and garden in raised beds. See the healthy actions poster included in your packet for additional recommendations.

We remove the top 6 to 18 inches of contaminated soil.

Q: What is the process for soil removal and replacement?

A: Our cleanup staff will explain cleanup and landscaping options. We will:

1. Meet with you to gather information about your yard and draft a cleanup plan.
2. Meet again to review the plan, make any changes needed, and get final permission from the homeowner.
3. Create construction documents, get necessary permits, and go out to bid for a contractor.
4. Dig up contaminated soils and take them to the landfill.
5. Bring in new soil to backfill the area and restore the landscaping.
6. Give you documentation of the soil removal work completed on your yard.

We bring in new soil to backfill the area.

Q: How will you restore my landscaping?

A: We will restore the yard based on measurements and photographs taken during cleanup plan development and contractor's surveying. The options for landscaping include:

- Restore with the same or in-kind landscaping as before.
- Replace some of the lawn with mulched beds.

Some plants can be removed, transplanted, or replaced with nursery plants. The contractor will use either sod or hydro seed to replace lawn areas. They will maintain the new lawn for an agreed-upon length of time after installation.

We install sod or seed to replace the lawn.

Q: When will cleanup work start on my yard?

A: We hope to start planning this winter and begin cleanup summer/fall 2016.

Q: How long will soil removal and yard restoration take?

A: Planning and preparation for soil removal can take several months. Cleanup and restoration of the yard can take up to six weeks. Contractors may need more time if there is inclement weather or holidays.

Q: What areas may not be included in soil removal?

A: We likely cannot remove soil under:

- Buildings with foundations.
- Low decks.
- Sidewalks, patios, or driveways.
- Walls, ponds, or pools.
- Septic tanks or other underground structures.

We may place a covering of soil or other landscaping material in areas where we cannot remove soil.

Q: Are there any costs to the property owner?

A: A normal soil removal project should not cost the property owner anything. After cleanup, expenses may include watering and maintaining your new lawn or plants (after the contractor maintenance period has ended) and paying for any extra landscaping you want.

Q: Can I opt out of the program now and join later?

A: No, you cannot join after you have opted out. This cleanup is voluntary but only offered for a limited time.

The homeowner must mow, water and care for the new lawn after contractor maintenance period.

Q: What are my responsibilities as the property owner?

A: Provide yard access for any additional sampling or topographic surveying needed. Provide input during our yard restoration and cleanup planning visits.

Before work starts, you must provide access to the yard, driveway and adjacent street or alley. This may include parking vehicles on the street and out of the driveway, moving lawn equipment and furniture, and picking up kids' play equipment.

Our contractor will water and care for the new landscaping for an agreed-upon length of time. After this, you must care for the new lawn and other plants.

For More Information
Visit: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3020
Facility ID# 1019 Cleanup Site ID# 3020

Questions? Contact:
Cleanup Project Manager, Craig Rankine, 360-690-4795, Email: Craig.Rankine@ecy.wa.gov
Public Involvement Coordinator, Stacy Galleher, 360-407–6255, Email: Stacy.Galleher@ecy.wa.gov

To request **ADA accommodation**, call Ecology at 360-407-6300, Relay Service 711, or TTY 877-833-6341.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Vancouver Field Office • 12121 NE 99th St, Suite 2100
Vancouver, WA 98661-4622 • (360) 690-7171
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341
If you need this letter in another format, please call (360) 407-6300

DATE

The Department of Ecology (Ecology) and Port of Ridgefield (port) took soil samples from the yard at ADDRESS. The dioxin level in this yard is below the state cleanup level. This yard does not need cleanup. The enclosed map shows yard sample locations and results.

However, some right-of-way areas near this property are above the state cleanup level. Soil will eventually be replaced in areas that are above the cleanup level. We will continue sampling the neighborhood and develop a plan for cleanup. When we have more information we will provide it to homeowners.

We still recommend that you take these healthy actions to limit exposure to neighborhood soil. There is no immediate health concern but there is a long term risk. Long-term, daily exposure to the dioxin level found in your area raises the risk of certain health problems. The health risk comes from accidently swallowing, or breathing in the dust from soil, but not from touching it. These simple actions will reduce your family's exposure:

- Wash hands after contact with soil, especially for children.
- Take off shoes at the door or use a doormat.
- Vacuum regularly and dust with a damp cloth.
- Wipe pets' paws and brush off their fur before coming inside.

The enclosed materials offer more advice. For health questions, please contact the WA Department of Health at Lenford.OGarro@doh.wa.gov or (360) 236-3376.

We are continuing to sample soil in the neighborhood. Once we have completed our sampling we will send out more information. Again, this yard does not need cleanup.
For the latest information on the cleanup process, visit our website at https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3020.

If you have questions or concerns about the yard cleanup program, please contact me.

Thank you for your participation!

Sincerely,

Craig Rankine
Cleanup Project Manager
(360) 690-4795
Craig.Rankine@ecy.wa.gov

Enclosed Materials

- Yard results and sampling locations map
- Neighborhood soil sampling results map
- Healthy actions handout

Map of Neighborhood Results

East of Main Area

MAPLE ST
DIVISION ST
DIVISION ST
N 3RD AVE
ASH ST
N 4TH AVE
N 4TH PL
N 5TH AVE
MILL ST
N MAIN AVE
SIMONS ST
PIONEER ST

Location

North of Maple Area

East of Main Area

Lake River

Ridgefield

North of Maple Area

ELM ST
N RAILROAD AVE
N 1ST AVE
MAPLE ST
N
0 15 30 60 Feet

Source: Aerial photograph (2014) and tax lots (2014) obtained from Clark County GIS.

Ridgefield, Washington

Legend

Extent of Contamination

Clark County Tax Lots (2014)

Right of Way Surface Sample Locations (0- 0.5 ft)

- Results Below Cleanup Level
- Results Above Cleanup Level

Property Type

- Results Below Cleanup Level
- Results Above Cleanup Level
- Want to Sample Yard
- Non-Residential or Minimal Exposed Soil
- Need for Sampling To Be Determined
- No Sampling Needed

0 50 100
Feet

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com

Your property does not need cleanup. The Dioxin level is 3.40 nanograms per kilogram (ng/kg).
Cleanup level for Dioxins is 13 ng/kg.

The soil from each sample location on the property was combined into one sample giving an average dioxin level for the Sample Area.

1 From the southwest corner, facing north.

2 From the northwest corner, facing east.

3 From the southwest corner, facing east.

4 From the west side, facing south.

Yard Soil Sampling Results and Sample Locations, Map Number 049

Ridgefield, Washington

0 7.5 15
Feet

Legend

- Sampling Area
- Property Boundary
- Clark County Tax Lot Boundary
- Photo Location and Direction
- City of Ridgefield Sewer Excavation Area
- Soil Sampling Location

Source: Aerial photograph and tax lots data (2014) obtained from Clark County GIS. Site photos taken 1/24/2017.

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com

Path: X:\9003.01 Port of Ridgefield\39\Off-Property Yard Sampling\Projects\Phase 2\z_Public\Documents\MailerFig_AOI_049_303 Maple St.mxd
Print Date: 5/25/2017
Approved By: pwescher
Produced By: apadilla
Project: 9003.01.39

Healthy Actions

to remove dirt from your home

WASH YOUR HANDS
before eating

MOP AND VACUUM
once a week

WASH ALL FRUITS & VEGETABLES
before eating

TAKE OFF YOUR SHOES
at the door

CLEAN YOUR PETS
before they enter your home

WEAR SHOES AND GLOVES
when gardening and working outdoors

WASH CHILDREN'S TOYS & PACIFIERS
frequently

Why is it important to do these healthy actions?

There are many unhealthy things in dirt, including harmful chemicals like dioxins that can hurt your body. Some areas in Ridgefield are contaminated with dioxins. These chemicals remain in the soil and can be a long term health risk.

These healthy actions are simple steps you and your family can take to reduce contact with dioxins in the dirt.

Alternate formats available upon request

For more information please contact:

Site Manager
Craig Rankine – Dept. of Ecology
360.690.4795 • Craig.Rankine@ecy.wa.gov

Public Involvement
Stacy Galleher - Dept. of Ecology
360.407.6255 • Stacy.Galleher@ecy.wa.gov

https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3020

DEPARTMENT OF ECOLOGY
State of Washington

Printed on recycled material