STATE OF WASHINGTON
YAKIMA COUNTY SUPERIOR COURT

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Plaintiff, v. YAKIMA COUNTY, Defendant.	NO. _____ DE MINIMIS CONSENT DECREE

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I. INTRODUCTION

A. The mutual objectives of the State of Washington, Department of Ecology (Ecology) and Yakima County (Defendant or Yakima County) under this *de minimis* consent decree (Decree) relating to remedial actions at the Boise Cascade Mill Site, generally shown in Exhibit A and more fully defined in Section IV.A below, are as follows:

a. To reach a final settlement between the Parties with respect to the Site pursuant to RCW 70A.305.040(4), that allows Defendant to provide valuable consideration to Ecology to resolve Defendant's alleged liability under Chapter 70A.305 RCW, thereby reducing litigation relating to the Site;

b. To simplify any remaining administrative and judicial enforcement activities concerning the Site by eliminating a potentially liable person whose contribution is insignificant in amount and toxicity from further involvement at the Site;

c. To obtain settlement with Defendant that will lead to a more expeditious cleanup of certain hazardous substances at the Site; and

d. To provide for full and complete contribution protection for Defendant regarding the Site pursuant to RCW 70A.305.040(4)(d) and Section XVIII (Contribution Protection) herein.

B. Ecology has determined that these actions are necessary to protect human health and the environment, that this *de minimis* settlement will lead to a more expeditious cleanup at the Site, and that the settlement is in the public interest.

C. The Complaint in this action is being filed simultaneously with this Decree. An Answer has not been filed, and there has not been a trial on any issue of fact or law related to this Complaint.

D. However, the Parties wish to resolve the issues raised by Ecology's Complaint. In addition, the Parties agree that settlement of these matters without litigation is reasonable and

in the public interest, and that entry of this Decree is the most appropriate means of resolving these matters.

E. By signing this Decree, the Parties agree to its entry and agree to be bound by its terms.

F. By entering into this Decree, the Parties do not intend to discharge non-settling parties from any liability they may have with respect to matters alleged in the Complaint.

G. This Decree shall not be construed as proof of liability or responsibility for any releases of hazardous substances or cost for remedial action, or as an admission of any factual allegations, statements or claims in this Decree or in the Complaint; provided, however, that Defendant shall not challenge the authority of the Attorney General and Ecology to enforce this Decree.

H. The Court is fully advised of the reasons for entry of this Decree, and good cause having been shown,

Now, therefore, it is HEREBY ORDERED, ADJUDGED, AND DECREED as follows:

II. JURISDICTION

A. This Court has jurisdiction over the subject matter and over the Parties pursuant to the Model Toxics Control Act, Chapter 70A.305 RCW (MTCA).

B. Authority is conferred upon the Washington State Attorney General by RCW 70A.305.040(4)(a)to agree to a *de minimis* settlement with any potentially liable person (PLP) if, after public notice and any required hearing, Ecology finds that (1) the proposed settlement would lead to a more expeditious cleanup of hazardous substances; (2) the proposed cleanup complies with the cleanup standards and the requirements in any outstanding orders previously issued by Ecology for the Site; (3) the settling PLP's contribution of hazardous substances at the Site is insignificant in amount and toxicity; (4) the settlement is practicable and in the public interest. RCW 70A.305.040(4)(a); Ecology Toxic Cleanup Program Policy 520C

(2016). RCW 70A.305.040(4)(b) requires that such a settlement be entered as a consent decree issued by a court of competent jurisdiction.

C. Ecology has determined that a release or threatened release of hazardous substances has occurred at the Site that is the subject of this Decree.

D. Ecology has given notice to Defendant of Ecology's determination that Defendant is a PLP for the Site, as required by RCW 70A.305.020(26) and WAC 173-340-500.

E. Ecology and the Attorney General have determined that the actions to be taken pursuant to this Decree are necessary to protect public health and the environment.

F. This Decree has been subject to public notice and comment.

G. Ecology finds that this Decree will lead to a more expeditious cleanup of hazardous substances at the Site in compliance with the cleanup standards established under RCW 70A.305.030(2)(e) and WAC 173-340.

H. Based upon information currently known to Ecology, Ecology has determined that Defendant's contribution to contamination at the Site is insignificant in amount and toxicity and Defendant qualifies for a *de minimis* settlement pursuant to RCW 70A.305.040(4)(a).

I. Defendant has agreed to undertake the actions specified in this Decree and consents to the entry of this Decree under MTCA.

III. PARTIES BOUND

This Decree shall apply to and be binding upon the Parties to this Decree, their successors and assigns. The undersigned representative of each party hereby certifies that he or she is fully authorized to enter into this Decree and to execute and legally bind such party to comply with this Decree. Defendant agrees to undertake all actions required by the terms and conditions of this Decree. No change in ownership or corporate status shall alter Defendant's responsibility under this Decree. Defendant shall provide a copy of this Decree to all agents, contractors, and subcontractors retained to perform work required by this Decree, and shall ensure that all work

undertaken by such agents, contractors, and subcontractors complies with this Decree. No change in ownership or corporate status shall alter Defendant's responsibility under this Decree.

IV. DEFINITIONS

Unless otherwise specified herein, all definitions in RCW 70A.305.020 and WAC 173-340-200 shall control the meanings of the terms in this Decree.

A. Site: The Site is referred to as Boise Cascade Mill, Cleanup Site ID 12095, and is generally located within the footprint of the former Boise Cascade Mill facility. Most of the Site is located on the west side of Interstate-82 (I-82), but it also encompasses the portion of I-82 contained within the former Boise Cascade Mill facility and extends onto property east of I-82 that was used by the former Boise Cascade Mill facility. The Site is generally depicted in the Site Diagram attached as Exhibit A. The former Boise Cascade Mill facility existed prior to the construction of I-82, resulting in contamination underlying and on both sides of I-82. The general address assigned for Boise Cascade Mill Cleanup Site ID is 805 N. 7th Street in Yakima, Washington. The Site constitutes a facility under RCW 70A.305.020(8). The Site is further defined by where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed, or otherwise come to be located. The Site boundaries have not been determined at the time of this Decree.

B. Interim Action Cleanup Unit: Refers to the distinct area within the Site which is generally defined by Yakima County's East West Corridor Project right-of-way and associated construction footprints and as more specifically described in the attached Exhibit B. The Interim Action Cleanup Unit (IACU) is a distinct area within the Site generally located on the east side of I-82 on portions of Yakima County Parcel Nos. 191318-11002 and 191318-41002, and which further separately includes the portion(s) of property underlying I-82 that will be crossed by the East West Corridor Project footprint and right-of-way (I-82 Crossing). The IACU is described in the diagram attached as Exhibit B.

C. Parties: Refers to the State of Washington, Department of Ecology and Yakima County.

D. Defendant: Refers to Yakima County.

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

F. Cleanup Settlement Account: Refers to the special account created in the state treasury, pursuant to RCW 70A.305.130, and to which a court order directs payment.

G. Potentially Liable Person (PLP): Refers to Yakima County; OfficeMax Incorporated; Dunollie Enterprises, LLC; LeeLynn, Inc. & Wiley Mt., Inc.; and Yakima Resources, LLC.

V. FINDINGS OF FACTS

Ecology makes the following findings of fact without any express or implied admissions of such facts by Defendant.

A. The Site is located in Yakima County, Washington. The IACU consists of approximately 10 acres within the Site and is also located in Yakima County, Washington. The IACU is generally bounded by the eastern extent of the I-82 right-of-way (owned and controlled by the State of Washington Department of Transportation (WSDOT)) on the west (but including the I-82 Crossing), by the Central Washington Railroad line (owned by Jaguar Transport Holdings) on the north, and by the Greenway Trail and Yakima River on the east and the northern extent of the Rotary Playground area on the south. The portion of the Site containing the IACU also contains a crossing of I-82. The final Site boundaries have not yet been established as of the time of this Decree. The approximate geographic area of the Site, including the IACU, is described in Exhibit A. The geographical area of the IACU within the Site is described in Exhibit B and defined in Section IV.B of this Decree.

B. Between the early 1900s and 2006, the Site was used by Boise Cascade as a sawmill and lumber manufacturing facility. Contamination at the Site results from Boise Cascade's former sawmills, plywood plan, kiln buildings, boiler house, mill ponds and other support buildings and storage areas from the Boise Cascade mill historical operations.

C. The original mill facilities were bounded on the east by the Yakima River. The completion of I-82 in 1964 divided the Boise Cascade Mill Site into portions on the east and west sides of the interstate. In the past, the part of the facility now east of I-82 contained two large log ponds as part of a wet log processing system. The completion of I-82 in 1964 eliminated log access to the main part of the facility via surface water and resulted in changes to the mill operations. Parcel Nos. 191318-11002 and 191318-41002 were conveyed by donation through a quit claim deed to the Yakima River Greenway Foundation (Greenway Foundation) in January 1987, and then later conveyed by quit claim deed to Yakima County in January 1988. Historical photos from 1947 show log yard materials in the I-82 alignment and on the Yakima County owned parcels (Yakima County Parcel Nos. 191318-11002 and 191318-41002) east of I-82. Reports indicate that log yard material placement occurred in the area encompassing the IACU. In 2006, the Boise Cascade Mill ceased operations at the Site.

D. The County is currently seeking to complete the East West Corridor Project, which will connect Terrace Heights Drive with the west side of the Yakima River, crossing, in part, over and through the IACU and the Site. Ecology is aware of the County's East West Corridor Project and, provided that Defendant completes the work under this Decree, construction of the East West Corridor Project will not interfere with remedial action at the Site nor foreclose reasonable alternatives for the cleanup action. By letter dated October 3, 2024, Ecology advised Yakima County that it had added the East West Corridor Project Footprint as an Operable Unit at the Site.

E. Before entry of this Decree, Maul Foster & Alongi, Inc. (MFA) completed an initial investigation (II) level effort for Yakima County, which documented the presence of hazardous substances exceeding MTCA cleanup levels on a portion of the Yakima County owned parcels.[1] MFA and Ecology have subsequently coordinated on the development of preliminary cleanup levels (PCULs) for the IACU, which Ecology has confirmed and memorialized in an Ecology memorandum dated April 2, 2026, attached hereto as Exhibit D.[2]

F. The identified contaminants of concern (COCs) at the IACU include:

(1) Soil/woodwaste media: metals (mercury and nickel), hydrocarbons (diesel and oil), organochlorine pesticides (4,4'-DDT), volatile organic compounds (VOCs) (toluene, ethylbenzene, and xylenes), and semi-volatile organic compounds (SVOCs) (1,2,3-trichlorobenzene, fluoranthene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and cPAH TEQ).

(2) Groundwater: metals (iron and manganese).

G. On behalf of Yakima County, MFA has prepared an Interim Action Work Plan attached as Exhibit E.

H. Defendant's contribution to contamination at the Site is insignificant in amount and in toxicity. Defendant acquired real property consisting of Yakima County Parcel Nos. 191318-11002 and 191318-41002 within the Site after the release of hazardous substances resulting from operations of the Boise Cascade Mill occurred. Defendant acquired the property for roadway purposes and has not engaged in any activities on the property or within the Site

[1] Maul, Foster, and Alongi. (2024). Initial Investigation Report: East-West Corridor Roadway. Yakima, Washington.

[2] Ecology. (2026). Memorandum: East-West Corridor Roadway Project: Development of Preliminary Cleanup Levels (PCULs).

that caused a new release of hazardous substances or contributed to the prior release of hazardous substances at the Site.

I. The proposed settlement would lead to a more expeditious cleanup of hazardous substances at the Site, will not foreclose reasonable alternatives for the cleanup action at the Site, and is practicable and in the public interest.

J. Based on the documented facts, Ecology has determined that remedial action at the Site can be facilitated by *de minimis* settlement with Defendant.

VI. WORK TO BE PERFORMED

This Decree requires remedial actions to be completed which are designed to protect human health and the environment from the known release of hazardous substances or contaminants at, on or from the Site as provided herein. Defendant will assist in performing work designed to protect public health, welfare, and the environment from a known release of hazardous substances at the Site as provided herein.

A. Defendant agrees to settle its liability with Ecology by conducting remedial actions within the IACU described on Exhibit B as provided for in the Scope of Work and Schedule attached as Exhibit C and as described in the Interim Action Work Plan attached as Exhibit E:

(1) Defendant shall remove woodwaste materials within the IACU described on Exhibit B as provided in the Interim Action Work Plan attached as Exhibit E, and shall transport and dispose of such materials, including any hazardous substances contained and co-located within the woodwaste, in accordance with all applicable laws and regulations in effect as of the date of such work, including MTCA.

(2) Defendant shall remediate any soil contaminated with hazardous substances within the IACU described on Exhibit B at concentrations exceeding applicable

cleanup levels in accordance with the Scope of Work and Schedule set forth in Exhibit C and as provided in the Interim Action Work Plan attached as Exhibit E, or other methods as may be approved by Ecology.

B. Defendant's obligations to perform remedial actions under this Decree are limited to the woodwaste and contaminated soil removal and remediation described in this Section VI.A. Defendant shall not be responsible for investigating or remediating groundwater contamination within the IACU or the Site.

C. The County may complete the remedial actions for the IACU under this Decree prior to the completion of a final cleanup action for the Site as a whole. To ensure that the County's East West Corridor Project does not foreclose reasonable alternatives for any final cleanup action at the Site, the County shall undertake any such construction and improvements that are within the Site in compliance with this Section VI.

D. Except in cases of emergency or where required by law, Defendant agrees not to perform any remedial actions at the Site except as provided by this Decree. In the event of an emergency, or where actions are taken as required by law, Defendant must notify Ecology in writing of the event and remedial actions planned or taken as soon as practical but no later than within 24 hours of the discovery of the event. All work conducted by Defendant under this Decree shall be done in accordance with WAC 173-340 unless otherwise provided herein.

E. All plans or other deliverables submitted by Defendant for Ecology's review and approval under the Scope of Work and Schedule (Exhibit C) shall, upon Ecology's approval, become integral and enforceable parts of this Decree.

VII. COOPERATION AND PROPERTY ACCESS

A. Defendant agrees to cooperate with Ecology and further agrees not to interfere with remedial actions performed at the Site by Ecology or other potentially liable persons operating under an Order or Decree with Ecology for performance of remedial action at the

Site (hereinafter "Other Performing Parties"). Ecology agrees, consistent with its responsibilities under applicable law, to use reasonable efforts to minimize interference with Defendant's operations by such entry and remedial actions.

B. Defendant shall, with respect to all property at the Site that Defendant either owns, controls, or has access rights to, provide Ecology, Other Performing Parties and their representatives, contractors, and subcontractors with access at all reasonable times to its property at the Site to conduct any activity relating to remedial actions being pursued under an Order or Decree with Ecology at the Site, provided that any party accessing the Site under this provision avoids or minimizes potential interference with Defendant's work under this Decree or the East West Corridor Project. Ecology, or any Ecology authorized representative, or Other Performing Parties shall give reasonable notice before entering any Site property owned or controlled by Defendant unless an emergency prevents such notice. In the case of such emergency, Ecology shall give notice of such entry as soon as reasonably practicable, which may include post-entry notice. Ecology, Other Performing Parties and their representatives, contractors, and subcontractors who access the Site pursuant to this Section shall be responsible for their own safety and shall comply with any applicable health and safety plan(s) (HSAPs), a copy of which shall be provided to Ecology and Yakima County, together with any subsequent updates. Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of Site property access.

C. Ecology or any Ecology authorized representative shall have access to enter and freely move about all property at the Site that Defendant either owns, controls, or has access rights to at all reasonable times for the purposes of, *inter alia*: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Decree; reviewing Defendant's progress in carrying out the terms of this Decree; conducting such tests or collecting such samples as Ecology may deem necessary; using a camera, sound recording, or other

documentary type equipment to record work done pursuant to this Decree; and verifying the data submitted to Ecology by Defendant. Defendant shall make all reasonable efforts to secure access rights for those properties within the Site not owned or controlled by Defendant where remedial activities or investigations will be performed by Defendant pursuant to this Decree. Ecology or any Ecology authorized representative shall give reasonable notice before entering any Site property owned or controlled by Defendant unless an emergency prevents such notice. All Parties who access the Site pursuant to this Section shall comply with any applicable health and safety plan(s). Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of Site property access.

D. Defendant shall, with respect to all property at the Site that Defendant either owns, controls, or has access rights to, refrain from using its property in any manner that Ecology determines will (i) pose an unacceptable risk to human health or the environment due to exposure to hazardous substances or (ii) interfere with or adversely affect the implementation, integrity, or protectiveness of remedial actions at the Site. Notwithstanding the above, Defendant may complete road construction and related improvements associated with the East West Corridor Project within the IACU prior to the completion of a final cleanup action at the Site.

E. Defendant shall use best efforts to secure from WSDOT such access as necessary for implementation of the IAWP required by this Decree and providing Defendant, and its representatives, contractors, and subcontractors with access to the WSDOT Property in order to conduct any activity at the Site and within the IACU required by the Decree (the "Access Agreement"). Upon request, Defendant shall provide Ecology a copy of each Access Agreement contemplated under this Section. If Defendant cannot obtain an Access Agreement that meets the requirements of this Section through best efforts in a timely manner, it shall notify Ecology, and include a description of the steps taken to achieve the requirements. Ecology may assist Defendant, or take independent action, to obtain an Access Agreement that incorporates the

provisions listed herein. As used in this Section, "WSDOT Property" means any real property, or portion thereof, within the IACU owned or controlled by WSDOT, including without limitation the I-82 Crossing.

F. In the event that Defendant becomes aware of any action or occurrence that causes or threatens a release of hazardous substances at or from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Defendant shall immediately take all appropriate action to prevent, abate, or minimize such release or threat of release, and shall, in addition to complying with any applicable notification requirements under the MTCA, or any other law, immediately notify Ecology of such release or threatened release.

VIII. DESIGNATED PROJECT COORDINATORS

A. The project coordinator for Ecology is:

John Zinza, P.E.
Toxics Cleanup Program
Washington State Department of Ecology
Central Regional Office
1250 W. Alder Street, Union Gap, WA 98903
Tel: 509-225-0304
Fax: 509-575-2809
Email: john.zinza@ecy.wa.gov

The project coordinator for Defendant is:

Matt Pietrusiewicz, P.E.
County Engineer
County Roads, Yakima County
128 N 2nd Street4th Floor
Yakima, WA 98901
Tel: 509-574-2300
Fax: 509-574-2301
Email: matt.pietrusiewicz@co.yakima.wa.us

B. Each project coordinator shall be responsible for overseeing the implementation of this Decree. Ecology's project coordinator will be Ecology's designated representative for the IACU of the Site. To the maximum extent possible, communications between Ecology and

Defendant and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Decree shall be directed through the project coordinators. All documents required by this Decree or correspondence pertaining to this Decree shall be sent by overnight delivery service and/or email transmittal to the designated project coordinator.

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

IX. PERFORMANCE

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

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

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

D. Any documents submitted containing geologic, hydrologic, or engineering work shall be under the seal of an appropriately licensed professional as required by RCW 18.43 and 18.220.

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

X. RETENTION OF RECORDS

A. During the pendency of this Decree, and for ten (10) years from the date this Decree is no longer in effect as provided in Section XXII (Duration of Decree), Defendant shall preserve all records, reports, documents, and underlying data in its possession relevant to the implementation of this Decree and shall insert a similar record retention requirement into all contracts with project contractors and subcontractors. Upon request of Ecology, Defendant shall make all records available to Ecology and allow access for review within a reasonable time.

B. Nothing in this Decree is intended by Defendant to waive any right it may have under applicable law to limit disclosure of documents protected by the attorney work-product doctrine and privilege and/or the attorney-client privilege or other privileges held by Defendant and recognized by law. If Defendant withholds any requested records based on an assertion of privilege, Defendant shall provide Ecology with a privilege log specifying the records withheld and the applicable privilege. No Site-related data collected pursuant to this Decree shall be considered privileged.

XI. SAMPLING, DATA SUBMITTAL, AND AVAILABILITY

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

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

allow Defendant and/or its authorized representative to take split or duplicate samples of any samples collected by Ecology pursuant to the implementation of this Decree, provided that doing so does not interfere with Ecology's sampling. Without limitation on Ecology's rights under Section VII (Cooperation and Property Access), Ecology shall notify Defendant prior to any sample collection activity unless an emergency prevents such notice.

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

XII. TRANSFER OF INTEREST IN PROPERTY

A. No voluntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by Defendant without provisions for continued access and to refrain from using the property to the same extent as is provided under Section VII (Cooperation and Property Access).

B. Prior to Defendant's transfer of any interest in all or any portion of the Site, and during the effective period of this Decree, Defendant shall provide a copy of this Decree to any prospective purchaser, lessee, transferee, assignee, or other successor in said interest; and, at least thirty (30) days prior to any transfer, Defendant shall notify Ecology of said transfer. Upon transfer of any interest, Defendant shall notify all transferees of the restrictions on the activities and uses of the property under this Decree and incorporate any such use restrictions into the transfer documents.

XIII. RESOLUTION OF DISPUTES

A. In the event that Defendant elects to invoke dispute resolution, Defendant must utilize the procedure set forth below.

1. Upon the triggering event (receipt of Ecology's project coordinator's written decision or an itemized billing statement), Defendant has fourteen (14) calendar

days within which to notify Ecology's project coordinator in writing of its dispute (Informal Dispute Notice).

2. The Parties' project coordinators shall then confer in an effort to resolve the dispute informally. The parties shall informally confer for up to fourteen (14) calendar days from receipt of the Informal Dispute Notice. If the project coordinators cannot resolve the dispute within those 14 calendar days, then within seven (7) calendar days Ecology's project coordinator shall issue a written decision (Informal Dispute Decision) stating: the nature of the dispute; the Defendant's position with regards to the dispute; Ecology's position with regards to the dispute; and the extent of resolution reached by informal discussion.

3. Defendant may then request regional management review of the dispute. This request (Formal Dispute Notice) must be submitted in writing to the Central Region Toxics Cleanup Section Manager within seven (7) calendar days of receipt of Ecology's Informal Dispute Decision. The Formal Dispute Notice shall include a written statement of dispute setting forth: the nature of the dispute; the disputing Party's position with respect to the dispute; and the information relied upon to support its position.

4. The Section Manager shall conduct a review of the dispute and shall issue a written decision regarding the dispute (Decision on Dispute) within thirty (30) calendar days of receipt of the Formal Dispute Notice.

5. If Defendant finds Ecology's Regional Section Manager's decision unacceptable, Defendant may then request final management review of the decision. This request (Final Review Request) shall be submitted in writing to the Toxics Cleanup Program Manager within seven (7) calendar days of Defendant's receipt of the Decision on Dispute. The Final Review Request shall include a written statement of dispute setting

forth: the nature of the dispute; the disputing Party's position with respect to the dispute; and the information relied upon to support its position.

6. Ecology's Toxics Cleanup Program Manager shall conduct a review of the dispute and shall issue a written decision regarding the dispute (Final Decision on Dispute) within thirty (30) calendar days of receipt of the Final Review Request. The Toxics Cleanup Program Manager's decision shall be Ecology's final decision on the disputed matter.

B. If Ecology's Final Decision on Dispute is unacceptable to Defendant, Defendant has the right to submit the dispute to the Court for resolution. The Parties agree that one judge should retain jurisdiction over this case and shall, as necessary, resolve any dispute arising under this Decree. In the event Defendant presents an issue to the Court for review, the Court shall review any investigative or remedial decision under RCW 70A.305.030 or RCW 70A.305.050 or decision regarding filing a lien under RCW 70A.305.060 of Ecology on the basis of whether such decision was arbitrary and capricious and render a decision based on such standard of review. The Court shall review any other decision or action of Ecology on the basis of whether such action or decision was contrary to law.

C. The Parties agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used. Where either party utilizes the dispute resolution process in bad faith or for purposes of delay, the other party may seek sanctions.

D. Implementation of these dispute resolution procedures shall not provide a basis for delay of any activities required in this Decree, unless Ecology agrees in writing to a schedule extension or the Court so orders.

E. In case of a dispute, failure to either proceed with the work required by this Decree or timely invoke dispute resolution may result in Ecology's determination that

insufficient progress is being made in preparation of a deliverable, and may result in Ecology undertaking the work under Section XXIV (Implementation of Remedial Action).

XIV. AMENDMENT OF DECREE

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

Substantial changes to the work to be performed shall require formal amendment of this Decree. Ecology will provide public notice and opportunity for comment on a proposed formal amendment. This Decree may only be formally amended by a written stipulation among the Parties that is entered by the Court, or by order of the Court. Such formal amendment shall become effective upon entry by the Court.

When requesting a substantial change to the Decree, a Party shall submit a written request to the other Party for approval. That Party shall indicate its approval or disapproval in writing and in a timely manner after the written request for formal amendment is received. Reasons for the disapproval of a proposed formal amendment to the Decree shall be stated in writing. Agreement to amend the Decree shall not be unreasonably withheld by any party. If a Party does not agree to a proposed formal amendment, the dispute may be submitted to the Court for resolution. The Parties agree that one judge should retain jurisdiction over this case and shall, as necessary, resolve any dispute arising under this Decree.

XV. EXTENSION OF SCHEDULE

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

a. The deadline that is sought to be extended;

b. The length of the extension sought;

c. The reason(s) for the extension; and

d. Any related deadline or schedule that would be affected if the extension were granted.

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

a. Circumstances beyond the reasonable control and despite the due diligence of Defendant, including delays caused by unrelated third parties or Ecology, such as (but not limited to) delays by Ecology in reviewing, approving, or modifying documents submitted by Defendant;

b. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or other unavoidable casualty; or

c. Endangerment as described in Section XVI (Endangerment).

However, neither increased costs of performance of the terms of this Decree nor changed economic circumstances that are not attributable to an event described in XV.2.a through 2.c, above, shall be considered circumstances beyond the reasonable control of Defendant.

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

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

a. Delays in the issuance of a necessary permit which was applied for in a timely manner;

b. Other circumstances deemed exceptional or extraordinary by Ecology; or

c. Endangerment as described in Section XVI (Endangerment).

XVI. ENDANGERMENT

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

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

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

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

XVII. COVENANT NOT TO SUE

A. Covenant Not to Sue: Except as specifically provided in this Section, in consideration of Defendant's compliance with the terms and conditions of this Decree, Ecology covenants not to institute legal or administrative actions against Defendant regarding the release or threatened release of hazardous substances at the Site. This Decree is limited to the Site described in Section IV.A as generally depicted on Exhibit A and the IACU described in Section IV.B as generally depicted on Exhibit B. This Decree does not cover any other area. Ecology retains all of its authority relative to any area not covered by this Decree. Nothing in this Decree shall be construed to relieve Defendant of Defendant's duty to exercise due care with respect to hazardous substances at the Site or Defendant's duty to comply with all applicable laws and regulations.

This Covenant Not to Sue shall have no applicability whatsoever to:

1. Criminal liability;

2. Liability for damages to natural resources; and

3. Any Ecology action, including cost recovery, against PLPs not a party to this Decree.

B. Reopeners: Notwithstanding any other provision in this Decree, Ecology specifically reserves the right to institute legal or administrative action against Defendant to require it to perform additional remedial actions at the Site and to pursue appropriate cost recovery, pursuant to RCW 70A.305.050 under the following circumstances:

1. Upon Defendant's failure to meet the requirements of this Decree; or

2. Upon information being discovered that indicates that the Defendant contributed hazardous substances to the Site in such greater amount or of such greater toxic or other hazardous effects that such Defendant no longer qualifies as a *de minimis* party at the Site; or

3. Upon Ecology's determination that remedial action beyond the terms of this Decree is necessary to abate an imminent and substantial endangerment to human health or the environment.

C. Except in the case of an emergency, prior to instituting legal or administrative action against Defendant pursuant to this Section, Ecology shall provide Defendant with fifteen (15) calendar days' notice of such action.

D. If factors not known at the time of entry of this Decree are discovered and present a previously unknown threat to human health or the environment, either Party may petition the Court to amend the Covenant Not to Sue pursuant to RCW 70A.305.040(4)(c) and the Reopener provisions in Section XVII.B of this Decree.

XVIII. CONTRIBUTION PROTECTION

A. Claim for Contribution Against Defendant. With regard to claims for contribution against Defendant, the Parties agree and the Court finds and orders that Defendant is entitled to protection against claims for contribution for matters addressed in this Decree as provided by RCW 70A.305.040(4)(d). The "matters addressed" in this Decree are all remedial actions taken or to be taken and all remedial action costs incurred or to be incurred, at or in connection with the Site, by Ecology or any other person; provided, however, that if Ecology exercises rights under Section XVII (Covenant Not to Sue) to require Defendant to perform additional remedial actions at the Site and/or to pursue appropriate cost recovery from Defendant, the "matters addressed" in this Decree will no longer include those remedial action costs or remedial actions that are within the scope of the exercised reservation.

B. Claim for Contribution Against Site Potentially Liable Persons. Defendant agrees not to assert any claims and to waive all claims or causes of action that it may have for remedial action costs relating to the work performed pursuant to this Decree under Section VI (Work to be Performed) at the IACU at the Site against any other person whom Ecology has

determined is a potentially liable person under MTCA at the Site. This agreement and waiver shall not apply with respect to (a) any defense, claim, counterclaim, crossclaim, or cause of action that Defendant may have against any such person if such person asserts a claim or cause of action relating to the Site against Defendant or (b) any defense, claim, counterclaim, crossclaim, or cause of action that Defendant may have against any person if Ecology exercises its rights under Section XVII (Covenant Not to Sue) to require Defendant to perform additional remedial actions at the Site and/or to pursue cost recovery from Defendant as may pertain to such matters.

XIX. INDEMNIFICATION

Defendant agrees to indemnify and save and hold the State of Washington, its employees, and agents harmless from any and all claims or causes of action (i) for death or injuries to persons, or (ii) for loss or damage to property to the extent arising from or on account of acts or omissions of Defendant, its officers, employees, agents, or contractors in entering into and implementing this Decree. However, Defendant shall not indemnify nor save and hold the State of Washington, nor its employees and agents, harmless from any claims or causes of action to the extent arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State, in entering into or implementing this Decree.

XX. COMPLIANCE WITH APPLICABLE LAWS

A. All actions carried out by Defendant pursuant to this Decree shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits, except as provided in RCW 70A.305.090.

B. Pursuant to RCW 70A.305.090(1), Defendant may be exempt from the procedural requirements of RCW 70A.15, 70A.205, 70A.300, 77.55, 90.48, and 90.58 and of any laws requiring or authorizing local government permits or approvals. However, Defendant shall comply with the substantive requirements of such permits or approvals. For permits and

approvals covered under RCW 70A.305.090(1) that have been issued by local government, the Parties agree that Ecology has the non-exclusive ability under this Decree to enforce that any actions taken pursuant to this Decree comply with the substantive requirements of any applicable local government permits and/or approvals.

C. Defendant has a continuing obligation to determine whether additional permits or approvals addressed in RCW 70A.305.090(1) would otherwise be required for the remedial action under this Decree. In the event either Ecology or Defendant determines that additional permits or approvals addressed in RCW 70A.305.090(1) would otherwise be required for the remedial action under this Decree, it shall promptly notify the other party of its determination. Ecology shall determine whether Ecology or Defendant shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, Defendant shall promptly consult with the appropriate state and/or local agencies and provide Ecology with written documentation from those agencies of the substantive requirements those agencies believe are applicable to the remedial action. Ecology shall make the final determination on the additional substantive requirements that must be met by Defendant and on how Defendant must meet those requirements. Ecology shall inform Defendant in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Decree. Defendant shall not begin or continue the remedial action potentially subject to the additional requirements until Ecology makes its final determination.

D. Pursuant to RCW 70A.305.090(2), in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70A.305.090(1) would result in the loss of approval from a federal agency that is necessary for the state to administer any federal law, the exemption shall not apply and Defendant shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70A.305.090(1), including any requirements to obtain permits or approvals.

XXI. PUBLIC PARTICIPATION

A Public Participation Plan is required for this Site. Ecology shall review any existing Public Participation Plan to determine its continued appropriateness and whether it requires amendment, or if no plan exists, Ecology shall develop a Public Participation Plan alone or in conjunction with Defendant. Ecology shall maintain the responsibility for public participation at the Site. However, Defendant shall cooperate with Ecology, and shall:

A. If agreed to by Ecology, develop appropriate mailing lists, and prepare drafts of public notices and fact sheets regarding this settlement. As appropriate, Ecology will edit, finalize, and distribute such fact sheets and prepare and distribute public notices of Ecology's presentations and meetings.

B. Notify Ecology's project coordinator prior to the preparation of all press releases and fact sheets, and before meetings with the interested public and/or local governments related to remedial action work to be performed under this Decree. Likewise, Ecology shall notify Defendant prior to the issuance of all press releases and fact sheets, and before meetings with the interested public and/or local governments regarding remedial action work to be performed under this Decree. For all press releases, fact sheets, meetings, and other outreach efforts by Defendant that do not receive prior Ecology approval, Defendant shall clearly indicate to its audience that the press release, fact sheet, meeting, or other outreach effort was not sponsored or endorsed by Ecology.

C. When requested by Ecology, participate in public presentations regarding this settlement. Participation may be through attendance at public meetings to assist in answering questions, or as a presenter.

D. When requested by Ecology, arrange and/or continue information repositories at the following locations:

1. Yakima Public Library
102 North 3rd Street
Yakima, WA 98901

2. Ecology's Central Regional Office
1250 W. Alder Street
Union Gap, WA 98903

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

XXII. DURATION OF DECREE

This Decree shall remain in effect, and this Court shall retain jurisdiction over both the subject matter of the Decree and the Parties for the duration of the performance of the terms and provisions of this Decree for the purpose of enabling any of the Parties to apply to the Court at any time for such further order, direction, and relief as may be necessary or appropriate to ensure that obligations of the Parties have been satisfied. Ecology will provide prompt written notification to Defendant that the requirements of this Decree have been satisfactorily completed. This Decree shall remain in effect until dismissed by the Court. When dismissed, Section VII (Cooperation and Property Access), Section X (Retention of Records), Section XII (Transfer of Interest in Property), Section XVII (Covenant Not to Sue), Section XVIII (Contribution Protection), Section XIX (Indemnification), and Section XXV (Claims Against the State) shall survive.

XXIII. PAYMENT OF REMEDIAL ACTION COSTS

Defendant shall pay to Ecology costs incurred by Ecology pursuant to this Decree and consistent with WAC 173-340-550(2). These costs shall include work performed by Ecology or its contractors for, or on, and reasonably attributable to, implementation of this Decree and the work performed under Section VI (Work to be Performed) at the IACU at the Site under RCW 70A.305, including remedial actions and Decree oversight and administration. These costs shall

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

In addition to other available relief, pursuant to RCW 19.16.500, Ecology may utilize a collection agency and/or, pursuant to RCW 70A.305.055, file a lien against real property subject to the remedial actions to recover unreimbursed remedial action costs.

Ecology has accumulated $92,574.00 in past remedial action costs related to the preparation and negotiation of this Decree and the IACU at Site. In satisfaction of liability for remedial action costs incurred by Ecology pursuant to this Decree and consistent with WAC 173-340-550(2) prior to the Effective Date of this Decree, Defendant shall pay to Ecology $46,287.00 in reimbursement for remedial action costs.

The Parties agree, and by entering this Decree this Court orders, that within sixty (60) days after Defendant receives notice of the entry of the Decree by this Court, Defendant shall make payment of $46,287.00 to Ecology payable to the "Cleanup Settlement Account." Defendant shall send the check to:

Fiscal Cashier
Department of Ecology
P.O. Box 5128
Lacey, WA 98503

At the time of payment, Defendant shall send notice that such payment has been made to Ecology's project coordinator.

XXIV. IMPLEMENTATION OF REMEDIAL ACTION

If Ecology determines that the Defendant has failed to make sufficient progress or failed to implement the remedial action, in whole or in part, Ecology may, after notice to Defendant, perform any or all portions of the remedial action or at Ecology's discretion allow the Defendant opportunity to correct. The Defendant shall reimburse Ecology for the costs of doing such work in accordance with Section XXIII (Payment of Remedial Action Costs).

XXV. CLAIMS AGAINST THE STATE

Defendant hereby agrees that it will not seek to recover any costs incurred in implementing this Decree from the State of Washington or any of its agencies; and further, that Defendant will make no claim against any MTCA account for any costs incurred in implementing this Decree. This Section does not limit or address funding that may be provided under WAC 173-322A.

XXVI. EFFECTIVE DATE

This Decree is effective upon the date it is entered by the Court.

XXVII. WITHDRAWAL OF CONSENT

If the Court withholds or withdraws its consent to this Decree, it shall be null and void at the option of any Party and the accompanying Complaint shall be dismissed without costs and without prejudice. In such an event, no Party shall be bound by the requirements of this Decree.

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY	NICK BROWN Attorney General
_____ Nhi Irwin Program Manager Toxics Cleanup Program	_____ Dan Lawler, WSBA #63283 Assistant Attorney General 360-586-8171
Date: _____	Date: _____

YAKIMA COUNTY

Yakima County Board of County Commissioners

_____
LaDon Linde
Chair

_____
Amanda McKinney
Commissioner

_____
Kyle Curtis
Commissioner

Date: _____

ENTERED this _____ day of _____ 2026.

_____
JUDGE
Yakima County Superior Court

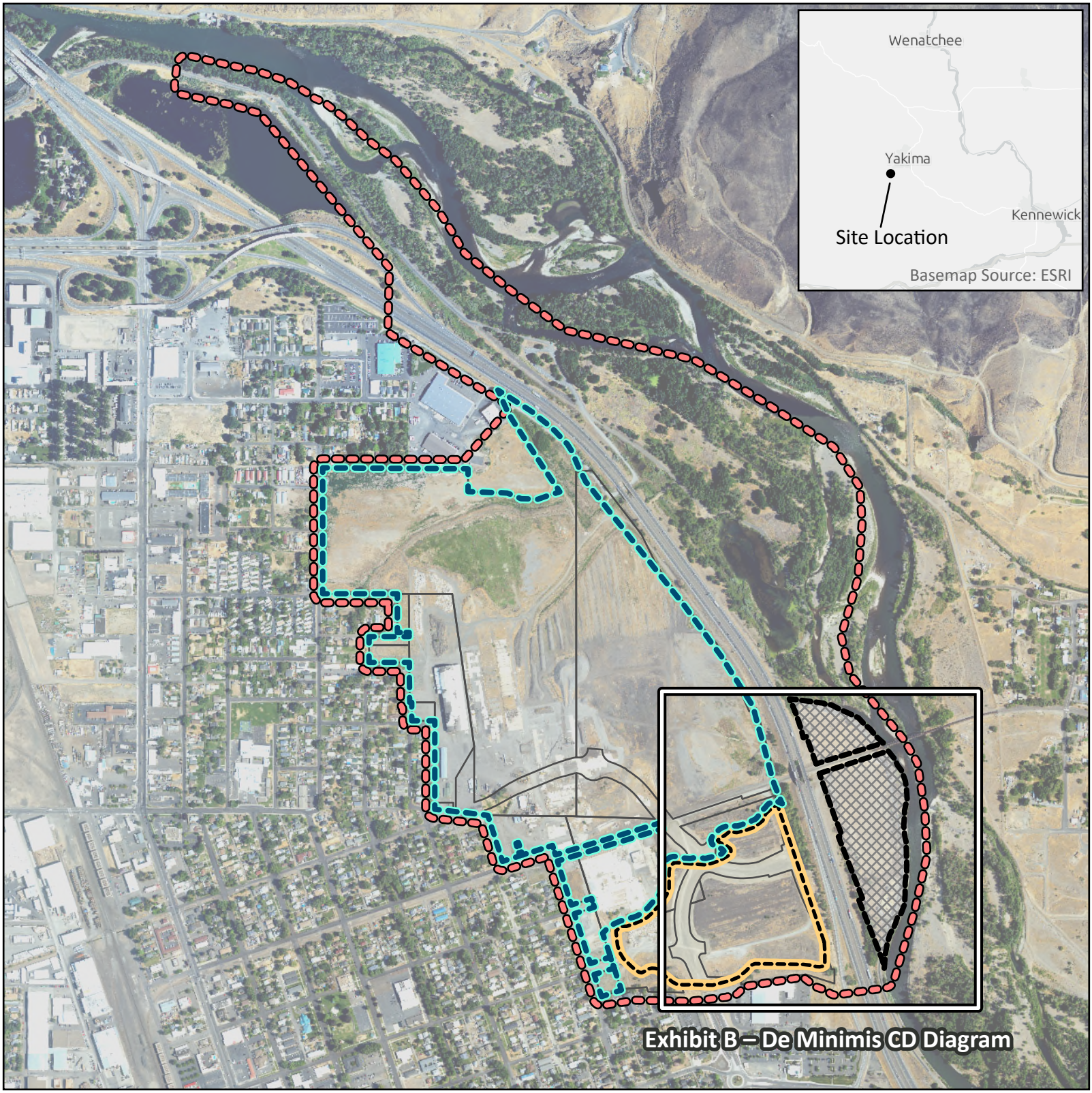

Exhibit A: Site Diagram - Boise Cascade Mill Site

Boise Cascade Mill Site (FSID 450/CSID 12095) as generally depicted in Exhibit A to Agreed Order No. DE 13959

Interstate 82 Exit 33A Yakima City Landfill (FSID 1927/CSID 3853) as generally depicted on Exhibit A of Agreed Order No. 15861

Extent of contamination identified in the Yakima County 2024 Investigation that is part of the Boise Cascade Mill Site

Historical Mill Operational Extents (Approximate - subject to change based on ongoing historical review)

N

0 250 500 1,000 Feet

Imagery Source: HxGN 2023

The extents of cleanup unit covered by this de minimis CD are those areas of the former Boise Cascade Mill and portions of Yakima County Parcel No. 191318-11002 and 191318-41002 that are generally bordered on the west by the I-82 ROW, on the north by the Railroad ROW, and on the east by the Greenway Trail, and on the south by the Rotary Playground. The cleanup work to be performed under this de minimis CD is expected to occur within these cleanup unit boundaries. Soil and wood waste contamination outside the cleanup unit remain the responsibility of the Boise Cascade Mill Site PLPs.

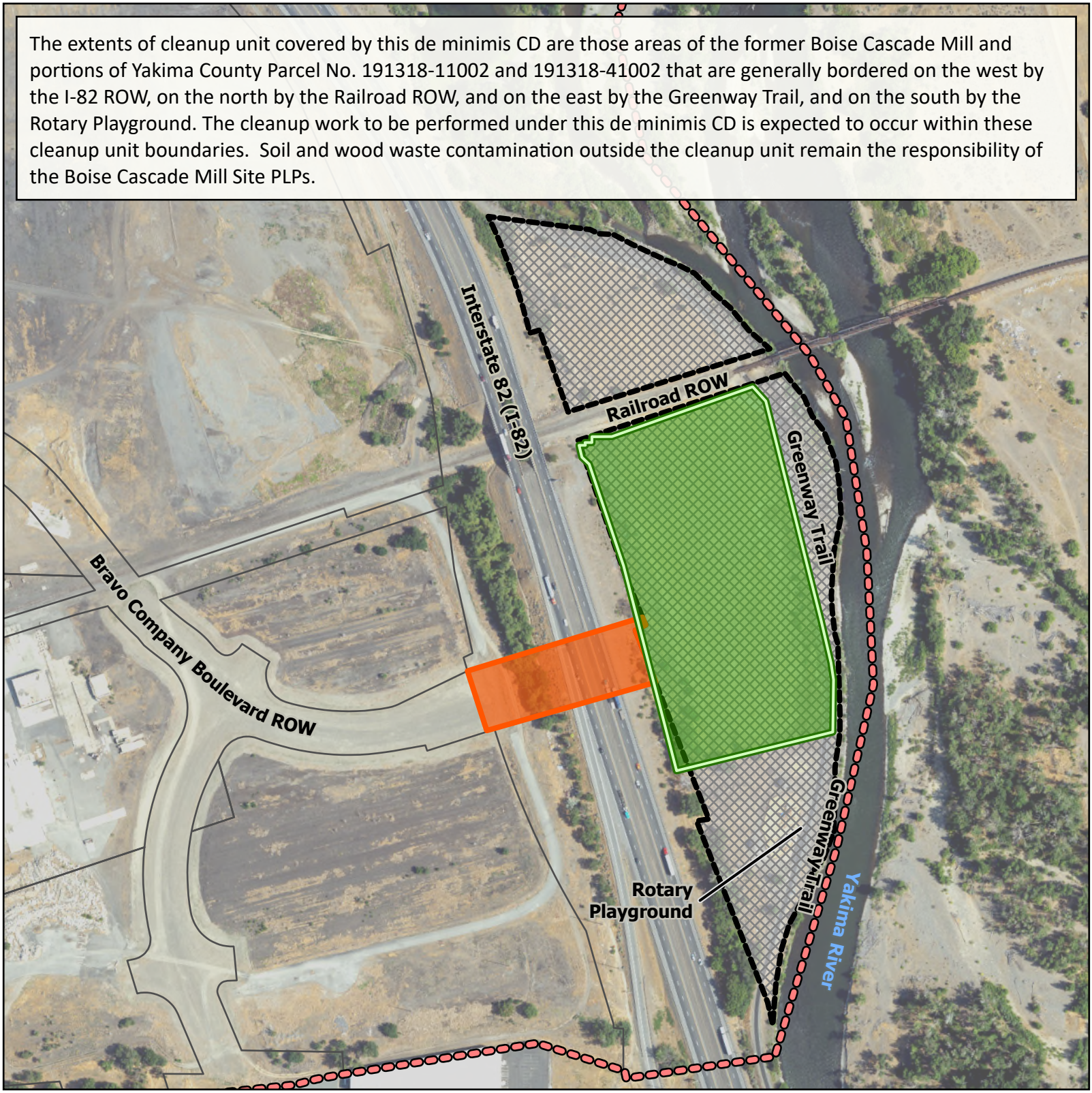

Exhibit B: De Minimis CD Diagram - Boise Cascade Mill Site

Proposed East-West Crossing of I-82 (Contamination to be addressed as part of and during construction)

Extent of contamination identified in the Yakima County 2024 Investigation that is part of the Boise Cascade Mill Site

Historical Mill Operational Extents (Approximate - subject to change based on ongoing historical review)

Extent of cleanup unit under de minimis consent decree

Imagery Source: HxGN 2023

0 125 250 500 Feet

N

EXHIBIT C
SCOPE OF WORK AND SCHEDULE

PURPOSE

The Scope of Work is to be used by Yakima County (the "County") and its consultants to implement the interim action detailed in the Interim Action Work Plan (Exhibit E) ("IAWP")) and to create any additional plans and reports and carry out work to be performed for the interim cleanup action of woodwaste and soil contamination within the East-West Corridor Interim Action Cleanup Unit (the "IACU") portion of the Boise Cascade Mill Site (the "BCM Site") pursuant to the IAWP. The County shall furnish all personnel, materials, and services necessary for, or incidental to, preparing plans and reports, and implementation of the interim action. Submittals of deliverables shall be prepared in accordance with WAC 173-340-840, General Submittal Requirements.

Background: Development of the IAWP included as Exhibit E

The draft IAWP included with this draft DMCD will be finalized by addressing comments received during the public involvement period and as part of executing the DMCD. Because the final site wide cleanup action for the BCM Site is not known, in accordance with WAC 173-340-430(3)(b), this interim action shall not foreclose reasonable alternatives of the site wide cleanup action. Within the IACU subject to the DMCD, this interim action addresses contaminated soil and woodwaste, and does not address groundwater and the groundwater to surface pathway, which remain the responsibility of the Boise Cascade Mill Site PLPs. Contamination in the portions of Yakima Co. Parcel No 191318-11002 and 191318-41002 outside the area covered by the DMCD remain the responsibility of the BCM Site PLPs. These excluded areas include the Greenway Trail between the IACU area and the Yakima River, the Rotary Playground area, and the southern portion of Parcel No. 191318-41002 south of the Rotary Playground area.

Task 1. Interim Action Work Plan for site cleanup action limited to the East-West Corridor Project IACU portion of the Boise Cascade Mill Site

Contents of the Interim Action Work Plan (IAWP or Report) and associated deliverables shall be as specified in WAC 173-340-430 as attached to the Decree as Exhibit E. The scope of the interim actions shall include and be limited to woodwaste and soil removal within the IACU depicted on Exhibit B and as specified in the draft IAWP attached in Exhibit E.

As part of the development of the draft IAWP, review work plans and reports currently available and related to the data gaps investigation on the east side of I-82 to be conducted by the BCM Site PLPs under Agreed Order DE 13959[1]. Provide responsive comments identifying potential and/or realized impacts to the County's proposed or actual interim action cleanup work under this DMCD, if any. In conjunction with the development of the draft IAWP, provide copies of previously prepared reports. Submit analytical data to Ecology's Environmental Information Management (EIM)[2] environmental monitoring data.

Task 1 Deliverables:

1.1: Draft - IAWP

[1] The PLPs under Agreed Order DE 13959 consist of OfficeMax Incorporated, Yakima Resources, LLC, Dunollie Enterprises, LLC, and LeeLynn, Inc., & Wiley Mt, Inc. (sometimes collectively referred to herein as the "BCM Site PLPs"). Yakima County is not a party to Agreed Order DE 13959 and, for purposes of this DMCD, is not included within the term BCM Site PLPs.

[2] https://ecology.wa.gov/research-data/data-resources/environmental-information-management-database

(a) Draft IAWP per WAC 173-340-430(7)3 (completed – Exhibit E to the Draft DMCD).

(b) EIM data for all environmental sampling data collected, including but not limited to Shannon & Wilson environmental data collected 2014, 2017, and 2021. (Submitted with Draft IAWP).

(c) Copies of previous environmental investigations reports, including but not limited to Shannon & Wilson, Final Design, Geotechnical Engineering and Environmental Report, stages 1 and 2, East-West Corridor Project, Yakima County, Washington, February 2020. (Submitted with Draft IAWP).

1.2: Final - IAWP

(a) Final IAWP per WAC 173-340-430(7) (to be completed and included with the Final DMCD).

Task 2. State Environmental Policy Act (SEPA)

Ecology will be the lead agency on SEPA and will ensure MTCA is integrated into the SEPA process.

Task 2 Deliverables:

2.1: Support Ecology as needed to integrate the procedural requirements of SEPA and MTCA pursuant to WAC 197-11-250 and WAC 197-11-268. Submit environmental checklist to Ecology to initiate Ecology-led SEPA review.

Task 3. Implement IAWP and Construction documents - Interim Action (IA)

Implement IAWP and provide IA construction documents for the IACU limited to the East-West Corridor Project IACU portion of the BCM Site and associated deliverables shall be as specified in WAC 173-340-430(8). [Note that WAC 173-340-430(8) incorrectly references that construction of the interim action shall conform to WAC 173-340-400(7) Public Participation, but should read WAC 173-340-400(6) Construction.]

Task 3 Deliverables:

3.1: Implement IAWP per approved Final IAWP and MTCA.

3.2: Construction documentation: After completing construction, a Cleanup Action Report is required to include construction documentation as described by WAC 173-340-400(6)(b). The engineer responsible for supervision of the construction shall prepare the documentation per WAC 173-340-400(6)(b).

(a): Construction Completion Report – Draft

(b): Construction Completion Report – Final

3.3: Institutional control documentation, as necessary, per WAC 173-340-400(6)(c).

3.4: Design or construction Plan modifications, as necessary, per WAC 173-340-400(6)(d).

3.5: Public participation, as necessary, per WAC 173-340-400(7) and WAC 173-340-600(15)(b).

3.6: Plans and report per WAC 173-340-400(8) for Ecology review.

3.7: Requirements for managing waste generated by site cleanup per WAC 173-340-400(9).

[3] WAC 173-340-430(7) identifies the submittal as a report, when it is actually a work plan.

Task 4. Progress Reports

Prior to Task 5, progress reports shall be submitted quarterly describing the actions taken to implement requirements of the Consent Decree. During Task 5, progress reports shall be submitted monthly describing on-site activities during the previous month, and any other requirements of the Consent Decree.

Task 4 Deliverables: Progress reports

SCHEDULE OF DELIVERABLES

Effective Date of Consent Decree **Start**

Task	Schedule
Task 1.1: Interim Action Work Plan (IAWP) – Draft	Completed (Exhibit E)
Task 1.2: Interim Action Work Plan (IAWP) – Final	60 days from **Start** (included with final DMCD as Exhibit E)
Task 2: SEPA assistance	As needed or requested by Ecology.
Task 3.1: Implementation of Interim Cleanup Action (Construction)	In accordance with approved schedule in the IAWP
Task 3.2a: Cleanup Action Report (per WAC 173-340-400(6)(b) - Draft	60 days after completion of Construction
Task 3.2b: Cleanup Action Report - Final	60 days following receipt of Ecology's comments
Task: 4: Progress Reports (Pre-construction)	The 10th day of every quarter from **Start** until Construction begins
Progress Reports (During and post-construction)	The 10th day of every month during Construction, to end after completing Construction

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Central Region Office
1250 West Alder St., Union Gap, WA 98903-0009 • 509-575-2490

Memorandum

To: John Zinza PE, Cleanup Project Manager (Boise Cascade Mill Site)
Toxics Cleanup Program - Central Region Office

From: Arthur Buchan, Toxicologist
Toxics Cleanup Program – Central Region Office

Cc: Jennifer Lind, Cleanup Project Manager (Interstate 82 Exit 33A - Yakima Landfill Site)
Toxics Cleanup Program - Central Region Office

Date: April 2, 2026

RE: Yakima County East-West Corridor Roadway Project, Development of Preliminary Cleanup Levels (PCULs). Boise Cascade Mill Site

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Background and Scope

This memorandum represents comments from the Washington State Department of Ecology, Toxics Cleanup Program (TCP) regarding the development of Preliminary Cleanup Levels (PCULs) for the Yakima County East-West Corridor Roadway Project (E-W Corridor) portion[1,2] of the following MTCA cleanup site:

Boise Cascade Mill (Site)[3]

[1] The E-W Corridor is a portion of the BCM Cleanup Site that is being cleaned up by the County in anticipation of a large infrastructure project. We are referring to it as the E-W Corridor to avoid confusion with the larger BCM Site that is being cleaned up under Agreed Order (AO) DE-13959. The bulk of the BCM Site is located on the west side of I-82. The E-W Corridor is located on the east side of I-82 and includes any contamination under I-82 that may be encountered during construction of an underpass. Any contamination remaining in the vicinity of the E-W Corridor after the County's cleanup actions are complete under and in accordance with the anticipated de minimis consent decree will remain the responsibility of the BCM PLP s under the AO.

[2] The E-W Corridor is primarily located on Yakima County parcels 191318-11002, and 191318-41002. The extents of the E-W Corridor in relation to the Boise Cascade Mill Site is expected to be established in a de minimis consent decree.

[3] The Boise Cascade Mill site is adjacent to the Interstate 82 Exit 33A Yakima City Landfill site; CSID 3853; and FSID 1927.

Facility site identification (FSID) # 450
Cleanup site identification (CSID) # 12095

The comments provided are in effort to help complete the Remedial Investigation (RI) limited to the E-W Corridor, which is intended to investigate the nature and extent of any contamination found on the E-W Corridor. Note: It does not appear that sampling results for the E-W Corridor portion of the Site have been downloaded into Ecology's EIM database. As a result, there may be data-gaps in the literature reviewed for the Site in this memorandum. Literature reviewed for this memorandum includes:

1) Barr Inc. (2021). Revised Draft Remedial Investigation Report: Yakima Mill Site (aka Boise Cascade Mill Site). Prepared for OfficeMax Incorporated, LeeLynn, Inc. & Wiley Mt., Inc., Yakima Resources, LLC, Dunollie Enterprises, LLC. Agreed Order No. DE 13959, Facility Site ID 450, Cleanup Site ID 12095.
2) Maul, Foster, and Alongi. (2024). Initial Investigation Report: East-West Corridor Roadway. Yakima, Washington.
3) Ecology. (2024). Memorandum: Ecology Comments on 1st Draft Environmental Assessment Work Plan East-West Corridor Project.
4) Shannon and Wilson. (2023). Geotechnical Engineering and Environmental Report: Cascade Mill Parkway, Phase 3.

Important considerations, assumptions, and limitations to note on this memorandum:

1. The formal cleanup sites listed below are directly adjacent to, and upgradient from the E-W Corridor Project from a Hydro-geologic perspective. Meaning, groundwater flows from the direction of the parts of the formal cleanup sites west of I-82 towards the E-W Corridor:
    a. Boise Cascade Mill Cleanup Site (portion on the west side of Interstate 82): CSID 12095, FSID 450; and
    b. Interstate 82 Exit 33A Yakima City Landfill Cleanup Site[4]: CSID 3853, FSID 1927.
2. Ecology previously requested sampling for specific contaminants that were detected directly adjacent to, and/or upgradient from the East-West Corridor Project from a Hydro-geologic perspective (Ecology, 2024). Those contaminants have been included in this memorandum with assumed complete pathways from Soil to Groundwater (GW) to Surface Water (SW), as described in this memorandum.
3. Empirical demonstrations and highest detected values (provided by the PLP/Consultant may change the PCULs listed.
4. Establishing compliance with GW and SW cleanup standards - The preliminary GW data shows very few detections, but additional monitoring will be necessary to demonstrate this remains consistent with GW table fluctuations over time. The frequency and

[4] The Interstate 82 Exit 33A Yakima City Landfill Cleanup Site (aka Landfill) is another cleanup Site located west of I-82 and generally situated at the southeast corner of the BCM Site.

number of future monitoring events should be discussed with the Ecology Cleanup Project Manager.

5. When evaluating the potential for cPAH mixtures in the soil to impact groundwater pathway, both the toxicity and mobility of the individual cPAHs must be considered when determining compliance. Refer to Ecology Implementation Memorandum #10, Evaluating the Human Health Toxicity of Carcinogenic PAHs (cPAHs) Using Toxicity Equivalency Factors (TEFs) (Publication No. 15-09-049[5]) for a list of method options.
6. Ecology Method Reporting Limits (MRLs)/Practical Quantitation Limits (PQLs) are draft subject to revision based on information from Ecology Manchester Laboratory.
7. Ecology has not received a Conceptual Site Model for this specific project).

MTCA Methods for Establishing Cleanup Levels at sites:

In brief summary Method A, Method B, and Method C may be used for establishing cleanup levels at sites as follows:

- Specifically, Ecology uses the following general guidelines for mixing methods:
  - When using Method A, the site must be considered a simple site or routine cleanup and there must not be multiple chemicals without Method A table values;
  - When using Method B, Method A cleanup levels may be used but not Method C cleanup levels.
  - Method B is intended for all other sites.
- While each medium must be evaluated separately using criteria applicable to that medium, it has not been established that any medium within any of the sites qualifies to use Method C.

MTCA Method B was used to establish preliminary cleanup levels for the E-W Corridor because:

- Numerous individual contaminants and mixtures have been investigated at the Site; and
- Pathways potentially exist for soil, groundwater, surface water, and sediments.

Groundwater Preliminary Cleanup Levels

In general, WAC 173-340-720 requires that groundwater cleanup levels be set at concentrations that protect for drinking water beneficial uses, unless the groundwater qualifies as nonpotable. A determination of whether the groundwater qualifies as nonpotable must be made on a site-specific basis, based on the criteria in WAC 173-340-720(2). However, for this Site, it is assumed that the groundwater shall be protected for drinking water beneficial use.

WAC 173-340-720 also requires groundwater cleanup levels to be protective of surface water beneficial uses unless it can be demonstrated that the hazardous substances in the

[5] https://apps.ecology.wa.gov/publications/documents/1509049.pdf

groundwater are not likely to reach surface water. The exposure pathway of concern is the discharge of contaminated groundwater into the surface water and for the protection of drinking water purposes, aquatic organisms living in that surface water and sediment, and persons that consume those organisms. This can occur directly through current or future excavations (i.e. construction activities), migration and seepage of the groundwater into the surface water and sorption onto the sediments, or indirectly through groundwater intercepted by ditches, foundation drains, utility corridors, and stormwater systems (including pipes, which typically are not water-tight), that then drain to surface water. It can also occur through temporary construction dewatering systems that discharge to storm drains that then discharge either directly or indirectly to surface water.

For the groundwater to surface water exposure pathway, WAC 173-340-720 requires that the methods specified in WAC 173-340-730 for establishing surface water cleanup levels be used to develop groundwater cleanup levels protective of surface water.

Surface Water Preliminary Cleanup Levels

In general, WAC 173-340-730 requires surface water cleanup levels to be protective based on estimates of highest beneficial use and reasonable maximum exposure expected to occur under both current and potential future site use. This includes protection of aquatic organisms, and persons that consume these organisms (Ecology, 2005). More specifically, it requires surface water cleanup levels to be at least as stringent as:

- Applicable state and federal laws;
- Concentrations protective of wildlife, fish, and other aquatic life;
- Concentrations protective of human health (such as through consumption of fish); and
- Drinking water, for surface waters classified as suitable for domestic water supply under water quality law.

In addition, both WAC 173-340-720(1)(c) and 730(1)(d) require cleanup levels that do not directly or indirectly cause violations of cleanup standards in other media, including the sediment cleanup standards. And, if a conditional point of compliance is used, WAC 173-340-720(8)(d) requires groundwater discharges not result in violations of sediment cleanup levels published in Chapter 173-204 WAC.

Note: If multiple chemicals with similar toxic effects on human health are present at a site, these concentrations may need to be further adjusted so that the additive risk does not exceed the acceptable thresholds in the rule (hazard index $\leq$ 1 and cancer risk $\leq 1X10^{-5}$). These adjustments will need to be made on a site-specific basis. This adjustment for additive risk does not need to be made for contaminants with cleanup levels controlled by protection of the environment (wildlife, fish, and other aquatic life). Rather, if multiple chemicals are present, it may be appropriate to otherwise account for additive risk by, for example, conducting bioassays with the groundwater, to determine if the combined effect is an environmental concern.

<u>Point of Compliance (Groundwater and Surface Water)</u>

The Point of Compliance in groundwater is:

- Throughout the Site:
    - The Site includes the East-West Corridor portion of the above mentioned MTCA cleanup site – FSID # 450,CSID # 12095) from the uppermost level of the saturated zone extending vertically to the lowest most depth which could potentially be affected by the Site; and
- The Standard Point of Compliance is:
    - The point or points where the groundwater cleanup levels must be attained at the site to be in compliance with groundwater cleanup standards. Groundwater cleanup levels shall be attained in all groundwaters from the point of compliance to the outer boundary of the hazardous substance plume. This means that the Point of Compliance for groundwater is all wells within the characterized area.

The Point of Compliance for surface water is:

- The point or points at which hazardous substances are released to the surface waters of the state; and
- The point at which hazardous substances are released to the surface water as a result of groundwater flows, no mixing zone shall be allowed to demonstrate compliance with surface water cleanup levels. The point of compliance is the point at which there is a discharge to the surface water at the nearest groundwater well (or soil erosion) to the surface water.
- There are two possible results if surface water is located on or directly adjacent to the site[6]:
    - Result (1): There is no contamination reaching the surface water (check wells and soil near the surface water):
        - Eliminate the surface water pathway in the remedial investigation. Use your groundwater cleanup level (i.e., drinking water) throughout the site.
    - Result (2): There is contamination reaching the surface water (check wells and soil near the surface water):
        - Retain the surface water pathway in the remedial investigation. Use the more stringent cleanup level (groundwater vs. surface water) throughout the site.

Important: Well construction and Placement: As a result of the Point of Compliance for groundwater and surface water, it is important to be sure that the wells are properly placed and constructed, so that any contamination that reaches the surface water (down-gradient from the contamination) may be documented in the remedial investigation.

[6] At the time of this memo, not enough information about the fate and transport of contamination has been collected to determine contamination has not reached surface water; therefore, the more stringent cleanup levels will be used (Result (2)).

Establishing Preliminary Cleanup Levels for Groundwater

Under Method B, WAC 173-340-720(4) (b) requires that groundwater cleanup levels to be at least as stringent as all of the following:

- Maximum contaminant levels established under the Safe Drinking Water Act and published in 40 C.F.R. 141; and
- Maximum contaminant level goals for noncarcinogens established under the Safe Drinking Water Act and published in 40 C.F.R. 141; and
- Maximum contaminant levels established by the state board of health and published in chapter 246-290 WAC.
- Concentrations in groundwater must be protective of surface water beneficial use unless it can be demonstrated that the hazardous substances are not likely to reach surface water. This demonstration must be based on factors other than implementation of a cleanup action at the site.

In addition, under WAC 173-340-720(7)(b), when a cleanup level is based on the applicable state or federal law and the level of risk upon which the standard is based exceeds an excess cancer risk of one in one hundred thousand (1×10^{-5}) or a hazard index of one (1), the cleanup level shall be adjusted downward so that the total excess cancer risk does not exceed one in one hundred thousand (1×10^{-5}) or a hazard index of one (1) at the site (See Appendix A: Figure 1).

Establishing Preliminary Cleanup Levels for Surface Water

Under Method B, WAC 173-340-730(3) (b) requires surface water cleanup levels to be at least as stringent as all of the following:

- Concentrations established under applicable state and federal laws (ARARs) including:
  - Water quality criteria published in the water quality standards for surface waters of the state of Washington, chapter 173-201A WAC;
  - Water quality criteria based on the protection of aquatic organisms (acute and chronic criteria) and human health published under section 304 of the Clean Water Act *unless it can be demonstrated that such criteria are not relevant and appropriate for a specific surface water body or hazardous substance*; and
  - National Toxics Rule (40 C.F.R. Part 131).
- For substances for which environmental effects-based concentrations have not been established under applicable state or federal laws, concentrations that are estimated to result in no adverse effects on the protection and propagation of wildlife, fish, and other aquatic life.
- For substances for which sufficiently protective, health-based criteria or standards have not been established under state and federal laws, concentrations that protect human health as determined using the formulae in the rule. Note: For the purposes of this project, a Fish Consumption Rate of 130 grams/day was proposed by Ecology and was used in MTCA Equations 730-1 (non-carcinogens) and 730-2 (carcinogens).

- Potable water cleanup levels, for surface waters classified as suitable for use as a domestic water supply under chapter 173-201A WAC.

In addition, under WAC 173-340-730(5)(b), when a cleanup level is based on the applicable state or federal law and the level of risk upon which the standard is based exceeds an excess cancer risk of one in one hundred thousand (1×10^{-5}) or a hazard index of one (1), the cleanup level shall be adjusted downward so that the total excess cancer risk does not exceed one in one hundred thousand (1×10^{-5}) or a hazard index of one (1) at the site (See Appendix A: Figure 2).

Soil Preliminary Cleanup Levels

In general, WAC 173-340-740 requires that soil cleanup levels be set at concentrations that:

- Eliminate or substantially reduce the potential for food chain contamination; and
- Eliminate or substantially reduce the potential for damage to soils or biota in the soils which could impair the use of soils for agriculture or silviculture purposes; and
- Protect the potential health risk posed by dust at a site; and
- Protect the groundwater at a site; and
- Protect nearby surface waters from the site; and
- Eliminate or minimize the potential for vapors in building or structures.

To meet these requirements for soil, preliminary concentrations have been established based on the protection of:

- Human health (direct contact); and
- Terrestrial Ecological Receptors; and
- Soil protective of groundwater (highest beneficial use); and
- Soil protective of groundwater with transport to surface water (highest beneficial use).

Note that protective values have been adjusted for the practical quantitation limits and natural background concentrations for soil as required by WAC 173-340-740(5) (c) when establishing cleanup standards.

In addition, if multiple chemicals with similar toxic effects on human health are present at a site, these concentrations may need to be further adjusted so that the additive risk does not exceed the acceptable thresholds in the rule (hazard index ≤ 1 and cancer risk $\leq 1X10^{-5}$). These adjustments will need to be made on a site-specific basis. This adjustment for additive risk does not need to be made for contaminants with cleanup levels controlled by protection of the environment (terrestrial ecological receptors). Rather, if multiple chemicals are present, it may be appropriate to otherwise account for additive risk by, for example, conducting bioassays with the soil, to determine if the combined effect is an environmental concern.

Point of Compliance (Soil)

The Point of Compliance for soil is:

- For soil cleanup levels based on the protection of groundwater, the point of compliance shall be established in the soils throughout the site; and

- For soil cleanup levels based on protection from vapors, the point of compliance shall be established in the soils throughout the site from the ground surface to the uppermost ground water saturated zone (e.g., from the ground surface to the uppermost water table); and
- For soil cleanup levels based on human exposure via direct contact or other exposure pathways where contact with the soil is required to complete the pathway, the point of compliance shall be established in the soils throughout the site from the ground surface to fifteen feet below the ground surface. This represents a reasonable estimate of the depth of soil that could be excavated and distributed at the soil surface as a result of site development activities; and
- For soil cleanup levels based on ecological receptors, the standard point of compliance is set from the ground surface to fifteen feet below the ground surface. The department may approve a conditional point of compliance set at the biologically active zone with placement of an institutional control to prevent excavation of deeper soil.

Terrestrial Ecological Receptors

Protective values for terrestrial ecological receptors should be established under the assumption that a Site-Specific Terrestrial Ecological Evaluation (TEE) would meet the requirements at this site. Table 749-3 of MTCA may be used to develop screening levels for contaminants. Any contaminants found at the site (not included in Table 749-3) may use a literature review to develop screening levels based on protective concentrations.

It was determined that a Site-Specific TEE would be most appropriate at this location based on Priority Habitat and Species. Priority Habitat and Species found within the Polygon include:

- Dolly Varden/Bull Trout found in the Yakima River;
- Rainbow Trout found in the Yakima River;
- Chinook (Spring, Summer, Fall) found in the Yakima River;
- Steelhead (Summer) found in the Yakima River;
- Coho found in the Yakima River;
- Freshwater Forested/Shrub Wetland;
- Shrubsteppe;
- Sharp-tailed Snake.

See Appendix A: Figure 3 for WDFW Priority Species Map;
See Appendix A: Figure 4 for protective values and literature sources for ecological receptors.

Soil Protective of Groundwater and Soil Protective of Groundwater with Transport to Surface Water – Assumed Saturated Conditions for this Environmental Assessment

Soil values that are protective of groundwater, and soil protective of groundwater with transport to surface water should be calculated using the fixed parameter three-phase partitioning model found in WAC 173-340-747. Saturated conditions were used in the calculations for this Preliminary Cleanup Level Development Memorandum.

PCULs established should be based on protection of the highest beneficial use with and upward adjustment to take into account natural background or practical quantitation limits, where applicable.

The Cleanup Levels and Risk Calculation (CLARC)[7] Tool was used to derive the following chemical specific parameters:

- Hcc = Henry's Law Constant @ 13º C (dimensionless); and
- Kd = Distribution Coefficient (L/kg); and
- Koc = Soil organic carbon-water partitioning coefficient (ml/g).

Equation 747-1 was used to derive the following default parameters:

- UCF = Unit conversion factor (1 mg/1,000 ug); and
- DF = Dilution faction (dimensionless – 1 for saturated); and
- Θw = Water-filled soil porosity (ml water/ml soil – 0.43 for saturated); and
- Θa = Air-filled soil porosity (ml air/ml soil – 0.0 for saturated); and
- *Pb* = Dry soil bulk density (1.5 kg/L).

Note: Soil protective of groundwater values were derived directly from CLARC. Soil protective of groundwater with transport to surface water were calculated using the three-phase model (See Appendix A: Figure 5).

Soil Protective of Direct Contact

Soil that is considered protective of direct contact is based on concentrations that are estimated to result in no acute or chronic noncarcinogenic toxic effects on human health using a hazard quotient of one (1) and concentrations for which the upper bound on the estimated excess cancer risk is less than or equal to one in one million (1×10^{-6}). Equations 740-1 and 740-2 (MTCA) and the associated default assumptions shall be used to calculate the concentration for direct contact with contaminated soil.

Establishing Preliminary Cleanup Levels for Soil

In general, standard Method B soil cleanup levels shall be at least as stringent as the following:

- Concentrations established under applicable state and federal laws; and
- Concentrations that result in no significant adverse effects on the protection and propagation of terrestrial ecological receptors using the procedures specified in WAC 173-340-7490 through 7494; and
- For hazardous substances for which sufficiently protective, health-based criteria or standards have not been established under applicable state and federal laws, those concentrations that protect human health as determined by evaluating the following exposure pathways:
    - Ground water protection; and

[7] https://ecology.wa.gov/regulations-permits/guidance-technical-assistance/contamination-cleanup-tools/clarc

- Soil direct contact; and
- Soil vapors

It is assumed that soil vapors are not a pathway at this site (See Appendix A: Figure 6).

Establishing Preliminary Cleanup Levels for Sediments

The establishment of Preliminary Cleanup Levels for Sediment must comply with the requirements of chapter 173-204 WAC. In general, the sediment cleanup standards require the Sediment Cleanup Objective (SCO) risk-based concentration (for this project) to be the lowest of:

- Freshwater Benthic SCO (WAC 173-204-563);
- Human Risk 10^{-6}, HQ ≤ 1 (WAC 173-204-561);
- Higher Trophic Level Risk (WAC 173-204-564); and
- Applicable Laws under WAC 173-204-560(3) and WAC 173-204-505(2).

Then, the risk-based SCO is upward adjusted to be the highest of:

- Natural Background;
- Risk Based Concentration; and
- Practical Quantitation Limit.

In order to meet these site-specific requirements, the PCUL was based on the lowest of the:

- Freshwater Benthic Criteria found in WAC 173-204-563 (Table VI)
- The SMS Lower Tier Human Health Direct Contact SCO:
  - Sediment Ingestion/Direct Contact, Cancer

SMS SCUM II, Equation 9-1 (sediment ingestion / direct contact, cancer)

$$RBC{-}SED{-}C = \frac{ACR\ x\ BW\ x\ ATc}{EF\ x\ ED\ x\ \left[\left(\frac{IR\ x\ AB\ x\ CPFo}{UCF}\right) + \left(\frac{SA\ x\ AF\ x\ ABS\ x\ CPFd}{UCF}\right)\right]}$$

General Parameters		
RBC-SED-C	Risk-based concentration, sediment, cancer	mg/kg
ACR	Acceptable cancer risk level	unitless
AB	Gastrointestinal absorption fraction	unitless
CPFo	Oral cancer potency factor	$(mg/kg\text{-}day)^{-1}$
UCF	Unit conversion factor	mg/kg
ABS	Dermal absorption factor	unitless
CPFd	Dermal cancer potency factor	$(mg/kg\text{-}day)^{-1}$

Scenario-Specific Parameters		
BW	Average body weight over exposure duration	kg
ATc	Averaging time (cancer)	days
EF	Exposure frequency	days/year
ED	Exposure duration	years
IR	Sediment ingestion rate	mg/day
SA	Skin surface area	cm^2/day
AF	Sediment-to-skin adherence factor	mg/cm^2-day
Intermediate Calculations		
ISDIF1c	Intermediate sediment intake factor 1, cancer	mg
ISDIF2	Intermediate sediment intake factor 2	mg/day

- Sediment Ingestion/Direct Contact, Non-Cancer

SMS SCUM II, Equation 9-2 (sediment ingestion / direct contact, noncancer)

$$RBC{-}SED{-}N = \frac{HQ\ x\ BW\ x\ ATn}{EF\ x\ ED\ x\ \left[\left(\frac{IR\ x\ AB}{RfDo\ x\ UCF}\right) + \left(\frac{SA\ x\ AF\ x\ ABS}{RfDd\ x\ UCF}\right)\right]}$$

General Parameters		
RBC-SED-N	Risk-based concentration, sediment, noncancer	mg/kg
HQ	Hazard quotient	unitless
AB	Gastrointestinal absorption fraction	unitless
RfDo	Oral reference dose	mg/kg-day
UCF	Unit conversion factor	mg/kg
ABS	Dermal absorption factor	unitless
RfDd	Dermal reference dose	mg/kg-day

Scenario-Specific Parameters		
BW	Average body weight over exposure duration	kg
ATn	Averaging time (noncancer)	days
EF	Exposure frequency	days/year
ED	Exposure duration	years
IR	Sediment ingestion rate	mg/day
SA	Skin surface area	cm^2/day
AF	Sediment-to-skin adherence factor	mg/cm^2-day
Intermediate Calculations		
ISDIF1n	Intermediate sediment intake factor 1, noncancer	mg
ISDIF2	Intermediate sediment intake factor 2	mg/day

The Risk-Based Values were then upward adjusted to either a Freshwater Natural Background or PQL (based on SCUM II – Ecology Pub # 12-09-057).

Please Note: Seafood Consumption for Sediments was not evaluated due to lack of site-specific BSAF.

(See Appendix A: Figure 7).

Appendix A: Figures

East/West Corridor								
FSID # 450								
CSID # 12095								
GW Regulation								
GW Guidance								
Analyte	CAS	Target Value for Leaching Model (ug/L)	Final H.H. Protective Value	Natural Background	Consultant MRL (ug/L)	Ecology MRL (ug/L)	Final PQL (ug/L)	PCUL (ug/L)
Master CLARC Spreadsheet Column	A	AN				Guidance for TPH		
MTCA Table 830-1								
TPH- Gx (Gasoline)	x	1.00E+03	1.00E+03	x	x	5.00E+01	5.00E+01	1.00E+03
TPH-Dx (Diesel and Heavy Oil Ranges Combined)	x	5.00E+02	5.00E+02	x	x	2.50E+02	2.50E+02	5.00E+02
Acenaphthene	83-32-9	4.80E+02	4.80E+02	x	x	5.00E-02	5.00E-02	4.80E+02
Anthracene	120-12-7	2.40E+03	2.40E+03	x	x	5.00E-02	5.00E-02	2.40E+03
Benzene	71-43-2	5.00E+00	5.00E+00	x	x	1.00E+00	1.00E+00	5.00E+00
Bis(2-ethylhexyl)phthalate	117-81-7	6.00E+00	6.00E+00	x	x	5.00E-01	5.00E-01	6.00E+00
Butyl benzyl phthalate (BBP)	85-68-7	4.61E+01	4.61E+01	x	x	2.00E-01	2.00E-01	4.61E+01
Chlorobenzene	108-90-7	1.00E+02	1.00E+02	x	x	1.00E+00	1.00E+00	1.00E+02
Chloroform	67-66-3	1.41E+01	1.41E+01	x	x	1.00E+00	1.00E+00	1.41E+01
4,4'-DDD	72-54-8	3.65E-01	3.65E-01	x	x	2.50E-03	2.50E-03	3.65E-01
4,4'-DDT	50-29-3	2.57E-01	2.57E-01	x	x	2.50E-03	2.50E-03	2.57E-01
3,3'-Dichlorobenzidine	91-94-1	1.94E-01	1.94E-01	x	x	2.00E+00	2.00E+00	2.00E+00
2,4-Dichlorophenol	120-83-2	4.80E+01	4.80E+01	x	x	2.00E+00	2.00E+00	4.80E+01
Ethylbenzene	100-41-4	7.00E+02	7.00E+02	x	x	1.00E+00	1.00E+00	7.00E+02
Fluoranthene	206-44-0	6.40E+02	6.40E+02	x	x	5.00E-02	5.00E-02	6.40E+02
Fluorene	86-73-7	3.20E+02	3.20E+02	x	x	5.00E-02	5.00E-02	3.20E+02
1-Methylnaphthalene	90-12-0	8.58E-01	8.58E-01	x	x	5.00E-02	5.00E-02	8.58E-01
2-Methylnaphthalene	91-57-6	3.20E+01	3.20E+01	x	x	5.00E-02	5.00E-02	3.20E+01
N-Nitrosodiphenylamine	1116-54-7	1.79E+01	1.79E+01	x	x	2.00E+00	2.00E+00	1.79E+01
Naphthalene	91-20-3	1.60E+02	1.60E+02	x	x	1.00E+00	1.00E+00	1.60E+02
Toluene	108-88-3	6.40E+02	6.40E+02	x	x	1.00E+00	1.00E+00	6.40E+02
Total PCBs	1336-36-3	2.19E-01	2.19E-01	x	x	1.00E-02	1.00E-02	2.19E-01
Pentachlorophenol	87-86-5	1.00E+00	1.00E+00	x	x	6.00E-02	6.00E-02	1.00E+00
Phenanthrene (use pyrene as a surrogate)	129-00-0	2.40E+02	2.40E+02	x	x	5.00E-02	5.00E-02	2.40E+02
Tetrachloroethylene (PCE)	127-18-4	5.00E+00	5.00E+00	x	x	1.00E+00	1.00E+00	5.00E+00
1,2,3-Trichlorobenzene	87-61-6	6.40E+00	6.40E+00	x	x	1.00E+00	1.00E+00	6.40E+00
1,2,4-Trichlorobenzene	120-82-1	1.51E+01	1.51E+01	x	x	1.00E+00	1.00E+00	1.51E+01
Vinyl Chloride	75-01-4	2.92E-01	2.92E-01	x	x	1.00E+00	1.00E+00	1.00E+00
Total Xylenes	1330-20-7	1.60E+03	1.60E+03	x	x	1.00E+00	1.00E+00	1.60E+03
cPAHs								
Benzo(a)anthracene	56-55-3	x	x	x	x	5.00E-02	5.00E-02	x
Benzo(a)pyrene	50-32-8	2.00E-01	2.00E-01	x	x	5.00E-02	5.00E-02	2.00E-01
Benzo(b)fluoranthene	205-99-2	x	x	x	x	5.00E-02	5.00E-02	x
Benzo(k)fluoranthene	207-08-9	x	x	x	x	5.00E-02	5.00E-02	x
Chrysene	218-01-9	x	x	x	x	5.00E-02	5.00E-02	x
Dibenzo(a,h)anthracene	53-70-3	x	x	x	x	5.00E-02	5.00E-02	x
Indeno(1,2,3-cd)pyrene	193-39-5	x	x	x	x	5.00E-02	5.00E-02	x
cPAH TEQ	x	2.00E-01	2.00E-01	x	x	5.00E-02	5.00E-02	2.00E-01
Metals								
Arsenic	7440-38-2	5.00E+00	5.00E+00	7.00E+00	x	5.00E-01	5.00E-01	7.00E+00
Barium	7440-39-3	2.00E+03	2.00E+03	x	x	6.25E-01	6.25E-01	2.00E+03
Cadmium	7440-43-9	5.00E+00	5.00E+00	x	x	1.00E-01	1.00E-01	5.00E+00
Chromium III	16065-83-1	2.40E+04	2.40E+04	x	x	2.00E-01	2.00E-01	2.40E+04
Chromium (Total)	7440-47-3	1.00E+02	1.00E+02	x	x	5.00E-01	5.00E-01	1.00E+02
Copper	7440-50-8	6.40E+02	6.40E+02	x	x	5.00E-01	5.00E-01	6.40E+02
Iron	7439-89-6	3.00E+02	3.00E+02	x	x	2.05E+00	2.05E+00	3.00E+02
Lead	7439-92-1	1.50E+01	1.50E+01	x	x	1.00E-01	1.00E-01	1.50E+01
Manganese	7439-96-5	5.00E+01	5.00E+01	x	x	1.03E+00	1.03E+00	5.00E+01
Mercury	7439-97-6	2.00E+00	2.00E+00	x	x	6.00E-03	6.00E-03	2.00E+00
Nickel	7440-02-0	3.20E+02	3.20E+02	x	x	5.00E-01	5.00E-01	3.20E+02
Selenium	7782-49-2	5.00E+01	5.00E+01	x	x	5.00E-01	5.00E-01	5.00E+01
Silver	7440-22-4	8.00E+01	8.00E+01	x	x	5.00E-01	5.00E-01	8.00E+01
Zinc	7440-66-6	4.80E+03	4.80E+03	x	x	5.00E+00	5.00E+00	4.80E+03

Figure 1: Calculation of Preliminary Cleanup Levels for Groundwater.

East/West Corridor													
FSID # 450													
CSID # 12095													
SW Regulation													
SW Guidance													
Analyte	CAS	Method B Non-Cancer	Method B Cancer	Lowest ARAR	H.H. Protective Value	Aquatic Life ARAR (Fresh)	Aquatic Life Lit. (Fresh)	A.L. Final Protective Value	Final Protective Value	Consultant MRL	Ecology MRL (ug/L)	Final PQL (ug/L)	PCUL (ug/L)
Master CLARC Spreadsheet Column	A	BI				AU through AX					Guidance for TPH		
MTCA Table 830-1													
TPH- Gx (Gasoline)	x	1.00E+03	1.00E+03	x	1.00E+03	x	1.00E+03	1.00E+03	1.00E+03	x	5.00E+01	5.00E+01	1.00E+03
TPH-Dx (Diesel and Heavy Oil Ranges Combined)	x	5.00E+02	5.00E+02	x	5.00E+02	x	3.00E+03	3.00E+03	5.00E+02	x	2.50E+02	2.50E+02	5.00E+02
Acenaphthene	83-32-9	2.67E+02	x	3.00E+01	3.00E+01	x	5.80E+00	5.80E+00	5.80E+00	x	5.00E-02	5.00E-02	5.80E+00
Anthracene	120-12-7	1.08E+04	x	1.00E+02	1.00E+02	x	1.20E-02	1.20E-02	1.20E-02	x	5.00E-02	5.00E-02	5.00E-02
Benzene	71-43-2	8.28E+02	9.41E+00	4.40E-01	4.40E-01	x	1.00E+01	1.00E+01	4.40E-01	x	1.00E+00	1.00E+00	1.00E+00
Bis(2-ethylhexyl)phthalate	117-81-7	1.66E+02	1.48E+00	3.20E-01	3.20E-01	x	8.00E+00	8.00E+00	3.20E-01	x	5.00E-01	5.00E-01	5.00E-01
Butyl benzyl phthalate (BBP)	85-68-7	5.20E+02	3.42E+00	1.30E-02	1.30E-02	x	x	x	1.30E-02	x	2.00E-01	2.00E-01	2.00E-01
Chlorobenzene	108-90-7	2.09E+03	x	1.00E+02	1.00E+02	x	1.30E+00	1.30E+00	1.30E+00	x	1.00E+00	1.00E+00	1.30E+00
Chloroform	67-66-3	2.87E+03	2.32E+01	6.00E+01	2.32E+01	x	1.80E+00	1.80E+00	1.80E+00	x	1.00E+00	1.00E+00	1.80E+00
4,4'-DDD	72-54-8	1.00E-02	2.09E-04	7.90E-06	7.90E-06	x	x	x	7.90E-06	x	2.50E-03	2.50E-03	2.50E-03
4,4'-DDT	50-29-3	1.00E-02	1.48E-04	1.20E-06	1.20E-06	1.00E-03	x	1.00E-03	1.20E-06	x	2.50E-03	2.50E-03	2.50E-03
3,3'-Dichlorobenzidine	91-94-1	x	1.92E-02	3.10E-03	3.10E-03	x	4.50E+00	4.50E+00	3.10E-03	x	2.00E+00	2.00E+00	2.00E+00
2,4-Dichlorophenol	120-83-2	7.94E+01	x	1.00E+01	1.00E+01	x	1.10E+01	1.10E+01	1.00E+01	x	2.00E+00	2.00E+00	1.00E+01
Ethylbenzene	100-41-4	2.87E+03	x	2.90E+01	2.90E+01	x	1.20E+01	1.20E+01	1.20E+01	x	1.00E+00	1.00E+00	1.20E+01
Fluoranthene	206-44-0	3.75E+01	x	6.00E+00	6.00E+00	x	6.16E+00	6.16E+00	6.00E+00	x	5.00E-02	5.00E-02	6.00E+00
Fluorene	86-73-7	1.44E+03	x	1.00E+01	1.00E+01	x	2.00E+00	2.00E+00	2.00E+00	x	5.00E-02	5.00E-02	2.00E+00
1-Methylnaphthalene	90-12-0	x	x	x	0.00E+00	x	6.10E+00	6.10E+00	0.00E+00	x	5.00E-02	5.00E-02	5.00E-02
2-Methylnaphthalene	91-57-6	x	x	x	0.00E+00	x	4.70E+00	4.70E+00	0.00E+00	x	5.00E-02	5.00E-02	5.00E-02
N-Nitrosodiphenylamine	86-30-6	x	7.07E-03	x	7.07E-03	x	1.17E+02	1.17E+02	7.07E-03	x	2.00E+00	2.00E+00	2.00E+00
Naphthalene	91-20-3	2.05E+03	x	x	2.05E+03	x	x	x	2.05E+03	x	1.00E+00	1.00E+00	2.05E+03
Toluene	108-88-3	8.05E+03	x	7.20E+01	7.20E+01	x	5.30E+01	5.30E+01	5.30E+01	x	1.00E+00	1.00E+00	5.30E+01
Total PCBs	1336-36-3	x	4.31E-05	7.00E-06	7.00E-06	1.40E-02	x	1.40E-02	7.00E-06	x	1.00E-02	1.00E-02	1.00E-02
Pentachlorophenol	87-86-5	4.90E+02	6.12E-01	8.00E+00	6.12E-01	5.40E+00	x	5.40E+00	6.12E-01	x	6.00E-02	6.00E-02	6.12E-01
Phenanthrene (use pyrene as a surrogate)	129-00-0	1.08E+03	x	2.40E+00	2.40E+00	x	2.50E-02	2.50E-02	2.50E-02	x	5.00E-02	5.00E-02	5.00E-02
Tetrachloroethylene (PCE)	127-18-4	2.08E+02	4.14E+01	5.70E+01	4.14E+01	x	x	x	4.14E+01	x	1.00E+00	1.00E+00	4.14E+01
1,2,3-Trichlorobenzene	87-61-6	x	x	x	0.00E+00	x	8.00E+00	8.00E+00	0.00E+00	x	1.00E+00	1.00E+00	1.00E+00
1,2,4-Trichlorobenzene	120-82-1	9.45E+01	8.14E-01	3.60E-02	3.60E-02	x	5.15E+01	5.15E+01	3.60E-02	x	1.00E+00	1.00E+00	1.00E+00
Vinyl Chloride	75-01-4	2.76E+03	1.53E+00	2.00E-02	2.00E-02	x	9.30E+02	9.30E+02	2.00E-02	x	1.00E+00	1.00E+00	1.00E+00
Total Xylenes	1330-20-7	x	x	x	0.00E+00	x	5.70E+01	5.70E+01	5.70E+01	x	1.00E+00	1.00E+00	5.70E+01
cPAHs													
Benzo(a)anthracene	56-55-3	x	x	1.60E-04	1.60E-04	x	1.80E-02	1.80E-02	1.60E-04	x	5.00E-02	5.00E-02	5.00E-02
Benzo(a)pyrene	50-32-8	1.08E+01	8.97E-02	1.60E-05	1.60E-05	x	6.00E-02	6.00E-02	1.60E-05	x	5.00E-02	5.00E-02	5.00E-02
Benzo(b)fluoranthene	205-99-2	x	x	1.60E-04	1.60E-04	x	2.60E+00	2.60E+00	1.60E-04	x	5.00E-02	5.00E-02	5.00E-02
Benzo(k)fluoranthene	207-08-9	x	x	1.60E-02	1.60E-02	x	6.00E-02	6.00E-02	1.60E-02	x	5.00E-02	5.00E-02	5.00E-02
Chrysene	218-01-9	x	x	1.60E-03	1.60E-03	x	4.70E+00	4.70E+00	1.60E-03	x	5.00E-02	5.00E-02	5.00E-02
Dibenzo(a,h)anthracene	53-70-3	x	x	1.60E-05	1.60E-05	x	1.00E-02	1.00E-02	1.60E-05	x	5.00E-02	5.00E-02	5.00E-02
Indeno(1,2,3-cd)pyrene	193-39-5	x	x	1.60E-04	1.60E-04	x	1.20E-02	1.20E-02	1.60E-04	x	5.00E-02	5.00E-02	5.00E-02
cPAH TEQ	x	1.08E+01	8.97E-02	1.60E-05	1.60E-05	x	x	x	1.60E-05	x	5.00E-02	5.00E-02	5.00E-02
Metals													
Arsenic	7440-38-2	1.47E+00	1.91E-03	1.80E-02	1.91E-03	1.30E+02	x	1.30E+02	1.91E-03	x	5.00E-01	5.00E-01	5.00E-01
Barium	7440-39-3	x	x	1.00E+03	1.00E+03	x	3.90E+00	3.90E+00	3.90E+00	x	6.25E-01	6.25E-01	3.90E+00
Cadmium	7440-43-9	8.41E+00	x	x	8.41E+00	4.20E-01	x	4.20E-01	4.20E-01	x	1.00E-01	1.00E-01	4.20E-01
Chromium III	16065-83-1	1.01E+05	x	x	1.01E+05	6.10E+01	x	6.10E+01	6.10E+01	x	2.00E-01	2.00E-01	6.10E+01
Chromium (Total)	7440-47-3	x	x	x	0.00E+00	x	7.40E+01	7.40E+01	0.00E+00	x	5.00E-01	5.00E-01	5.00E-01
Copper	7440-50-8	1.20E+03	x	1.30E+03	1.20E+03	1.20E+00	x	1.20E+00	1.20E+00	x	5.00E-01	5.00E-01	1.20E+00
Iron	7439-89-6	x	x	x	0.00E+00	1.00E+03	x	1.00E+03	0.00E+00	x	2.05E+00	2.05E+00	2.05E+00
Lead	7439-92-1	x	x	x	0.00E+00	2.50E+00	x	2.50E+00	0.00E+00	x	1.00E-01	1.00E-01	1.00E-01
Manganese	7439-96-5	x	x	5.00E+01	5.00E+01	x	x	x	5.00E+01	x	1.03E+00	1.03E+00	5.00E+01
Mercury	7439-97-6	x	x	x	0.00E+00	1.20E-02	x	1.20E-02	0.00E+00	x	6.00E-03	6.00E-03	6.00E-03
Nickel	7440-02-0	4.58E+02	x	8.00E+01	8.00E+01	1.10E+01	x	1.10E+01	1.10E+01	x	5.00E-01	5.00E-01	1.10E+01
Selenium	7782-49-2	1.12E+03	x	6.00E+01	6.00E+01	1.50E+00	x	1.50E+00	1.50E+00	x	5.00E-01	5.00E-01	1.50E+00
Silver	7440-22-4	1.08E+04	x	x	1.08E+04	9.10E-01	x	9.10E-01	9.10E-01	x	5.00E-01	5.00E-01	9.10E-01
Zinc	7440-66-6	6.87E+03	x	1.00E+03	1.00E+03	2.40E+01	x	2.40E+01	2.40E+01	x	5.00E+00	5.00E+00	2.40E+01

Figure 2: Calculation of Preliminary Cleanup Levels for Surface Water.

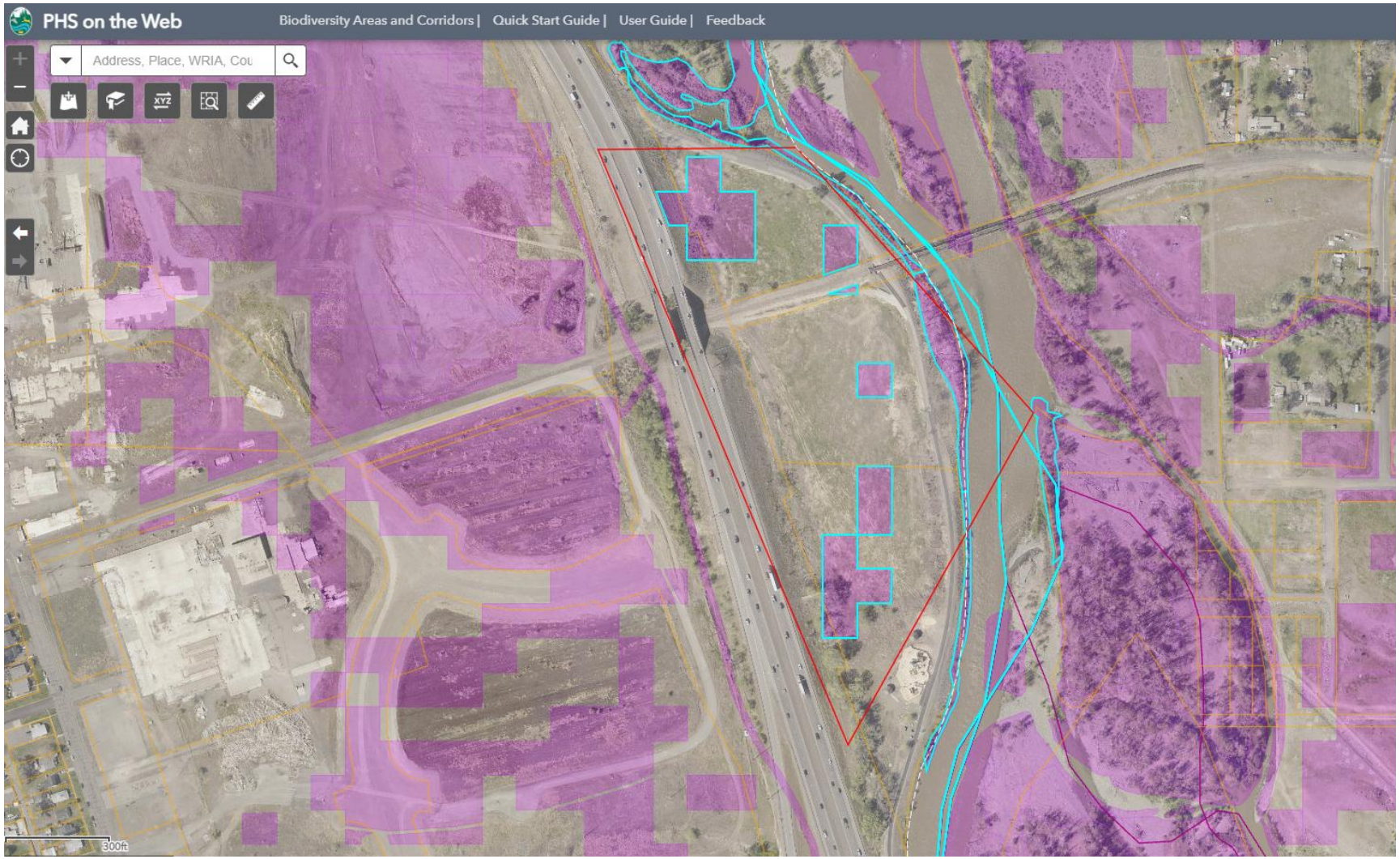

Figure 3: Shaded Areas Indicate Priority Habitat and Species Located within the Area of Interest.

East/West Corridor					
FSID # 450					
CSID # 12095					
Soil Regulation					
Soil Guidance					
Analyte	CAS	Site Specific TEE (Table 749-3 Value)	Site Specific TEE (Other Lit Value)	Fianl Protective TEE Value	Citation
Master CLARC Spreadsheet Column	A				
MTCA Table 830-1					
TPH- Gx (Gasoline)	x	1.20E+02		1.20E+02	
TPH-Dx (Diesel and Heavy Oil Ranges Combined)	x	2.60E+02		2.60E+02	
Acenaphthene	83-32-9	2.00E+01		2.00E+01	
Anthracene	120-12-7		2.90E+01	2.90E+01	Eco-SSL
Benzene	71-43-2		3.80E+01	3.80E+01	LANL No Effect
Bis(2-ethylhexyl)phthalate	117-81-7		2.00E-02	2.00E-02	LANL No Effect
Butyl benzyl phthalate	85-68-7		9.00E+01	9.00E+01	LANL No Effect
Chlorobenzene	108-90-7	4.00E+01		4.00E+01	
Chloroform	67-66-3		8.20E+00	8.20E+00	LANL No Effect
4,4'-DDD	72-54-8	7.50E-01		7.50E-01	
4,4'-DDT	50-29-3	7.50E-01		7.50E-01	
3,3'-Dichlorobenzidine	91-94-1		3.00E-02	3.00E-02	EPA Region IV
2,4-Dichlorophenol	120-83-2		5.00E-02	5.00E-02	EPA Region IV
Ethylbenzene	100-41-4		2.70E-01	2.70E-01	EPA Region IV
Fluoranthene	206-44-0		1.10E+00	1.10E+00	Eco-SSL
Fluorene	86-73-7	3.00E+01		3.00E+01	
1-Methylnaphthalene	90-12-0		2.90E+01	2.90E+01	Eco-SSL
2-Methylnaphthalene	91-57-6		2.90E+01	2.90E+01	Eco-SSL
Naphthalene	91-20-3		2.90E+01	2.90E+01	Eco-SSL
N-Nitrosodiphenylamine	1116-54-7	2.00E+01		2.00E+01	
Total PCBs	1336-36-3	6.50E-01		6.50E-01	
Pentachlorophenol	87-86-5	3.00E+00		3.00E+00	
Phenanthrene (use pyrene as a surrogate)	129-00-0		2.90E+01	2.90E+01	Eco-SSL
Tetrachloroethylene (PCE)	127-18-4		1.80E-01	1.80E-01	LANL No Effect
Toluene	108-88-3		2.30E+01	2.30E+01	LANL No Effect
1,2,4-Trichlorobenzene	120-82-1		2.70E-01	2.70E-01	LANL No Effect
Vinyl Chloride	75-01-4		1.20E-01	1.20E-01	LANL No Effect
Total Xylenes	1330-20-7		1.40E+00	1.40E+00	LANL No Effect
cPAHs					
Benzo(a)anthracene	56-55-3		1.10E+00	1.10E+00	Eco-SSL
Benzo(a)pyrene	50-32-8	1.20E+01		1.20E+01	
Benzo(b)fluoranthene	205-99-2		1.10E+00	1.10E+00	Eco-SSL
Benzo(k)fluoranthene	207-08-9		1.10E+00	1.10E+00	Eco-SSL
Dibenzo(a,h)anthracene	53-70-3		1.10E+00	1.10E+00	Eco-SSL
Indeno(1,2,3-cd)pyrene	193-39-5		1.10E+00	1.10E+00	Eco-SSL
cPAH TEQ	x	N/A	N/A	N/A	
Metals					
Arsenic	7440-38-2	1.00E+01		1.00E+01	
Barium	7440-39-3	1.02E+02		1.02E+02	
Cadmium	7440-43-9	4.00E+00		4.00E+00	
Chromium III	16065-83-1		2.60E+01	2.60E+01	Eco-SSL
Chromium (Total)	7440-47-3	4.20E+01		4.20E+01	
Copper	7440-50-8	5.00E+01		5.00E+01	
Iron	7439-89-6		5.15E+04	5.15E+04	Yakima basin background
Lead	7439-92-1	5.00E+01		5.00E+01	
Manganese	7439-96-5	1.10E+03		1.10E+03	
Mercury	7439-97-6	1.00E-01		1.00E-01	
Zinc	7440-66-6	8.60E+01		8.60E+01	

Figure 4: Site Specific TEE Values with References.

3-Phase Model - Soil protective of groundwater/surface water	
SW Protection (µg/Liter)	5.70E+01
Units Conversion (1 mg/1000 µg)	0.001
Dilution Factor - Saturated Zone (1)	1
Distribution Coefficient Kd (Liters/kg)	2.33E-01
Water-filled Soil Porosity - Saturated (0.43 ml water/ml soil)	0.43
Air-filled Soil Porosity Saturated (0 ml air/ml soil)	0
Henry's Law Constant - Hcc - dimensionless	1.41E-01
Dry Soil Bulk Density (1.5 kg/Liter)	1.5
Soil Cleanup Level Protective of Groundwater - Saturated (mg/kg)	2.96E-02
Saturated Conditions	

Analyte	CAS	S.W. Protection (ug/L)	Hcc @ 13°	Kd	Soil Protective of S.W. (mg/kg)
TPH- Gx (Gasoline)	x	1.00E+03	x	x	x
TPH-Dx (Diesel and Heavy Oil Ranges Combined)	x	5.00E+02	x	x	x
Acenaphthene	83-32-9	5.80E+00	2.50E-03	4.90E+00	3.01E-02
Anthracene	120-12-7	5.00E-02	6.51E-04	2.35E+01	1.19E-03
Benzene	71-43-2	1.00E+00	1.34E-01	6.20E-02	3.49E-04
Bis(2-ethylhexyl)phthalate	117-81-7	5.00E-01	2.34E-06	1.11E+02	5.57E-02
Butyl benzyl phthalate	85-68-7	2.00E-01	1.47E-05	1.37E+01	2.81E-03
Chlorobenzene	108-90-7	1.30E+00	6.63E-02	2.24E-01	6.64E-04
Chloroform	67-66-3	1.80E+00	9.17E-02	5.30E-02	6.11E-04
4,4'-DDD	72-54-8	2.50E-03	x	4.58E+01	x
4,4'-DDT	50-29-3	2.50E-03	1.28E-04	6.78E+02	1.70E-03
3,3'-Dichlorobenzidine	91-94-1	2.00E+00	x	3.19E+00	x
2,4-Dichlorophenol	120-83-2	1.00E+01	7.46E-05	1.47E-01	4.34E-03
Ethylbenzene	100-41-4	1.20E+01	1.64E-01	2.04E-01	5.89E-03
Fluoranthene	206-44-0	6.00E+00	9.14E-05	4.91E+01	2.96E-01
Fluorene	86-73-7	2.00E+00	1.23E-03	7.71E+00	1.60E-02
1-Methylnaphthalene	90-12-0	5.00E-02	8.16E-03	2.53E+00	1.41E-04
2-Methylnaphthalene	91-57-6	5.00E-02	7.00E-03	2.48E+00	1.38E-04
Naphthalene	91-20-3	2.05E+03	8.32E-03	1.19E+00	3.03E+00
N-Nitrosodiphenylamine	86-30-6	1.00E+00	x	2.63E+00	x
Total PCBs	1336-36-3	1.00E-02	x	7.81E+01	x
PCE	127-18-4	1.00E-02	3.84E-01	2.65E-01	5.52E-06
Pentachlorophenol	87-86-5	6.12E-01	x	5.92E-01	x
Phenanthrene (use pyrene as a surrogate)	129-00-0	5.00E-02	1.15E-04	6.80E+01	3.41E-03
Toluene	108-88-3	5.30E+01	1.49E-01	1.40E-01	2.26E-02
1,2,3-Trichlorobenzene	87-61-6	1.00E+00	5.11E-02	1.38E+00	1.30E-02
1,2,4-Trichlorobenzene	120-82-1	1.00E+00	2.37E-02	1.66E+00	1.95E-03
Vinyl Chloride	75-01-4	1.00E+00	8.50E-01	2.17E-02	3.08E-04
Total Xylenes	1330-20-7	5.70E+01	1.41E-01	2.33E-01	2.96E-02
cPAHs					
Benzo(a)anthracene	56-55-3	5.00E-02	9.60E-05	3.58E+02	1.79E-02
Benzo(a)pyrene	50-32-8	5.00E-02	3.61E-06	9.69E+02	4.85E-02
Benzo(b)fluoranthene	205-99-2	5.00E-02	6.04E-06	5.99E+02	3.00E-02
Benzo(k)fluoranthene	207-08-9	5.00E-02	4.28E-06	5.87E+02	2.94E-02
Chrysene	218-01-9	5.00E-02	3.87E-05	1.81E+02	9.04E-03
Dibenzo(a,h)anthracene	53-70-3	5.00E-02	7.45E-07	1.79E+03	8.95E-02
Indeno(1,2,3-cd)pyrene	193-39-5	5.00E-02	2.09E-06	1.95E+03	9.76E-02
cPAH TEQ	x	5.00E-02	x	x	x
Metals					
Arsenic	7440-38-2	5.00E-01	0.00E+00	2.90E+01	1.46E-02
Barium	7440-39-3	3.90E+00	0.00E+00	4.10E+01	1.61E-01
Cadmium	7440-43-9	4.20E-01	0.00E+00	6.70E+00	2.93E-03
Chromium III	7440-47-3	6.10E+01	0.00E+00	1.00E+03	6.10E+01
Chromium (Total)	16065-83-1	5.00E-01	0.00E+00	1.00E+03	5.00E-01
Copper	7440-50-8	1.20E+00	0.00E+00	2.20E+01	2.67E-02
Iron	7439-89-6	2.05E+00	0.00E+00	2.50E+01	5.18E-02
Lead	7439-92-1	1.00E-01	0.00E+00	1.00E+04	1.00E+00
Manganese	7439-96-5	5.00E+01	0.00E+00	6.50E+01	3.26E+00
Mercury	7439-97-6	6.00E-03	1.66E-01	5.20E+01	3.14E-04
Nickel	7440-02-0	1.10E+01	0.00E+00	6.50E+01	7.20E-01
Selenium	7782-49-2	1.50E+00	0.00E+00	5.00E+00	7.90E-03
Silver	7440-22-4	9.10E-01	0.00E+00	8.30E+00	1.50E-03
Zinc	7440-66-6	2.40E+01	0.00E+00	6.20E+01	1.49E+00

Figure 5: Three phase Model for Surface Water Assuming Saturated Conditions.

East/West Corridor															
FSID # 450															
CSID # 12095															
Soil Regulation															
Soil Guidance															
Analyte	CAS	Soil Method A (mg/kg)	Soil Method B Direct Contact (mg/kg)	Soil Method B Protection of Groundwater (mg/kg) - Sat	Soil Method B Protection of SW (mg/kg) - Sat	Final Protective H.H. Value (mg/kg)	Site Specific TEE (Table 749-3 Value)	Site Specific TEE (Other Lit Value)	Final Protective TEE Value	Final H.H. and TEE Protective Value	Consultant MRL (mg/kg)	Ecology MRL (mg/kg)	Final PQL (mg/kg)	Natural Background	PCUL (mg/kg)
Master CLARC Spreadsheet Column	A	Q	R and S	X								Guidance for TPH		Natural Background Metals	
MTCA Table 830-1															
TPH- Gx (Gasoline)	x	1.00E+03	x	x	x	1.00E+03	1.20E+02	x	1.20E+02	1.20E+02	x	5.00E+00	5.00E+00	x	1.20E+02
TPH-Dx (Diesel and Heavy Oil Ranges Combined)	x	2.00E+03	x	x	x	2.00E+03	2.60E+02	x	2.60E+02	2.60E+02	x	2.50E+01	2.50E+01	x	2.60E+02
Acenaphthene	83-32-9	x	4.80E+03	2.50E+00	3.01E-02	3.01E-02	2.00E+01	x	2.00E+01	3.01E-02	x	4.35E-02	4.35E-02	x	4.35E-02
Anthracene	120-12-7	x	2.40E+04	5.70E+01	1.19E-03	1.19E-03	x	2.90E+01	2.90E+01	1.19E-03	x	4.35E-02	4.35E-02	x	4.35E-02
Benzene	71-43-2	3.00E-02	1.80E+01	1.70E-03	3.49E-04	3.49E-04	x	3.80E+01	3.80E+01	3.49E-04	x	5.00E-03	5.00E-03	x	5.00E-03
Bis(2-ethylhexyl)phthalate	117-81-7	x	7.10E+01	6.70E-01	5.57E-02	5.57E-02	x	2.00E-02	2.00E-02	2.00E-02	x	1.19E-01	1.19E-01	x	1.19E-01
Butyl benzyl phthalate	85-68-7	x	5.30E+02	6.50E-01	2.81E-03	2.81E-03	x	9.00E+01	9.00E+01	2.81E-03	x	2.00E-01	2.00E-01	x	2.00E-01
Chlorobenzene	108-90-7	x	1.60E+03	5.10E-02	6.64E-04	6.64E-04	4.00E+01	x	4.00E+01	6.64E-04	x	2.00E-03	2.00E-03	x	2.00E-03
Chloroform	67-66-3	x	3.20E+01	4.80E-03	6.11E-04	6.11E-04	x	8.20E+00	8.20E+00	6.11E-04	x	2.00E-03	2.00E-03	x	2.00E-03
4,4'-DDD	72-54-8	x	4.20E+00	1.70E-02	x	1.70E-02	7.50E-01	x	7.50E-01	1.70E-02	x	2.50E-04	2.50E-04	x	1.70E-02
4,4'-DDT	50-29-3	3.00E+00	2.90E+00	1.70E-01	1.70E-03	1.70E-03	7.50E-01	x	7.50E-01	1.70E-03	x	2.00E-03	2.00E-03	x	2.00E-03
3,3'-Dichlorobenzidine	91-94-1	x	2.20E+00	6.80E-04	x	6.80E-04	x	3.00E-02	3.00E-02	6.80E-04	x	3.30E-01	3.30E-01	x	3.30E-01
2,4-Dichlorophenol	120-83-2	x	2.40E+02	2.10E-02	4.34E-03	4.34E-03	x	5.00E-02	5.00E-02	4.34E-03	x	2.15E-01	2.15E-01	x	2.15E-01
Ethylbenzene	100-41-4	6.00E+00	8.00E+03	3.40E-01	5.89E-03	5.89E-03	x	2.70E-01	2.70E-01	5.89E-03	x	1.00E-03	1.00E-03	x	5.89E-03
Fluoranthene	206-44-0	x	3.20E+03	3.20E+01	2.96E-01	2.96E-01	x	1.10E+00	1.10E+00	2.96E-01	x	5.00E-03	5.00E-03	x	2.96E-01
Fluorene	86-73-7	x	3.20E+03	2.60E+00	1.60E-02	1.60E-02	3.00E+01	x	3.00E+01	1.60E-02	x	5.00E-03	5.00E-03	x	1.60E-02
1-Methylnaphthalene	90-12-0	x	2.00E+01	2.40E-03	1.41E-04	1.41E-04	x	2.90E+01	2.90E+01	1.41E-04	x	5.00E-01	5.00E-01	x	5.00E-01
2-Methylnaphthalene	91-57-6	x	3.20E+02	8.80E-02	1.38E-04	1.38E-04	x	2.90E+01	2.90E+01	1.38E-04	x	5.00E-01	5.00E-01	x	5.00E-01
Naphthalene	91-20-3	5.00E+00	1.60E+03	2.40E-01	3.03E+00	2.40E-01	x	2.90E+01	2.90E+01	2.40E-01	x	1.00E-03	1.00E-03	x	2.40E-01
N-Nitrosodiphenylamine	86-30-6	x	3.60E-01	9.00E-06	x	9.00E-06	2.00E+01	x	2.00E+01	9.00E-06	x	7.00E-02	7.00E-02	x	7.00E-02
Total PCBs	1336-36-3	1.00E+00	5.00E-01	1.70E-02	x	1.70E-02	6.50E-01	x	6.50E-01	1.70E-02	x	2.50E-04	2.50E-04	x	1.70E-02
Pentachlorophenol	87-86-5	x	2.50E+00	8.80E-04	5.52E-06	5.52E-06	3.00E+00	x	3.00E+00	5.52E-06	x	1.25E-01	1.25E-01	x	1.25E-01
Phenanthrene (use pyrene as a surrogate)	129-00-0	x	2.40E+03	1.60E-01	x	1.60E-01	x	2.90E+01	2.90E+01	1.60E-01	x	2.00E-02	2.00E-02	x	1.60E+01
Tetrachloroethylene (PCE)	127-18-4	5.00E-02	4.80E+02	2.80E-03	3.41E-03	2.80E-03	x	1.80E-01	1.80E-01	2.80E-03	x	1.00E-03	1.00E-03	x	2.80E-03
Toluene	108-88-3	7.00E+00	6.40E+03	2.70E-01	2.26E-02	2.26E-02	x	2.30E+01	2.30E+01	2.26E-02	x	1.00E-03	1.00E-03	x	2.26E-02
1,2,3-Trichlorobenzene	87-61-6	x	6.40E+01	1.10E-02	1.30E-02	1.10E-02	2.00E+01	x	2.00E+01	1.10E-02	x	1.00E-03	1.00E-03	x	1.10E-02
1,2,4-Trichlorobenzene	120-82-1	x	3.40E+01	2.90E-02	1.95E-03	1.95E-03	x	2.70E-01	2.70E-01	1.95E-03	x	3.00E-02	3.00E-02	x	3.00E-02
Vinyl Chloride	75-01-4	x	6.70E-01	9.00E-05	3.08E-04	9.00E-05	x	1.20E-01	1.20E-01	9.00E-05	x	2.00E-03	2.00E-03	x	2.00E-03
Total Xylenes	1330-20-7	9.00E+00	1.60E+04	8.30E-01	2.96E-02	2.96E-02	x	1.40E+00	1.40E+00	2.96E-02	x	1.00E-03	1.00E-03	x	2.96E-02
cPAHs															
Benzo(a)anthracene	56-55-3	x	x	x	1.79E-02	1.79E-02	x	1.10E+00	1.10E+00	1.79E-02	x	5.00E-02	5.00E-02	x	5.00E-02
Benzo(a)pyrene	50-32-8	1.00E-01	1.90E-01	1.90E-01	4.85E-02	4.85E-02	1.20E+01	x	1.20E+01	4.85E-02	x	5.00E-02	5.00E-02	x	5.00E-02
Benzo(b)fluoranthene	205-99-2	x	x	x	3.00E-02	3.00E-02	x	1.10E+00	1.10E+00	3.00E-02	x	5.00E-02	5.00E-02	x	5.00E-02
Chrysene	218-01-9	x	x	x	2.94E-02	2.94E-02	x	1.10E+00	1.10E+00	2.94E-02	x	5.00E-02	5.00E-02	x	5.00E-02
Benzo(k)fluoranthene	207-08-9	x	x	x	9.04E-03	9.04E-03	x	1.10E+00	1.10E+00	9.04E-03	x	5.00E-02	5.00E-02	x	5.00E-02
Dibenzo(a,h)anthracene	53-70-3	x	x	x	8.95E-02	8.95E-02	x	1.10E+00	1.10E+00	8.95E-02	x	5.00E-02	5.00E-02	x	8.95E-02
Indeno(1,2,3-cd)pyrene	193-39-5	x	x	x	9.76E-02	9.76E-02	x	1.10E+00	1.10E+00	9.76E-02	x	5.00E-02	5.00E-02	x	9.76E-02
cPAH TEQ	x	1.00E-01	1.90E-01	1.90E-01	x	1.00E-01	N/A	N/A	N/A	1.00E-01	x	5.00E-02	5.00E-02	x	1.00E-01
Metals															0.00E+00
Arsenic	7440-38-2	2.00E+01	3.10E-02	1.50E-01	1.46E-02	1.46E-02	1.00E+01	x	1.00E+01	1.46E-02	x	2.50E+00	2.50E+00	7.00E+00	7.00E+00
Barium	7440-39-3	x	1.60E+04	8.30E+01	1.61E-01	1.61E-01	1.02E+02	x	1.02E+02	1.61E-01	x	3.00E-01	3.00E-01	2.55E+02	2.55E+02
Cadmium	7440-43-9	2.00E+00	8.00E+01	3.50E-02	2.93E-03	2.93E-03	4.00E+00	x	4.00E+00	2.93E-03	x	1.00E-01	1.00E-01	1.00E+00	1.00E+00
Chromium III	16065-83-1	2.00E+03	1.20E+05	1.00E+02	6.10E+01	6.10E+01	x	2.60E+01	2.60E+01	2.60E+01	x	5.00E-01	5.00E-01	4.20E+01	4.20E+01
Chromium (Total)	7440-47-3	x	x	x	5.00E-01	5.00E-01	4.20E+01	x	4.20E+01	5.00E-01	x	5.00E-01	5.00E-01	4.20E+01	4.20E+01
Copper	7440-50-8	x	3.20E+03	1.40E+01	2.67E-02	2.67E-02	5.00E+01	x	5.00E+01	2.67E-02	x	5.00E-01	5.00E-01	3.60E+01	3.60E+01
Iron	7439-89-6	x	5.60E+04	7.60E+00	5.18E-02	5.18E-02	x	5.15E+04	5.15E+04	5.18E-02	x	5.00E+00	5.00E+00	5.15E+04	5.15E+04
Lead	7439-92-1	2.50E+02	x	1.50E+01	1.00E+00	1.00E+00	5.00E+01	x	5.00E+01	1.00E+00	x	1.00E-01	1.00E-01	1.70E+01	1.70E+01
Manganese	7439-96-5	x	3.70E+03	3.30E+00	3.26E+00	3.26E+00	1.10E+03	x	1.10E+03	3.26E+00	x	1.00E-01	1.00E-01	1.10E+03	1.10E+03
Mercury	7439-97-6	2.00E+00	x	1.00E-01	3.14E-04	3.14E-04	1.00E-01	x	1.00E-01	3.14E-04	x	2.00E-02	2.00E-02	7.00E-02	7.00E-02
Nickel	7440-02-0	x	1.60E+03	2.10E+01	7.20E-01	7.20E-01	3.00E+01	x	3.00E+01	7.20E-01	x	9.00E-01	9.00E-01	4.60E+01	4.60E+01
Selenium	7782-49-2	x	4.00E+02	2.60E-01	7.90E-03	7.90E-03	3.00E-01	x	3.00E-01	7.90E-03	x	3.00E+00	3.00E+00	7.80E-01	3.00E+00
Silver	7440-22-4	x	4.00E+02	6.90E-01	1.50E-03	1.50E-03	2.00E+00	x	2.00E+00	1.50E-03	x	3.00E-01	3.00E-01	6.10E-01	6.10E-01
Zinc	7440-66-6	x	2.40E+04	3.00E+02	1.49E+00	1.49E+00	8.60E+01	x	8.60E+01	1.49E+00	x	5.00E+00	5.00E+00	8.60E+01	8.60E+01

Figure 6: Calculation of Preliminary Cleanup Levels for Soil.

East/West Corridor									
FSID # 450									
CSID # 12095									
Analyte	CAS	Bioaccumulative SedDetFW	Benthic Criterion for Sed Data Eval Point by Point Sed # 3	SD-1 SMS Lower Tier Human Health Dir. Contact SCO SWAC SedDetFW	SD-2 SMS Lower Tier Seafood Consumption SCO SWAC SedDetFW	Overall Protection	SD-4 Freshwater Natural Background Param	SD-5 PQL SedDetFW	PCUL
TPH- Gx (Gasoline)	x	no	x	x	x	x	x	na	na
TPH-Dx (Diesel and Heavy Oil Ranges Combined)	x	no	x	x	x	x	x	3.75E+01	3.75E+01
Acenaphthene	83-32-9	no	x	x	x	x	x	5.00E-03	5.00E-03
Anthracene	120-12-7	no	x	x	x	x	x	5.00E-03	5.00E-03
Benzene	71-43-2	no	x	x	x	x	x	4.10E-03	4.10E-03
Bis(2-ethylhexyl)phthalate	117-81-7	no	5.00E-01	x	x	5.00E-01	na	1.19E-01	5.00E-01
Butyl benzyl phthalate	85-68-7	no	x	x	x	x	x	8.10E-02	8.10E-02
Chlorobenzene	108-90-7	no	x	x	x	x	x	x	x
Chloroform	67-66-3	no	x	x	x	x	x	x	x
4,4'-DDD	72-54-8	YES	3.10E-01	5.50E+00	PQL	3.10E-01	na	x	3.10E-01
4,4'-DDT	50-29-3	YES	1.00E-01	6.29E+00	PQL	1.00E-01	na	x	1.00E-01
3,3'-Dichlorobenzidine	91-94-1	no	x	x	x	x	x	x	x
2,4-Dichlorophenol	120-83-2	no	x	x	x	x	x	x	x
Ethylbenzene	100-41-4	no	x	x	x	x	x	6.60E-03	6.60E-03
Fluoranthene	206-44-0	YES	x	7.57E+03	5.00E-03	5.00E-03	x	5.00E-03	5.00E-03
Fluorene	86-73-7	no	x	x	x	x	x	5.00E-03	5.00E-03
1-Methylnaphthalene	90-12-0	no	x	x	x	x	x	x	x
2-Methylnaphthalene	91-57-6	no	x	x	x	x	x	7.00E-03	7.00E-03
Naphthalene	91-20-3	no	x	x	x	x	x	6.00E-03	6.00E-03
N-Nitrosodiphenylamine	1116-54-7	no	x	x	x	x	x	x	x
Total PCBs	1336-36-3	YES	1.10E-01	5.42E-01	1.20E-02	1.20E-02	x	1.20E-02	1.20E-02
Pentachlorophenol	87-86-5	YES	1.20E+00	1.81E+00	3.55E-01	3.55E-01	x	3.55E-01	3.55E-01
Phenanthrene (use pyrene as a surrogate)	129-00-0	YES	x	5.68E+03	5.00E-03	5.00E-03	x	5.00E-03	5.00E-03
Tetrachloroethylene (PCE)	127-18-4	no	x	x	x	x	x	6.60E-03	6.60E-03
Toluene	108-88-3	no	x	x	x	x	x	x	x
1,2,3-Trichlorobenzene	87-61-6	no	x	x	x	x	x	6.80E-02	6.80E-02
1,2,4-Trichlorobenzene	120-82-1	no	x	x	x	x	x	6.80E-02	6.80E-02
Vinyl Chloride	75-01-4	no	x	x	x	x	x	x	x
Total Xylenes	1330-20-7	no	x	x	x	x	x	x	x
cPAHs									
Benzo(a)anthracene	56-55-3	YES	x	x	9.00E-03	9.00E-03	x	9.00E-03	9.00E-03
Benzo(a)pyrene	50-32-8	YES	x	1.19E-01	9.00E-03	9.00E-03	x	9.00E-03	9.00E-03
Benzo(b)fluoranthene	205-99-2	YES	x	x	9.00E-03	9.00E-03	x	9.00E-03	9.00E-03
Chrysene	218-01-9	YES	x	x	9.00E-03	9.00E-03	x	9.00E-03	9.00E-03
Benzo(k)fluoranthene	207-08-9	YES	x	x	9.00E-03	9.00E-03	x	9.00E-03	9.00E-03
Dibenzo(a,h)anthracene	53-70-3	YES	x	x	9.00E-03	9.00E-03	x	9.00E-03	9.00E-03
Indeno(1,2,3-cd)pyrene	193-39-5	YES	x	x	9.00E-03	9.00E-03	x	9.00E-03	9.00E-03
cPAH TEQ	x	YES	x	1.19E-01	2.10E-02	2.10E-02	2.10E-02	9.00E-03	2.10E-02
Metals									
Arsenic	7440-38-2	YES	1.40E+01	6.69E-02	7.30E+00	6.69E-02	7.30E+00	3.00E-01	7.30E+00
Barium	7440-39-3	no	x	x	x	x	2.50E+02	x	x
Cadmium	7440-43-9	YES	2.10E+00	2.24E+02	7.70E-01	7.70E-01	7.70E-01	7.00E-02	7.70E-01
Chromium III	16065-83-1	no	x	x	x	x	x	x	x
Chromium (Total)	7440-47-3	no	7.20E+01	x	x	7.20E+01	4.80E+01	2.00E-01	7.20E+01
Copper	7440-50-8	no	4.00E+02	x	x	4.00E+02	3.60E+01	1.00E-01	4.00E+02
Iron	7439-89-6	no	x	x	x	x	3.60E+04	x	x
Lead	7439-92-1	YES	3.60E+02	x	2.10E+01	2.10E+01	2.10E+01	1.00E-01	2.10E+01
Manganese	7439-96-5	no	x	x	x	x	1.10E+03	x	x
Mercury	7439-97-6	YES	6.60E-01	x	7.00E-02	7.00E-02	7.00E-02	2.00E-02	7.00E-02
Nickel	7440-02-0	no	2.60E+01	x	x	2.60E+01	4.80E+01	2.00E-01	4.80E+01
Selenium	7782-49-2	YES	1.10E+01	1.22E+03	7.80E-01	7.80E-01	7.80E-01	1.00E-01	7.80E-01
Silver	7440-22-4	no	5.70E-01	x	x	5.70E-01	2.40E-01	1.00E-01	5.70E-01
Zinc	7440-66-6	no	3.20E+03	x	x	3.20E+03	8.50E+01	1.00E+00	3.20E+03

Figure 7: Calculation of Preliminary Cleanup Levels for Sediments