STATE OF WASHINGTON
SPOKANE COUNTY SUPERIOR COURT

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Plaintiff, v. BNSF Railway Company, Defendant.	NO. CONSENT DECREE RE: BNSF PARKWATER RAILYARD SITE, SPOKANE, WASHINGTON

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I. INTRODUCTION

A. The mutual objective of the State of Washington, Department of Ecology (Ecology) and BNSF Railway Company (BNSF) under this Decree is to provide for remedial action at a facility where there has been a release or threatened release of hazardous substances. This Decree requires BNSF to perform a final cleanup of the BNSF Parkwater Railyard Site in Spokane, Washington.

Ecology has determined that these actions are necessary to protect human health and the environment.

B. 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 in this case. 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.

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

D. 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. The Parties retain the right to seek reimbursement, in whole or in part, from any liable persons for sums expended under this Decree.

E. This Decree shall not be construed as proof of liability or responsibility for any releases of hazardous substances or cost for remedial action nor an admission of any facts, or conclusions of law; provided, however, that BNSF shall not challenge the authority of the Attorney General and Ecology to enforce this Decree, or the jurisdiction of the Court over subject matter and the Parties, except as provided in Section II.A. (Jurisdiction), XVIII.C. (Covenant Not to Sue), and XXV (Implementation of Remedial Actions).

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F. 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 (MTCA), Chapter 70.105D RCW. However, BNSF reserves the right to challenge the application of state law as being preempted by federal law, in the particular context and as prescribed in Sections XIV.B. (Resolution of Disputes), XIX.D. (Covenant Not to Sue), and XXV (Implementation of Remedial Action) only.

B. Authority is conferred upon the Washington State Attorney General by RCW 70.105D.040(4)(a) to agree to a settlement with any potentially liable person (PLP) if, after public notice and any required hearing, Ecology finds the proposed settlement would lead to a more expeditious cleanup of hazardous substances. RCW 70.105D.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 BNSF of Ecology's determination that BNSF is a PLP for the Site, as required by RCW 70.105D.020(21) and WAC 173-340-500.

E. 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 70.105D.030(2)(e) and Chapter 173-340 WAC.

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

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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. BNSF agrees to undertake all actions required by the terms and conditions of this Decree. No change in ownership or corporate status shall alter BNSF's responsibility under this Decree. BNSF 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.

IV. DEFINITIONS

Unless otherwise specified herein, all definitions in RCW 70.105D.020 and WAC 173-340-200 shall control the meanings of the terms in this Decree.

A. Site: The Site is referred to as BNSF Parkwater Railyard and is generally located South of E. Trent Avenue, between N Fancher Road and N Havana Street, in Spokane, Washington. The Site is more particularly described in the Site Diagram (Exhibit A). The Site constitutes a Facility under RCW 70.105D.020(5).

B. Parties: Refers to the State of Washington, Department of Ecology and BNSF Railway Company.

C. 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.

V. FINDINGS OF FACTS

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

A. BNSF owns the Site and has conducted interstate railroad activities on the Site for many years.

B. An underground storage tank (UST) incident report was filed with Ecology on January 11, 1991 regarding a petroleum release at the facility.

C. Ecology conducted an Initial Investigation regarding the UST incident report on January 16, 1991.

D. An Early Notice Letter regarding the UST report was issued by Ecology on April 1, 1991.

E. On May 22, 1991, Ecology was contacted by the Spokane Fire Department regarding petroleum contaminated soil encountered during excavation activities at the facility.

F. Ecology conducted a second Initial Investigation at the facility on May 23, 1991.

G. A second Early Notice Letter was issued by Ecology on June 3, 1991.

H. Spokane County Health District completed a Site Hazard Assessment of the facility in January 1996. The facility received a hazard ranking of three on a scale of one to five with one being considered the highest ranking.

I. After the discovery of the release, there were limited investigations of the contamination and some independent interim remedial measures undertaken by BNSF.

J. BNSF has undertaken an independent remedial action to address groundwater contamination by installing a soil and groundwater treatment system at the Site.

K. BNSF entered into Agreed Order 6453 with Ecology and BNSF completed a Remedial Investigation/Feasibility Study (RI/FS) for all releases at the Site.

L. The RI/FS identified petroleum contamination in groundwater and petroleum and metals contamination in specific areas of soil at the Site.

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VI. WORK TO BE PERFORMED

This Decree contains a program designed to protect human health and the environment from the known release, or threatened release, of hazardous substances or contaminants at, on, or from the Site.

A. BNSF shall conduct a final cleanup action at the Site by implementing the Cleanup Action Plan (CAP) (Exhibit B) according to the attached Scope of Work and Schedule (Exhibit C) and all other requirements of this Decree. The cleanup action includes, but is not limited to, the following actions:

1. Excavate contaminated soil above cleanup levels in five specific areas of the Site (Western Fruit Express, Material Storage Building, Dismantling Spur, Yardley Office, and Ralston Lead Track), transport to permitted disposal facilities, and backfill with clean soil.

2. Place a minimum six-inch gravel cap in two specific areas of the Site (Koch Asphalt and East and West Debris).

3. Place an asphalt cap in one specific area of the Site (Diesel Shop).

4. Continue to operate the soil and groundwater treatment system consisting of soil vapor extraction/bioventing and air sparging systems in the Fueling Area after a minimum of one-month shutdown period and subsequent evaluation of the remedial system effectiveness, until groundwater cleanup standards have been achieved.

5. Conduct groundwater monitoring to assess performance of cleanup action in accordance with the Compliance Monitoring Plan approved by Ecology.

The Parties intend that the above list include any and all outstanding obligations under Agreed Order No. 6453. The Parties agree that Agreed Order No. 6453 no longer has any force or effect.

B. In order to implement the CAP, BNSF will prepare and submit for Ecology's review and approval all documents necessary to conduct the final cleanup action, such as the

engineering design report and compliance monitoring plan. Any such deliverable, once approved by Ecology, becomes an integral and enforceable part of this Decree. The Scope of Work and Schedule (Exhibit C) details those deliverables that have been identified at the time of entry of this Decree, plus the schedule by which they must be submitted.

C. BNSF agrees not to perform any remedial actions outside the scope of this Decree unless the Parties agree to modify the CAP (Exhibit B), the Scope of Work and Schedule (Exhibit C) and/or approved work plans as necessary to cover these actions. Notwithstanding the foregoing, and with seven (7) days advance notice to Ecology, BNSF may excavate contamination in conjunction with railroad operations not related to cleanup, including but not limited to utility work and track maintenance, and may either properly dispose of the contamination offsite pursuant to all applicable state and federal laws, or may choose to manage the contamination on BNSF's railyard facility property in accordance with applicable state and federal laws provided such actions do not interfere with the cleanup action required by this Decree, absent amendment thereto. All work conducted by BNSF under this Decree shall be done in accordance with Chapter 173-340 WAC unless otherwise provided herein.

VII. DESIGNATED PROJECT COORDINATORS

The project coordinator for Ecology is:

Sandra Treccani
Washington Department of Ecology, Eastern Regional Office
4601 N Monroe
Spokane, WA 99205
(509) 329-3412
Email: satr461@ecy.wa.gov

The project coordinator for BNSF is:

Bruce Sheppard
BNSF Railway Company
2454 Occidental Ave, Suite 1A
Seattle, WA 98134
(206) 625-6035
Email: bruce.sheppard@bnsf.com

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 Site. To the maximum extent possible, communications between Ecology and BNSF 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. The project coordinators may designate, in writing, working level staff contacts for all or portions of the implementation of the work to be performed required by this Decree.

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.

VIII. PERFORMANCE

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

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

All construction work performed pursuant to this 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 in the State of Washington, except as otherwise provided for by RCW 18.43.130.

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

BNSF 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. BNSF has notified Ecology that GeoEngineers, Inc. and Test America may be used by BNSF in carrying out the terms of this Decree.

IX. ACCESS

Ecology or any Ecology authorized representative shall have full authority to enter and freely move about all property at the Site that BNSF 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 BNSF'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 BNSF. BNSF shall make all reasonable efforts to secure access rights for those properties within the Site not owned or controlled by BNSF where remedial activities or investigations will be performed pursuant to this Decree. Ecology or any Ecology authorized representative shall give reasonable notice before entering any Site property owned or controlled by BNSF 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). All persons who access BNSF's railyard property will be required to complete BNSF's Contractor Safety Training Program (www.contractororientation.com), unless they are personally escorted by someone who has completed the program. Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of Site property access.

X. SAMPLING, DATA SUBMITTAL, AND AVAILABILITY

With respect to the implementation of this Decree, BNSF shall make the results of all sampling, laboratory reports, and/or test results generated by it or on its behalf available to Ecology. Pursuant to WAC 173-340-840(5), all sampling data shall be submitted to Ecology

in both printed and electronic formats in accordance with Section XI (Progress Reports), Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any subsequent procedures specified by Ecology for data submittal.

If requested by Ecology, BNSF shall allow Ecology and/or its authorized representative to take split or duplicate samples of any samples collected by BNSF pursuant to the implementation of this Decree. BNSF shall notify Ecology seven (7) days in advance of any sample collection or work activity at the Site. Ecology shall, upon request, allow BNSF 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 IX (Access), Ecology shall notify BNSF prior to any sample collection activity unless an emergency prevents such notice.

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

XI. PROGRESS REPORTS

BNSF shall submit to Ecology written monthly Progress Reports that describe the actions taken during the previous month to implement the requirements of this Decree. The Progress Reports shall include the following:

A. A list of on-site activities that have taken place during the month;

B. Detailed description of any deviations from required tasks not otherwise documented in project plans or amendment requests;

C. Description of all deviations from the CAP (Exhibit B) and the Scope of Work and Schedule (Exhibit C) during the current month and any planned deviations in the upcoming month;

D. For any deviations in schedule, a plan for recovering lost time and maintaining compliance with the schedule;

E. All raw data (including laboratory analyses) received by BNSF during the past month and an identification of the source of the sample unless Ecology agrees that submitting raw data is not necessary at that time; and

F. A list of deliverables for the upcoming month if different from the schedule.

All Progress Reports shall be submitted by the tenth (10^{th}) day of the month in which they are due after the effective date of this Decree. Progress Reports shall be submitted by email to Ecology's project coordinator. After BNSF submits to Ecology the Draft Cleanup Action Report required by Exhibit C (Scope of Work and Schedule), BNSF shall submit Progress Reports on a quarterly basis within thirty days after the end of the reporting period, or as required by the Compliance Monitoring Plan.

XII. RETENTION OF RECORDS

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 XXVIII (Duration of Decree), BNSF 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, BNSF shall make all records available to Ecology and allow access for review within a reasonable time. Nothing in this Decree is intended by BNSF to waive any right it may have under applicable law to limit disclosure of documents protected by the attorney work-product and/or attorney-client privilege. If BNSF withholds any requested records based on an assertion of privilege, it shall provide Ecology with a privilege log specifying the records withheld and the applicable privilege. No actual data collected pursuant to this Decree shall be considered privileged.

XIII. TRANSFER OF INTEREST IN PROPERTY

No voluntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by BNSF without provision for continued operation and maintenance of any containment system, treatment system, and/or monitoring system installed or implemented pursuant to this Decree.

Prior to BNSF's transfer of any interest in all or any portion of the Site, and during the effective period of this Decree, BNSF 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, BNSF shall notify Ecology of said transfer. Upon transfer of any interest, BNSF shall restrict uses and activities to those consistent with this Consent Decree and notify all transferees of the restrictions on the use of the property.

XIV. RESOLUTION OF DISPUTES

A. In the event a dispute arises as to an approval, disapproval, proposed change, or other decision or action by Ecology's project coordinator, or an itemized billing statement under Section XXIV (Remedial Action Costs), the Parties shall utilize the dispute resolution procedure set forth below.

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

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

3. BNSF may then request regional management review of the decision. This request shall be submitted in writing to the Eastern Region Toxics Cleanup

Program Section Manager within seven (7) days of receipt of Ecology's project coordinator's written decision.

4. Ecology's Regional Section Manager shall conduct a review of the dispute and shall endeavor to issue a written decision regarding the dispute within thirty (30) days of BNSF's request for review.

5. If BNSF finds Ecology's Regional Section Manager's decision unacceptable, BNSF may then request final management review of the decision. This request shall be submitted in writing to the Toxics Cleanup Program Manager within seven (7) days of receipt of the Regional Section Manager's decision.

6. Ecology's Toxics Cleanup Program Manager shall conduct a review of the dispute and shall endeavor to issue a written decision regarding the dispute within thirty (30) days of BNSF's request for review of the Regional Section Manager's decision. The Toxics Cleanup Program Manager's decision shall be Ecology's final decision on the disputed matter.

B. If Ecology's final written decision is unacceptable to BNSF, BNSF 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 BNSF presents an issue to the Court for review, the Court shall review the action or decision of Ecology on the basis of whether such action or decision was arbitrary and capricious and render a decision based on such standard of review. BNSF additionally reserves the right to challenge any Ecology decision not to grant a schedule extension under Section XVI.B.4 or D.2 (Extension of Schedule), or to apply land use restrictions on BNSF's railyard facility property under Section XXI (Land Use Restrictions), as being preempted by federal law; BNSF agrees the Court shall have jurisdiction to hear the controversy.

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.

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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 the event BNSF prevails in any dispute resolution process, Ecology hereby waives the right to recover any penalties or any costs incurred by or on behalf of Ecology during such dispute resolution process and concerning the issue in dispute.

XV. 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 and BNSF.

Substantial changes to the work to be performed shall require formal amendment of this Decree. 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 amendment shall become effective upon entry by the Court. Agreement to amend the Decree shall not be unreasonably withheld by any party.

BNSF shall submit a written request for amendment to Ecology for approval. Ecology shall indicate its approval or disapproval in writing and in a timely manner after the written request for amendment is received. If the amendment to the Decree is a substantial change, Ecology will provide public notice and opportunity for comment. Reasons for the disapproval of a proposed amendment to the Decree shall be stated in writing. If Ecology does not agree to a proposed amendment, the disagreement may be addressed through the dispute resolution procedures described in Section XIV (Resolution of Disputes).

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XVI. EXTENSION OF SCHEDULE

A. 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:

1. The deadline that is sought to be extended;

2. The length of the extension sought;

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

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

B. The burden shall be on BNSF 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:

1. Circumstances beyond the reasonable control and despite the due diligence of BNSF 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 BNSF;

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

3. Endangerment as described in Section XVII (Endangerment); or

4. Unanticipated circumstances that would cause scheduled cleanup actions, if not rescheduled, to unduly restrict mainline operations or to unreasonably burden interstate commerce.

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

C. Ecology shall act upon any written request for extension in a timely fashion. Ecology shall give BNSF written notification of any extensions granted pursuant to this Decree. A requested extension shall not be effective until approved by Ecology or, if required, by the Court. Unless the extension is a substantial change, it shall not be necessary to amend this Decree pursuant to Section XV (Amendment of Decree) when a schedule extension is granted.

D. 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:

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

2. Other circumstances deemed exceptional or extraordinary by Ecology including circumstances under subsection B.4. above;

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

4. Endangerment as described in Section XVII (Endangerment).

XVII. ENDANGERMENT

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

In the event BNSF determines that any activity being performed at the Site is creating or has the potential to create a danger to human health or the environment, BNSF may cease such activities. BNSF 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, BNSF shall provide Ecology with documentation of the basis for

the determination or cessation of such activities. If Ecology disagrees with BNSF's cessation of activities, it may direct BNSF to resume such activities.

If Ecology concurs with or orders a work stoppage pursuant to this Section, BNSF'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 XVI (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.

XVIII. COVENANT NOT TO SUE

A. Covenant Not to Sue: In consideration of BNSF's compliance with the terms and conditions of this Decree, Ecology covenants not to institute legal or administrative actions against BNSF regarding the release or threatened release of hazardous substances covered by this Decree.

This Decree covers only the Site specifically identified in the Site Diagram (Exhibit A) and those hazardous substances that Ecology knows are located at the Site as of the date of entry of this Decree. This Decree does not cover any other hazardous substance or area. Ecology retains all of its authority relative to any substance or area not covered by this Decree.

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.

If factors not known at the time of entry of the settlement agreement are discovered and present a previously unknown threat to human health or the environment, the Court shall amend this Covenant Not to Sue.

B. Reopeners: Ecology specifically reserves the right to institute legal or administrative action against BNSF to require it to perform additional remedial actions at the Site and to pursue appropriate cost recovery, pursuant to RCW 70.105D.050 under the following circumstances:

1. Upon BNSF's failure to meet the requirements of this Decree, including, but not limited to, failure of the remedial action to meet the cleanup standards identified in the CAP (Exhibit B);

2. 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;

3. Upon the availability of new information regarding factors previously unknown to Ecology, including the nature or quantity of hazardous substances at the Site, and Ecology's determination, in light of this information, that further remedial action is necessary at the Site to protect human health or the environment; or

4. Upon Ecology's determination that additional remedial actions are necessary to achieve cleanup standards within a reasonable restoration time frame set forth in the CAP (Exhibit B). The CAP does not explicitly state the restoration time frame for achieving cleanup standards for groundwater, however, RI/FS prepared by BNSF and approved by Ecology estimates a restoration timeframe of 5 years of remedial system operation plus 2 years of confirmation monitoring. This reservation is intended to be consistent with Ecology's authority under MTCA.

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

D. In the event Ecology seeks to reopen the decree under this Section, BNSF reserves its right to challenge the imposition of different or additional cleanup actions as being preempted by federal law. However, if a reopening event occurs, BNSF and Ecology agree to first explore in good faith whether different or additional actions that the Parties agree would not be subject to preemption could be implemented to address the reopening event. Both Parties then reserve their right to all claims and defenses if good faith efforts to agree to different or additional actions do not result in agreement between the Parties. Nevertheless, BNSF agrees the Court shall have jurisdiction to decide the controversy.

XIX. CONTRIBUTION PROTECTION

With regard to claims for contribution against BNSF, the Parties agree that BNSF is entitled to protection against claims for contribution for matters addressed in this Decree as provided by RCW 70.105D.040(4)(d).

XX. LAND USE RESTRICTIONS

BNSF shall record an Environmental Covenant restricting future uses of the Site with the office of the Spokane County Auditor within thirty (30) days of Ecology approval of the Draft Cleanup Action Report. The form of the Environmental Covenant must be consistent with Exhibit E, with details to be determined after completion of the draft Cleanup Action Report. BNSF shall provide Ecology with a copy of the recorded Environmental Covenant, as required by the Scope of Work and Schedule (Exhibit E).

XXI. FINANCIAL ASSURANCES

Pursuant to WAC 173-340-440(11), BNSF shall maintain sufficient and adequate financial assurance mechanisms to cover all costs associated with all work remaining to be completed under this Decree, including but not limited to the operation and maintenance of the

remedial action at the Site, such as institutional controls, compliance monitoring, and corrective measures, as follows:

A. Within sixty (60) days of the effective date of this Decree, BNSF shall submit to Ecology for review and approval an estimate of the costs that it will incur in carrying out the terms of this Decree, including the groundwater treatment system, gravel and asphalt caps, operation and maintenance, institutional controls, and compliance monitoring. Within sixty (60) days after Ecology approves the aforementioned cost estimate, BNSF shall provide proof of financial assurances sufficient to cover all such costs in a form acceptable to Ecology.

B. BNSF shall adjust the financial assurance coverage and provide Ecology's project coordinator with documentation of the updated financial assurance for:

1. Inflation, annually, within thirty (30) days of the anniversary date of the entry of this Decree; or if applicable, the modified anniversary date established in accordance with this Section, or if applicable, ninety (90) days after the close of BNSF's fiscal year if the financial test or corporate guarantee is used; and

2. Changes in cost estimates, within thirty (30) days of issuance of Ecology's written approval of a minor modification or the Court's entry of a formal amendment to the work to be performed under this Decree pursuant to Section XV (Amendment of Decree), when the modification or amendment results in an increase to the cost or expected duration of the remedial action. Any adjustments for inflation since the most recent preceding anniversary date shall be made concurrent with adjustments for changes in cost estimates. Ecology's approval of a modification or the Court's entry of a formal amendment, will revise the anniversary date established under this Section to become the date of issuance of such revision or entry of formal amendment.

C. BNSF shall notify Ecology's project coordinator by certified mail of the commencement of a voluntary or involuntary bankruptcy proceeding that names BNSF as

debtor, within ten (10) days after commencement of the proceeding. A guarantor of a corporate guarantee must make such a notification if he is named as debtor as required under the terms of the corporate guarantee.

XXII. INDEMNIFICATION

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

XXIII. COMPLIANCE WITH APPLICABLE LAWS

A. All actions carried out by BNSF 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 70.105D.090. At this time, no federal, or state permits have been identified as being required for the actions required by this Decree.

B. Pursuant to RCW 70.105D.090(1), BNSF is exempt from the procedural requirements of Chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 RCW and of any laws requiring or authorizing local government permits or approvals. However, BNSF shall comply with the substantive requirements of such permits or approvals. At this time, no exempt permits or approvals or applicable substantive requirements of those permits or approvals have been identified. BNSF will identify any applicable substantive requirements in the Engineering Design Report (EDR). Ecology's approval of the EDR will be Ecology's decision on what substantive requirements apply.

ATTORNEY GENERAL OF WASHINGTON
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Olympia, WA 98504-0117
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BNSF has a continuing obligation to determine whether additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Decree. In the event either Ecology or BNSF determines that additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Decree, it shall promptly notify the other party of this determination. Ecology shall determine whether Ecology or BNSF shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, BNSF 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 BNSF and on how BNSF must meet those requirements. Ecology shall inform BNSF in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Decree. Unless such additional requirements substantially change the scope of work for the cleanup required by this Decree, however, the establishment of such requirements will be considered minor modifications to the Decree, and will not require formal amendment with public comment. BNSF shall not begin or continue the remedial action potentially subject to the additional requirements until Ecology makes its final determination.

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

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XXIV. REMEDIAL ACTION COSTS

Except as provided in Section XIV.E (Resolution of Disputes), BNSF 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, the Site under Chapter 70.105D RCW, including remedial actions and Decree preparation, negotiation, oversight, and administration. These costs shall include work performed both prior to and subsequent to the entry 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). Ecology has accumulated $4,828.00 in remedial action costs related to this facility as of March 15, 2012. Payment for this amount shall be submitted within thirty (30) days of the effective date of this Decree. For all costs incurred subsequent to December 1, 2011, BNSF 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 70.105D.055, Ecology has authority to recover unreimbursed remedial action costs by filing a lien against real property subject to the remedial actions.

XXV. IMPLEMENTATION OF REMEDIAL ACTION

If Ecology determines that BNSF has failed without good cause to implement the remedial action, in whole or in part, Ecology may, after notice to BNSF, perform any or all portions of the remedial action that remain incomplete. If Ecology performs all or portions of the remedial action because of BNSF's failure to comply with its obligations under this Decree,

BNSF shall reimburse Ecology for the costs of doing such work in accordance with Section XXIV (Remedial Action Costs), provided that BNSF is not obligated under this Section to reimburse Ecology for costs incurred for work inconsistent with or beyond the scope of this Decree. BNSF and Ecology agree to first meet and confer to informally resolve any dispute about performance of the remedial action, before Ecology exercises its option under this Section. If the Parties cannot agree to a resolution, BNSF reserves its right to seek an injunction from the Court to prevent Ecology from performing any cleanup actions on BNSF's railyard facility property that would be preempted under federal law. BNSF agrees the Court shall have jurisdiction to decide the controversy.

Except where necessary to abate an emergency situation, BNSF shall not perform any remedial actions at the Site outside those remedial actions required by this Decree, unless Ecology concurs, in writing, with such additional remedial actions pursuant to Section XV (Amendment of Decree).

XXVI. PERIODIC REVIEW

As remedial action, including groundwater monitoring, continues at the Site, the Parties agree to review the progress of remedial action at the Site, and to review the data accumulated as a result of monitoring the Site as often as is necessary and appropriate under the circumstances. At least every five (5) years after the initiation of cleanup action at the Site the Parties shall meet to discuss the status of the Site and the need, if any, for further remedial action at the Site. At least ninety (90) days prior to each periodic review, BNSF shall submit a report to Ecology that documents whether human health and the environment are being protected based on the factors set forth in WAC 173-340-420(4). Ecology reserves the right to require further remedial action at the Site under appropriate circumstances consistent with the terms of this Decree. This provision shall remain in effect for the duration of this Decree and may remain in effect beyond completion of the cleanup action consistent with WAC 173-340-420(7).

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XXVII. PUBLIC PARTICIPATION

The Public Participation Plan for this Site is attached as Exhibit D. Ecology shall maintain the responsibility for public participation at the Site. However, BNSF shall cooperate with Ecology to implement the Public Participation Plan, and shall:

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

B. Notify Ecology's project coordinator prior to the preparation of all press releases and fact sheets, and before major meetings with the interested public and local governments. Likewise, Ecology shall notify BNSF prior to the issuance of all press releases and fact sheets, and before major meetings with the interested public and local governments. For all press releases, fact sheets, meetings, and other outreach efforts by BNSF that do not receive prior Ecology approval, BNSF shall clearly indicate to its audience that the press release, fact sheet, meeting, or other outreach effort was not sponsored or endorsed by Ecology. This section does not apply to communications by BNSF that are required or conducted pursuant to law(s) or regulations other than MTCA or Chapter 173-340 WAC, or communications by BNSF with investors or insurance carriers.

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

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

1. Spokane Valley Library
   12004 E Main
   Spokane Valley, WA 99206

2. Ecology's Eastern Regional Office
4601 N Monroe
Spokane, WA 99205

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 Eastern Regional Office in Spokane, Washington.

XXVIII. DURATION OF DECREE

The remedial program required pursuant to this Decree shall be maintained and continued until BNSF has received written notification from Ecology that the requirements of this Decree have been satisfactorily completed. This Decree shall remain in effect until dismissed by the Court. When dismissed, Section XVIII (Covenant Not to Sue) and Section XIX (Contribution Protection) shall survive, in addition to any other sections that explicitly extend beyond the duration of the Decree.

XXIX. CLAIMS AGAINST THE STATE

BNSF hereby agrees that it will not seek to recover any costs accrued in implementing the remedial action required by this Decree from the State of Washington or any of its agencies; and further, that BNSF will make no claim against the State Toxics Control Account or any local Toxics Control Account for any costs incurred in implementing this Decree. Except as provided above, however, BNSF expressly reserves its right to seek to recover any costs incurred in implementing this Decree from any other PLP. This Section does not limit or address funding that may be provided under Chapter 173-322 WAC.

XXX. EFFECTIVE DATE

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

XXXI. 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

James J. Pendowski
Program Manager
Toxics Cleanup Program
(360) 407-7177

Date: _____

ROBERT M. MCKENNA
ATTORNEY GENERAL

Kristie C. Elliott, WSBA # 28018
Assistant Attorney General
(360) 586-6762

Date: _____

BNSF RAILWAY COMPANY

Gregory C. Fox
Executive Vice President, Operations
(817) 352-1414

Date: 4-18-2012

ENTERED this _____ day of _____ 20____.

JUDGE
Spokane County Superior Court

Exhibit A
Site Diagram

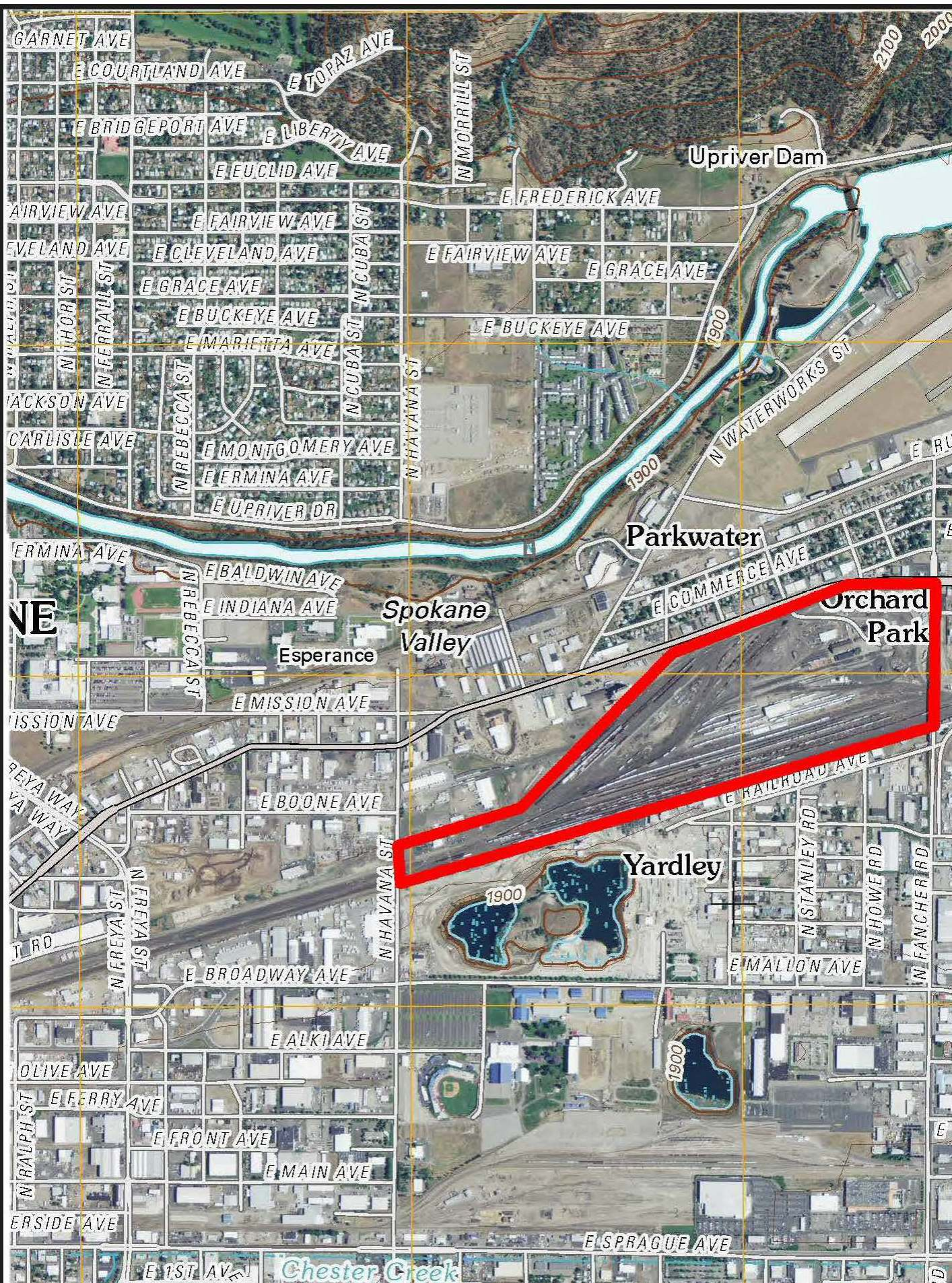
GARNET AVE
E COURTLAND AVE
E TOPAZ AVE
E BRIDGEPORT AVE
E LIBERTY AVE
N MORRILL ST
E EUCLID AVE
Upriver Dam
E FREDERICK AVE
AIRVIEW AVE
E FAIRVIEW AVE
VELAND AVE
E CLEVELAND AVE
E FAIRVIEW AVE
E GRACE AVE
E GRACE AVE
N CUBA ST
E BUCKEYE AVE
E BUCKEYE AVE
E MARIETTA AVE
N HOR ST
N FERRALL ST
N REBECCA ST
N HAVANA ST
ACKSON AVE
CARLISLE AVE
E MONTGOMERY AVE
E ERMINA AVE
E UPRIVER DR
N WATERWORKS ST
Parkwater
ERMINA AVE
E BALDWIN AVE
E COMMERCE AVE
E INDIANA AVE
Spokane Valley
Esperance
Orchard Park
E MISSION AVE
ISSION AVE
E RAILROAD AVE
E BOONE AVE
Yardley
N FREYA ST
N HAVANA ST
N STANLEY RD
N HOWER RD
N FANCHER RD
E BROADWAY AVE
E MALLON AVE
E ALKI AVE
OLIVE AVE
E FERRY AVE
N RALPH ST
E FRONT AVE
E MAIN AVE
ERSIDE AVE
E SPRAGUE AVE
E 1ST AVE
Chester Creek
1900
2100
2000

Exhibit B

Final Cleanup Action Plan

FINAL CLEANUP ACTION PLAN

BNSF Parkwater Railyard
Spokane, WA

November 2011
Washington Department of Ecology
Toxics Cleanup Program
Eastern Regional Office
Spokane, WA

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1.0 INTRODUCTION

This report presents the Washington State Department of Ecology's proposed cleanup action for the BNSF Parkwater Railyard (Site) (Facility Site # 676), located at 5302 E Trent Avenue, Spokane, in Spokane County, Washington (Figure 1). This Cleanup Action Plan (CAP) is required as part of the Site cleanup process under the Model Toxics Control Act (MTCA), Ch. 70.105D RCW, implemented by the Washington State Department of Ecology (Ecology). The cleanup action decision is based on the Remedial Investigation/Feasibility Study (RI/FS) and other relevant documents in the administrative record. BNSF Railway Company (BNSF) has been named the potentially liable person (PLP) by Ecology, and has completed investigation activities under Agreed Order 6453 with Ecology.

This CAP outlines the following:

- The history of operations, ownership, and activities at the Site;
- The nature and extent of contamination as presented in the RI;
- Cleanup levels for the Site that are protective of human health and the environment;
- The selected remedial action for the Site; and
- Any compliance monitoring and institutional controls that are required.

1.1 DECLARATION

Ecology has selected this remedy because it will be protective of human health and the environment. Furthermore, the selected remedy is consistent with the preference of the State of Washington as stated in RCW 70.105D.030(1)(b) for permanent solutions.

1.2 APPLICABILITY

Cleanup levels specified in this cleanup action plan are applicable only to the BNSF Parkwater Railyard Site. They were developed as a part of an overall remediation process under Ecology oversight using the authority of MTCA, and should not be considered as setting precedents for other sites.

1.3 ADMINISTRATIVE RECORD

The documents used to make the decisions discussed in this cleanup action plan are on file in the administrative record for the Site. Major documents are listed in the reference section. The entire administrative record for the Site is available for public review by appointment at Ecology's Eastern Regional Office, located at 4601 N. Monroe Street, Spokane, WA 99205-1295. Results from applicable studies and reports are summarized to provide background information pertinent to the CAP. These studies and reports include:

Groundwater Monitoring Reports, GeoEngineers 2007 through 2011
Remedial System Evaluation Reports, GeoEngineers 2009 through 2011
Work Plan, Remedial Investigation/Feasibility Study, GeoEngineers 2009
Interim Action Work Plan, GeoEngineers 2009

Final Remedial Investigation Report, GeoEngineers 2010
Final Feasibility Study, GeoEngineers 2010

1.4 CLEANUP PROCESS

Cleanup conducted under the MTCA process requires the preparation of specific documents either by the PLP or by Ecology. These procedural tasks and resulting documents, along with the MTCA section that requires their completion, are listed below with a brief description of each task.

- Remedial Investigation and Feasibility Study - WAC 173-340-350
  The RI/FS documents the investigations and evaluations conducted at the Site from the discovery phase to the RI/FS document. The RI collects and presents information on the nature and extent of contamination, and the risks posed by the contamination. The FS presents and evaluates Site cleanup alternatives and proposes a preferred cleanup alternative. The document is prepared by the PLP, approved by Ecology, and undergoes public comment.
- Cleanup Action Plan - WAC 173-340-380
  The CAP sets cleanup levels and standards for the Site, and selected the cleanup actions intended to achieve the cleanup levels. The document is prepared by Ecology, and undergoes public comment
- Engineering Design Report, Construction Plans and Specifications - WAC 173-340-400
  The report outlines details of the selected cleanup action, including any engineered systems and design components from the CAP. These may include construction plans and specifications with technical drawings. The document is prepared by the PLP and approved by Ecology. Public comment is optional.
- Operation and Maintenance Plan(s) - WAC 173-340-400
  These plans summarize the requirements for inspection and maintenance of cleanup actions. They include any actions required to operate and maintain equipment, structures, or other remedial systems. The document is prepared by the PLP and approved by Ecology.
- Cleanup Action Report - WAC 173-340-400
  The Cleanup Action Report is completed following implementation of the cleanup action, and provides details on the cleanup activities along with documentation of adherence to or variance from the CAP. The document is prepared by the PLP and approved by Ecology.
- Compliance Monitoring Plan - WAC 173-340-410
  Compliance Monitoring Plans provide details on the completion of monitoring activities required to ensure the cleanup action is performing as intended. It is prepared by the PLP and approved by Ecology.

2.0 SITE BACKGROUND

2.1 SITE HISTORY

The Site, formerly known as Yardley, is an active rail yard and covers about 130 acres in an industrial area of Spokane, WA (figure 1). It is bounded by Trent Avenue to the north, Havana Street to the west, Fancher Road to the east, and the BNSF mainline tracks to the south. The Spokane River lies one-half mile to the north of the Site.

The Site has been operated as a rail yard by BNSF and its predecessors since the early 1900s. Until 1959, the Site served as the central operations facility in the Spokane area for Northern Pacific Railroad supporting typical rail yard operations including fueling, maintenance and repair, intermodal operations, and switching. In 1970, Northern Pacific became part of Burlington Northern, Inc., created by the merger of the Northern Pacific, the Great Northern, the Chicago, Burlington & Quincy, and the Spokane, Portland & Seattle railways. When the roundhouse was demolished in 1959, these activities continued in a lesser capacity until 2004 when most fueling activities were moved to a new facility in Hauser, ID. From 2004 through the present, the Site supports light refueling, maintenance, and switching operations. Also present on the Site is the Western Fruit Express company's maintenance facility. This area is used for rail car and equipment storage and maintenance, including generators. Approximately 3 acres of the Site were leased to other industries including Koch Materials, Tri-State Oil, Continental Coal Company, Service Asphalt, and Blackline.

The Site historically has contained numerous underground and aboveground storage tanks, primarily for diesel fuel but also for waste oil, gasoline, and cleaning solvent storage. Also, numerous smaller-scale fuel and oil releases have been documented at various areas of the Site. In some cases, limited excavations and/or investigations have occurred.

Currently, only aboveground storage tanks remain; one 5,000 gallon waste oil, one 1,000 gallon lubricating oil, two 1,000 gallon waste oil, one 300,000 gallon diesel, one 25,000 gallon lubricating oil, and one 22,000 gallon waste oil. Six smaller aboveground tanks holding gasoline, diesel, heating oil, and waste oil are associated with the Western Fruit Express Maintenance Facility.

2.2 SITE INVESTIGATIONS

Multiple spills and releases have occurred in various areas of the facility over the operational history. A series of investigations have taken place to aid in determining the type, amount, extent, and source of the petroleum hydrocarbon contamination, and some independent cleanup actions have been implemented by BNSF. Some of the investigations and independent cleanup activities occurred before the current MTCA cleanup standards were promulgated by Ecology. The following paragraphs list the separate activities and investigations that have taken place at the Site, organized by the area of concern or release. Reports documenting these investigations can be found at Ecology's Eastern Regional Office in Spokane. Areas are shown in figure 2.

Fueling Area
The primary fueling area contained three underground tanks: one 18,000 gallon waste oil, one 17,000 gallon diesel, and one 25,000 gallon diesel. These tanks were all removed in 1990. During removal of the three underground tanks, a small hole was observed in the 17,000 gallon diesel tank. Sampling of the tank excavations showed diesel and BTEX (benzene, toluene, ethylbenzene, and xylene) contamination in soil. About 1500 cubic yards of contaminated soil were excavated, stockpiled during tank removal, and later treated using thermal desorption, and excavations were backfilled. Follow up soil borings indicated diesel contamination to a depth of 30 feet. Monitoring wells were installed that showed soil and groundwater contamination by diesel and the presence of free product, indicating that the release had been more significant than originally thought. Additional wells were installed to gauge the size of the contamination plume and to monitor levels of contamination. Further investigation was needed.

Former Koch Materials Area
The former Koch Materials Area historically had at least 13 aboveground tanks containing asphalt, fuel oil, and bunker oil. All of these tanks were dismantled in 1988. In 1989, ten shallow test pits were installed to evaluate soils for petroleum hydrocarbons, metals, polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons (PAHs). Contamination by petroleum hydrocarbons and PAHs was present above cleanup levels and appeared to be limited to the upper 5 feet of soil, but the vertical extent was not determined. Further investigation was needed.

Debris and Soil Deposit Areas
Two debris piles are present on the west-central area of the Site. They are estimated to have been constructed in 1971 and contain a mixture of soil, glass, ash, wood, concrete, brick, tile, metal, asphalt, drywall, hose, sandblasting sand, and gravel. In 1999, four test pits were excavated to assess the piles' composition and presence of contamination. Sampling determined that diesel and heavy oil were present above cleanup levels. In 2006, eight additional test pits were excavated to a depth of 8-12 feet, below debris into native soil. Metals including arsenic, cadmium, chromium, mercury, and lead were found above cleanup levels. Additionally, the pile depth was shown to be between 6 and 9 feet below ground surface. Further investigation was needed.

Trent and Fancher Area
Petroleum-contaminated soil was stockpiled in an area about 150 feet south-southwest of the intersection of Trent and Fancher Avenues. This contaminated soil was from a waste oil storage area within the debris and soil deposit area and from other small cleanups prior to 1990. Once stockpiled, the soil was loaded and transported to a Subtitle D landfill. Samples collected at the former stockpile location showed levels of gas and diesel below cleanup levels. No further investigation was needed.

Western Fruit Express (WFE) Area
The WFE Area is located near the center of the Site, south of the Fueling Area. It was historically used for the storage of generators, the storage of 250 gallon portable used oil storage tanks, and for a small fueling area and oil/water separator near the wash bay. Previous sampling indicated the presence of PCBs, gas, diesel, oil, and metals including lead. Approximately 4,000

tons of soil contaminated with PCBs were removed and disposed of at an off-site permitted facility in 2002. Follow up sampling showed the continued presence of petroleum hydrocarbons and some residual PCBs. Further investigation was needed.

BNSF Maintenance Building
The BNSF Maintenance Building is located to the east of the main entrance on Trent. It was used for general maintenance activities and had a 300 gallon diesel UST. The UST was removed, but the date was unknown and only limited confirmational sampling was performed. In 2006, sampling was conducted to determine if any contamination remained. Sampling showed no remaining diesel contamination and oil below cleanup levels. No further investigation was needed.

Materials Storage Building and Platform
The Materials Storage Building had three aboveground petroleum product storage tanks located in the basement: one 10,000 gallon, one 6,350 gallon, and one 4,150 gallon. All were reportedly emptied and sealed. In 1999, about 280 cubic yards of petroleum contaminated soil were removed from the rail bed below the platform south of the building. Confirmational samples showed contamination below cleanup levels. However, due to reports of fuel drips by parked trains and the presence of visually stained soil, further investigation was needed.

Diesel Shop
Stained soil was observed in the area between the Diesel Shop and the Materials Storage Building. In 1999, about 85 cubic yards of diesel contaminated soil were removed; however, confirmational samples showed that contamination remained at the base and west sidewall of the excavation. Follow-up sampling showed remaining diesel and oil concentration exceeding cleanup levels, however, the full extent of contamination was unknown. Further investigation was needed.

Dismantling Spur
This was the location of a stockpile of PCB contaminated soil. Samples were collected, but no report information exists. Further investigation was needed.

Yardley Office
In November 2000, an unknown volume of diesel fuel was released from a locomotive's broken fuel injection line on the Main Line near the Havana Street crossing. Only minor cleanup was performed at the time, and no investigation or sampling was performed. Further investigation was needed.

Transformer Storage Area
In 1994, a release of PCB-containing transformer oil from five transformers occurred. All visibly impacted soils were excavated and disposed off-site, and confirmational samples from excavation bottom and sidewalls showed that no contamination remained. No further investigation was needed.

Switch #20
In August 2000, a diesel release occurred west of switch #20 near tracks 1618 and 1619 due to a train derailment. The exact location of the spill was unable to be determined. About 70 cubic yards of contaminated soil was excavated, but depth was limited due to track integrity concerns. Samples showed that contamination remained. Tracks were moved and an additional 80 cubic yards of contaminated soil were removed. Confirmational samples showed diesel and oil concentrations below cleanup levels. No further investigation was needed.

Ralston Lead Track
During excavation of a small motor oil spill near the Ralston lead track, petroleum contaminated soil was discovered in native soil below the Ralston track. The release was presumed to be old, because ballast over the soil was not impacted. No sampling was performed. Further investigation was needed.

TTX Facility
The TTX Facility is located in the southeast corner of the Site north of the main tracks. Reportedly, several hundred gallons of oil were spilled and contaminated soil was excavated. No sampling was performed. Further investigation was needed.

Former 150 Gallon USTs
Two former 150 gallon USTs were located to the west of the Fueling Area and were used for storage of gasoline and cleaning solvent. One boring was completed in 2003 to investigate whether there were releases from these tanks. No petroleum compounds or volatile organic compounds were present. No further investigation was needed.

Former "Paint" Building
This building was demolished prior to 1976. Information from old Site plans suggested the building was used to store paints and/or solvents, but no environmental investigation or sampling had occurred. Further investigation was needed.

Former Gas Storage Tank
An historic Site plan shows this former tank, but no information existed as to its status and no investigations had taken place. Further investigation was needed.

2.3 PHYSICAL SITE CHARACTERISTICS

2.3.1 Topography and Climate

The Site is at an elevation of around 1950 feet and is relatively flat. The region is semi-arid, receiving around 16-18 inches of precipitation annually. The majority of the precipitation occurs in late fall through early spring; winter precipitation is usually in the form of snow. Summers are warm and dry. The annual mean temperature is about 50˚F.

2.3.2 Regional Hydrogeology

The geology in the vicinity of the Site is primarily basalt flows of the Columbia Plateau overlain

by Quaternary flood deposits. The flood deposits are composed of thickly-bedded, poorly-sorted boulders, cobbles, gravel, and sand. The coarse nature of the deposits results in very high permeabilities. Overlying the flood deposits are native surficial soils consisting of gravelly loam with thicknesses of up to five feet. Much of the Site has had surface modifications; currently, the ground surface is crushed gravel or asphalt. Many areas also have fill material, in some areas to a depth of 20 feet.

The primary aquifer underlying the Site is the Spokane Valley Rathdrum Prairie Aquifer, which is the sole source of drinking water for over 400,000 people in the greater Spokane area. It consists of unconsolidated glaciofluvial sediments and is largely unconfined. The aquifer flows from northern Idaho to the west and southwest down the Spokane Valley at rates of up to 80 feet per day. At the Site, depth to water is about 65 feet with a seasonal variation of 10 to 15 feet, and flows to the west-northwest.

Site-specific hydraulic conductivity testing was performed as a part of the Remedial Investigation. After analysis of several methods of in situ testing of hydraulic conductivity, single well rising-head slug tests were determined to be the only feasible option. Three wells were selected for slug testing, and the average hydraulic conductivity of those wells varied between 270 and 380 feet per day. These estimates were used to calculate an average aquifer flow rate of 22 feet per day. However, the validity of the slug tests was questionable due to various factors, including the very high aquifer recovery rate, the near-well effects of the sand pack, and the fact that water level decreases occurred within the screened portion of the well. With these limitations present, data can only be reliably used to say that hydraulic conductivities and flow rates are indicative of a highly permeable aquifer; this information is consistent with other regional studies.

3.0 REMEDIAL INVESTIGATION

A Remedial Investigation (RI) was performed to assess the nature and extent of contamination. Since no surface water bodies are within or adjacent to the Site, only the soil and groundwater media were evaluated.

3.1 SOIL

Due to the Site's long history as an active rail yard, several contaminants were anticipated in soil. These include gasoline and diesel from fueling activities, heavy oils from asphalt and machinery maintenance, metals from boiler ash and metal refinishing, polycyclic aromatic hydrocarbons (PAHs) from boiler ash and asphalt, and solvents from metal cleaning and refinishing. Due to the specific operations of property lessees at the Site, polychlorinated biphenyls (PCBs) and lead were also anticipated.

Soil sampling activities at the Site were customized based on the specific activities and historical releases of various areas and prior investigation and cleanup work, as listed in Section 2.2. Table 1 summarizes details of the soil investigations that were performed at various areas of the Site to complete the RI, including the type and depth of investigations, the number of samples and exceedances, and the contaminants for which samples were analyzed. The table shows that

different contaminants were sampled at different areas, based on the history of that area, and also at different depths, based on the potential for that contaminant to leach and the way it was released into the environment.

Results showed that several areas of the Site exceeded screening cleanup levels (based on unadjusted Method A or B cleanup levels). Some areas did not exceed any cleanup levels.

Fueling Area
No further soil sampling was performed in the area of the original tank releases. Contaminated soils less than 15 feet were already excavated when tanks were removed, and deeper soils were already documented as being contaminated in previous investigations. During this Remedial Investigation, one downgradient monitoring well was installed and one deep soil sample was collected from it at a depth of 60 feet. No exceedances of any preliminary cleanup levels were found. Soil remedial activities will be required in the area of the original release.

Former Koch Materials Area
Soil samples were collected to assess the vertical and lateral extent of previously-documented contamination. Excavations showed fill to a depth of 2-5 feet, and native soil below that. At least two samples were collected from each test pit, one from fill and one from native soil. Additionally, two test pits had deeper samples collected from 11 feet below ground surface. Most visual soil staining occurred in the fill. Results showed that three test pits had surface samples contaminated with diesel, oil, arsenic, cadmium, and PAHs exceeding preliminary cleanup levels. These test pits were grouped on the western third of the investigation area. Soil remedial activities will be required.

Debris and Soil Deposit Areas
Soil samples were collected to supplement existing data and help define the lateral and vertical extend of previously-documented contamination. Fill material was present to a depth of 2 to 9 feet, deeper than the rest of the Site due to its use as a disposal area. Test pits were completed to depths of up to 11 feet. Two samples were collected from each test pit, one representing fill and one representing underlying native soil. Five samples had arsenic, lead, and cadmium detections exceeding preliminary cleanup levels; all exceedances were in fill. Soil remedial activities will be required.

Western Fruit Express (WFE) Area
Soil samples were collected to characterize the nature and extent of staining observed near the generator storage area, the former portable tanks area, and to investigate a release at the oil/water separator near the wash bay. Fill was encountered at depths of two feet or less. Two samples were collected in each of the five test pits, and three samples were collected from the boring near the oil/water separator. One of each set of samples from a test pit or boring represented the surficial fill. Results showed arsenic, lead, and mercury exceeding preliminary cleanup levels in surficial samples in the generator storage/portable tank area. Cadmium exceeded preliminary cleanup levels near the wash bay. Due to high lead levels present in all storage area surficial samples, three additional shallow samples were collected by hand auger to determine the full lateral extent of contamination. These three samples came back below preliminary cleanup

levels for lead, therefore, allowing the edge of the contamination to be defined. Soil remedial activities will be required.

Materials Storage Building and Platform
Soil samples were collected to characterize the extent of visual staining along the tracks near the Materials Storage Building and platform. Fill was present up to three feet deep. One to three samples were collected from soil borings, with one near-surface sample at less than 4 feet deep and the rest at depths of 5-8 feet. In deeper borings, a third sample was taken at between 11-14 feet. Results showed that five samples had diesel, oil, naphthalene (a volatile organic compound, or VOC), and PAHs exceeding preliminary cleanup levels. These detections were all at depths of less than 4 feet. Soil remedial activities will be required.

Diesel Shop
Soil samples were collected to characterize surficial staining observed west of the diesel shop and contamination remaining from previous work between the Diesel Shop and the Materials Storage Building. Samples were collected in the same fashion as the Materials Storage Building, with 2-3 samples per soil boring representing the same depth intervals. No contaminants were detected above preliminary screening levels. However, sampling equipment wasn't able to reach the area of reported release between the Diesel Shop and the Materials Storage Building. No soil remedial activities will be required for the area west of the Diesel Shop, but due to the uncertainty related to the former release, soil remedial activities will be required for the narrow area between the buildings. In the discussion of remedial alternatives, this area will still be referred to as the Diesel Shop.

Dismantling Spur
Soil samples were collected to characterize the possible impacts of PCB soil that was stockpiled in the area. One test pit was excavated to a depth of 11 feet; two samples were collected. The shallow sample had a soil exceedance for arsenic. Soil remedial activities will be required.

Yardley Office
Soil samples were collected to characterize the nature and extent of soil impacted by the fuel release along the main line. Railroad ballast, the coarse rock under railroad tracks, was present at all borings to a depth of 3 to 5 feet. Fill was encountered below ballast for an additional 1 to 5 feet. Two samples were collected from all but two borings; one had only one sample, and the other had 3 samples. Three shallow samples had arsenic and cadmium concentrations exceeding preliminary cleanup levels. Soil remedial activities will be required.

Ralston Lead Track
Soil samples were collected to characterize the location, nature, and extent of historic contamination along a section of track. All borings encountered fill to a depth of 2 feet. Each boring had either 2 or 3 samples collected, one representing near-surface fill and the other below fill. Three samples showed concentrations of methylene chloride and cadmium exceeding preliminary cleanup levels. Soil remedial activities will be required.

TTX Facility
Soil samples were collected to characterize any contamination remaining after the cleanup of an oil release. One boring was installed to a depth of 16 feet; despite the depth, only one near-surface sample was collected because the deeper soil didn't appear to be impacted by petroleum. Results showed that no petroleum or metals were present in the sample. No soil remedial activities will be required.

Former "Paint" Building
Soil samples were collected to characterize any potential contamination related to paint or related chemical storage. Fill extended to a depth of 3 feet, followed by native materials. Two samples were collected, both in the upper 5 feet of the boring. Results showed lead and VOC levels below preliminary cleanup levels. No soil remedial activities will be required.

Former Gas Storage Tank
Soil samples were collected to characterize any potential contamination related to the former storage tank. One test pit was installed to a depth of 9 feet. Three samples were collected; two represented fill which extended to a depth of 4 feet. None contained any contaminants exceeding preliminary cleanup levels. No soil remedial activities will be required.

3.2 GROUNDWATER

Groundwater has been investigated since 2001, when the first of 23 groundwater monitoring wells were installed in and around the Fueling Area (figure 3). Monitoring data was collected periodically from 2001 to 2006, and has been collected consistently on a quarterly basis since 2006. The area has shown significant diesel impacts to groundwater, with concentrations up to 614,000 µg/L in the center of the source area (compared to a preliminary cleanup level of 500 µg/L).

The plume of impacted groundwater historically extended to the west-southwest, in the direction of groundwater flow, for a distance of approximately 600 feet (figure 3). Non-aqueous phase liquids have been present on the groundwater surface near the source area, and there appears to be a significant smear zone due to the high variation in groundwater levels. Impacts to groundwater have been reduced by interim actions, as discussed in Section 4.

During this Remedial Investigation, two additional groundwater wells were installed (MW-22 and MW-23) to help characterize the extent of the plume on the upgradient and northwest edges.

3.3 RISKS TO HUMAN HEALTH AND THE ENVIRONMENT

The Site is currently zoned heavy industrial in the City of Spokane. Given the historic and current use as a rail yard, the zoning and Site use is not expected to change. Properties to the east, west, and south of the Site are also zoned high industrial. To the north, frontage property along Trent Avenue is zoned general commercial. North of the property fronting Trent Avenue, land is zoned single family residential. The Site is currently not fenced, but is marked with signs identifying the property and prohibiting trespassing.

Exposures to human populations could occur through contact with contaminated surface or subsurface soil, dust entrained in air, or ingestion of contaminated groundwater. All businesses and residences in the area receive their water from the City of Spokane. The City of Spokane sources their water from the Spokane Valley Rathdrum Prairie Aquifer, which is the same aquifer that is below the Site. Previous monitoring has shown that groundwater contamination has not left the Site and the nearest domestic supply well is located about 0.5 miles to the northwest. It is highly unlikely that any drinking water supplies have been impacted. However, since the aquifer is a potential drinking water source, exposure due to ingestion of contaminated water is included as a potential risk.

The Spokane River lies one-half mile north of the Site. In this area, the Spokane River is recharged by groundwater. However, since monitoring has shown that contaminated groundwater does not leave the Site, it is highly unlikely that surface water has been impacted. Potential exposed populations include on-site workers (either employees of the railroad or contracted workers) and unauthorized trespassers to the property via direct contact and dust.

Exposure to environmental receptors is limited. Due to the highly industrial nature of the property and the presence of vehicle and train traffic, wildlife presence is significantly deterred. Additionally, there are few trees, shrubs, or groundcover to serve as habitat. The presence of gravel and asphalt limits the ability of burrowing animals to reach impacted soil. A terrestrial ecological assessment is presented in Section 5.3 which fully evaluates the exposure to ecological receptors.

4.0 INTERIM ACTION

4.1 SYSTEM DESCRIPTION

BNSF initiated an independent interim action to clean up groundwater in 2007 and the system was installed and operated beginning in 2009 pursuant to the Agreed Order. An interim action under WAC 173-340-430 only partially addresses the cleanup of a site, and can provide a reduction in threat, a correction to an ongoing problem, or a test of a technology to see if it will work at a site. The presence of a diesel plume in groundwater at the Site was already documented, so the interim action allowed a technology to be tested and was also able to immediately begin reducing contamination levels.

The interim action consisted of an ozone-enhanced air sparge system and a soil vapor extraction (SVE) system. Air sparging involves blowing air, or amended air, into groundwater and stripping contaminants out of water. The addition of concentrated oxygen and/or ozone also helps enhance natural biodegradation of contaminants. SVE involves the removal of air in the pore spaces of unsaturated soil. A vacuum is applied to wells completed above the water table and contaminated vapors are removed and treated with carbon. The SVE system also extracts and treats contaminants stripped by air sparging. The two systems work in conjunction and are usually applied in conjunction at petroleum contaminated sites.

4.2 PILOT-SCALE TEST

A pilot-scale test was conducted in February 2007 to assess if these technologies would be appropriate at the Site. The pilot-scale test was done in the immediate area of the original tank release (figure 4). Challenges presented by the Site that might impair the technology's ability to remove contaminants are the lower volatility of diesel fuel, the high soil permeability, and the potential high cost of vapor treatment. Two soil vapor extraction wells and two air sparging wells were installed for the pilot test (AS-1, AS-2, VW-1, and VW-2). Ozone and oxygen enhancement was used to help overcome the lower volatility of diesel fuel and to encourage bioremediation. Pilot test results showed contaminant reductions and the presence of active biodegradation.

Conversion to full scale involved the installation of 4 additional SVE wells and 9 air sparge wells. In total, 8 SVE wells (6 new wells and the conversion of monitoring wells 2 and 3) and 11 air sparge wells were used in the full scale system (figure 4). Wells were placed such that all areas of the plume could be treated, and generally were aligned perpendicular to the groundwater flow direction. SVE wells were equally spaced on about 50 foot centers and air sparge wells on 25 foot centers. These spacings were used based on estimated radii of influence calculated during the pilot test.

The system was designed to initially operate in full SVE mode, and then slowly convert over to bioventing which involves the low flow addition of air to the subsurface. Because the plume is diesel fuel, it is expected that volatile components will be readily removed. Once that occurs, the treatment system will serve to add oxygen to the subsurface to enhance natural biodegradation of residual fuel components.

4.3 FULL-SCALE SYSTEM

In March 2009, the full scale treatment system was initiated. Air combined with concentrated oxygen and ozone was sparged into the 11 wells. The system injects amended air into one well for a period of one hour, and then cycles through the remaining wells; this means that each well receives two hours of air injection each day. The SVE system includes two regenerative blowers operating under a maximum vacuum of 90 inches of water. The blowers are connected to a manifold which ties all SVE wells to the system. After having moisture removed, the extracted vapor passes through a carbon scrub unit to remove contaminants before exiting to the atmosphere.

Sampling of monitoring wells occurred on a quarterly basis, excluding the two monitoring wells converted to SVE wells. Samples of extracted air (pre- and post-carbon treatment) are collected one to two times per month, both to ensure carbon scrub unit functionality and to calculate the estimated amount of petroleum hydrocarbons removed from the subsurface. The system is also checked periodically to ensure it is functioning properly.

4.4 INTERIM ACTION RESULTS

The full-scale system has been in operation for over two years. Groundwater sampling shows that concentrations of diesel have decreased in every well; concentrations no longer exceed cleanup levels.

The system has had operation problems. One blower went offline after one year of operation and has not been replaced; SVE system operation has not been affected by its loss because the other blower is still operational. Both ozone generators have had issues, which has caused the air sparge system to be automatically shut down numerous times. The air sparge system with ozone has been limited to about 1200 hours of operation since startup. During times when ozone generators were out of commission, the air sparge system has continued to operate using ambient air only.

Vapor samples collected at the SVE manifold prior to carbon filtration indicate that approximately 3,000 pounds of total hydrocarbons were removed from the subsurface through June 2010. At that point, lowered concentrations in vapor indicated that SVE effectiveness was declining. The SVE system was then switched to bioventing mode whereby blowers inject a low flow of ambient air into the SVE wells. As such, no vapor samples are collected since the system no longer actively removes vapors from the subsurface.

5.0 CLEANUP STANDARDS

MTCA requires the establishment of cleanup standards for individual sites. The two primary components of cleanup standards are cleanup levels and points of compliance. Cleanup levels determine the concentration at which a substance does not threaten human health or the environment. All material that exceeds a cleanup level is addressed through a remedy that prevents exposure to the material. Points of compliance represent the locations on the site where cleanup levels must be met.

5.1 OVERVIEW

The process for establishing cleanup levels involves the following:

- Determining which method to use;
- Developing cleanup levels for individual contaminants in each media;
- Determining which contaminants contribute the majority of the overall risk in each media (indicators); and
- Adjusting the cleanup levels downward based on total site risk.

The MTCA Cleanup Regulation provides three options for establishing cleanup levels: Methods A, B, and C.

- Method A may be used to establish cleanup levels at routine sites or sites with relatively few hazardous substances.

- Method B is the standard method for establishing cleanup levels and may be used to establish cleanup levels at any site.
- Method C is a conditional method used when a cleanup level under Method A or B is technically impossible to achieve or may cause significantly greater environmental harm. Method C also may be applied to qualifying industrial properties.

The MTCA Cleanup Regulation defines the factors used to determine whether a substance should be retained as an indicator for the Site. When defining cleanup levels at a site contaminated with several hazardous substances, Ecology may eliminate from consideration those contaminants that contribute a small percentage of the overall threat to human health and the environment. WAC 173-340-703(2) provides that a substance may be eliminated from further consideration based on:

- The toxicological characteristics of the substance which govern its ability to adversely affect human health or the environment relative to the concentration of the substance;
- The chemical and physical characteristics of the substance which govern its tendency to persist in the environment;
- The chemical and physical characteristics of the substance which govern its tendency to move into and through the environment;
- The natural background concentration of the substance;
- The thoroughness of testing for the substance;
- The frequency of detection; and
- The degradation by-products of the substance.

5.2 SITE CLEANUP LEVELS

The RI/FS and previous investigations have documented the presence of contamination in soil and groundwater at the Site. Cleanup levels will be developed for both of these media.

Because the Site has multiple contaminated media, has multiple contaminants, and has a complicated operational history, the Site is not considered a "routine cleanup action." Therefore, Method A does not apply. The Site qualifies as an "industrial property" as defined in WAC 173-340-200; the definition includes properties characterized by transportation areas and facilities that are zoned for industrial use. Industrial properties are further described in WAC 173-340-745(1) with the following factors:

- People don't normally live on industrial property;
- Access by the general public is generally not allowed;
- Food is not grown/raised;
- Operations are characterized by chemical use/storage, noise, odors, and truck traffic;
- Ground surface is mostly covered by buildings, paved lots and roads, and storage areas; and
- Presence of support facilities serving the industrial facility employees and not the general public.

The Site meets all criteria available for evaluation. Therefore, Method C values are appropriate for soil. Since groundwater is an established drinking water source, Method B is appropriate for groundwater.

Tables 2 and 3 show screening of indicators based on detection frequencies for soil and groundwater, and tables 4 and 5 show the cleanup level evaluation. All contaminant cleanup levels, except barium, are based on background or Method A. Background and Method A are not included in calculations for total carcinogenic site risk or hazard quotients. Therefore, no adjustments are necessary for overall Site risk. Ecological criteria are not included based on the results of the terrestrial ecological evaluation (Section 5.3).

5.3 TERRESTRIAL ECOLOGICAL EVALUATION

WAC 173-340-7490 requires that sites perform a terrestrial ecological evaluation (TEE) to determine the potential effects of soil contamination on ecological receptors. A site may be excluded from a TEE if any of the following are met:

- All contaminated soil is or will be located below the point of compliance;
- All contaminated soil is or will be covered by physical barriers such as buildings or pavement;
- The site meets certain requirements related to the nature of on-site and surrounding undeveloped land; or
- Concentrations of hazardous substances in soil do not exceed natural background levels.

This Site does not meet any of the exclusionary criteria. Therefore, the Site is evaluated to determine whether the Site will conduct a simplified TEE or a site-specific TEE. As provided in WAC 173-340-7491, if any of the following criteria are true, then the Site is evaluated under a site-specific TEE:

- The site is located on or adjacent to an area where management or land use plans will maintain or restore native or semi-native vegetation;
- The site is used by a threatened or endangered species;
- The site is located on a property that contains at least ten acres of native vegetation within 500 feet of the site, not including vegetation beyond the property boundaries; or
- The department determines the site may pose a risk to significant wildlife populations.

None of these criteria are met. Therefore, the Site qualifies for a simplified TEE. A simplified TEE may be ended if the total area of soil contamination is not over 350 square feet, or substantial wildlife exposure is unlikely based on Table 749-1 in MTCA, documented in this report as Table 6. Based on the results, the simplified TEE ended at this point.

5.4 POINT OF COMPLIANCE

The MTCA Cleanup Regulation defines the point of compliance as the point or points where cleanup levels shall be attained. Once cleanup levels are met at the point of compliance, the Site is no longer considered a threat to human health or the environment.

WAC 173-340-740(6) gives the point of compliance requirements for soil. For sites where cleanup levels are based on the protection of groundwater, the point of compliance is established in all soil throughout the site. The Method C cleanup levels for arsenic, barium, cadmium, and chromium are based on the protection of groundwater, so this point of compliance will apply.

The point of compliance for groundwater is defined in WAC 173-340-720(8). Groundwater points of compliance are established for the entire Site from the top of the saturated zone to the lowest potentially-affected portion of the aquifer. At this Site, it is practicable to meet cleanup levels using a standard point of compliance.

6.0 CLEANUP ACTION SELECTION

6.1 REMEDIAL ACTION OBJECTIVES

The remedial action objectives are statements describing the actions necessary to protect human health and the environment through eliminating, reducing, or otherwise controlling risks posed through each exposure pathway and migration route. They are developed considering the characteristics of the contaminated media, the characteristics of the hazardous substances present, migration and exposure pathways, and potential receptor points.

Soil and groundwater have been contaminated by the activities occurring at the Site. People may be exposed to contaminated soil via dermal contact or inhalation of dust, or to groundwater by dermal contact or ingestion. Potential receptors include on-site workers and trespassers.

Given these potential exposure pathways, the following are the remedial action objectives for the Site:

- Prevent or minimize direct contact or ingestion of contaminated soil by humans or ecological receptors;
- Prevent or minimize direct contact or ingestion of contaminated groundwater by humans or ecological receptors;
- Prevent or minimize the potential for migration of contaminants from soil to groundwater; and
- Prevent the presence of free-phase petroleum product.

6.2 CLEANUP ACTION ALTERNATIVES

Cleanup alternatives to meet these remedial action objectives are evaluated as part of the RI/FS for the Site. The feasibility study evaluated four options for soil and groundwater (institutional controls, excavation, capping, and groundwater treatment using SVE/air sparge). These options were combined to form four alternatives for addressing all contaminated media at the Site. The following four alternatives are based on the proposals made by BNSF in their Feasibility Study.

6.2.1 Alternative 1: Institutional Controls and Monitoring

This alternative represents the Site with no active measures towards Site cleanup. This alternative would include maintenance of existing surfaces (gravel), access controls, institutional controls including deed restrictions, and natural attenuation. The existing groundwater treatment systems would be turned off and dismantled. Surfaces and access controls would need to be continuously maintained, and groundwater monitoring would take place to assess the effectiveness of natural attenuation.

6.2.2 Alternative 2: Excavation of All Accessible Contaminated Soils, Continued Groundwater Treatment

This alternative involves the excavation of all accessible areas of contaminated soil (those not covered by infrastructure such as railroad tracks or buildings) except the Fueling Area, which will be addressed by the continuation of the SVE/air sparging system. All excavated soil will be transported off-site and disposed at an approved facility, and excavated areas will be backfilled with clean imported fill. Soil in the WFE Area is assumed to fail dangerous waste criteria due to the high concentrations of lead, so it would need separate transport to a facility permitted to accept it. It is estimated that 16,800 cubic yards of contaminated soil will be removed in this alternative.

The Interim Action groundwater treatment system would be continued as a final remedy. The groundwater treatment system will be turned off and assessed after one month to determine whether contaminant concentrations will rebound. After measuring the effects of the shutdown through groundwater and well headspace sampling, a schedule of system operation will be established. This will likely include periodic shutdowns, and will also determine whether the system will run in SVE mode or bioventing mode.

Institutional controls would be required for the Fueling Area and quarterly groundwater monitoring would continue to ensure the action remains protective.

6.2.3 Alternative 3: Combination of Excavation and Surface Capping of Contaminated Soils, Continued Groundwater Treatment

This alternative would excavate the highly lead-contaminated soils in the WFE Area and dispose of them at an approved facility. As in Alternative 1, these soils are assumed to fail dangerous waste criteria. Additionally, soils in the Materials Storage Building, Dismantling Spur, Yardley Office, and Ralston Lead Track Areas (which are not considered dangerous waste) would be excavated and disposed of at an approved facility. Soils in the Koch Materials and East & West Debris Areas would be capped with a minimum of 6” of clean gravel, and soils in the Diesel Shop Area would be capped with asphalt to be compatible with existing surfaces. In areas near active railroad tracks, some soil may need to be removed such that after the addition of gravel, the final grade will not be higher than the tracks. It is estimated that 1,820 cubic yards of contaminated soil will be removed and 122,000 square feet will receive a gravel cap in this alternative.

The Interim Action groundwater treatment system would be continued as a final remedy, as described in the previous alternative.

Institutional controls would be required for all areas with capping, including the Diesel Shop, and quarterly groundwater monitoring would continue to ensure the action remains protective.

6.2.4 Alternative 4: Surface Capping of Contaminated Soils, Continued Groundwater Treatment

This alternative would involve capping all areas of contaminated soil at the Site. As in Alternative 3, a minimum of 6" of gravel will be used to cap all areas except the WFE Area. This represents an estimated 140,900 square feet of gravel cap. In the WFE Area, asphalt cap would be used to provide a higher degree of protection, compatibility with existing surfaces, and protection from infiltration of surface water. This represents 12,800 square feet of asphalt cap.

The Interim Action groundwater treatment system would be continued as a final remedy, as described in the previous alternative. Additionally, an asphalt cap would be placed over the Diesel Shop Area instead of gravel to be compatible with existing surfaces.

Institutional controls would be required for all areas with capping, including the Diesel Shop, and quarterly groundwater monitoring would continue to ensure the action remains protective.

6.3 REGULATORY REQUIREMENTS

The MTCA Cleanup Regulation sets forth the minimum requirements and procedures for selecting a cleanup action. A cleanup action must meet each of the minimum requirements specified in WAC 173-340-360(2), including certain threshold and other requirements. These requirements are outlined below.

6.3.1 Threshold Requirements

WAC 173-340-360(2)(a) requires that the cleanup action shall:

- Protect human health and the environment;
- Comply with cleanup standards (see Section 5.0);
- Comply with applicable state and federal laws (see Section 6.3.5); and
- Provide for compliance monitoring.

6.3.2 Other Requirements

In addition, WAC 173-340-360(2)(b) states that the cleanup action shall:

- Use permanent solutions to the maximum extent practicable;
- Provide for a reasonable restoration time frame; and
- Consider public concerns

WAC 173-340-360(3) describes the specific requirements and procedures for determining whether a cleanup action uses permanent solutions to the maximum extent practicable. A permanent solution is defined as one where cleanup levels can be met without further action being required at the Site other than the disposal of residue from the treatment of hazardous substances. To determine whether a cleanup action uses permanent solutions to the maximum extent practicable, a disproportionate cost analysis is conducted. This analysis compares the costs and benefits of the cleanup action alternatives and involves the consideration of several factors, including:

- Protectiveness;
- Permanent reduction of toxicity, mobility and volume;
- Cost;
- Long-term effectiveness;
- Short-term risk;
- Implementability; and
- Consideration of public concerns.

The comparison of benefits and costs may be quantitative, but will often be qualitative and require the use of best professional judgment.

WAC 173-340-360(4) describes the specific requirements and procedures for determining whether a cleanup action provides for a reasonable restoration time frame.

6.3.3 Groundwater Cleanup Action Requirements

At sites with contaminated groundwater, WAC 173-340-360(2)(c) requires that the cleanup action meet certain additional requirements. Permanent cleanup actions shall be used when possible, and if a nonpermanent action must be used, the regulation requires that the following two requirements be met:

1) Treatment or removal of the source of the release shall be conducted for liquid wastes, areas of high contamination, areas of highly mobile contaminants, or substances that can't be reliably contained; and
2) Groundwater containment (such as barriers) or control (such as pumping) shall be implemented to the maximum extent practicable.

6.3.4 Cleanup Action Expectations

WAC 173-340-370 sets forth the following expectations for the development of cleanup action alternatives and the selection of cleanup actions. These expectations represent the types of cleanup actions Ecology considers likely results of the remedy selection process; however, Ecology recognizes that there may be some sites where cleanup actions conforming to these expectations are not appropriate.

- Treatment technologies will be emphasized at sites with liquid wastes, areas with high concentrations of hazardous substances, or with highly mobile and/or highly treatable contaminants;
- To minimize the need for long-term management of contaminated materials, hazardous substances will be destroyed, detoxified, and/or removed to concentrations below cleanup levels throughout sites with small volumes of hazardous substances;
- Engineering controls, such as containment, may need to be used at sites with large volumes of materials with relatively low levels of hazardous substances where treatment is impracticable;
- To minimize the potential for migration of hazardous substances, active measures will be taken to prevent precipitation and runoff from coming into contact with contaminated soil or waste materials;
- When hazardous substances remain on-site at concentrations which exceed cleanup levels, they will be consolidated to the maximum extent practicable where needed to minimize the potential for direct contact and migration of hazardous substances;
- For sites adjacent to surface water, active measures will be taken to prevent/minimize releases to that water; dilution will not be the sole method for demonstrating compliance;
- Natural attenuation of hazardous substances may be appropriate at sites under certain specified conditions (see WAC 173-340-370(7)); and
- Cleanup actions will not result in a significantly greater overall threat to human health and the environment than other alternatives.

6.3.5 Applicable, Relevant, and Appropriate, and Local Requirements

WAC 173-340-710(1) requires that all cleanup actions comply with all applicable state and federal law. It further states that the term "applicable state and federal laws" shall include legally applicable requirements and those requirements that the department determines "…are relevant and appropriate requirements." This section discusses applicable state and federal law, relevant and appropriate requirements, and local permitting requirements which were considered and were of primary importance in selecting cleanup requirements. If other requirements are identified at a later date, they will be applied to the cleanup actions at that time.

MTCA provides an exemption from the procedural requirements of several state laws and from any laws authorizing local government permits or approvals for remedial actions conducted under a consent decree, order, or agreed order. [RCW 70.105D.090] However, the substantive requirements of a required permit must be met. The procedural requirements of the following state laws are exempted:

- Ch. 70.94 RCW, Washington Clean Air Act;
- Ch. 70.95 RCW, Solid Waste Management, Reduction, and Recycling;
- Ch. 70.105 RCW, Hazardous Waste Management;
- Ch. 75.20 RCW, Construction Projects in State Waters;
- Ch. 90.48 RCW, Water Pollution Control; and
- Ch. 90.58 RCW, Shoreline Management Act of 1971.

WAC 173-340-710(4) sets forth the criteria that Ecology evaluates when determining whether certain requirements are relevant and appropriate for a cleanup action. Table 7 lists the state and federal laws that contain the applicable or relevant and appropriate requirements that apply to the cleanup action at the Parkwater Railyard Site. Local laws, which may be more stringent than specified state and federal laws, will govern where applicable.

6.4 EVALUATION OF CLEANUP ACTION ALTERNATIVES

The requirements and criteria outlined in Section 6.3 are used to conduct a comparative evaluation of Alternatives one through four and to select a cleanup action from those alternatives. Table 8 provides a summary of the ranking of the alternatives against the various criteria.

6.4.1 Threshold Requirements

6.4.1.1 Protection of Human Health and the Environment

Alternative 1 provides no additional protection to human health and the environment, and allows contaminated soil and groundwater exposures to remain. Alternatives 2, 3, and 4 would eliminate the risk due to contaminated soil through a combination of removal and capping, and would continue to treat groundwater. As such, they would protect human health and the environment.

6.4.1.2 Compliance with Cleanup Standards

Alternative 1 would not meet cleanup standards in either soil or groundwater. Alternatives 2 through 4 would all meet cleanup standards in soil and groundwater, with variations in the amount of time needed to reach compliance.

6.4.1.3 Compliance with State and Federal Laws

Alternative 1 would not be in compliance with state and federal laws because contaminated media would not be remediated, and would represent a violation of MTCA. Alternatives 2, 3, and 4 would be in compliance with applicable state and federal laws listed in table 7. Local laws, which can be more stringent, will govern actions when they are applicable. These will be established during the design phase of the project.

6.4.1.4 Provision for Compliance Monitoring

There are three types of compliance monitoring which are: protection, performance, and confirmational. Protection monitoring is designed to protect human health and the environment during the construction and operation & maintenance phases of the cleanup action. Performance monitoring confirms that the cleanup action has met cleanup and/or performance standards. Confirmational monitoring confirms the long-term effectiveness of the cleanup action once cleanup standards have been met or other performance standards have been attained. All four

alternatives would meet this provision as all would require varying levels of all three types of compliance monitoring.

6.4.2 Other Requirements

6.4.2.1 Use of Permanent Solutions to the Maximum Extent Practicable

As discussed previously, to determine whether a cleanup action uses permanent solutions to the maximum extent practicable, the disproportionate cost analysis specified in the regulation is used. The analysis compares the costs and benefits of the cleanup action alternatives and involves the consideration of several factors. The comparison of costs and benefits may be quantitative, but will often be qualitative and require the use of best professional judgment.

Costs are disproportionate to the benefits if the incremental costs of an alternative are disproportionate to the incremental benefits of that alternative. Since all alternatives rely on the same technology for groundwater treatment, the evaluation is primarily of the soil remedies. Based on the analysis described below, it has been determined that alternative 3 has the highest ranking for use of a permanent solution to the maximum extent practicable, followed by alternatives 2 and 4. Alternative 2 provides a higher degree of protection, but the cost is more than twice that of Alternative 3. Alternative 1 is not subject to this analysis because it does not meet the threshold criteria.

- Protectiveness

Protectiveness measures the degree to which existing risks are reduced, time required to reduce risk and attain cleanup standards, on- and off-site risks resulting from implementing the alternative, and improvement of overall environmental quality.

Alternatives 2, 3, and 4 would all be protective. All would equivalently reduce risks and have little implementation risk. Alternative 2 would have the highest degree of protectiveness because it would not rely on the long-term maintenance of a cap and would immediately attain cleanup standards. Alternatives 3 and 4 would be increasingly less protective because they rely on caps to higher degrees and would require much more time to attain cleanup standards.

- Permanent Reduction of Toxicity, Mobility and Volume

Permanence measures the adequacy of the alternative in destroying the hazardous substance(s), the reduction or elimination of releases or sources of releases, the degree of irreversibility of any treatment process, and the characteristics and quantity of any treatment residuals.

Alternative 2 would permanently reduce the mobility of contaminants because all contaminated soil would be removed, effectively eliminating any future sources of releases. Alternatives 3 and 4 rely to lesser extents on removal, so they are respectively less permanent. Since these alternatives would rely on institutional controls to keep contaminants out of the environment, they would be considered less permanent because future actions could undo them.

- Cleanup Costs

Costs are approximated based on specific design assumptions for each alternative. Although the costs provided by BNSF and its consultants are estimates based on design assumptions that might change, the relative costs can be used for this evaluation. For a detailed description of the costs involved with each alternative, please refer to the Feasibility Study.

Alternative 2 would involve the removal of contaminated soil and monitoring of groundwater for an estimated 7 years. It includes costs for excavation & disposal of all contaminated soil except for deeper soils in the Fueling Area, placement of clean backfill, and continued operation of the groundwater treatment system with groundwater monitoring. Soil in the WFE Area is expected to designate as dangerous waste, and so higher costs for disposal are included. Also included in every alternative are the costs for consultant oversight, lab charges, permits, and report preparation. The estimate for this alternative is $3,987,277.

Alternative 3 includes costs for excavation & disposal of contaminated soil in the WFE Area, the Materials Storage Building, Dismantling Spur (excluding Debris Areas), Yardley Office, and Ralston Lead Track. Remaining areas with soil contamination (Former Koch Materials, Debris Areas, and Diesel Shop) will be covered with a minimum 6" gravel cap or asphalt. Also included is continued operation of the groundwater treatment system with groundwater monitoring. The cost estimate for Alternative 3 is $1,764,057. This estimate does not include additional costs for the financial assurance mechanisms that are required as part of any containment remedy.

Alternative 4 involves costs for asphalt capping of contaminated soils in the WFE Area and Diesel Shop Area, and gravel capping of all remaining areas of contaminated soil. Also included is continued operation of the groundwater treatment system with groundwater monitoring. The cost estimate for Alternative 4 is $1,042,458. This estimate does not include additional costs for the financial assurance mechanisms that are required as part of any containment remedy.

- Long-Term Effectiveness

Long-term effectiveness measures the degree of success, the reliability of the alternative during the period that hazardous substances will remain above cleanup levels, the magnitude of residual risk after implementation, and the effectiveness of controls required to manage remaining wastes.

Alternative 2 is the only alternative that meets all criteria for long-term effectiveness. By removing all contaminated soils, nothing will exist to potentially pose a risk. Alternative 3 and 4 rely on on-site containment, so they will have residual risk and require ongoing maintenance. Because Alternative 4 relies to a higher degree on containment, it would rank lower than Alternative 3.

- Short-Term Risk

Short-term risk measures the risks related to an alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks.

The highest risk related to all potential soil actions at this Site involves working on or very near active rail lines. The more involved and extended any work near rail lines is, the higher the short-term risk is. This means that Alternative 4 has the highest short-term risk (and thus is ranked lower), due to excavation work near rail lines. Capping near rail lines presents risk, but less due to the shorter time frame for the work. As the amount of excavation in the alternative decreases, the less short-term risk that is present. Therefore, Alternative 4 would rank highest (least amount of risk), followed by Alternatives 3 and 2.

- Implementability

Implementability considers whether the alternative is technically possible, the availability of necessary off-site facilities, services, and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for operations and monitoring, and integrations with existing facility operations.

All three alternatives are implementable at the Site. They all are technically possible, have infrastructure to support them, have similar schedule, size, and access, and would integrate with facility operations. Alternatives with excavation would have a slightly higher complexity due to more complicated work near active rail lines. Alternatives with capping would have more administrative/regulatory requirements due to the need for institutional controls. Overall, the greater complexity of the extensive excavation work in Alternative 2 makes the implementability slightly less than Alternatives 3 and 4.

- Consider Public Concerns

All three alternatives would provide opportunity for members of the public to review and comment on any proposals or plans.

6.4.2.2 Provide a Reasonable Restoration Time Frame

WAC 173-340-360(4) describes the specific requirements and procedures for determining whether a cleanup action provides for a reasonable restoration time frame, as required under subsection (2)(b)(ii). The factors that are used to determine whether a cleanup action provides a reasonable restoration time frame are set forth in WAC 173-340-360(4)(b).

Alternative 2 would be ranked the highest, because it removes contaminants from the Site and would immediately meet soil cleanup levels. It also would rely the least on institutional controls, would require the least amount of ongoing maintenance, and would provide the greatest reduction in overall risk. Because Alternatives 3 and 4 leave contaminants on-site, they would not meet cleanup levels for a long time. They would also rely to a higher extent on institutional controls, require more ongoing maintenance, and would potentially affect future Site use. These alternatives would be ranked less, based on the degree of reliance on containment.

6.4.3 Groundwater Cleanup Action Requirements

Cleanup actions that address groundwater must meet the specific requirements described in Section 6.3.3 in addition to those listed above. Every alternative proposed at this Site includes the operation of the groundwater treatment system. As is the case at many sites where SVE/air sparge systems are used to treat petroleum contamination, it is expected that some amount of "rebound" of contaminant concentrations will occur when the system is shut off. However, the operation of a treatment system is considered appropriate for consideration as a permanent cleanup action, as the only further action required will be the disposal of any treatment residues. All three alternatives include operation of the groundwater treatment system and meet the requirement for use of a permanent groundwater cleanup action.

6.4.4 Cleanup Action Expectations

Specific expectations of cleanup levels are outlined in WAC 173-340-370 and are described in Section 6.3.4. Among those, Alternatives 2 through 4 would address these expectations in the following manner:

- All sites emphasize treatment technologies through the use of groundwater treatment. The Fueling Area has also already received source control measures through the removal of tanks and of accessible contaminated soil, allowing the use of natural attenuation technologies. This is allowed because monitoring is in place and petroleum is not detected in groundwater at the property boundary, posing minimal risk to groundwater users.
- Alternative 2 would minimize the need for long-term management by removal of contaminated soils.
- Alternatives 3 and 4 would rely on engineering controls because there are large areas of lower levels of hazardous substances. Areas with higher levels would be excavated, consistent with the prioritization of removal. Consolidation isn't possible due to the hazard of working near active rail lines. Containment remedies are expected to be successful due to the presence of employees who can provide ongoing cap repair and maintenance.

6.5 DECISION

Based on the analysis described above, alternative 3 has been selected as the proposed remedial action for the BNSF Parkwater Railyard Site. The alternative meets each of the minimum requirements for remedial actions.

Alternative 3 meets each of the threshold requirements. Furthermore, Alternative 3 uses permanent solutions to the maximum extent practicable and provides a higher level of protection to human health and the environment than Alternative 4. The cost of Alternative 2 is disproportionate to the incremental benefit that would be gained. Table 8 provides a summary of the relative ranking of each alternative in the decision process.

7.0 SELECTED REMEDIAL ACTION

The proposed cleanup action for the Site includes the excavation of contaminated soil above cleanup levels in the WFE, Material Storage Building, Dismantling Spur, Yardley Office, and Ralston Lead Track Areas, transport to permitted disposal facilities, and backfill with clean soil. The Koch Asphalt and East & West Debris Areas will receive minimum 6" gravel cap, and the Diesel Shop Area will receive an asphalt cap. All will have restrictive covenants placed on them.

The groundwater treatment system (SVE/air sparge) will continue to operate in the Fueling Area, addressing both contaminated groundwater and deeper contaminated soils. Deed restrictions for soil will not be required here because soil contamination is deeper than 15 feet, protecting the direct contact exposure pathway. However, groundwater restrictions will be required if contaminant levels are above cleanup levels after the temporary system shutdown.

The groundwater treatment system will operate as described in Section 6.2.2, including a system shutdown for a period of one month. Details of the system's operation, after the system shutdown test, will be developed in an Operation and Maintenance Plan, to be submitted to and approved by Ecology in conjunction with the Engineering Design Plans providing details of the soil excavation and capping.

Compliance monitoring will take place, and will be established in a Compliance Monitoring Plan to be submitted to and approved by Ecology in conjunction with Engineering Design Plans. Protection monitoring will involve dust control during any work with contaminated soil. Performance and confirmational monitoring will involve periodic visits to capped areas to ensure that gravel is withstanding traffic and maintaining a protective barrier; the frequency of these visits will be documented in the Operation and Maintenance Plan. Performance monitoring is already occurring with the groundwater treatment system, and future performance and confirmational monitoring will take place as explained in the previous paragraph.

Treatment, monitoring, and institutional controls are required until such time the Site meets MTCA requirements for demonstrating that remediation is complete.

7.1 GROUNDWATER MONITORING

Groundwater monitoring will include the quarterly sampling of the wells in the Fueling Area for all groundwater indicators. Groundwater monitoring shall be performed in accordance with the approved Compliance Monitoring Plan, with a short-term goal of measuring the impacts of shutting off the system and a long-term goal of ensuring contaminant levels remain below cleanup levels. Groundwater monitoring is estimated to take place for seven years.

7.2 INSTITUTIONAL CONTROLS

Institutional controls are measures undertaken to limit or prohibit activities that may interfere with the integrity of a cleanup action or result in exposure to hazardous substances at the Site. Such measures are required to assure both the continued protection of human health and the environment and the integrity of the cleanup action whenever hazardous substances remain at the

Site at concentrations exceeding applicable cleanup levels. Institutional controls can include both physical measures and legal and administrative mechanisms. WAC 173-340-440 provides information on institutional controls, and the conditions under which they may be removed.

Institutional controls will be included in the cleanup action to address soil contamination remaining below caps, and to prevent the withdrawal and use of groundwater. Restrictions on groundwater use may be removed if confirmational monitoring indicates that residual deep soil and groundwater contamination have been fully remediated.

7.3 Financial Assurances

WAC 173-340-440 states that financial assurance mechanisms shall be required at sites where the selected cleanup action includes engineered and/or institutional controls. Financial assurances are required at this Site because engineered controls in the form of gravel and/or asphalt caps are used to manage contaminated soil at the Site.

7.4 Periodic Review

As long as groundwater cleanup levels have not been achieved, WAC 173-340-420 states that at sites where a cleanup action requires an institutional control, a periodic review shall be completed no less frequently than every five years after the initiation of a cleanup action. Additionally, periodic reviews are required at sites that rely on institutional controls as part of the cleanup action. Periodic reviews will be required at this Site. After groundwater cleanup levels have been achieved, periodic reviews will still be required because institutional controls are a part of the remedy.

8.0 REFERENCES CITED

GeoEngineers Inc, 2009, Interim Action Work Plan, Parkwater Rail Yard

GeoEngineers Inc, 2010, Final Remedial Investigation, BNSF Parkwater Rail Yard Site

GeoEngineers Inc, 2010, Final Feasibility Study, BNSF Parkwater Rail Yard Site

Washington State Department of Ecology, 2007, Model Toxics Cleanup Act Regulation Chapter 173-340 WAC

FIGURES

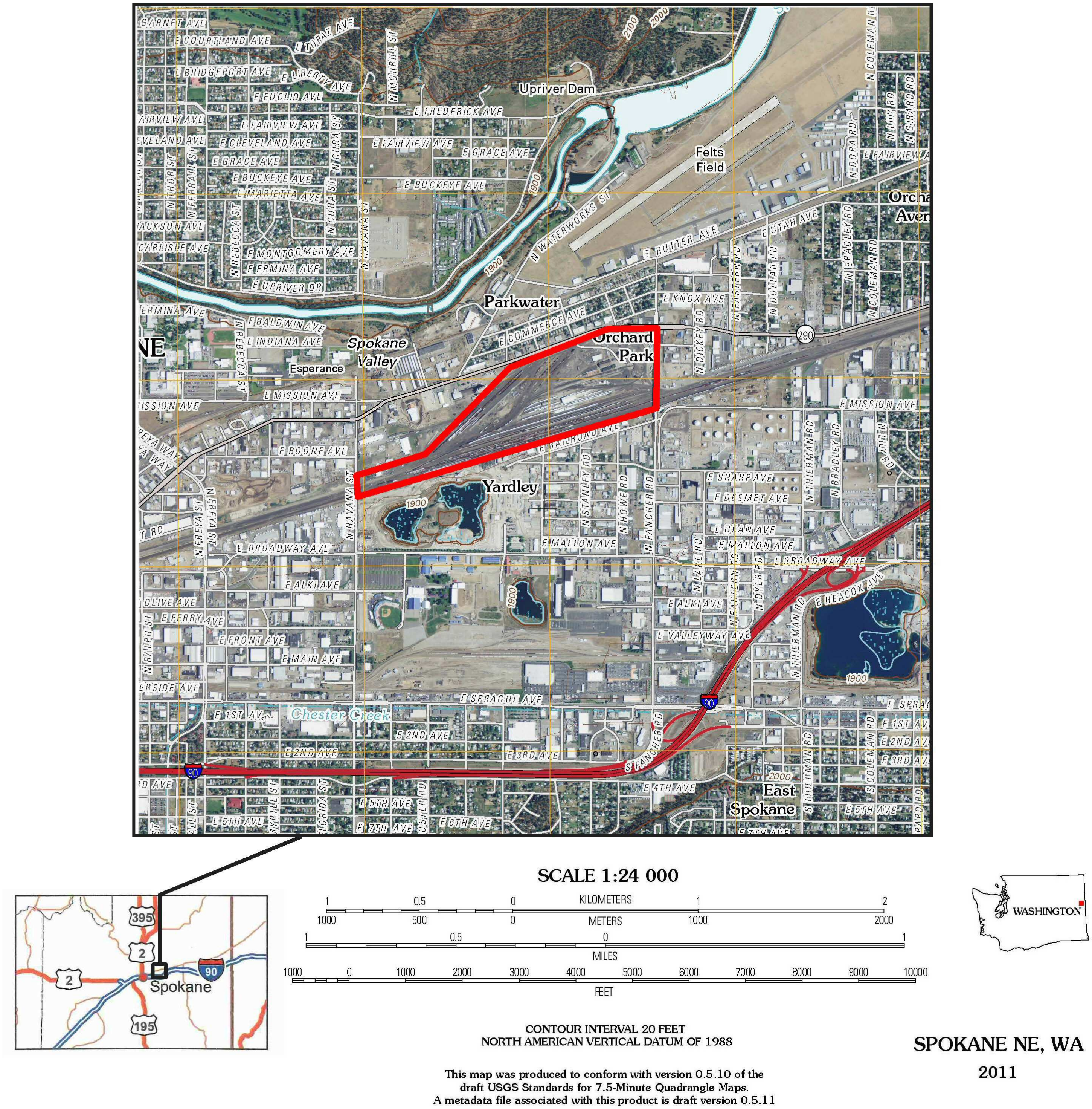


Figure 1. Site Location

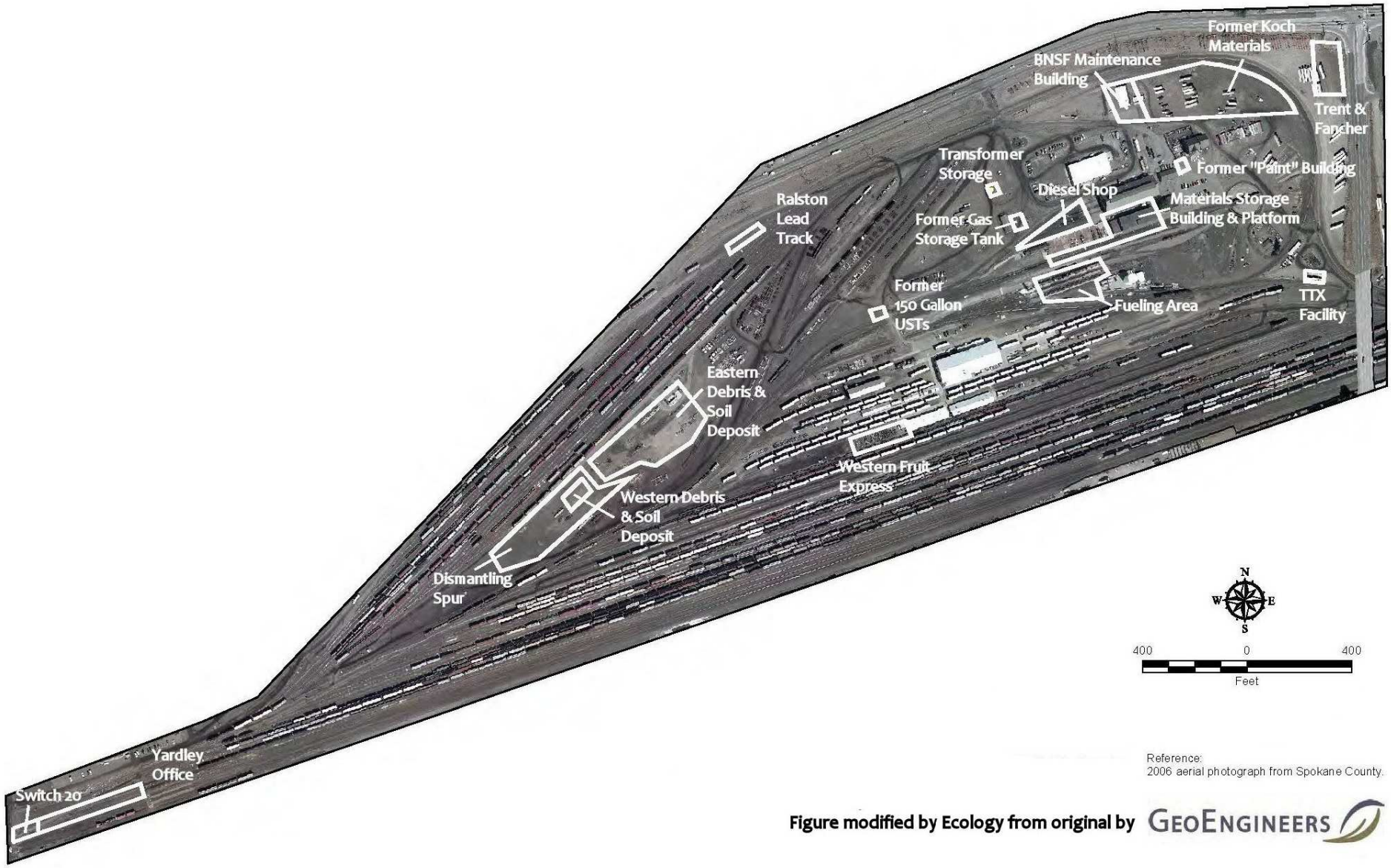
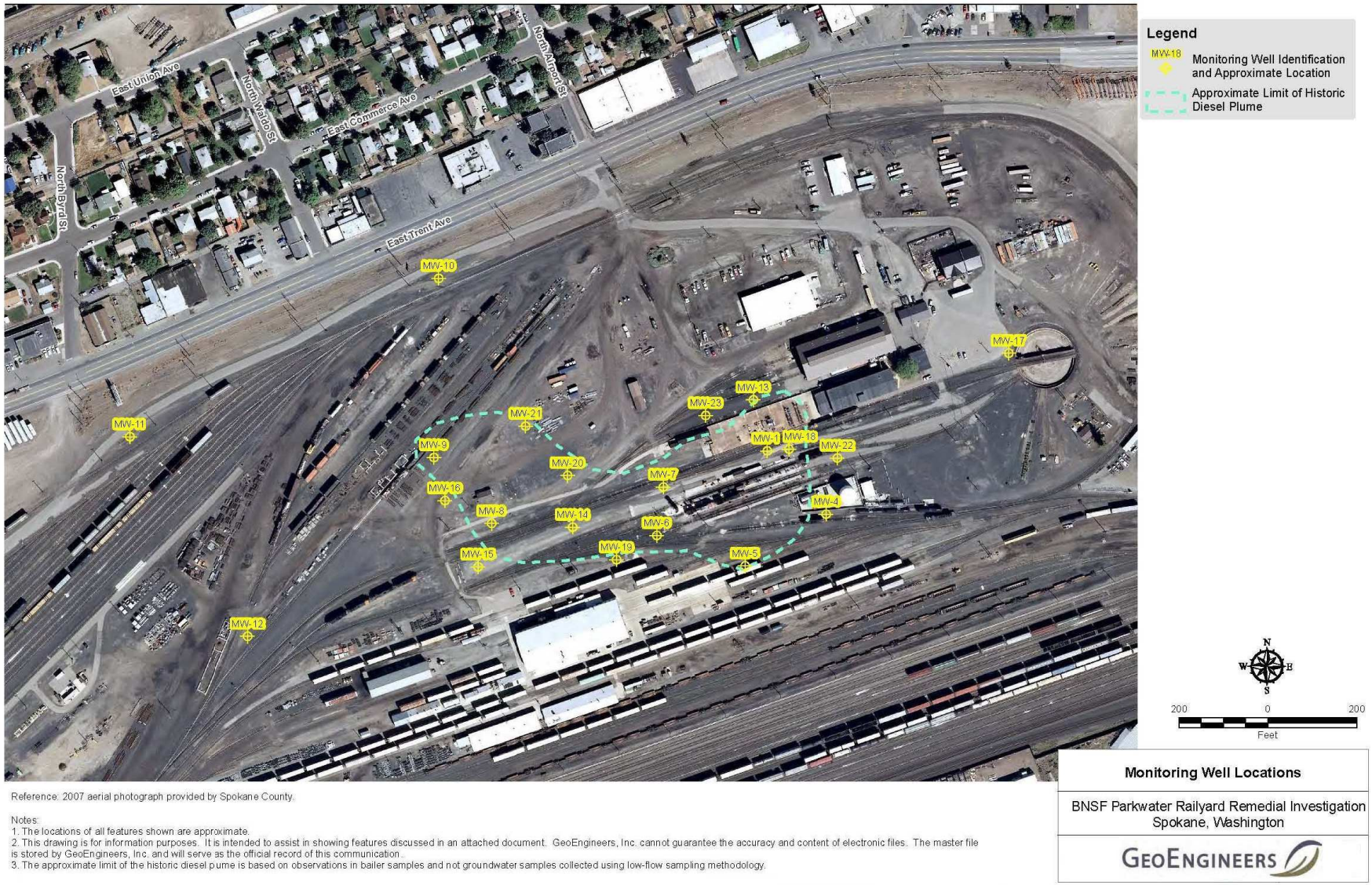


Figure 2. Property and Areas of Interest



Reference: 2007 aerial photograph provided by Spokane County.

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. The approximate limit of the historic diesel pume is based on observations in bailer samples and not groundwater samples collected using low-flow sampling methodology.

Figure 3. Monitoring Well Locations

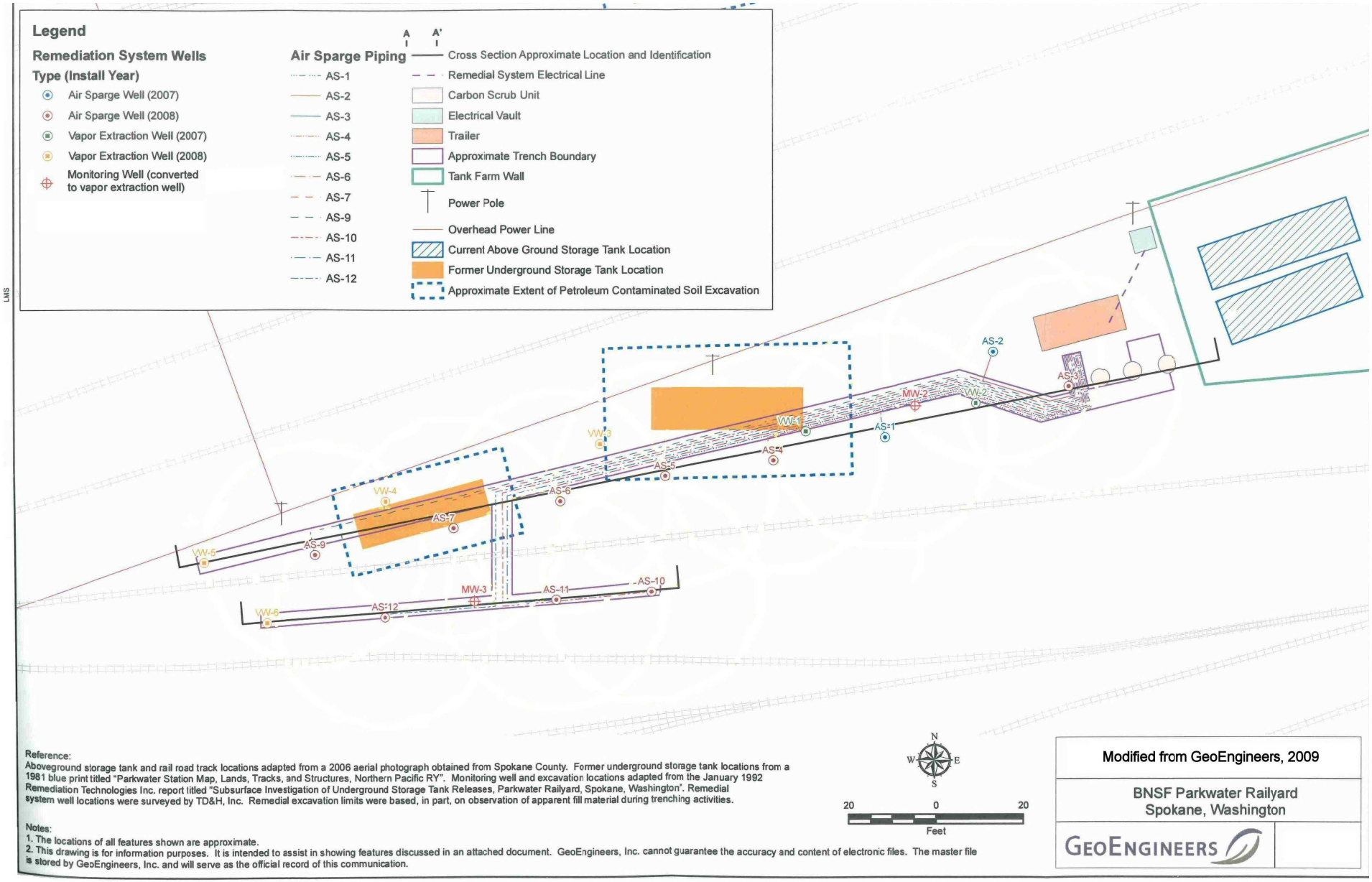


Figure 4. Interim Action Component Locations

TABLES

Area Name	Explorations	Depth (feet)	Number of Soil Samples	Number of Samples with Exceedances	Diesel	Gasoline	Heavy Oil	Metals	BTEX	PCBs	PAHs	VOCs	lead
Fueling Area	1 well	75	1	0	X		X	X		X	X	X	
Former Koch Materials Area	8 test pits	11-15	18	3	X		X	X	X		X		
Debris and Soil Deposit Areas	7 test pits	10-11	14	5	X		X	X		X			
Western Fruit Express Area (generator storage)	5 test pits	4-8	10	5	X		X	X		X	X	X	
	3 hand augers	1.5	3	0	X		X	X		X	X	X	
Western Fruit Express Area (washbay)	1 soil boring	4-8	3	1	X		X	X		X	X	X	
Materials Storage Building and Platform	11 soil borings	15-16	29	5	X		X	X	X		X		
Diesel Shop	7 soil borings	15	17	0	X		X	X	X		X		
Dismantling Spur	1 test pit	10-11	2	1	X		X	X		X			
Yardley Office	11 soil borings	15	22	3	X		X	X					
Ralston Lead Track	6 soil borings	15	15	3	X		X	X			X	X	
TTX Facility	1 soil boring	16	1	0	X		X	X					
Former "Paint" Building	1 soil boring	15	2	0								X	X
Former Gas Storage Tank	1 test pit	9	3	0	X	X	X		X				X

X = sample was analyzed for this class of contaminants
shaded gray = exceedances of preliminary cleanup levels in at least one sample
BTEX = benzene, toluene, ethylbenzene, and xylene
PCB = polychlorinated biphenyls
PAH = polycyclic aromatic hydrocarbons
VOC = volatile organic compound

Table 1. Soil Investigation Details

Analyte	Total Samples	Number of Detections	Detection Frequency	Maximum Detection, mg/kg
Metals				
Arsenic	131	131	100.00%	204
Chromium	131	131	100.00%	226
Lead	137	129	94.16%	48200
Cadmium	131	115	87.79%	653
Barium	131	107	81.68%	1780
Selenium	131	78	59.54%	4.4
Mercury	130	41	31.54%	6.1
Silver	125	1	0.80%	0.67
cPAHs				
Benz[a]anthracene	86	21	24.42%	1.94
Benzo(a)pyrene	86	19	22.09%	1.88
Benzo(b)fluoranthene	86	36	41.86%	9.07
Benzo(k)fluoranthene	86	13	15.12%	1.18
Chrysene	86	27	31.40%	10.9
Dibenzo(a,h)anthracene	86	4	4.65%	0.26
Indeno(1,2,3-cd)pyrene	86	16	18.60%	7.56
TPH				
Diesel Range Organics	131	34	25.95%	12800
Motor Oil	131	35	26.72%	10600
VOCs				
Acetone	28	2	7.14%	0.0281
CFC-11	28	1	3.57%	0.29
Ethylbenzene	69	3	4.35%	2.08
Methylene Chloride	28	2	7.14%	0.18
Naphthalene	114	15	13.16%	34.5
n-Butylbenzene	28	1	3.57%	0.081
n-Propylbenzene	28	1	3.57%	0.095
1,2,4-Trimethylbenzene	28	3	10.71%	0.14
Toluene	69	5	7.25%	0.53
Xylenes (total)	30	6	20.00%	2.9
SVOCs				
Acenaphthene	86	11	12.79%	8.51
Acenaphthylene	86	8	9.30%	1.17
Anthracene	86	10	11.63%	1.13
Benzo(ghi)perylene	86	19	22.09%	0.778
Fluoranthene	86	29	33.72%	4.44
Fluorene	86	9	10.47%	12
Phenanthrene	86	30	34.88%	41.6
Pyrene	86	30	34.88%	9.47
PCBs				
PCB-aroclor 1260	31	4	12.90%	0.2

mg/kg = milligrams per kilogram
cPAH = carcinogenic polycyclic aromatic hydrocarbons
VOC = volatile organic compound
SVOC = semivolatile organic compound
PCB = polychlorinated biphenyls

Table 2. Soil Detection Frequency

Analyte	Total Samples	Number of Detections	Detection Frequency	Maximum Concentration, ug/L
Metals				
Arsenic	8	6	75.00%	9.37
Barium	8	7	87.50%	72
Cadmium	8	1	12.50%	5.1
Chromium	8	3	37.50%	4.79
Lead	8	3	37.50%	11.1
Silver	8	1	12.50%	3.53
TPH				
Diesel Range Organics	129	23	17.83%	82200
Lube Oil/motor oil	129	6	4.65%	618
VOCs				
1,2,4-Trimethylbenzene	4	1	25.00%	0.5
m, p-Xylene	4	1	25.00%	0.86
Total Xylenes	4	1	25.00%	0.86

ug/L = micrograms per liter
TPH = total petroleum hydrocarbon
VOC = volatile organic compound

Table 3. Groundwater Detection Frequency

Analyte	Maximum Concentration	Human Health Criteria			Detected in Groundwater?	Leaching	Background	Preliminary Cleanup Level (PCUL)	Indicator?	Basis
		Method A Industrial	Method C Industrial, carcinogen	Method C Industrial, non-carcinogen						
	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg		
Metals										
Arsenic	204	20	88	1100	yes	2.92	9	**9**	**yes**	**background**
Barium	1780	no data	NR	700,000	yes	1648		**1648**	**yes**	**protection of gw**
Cadmium	653	2	NR	3500	yes	0.69	1	**1**	**yes**	**background**
Chromium	226	19	NR	11,000	yes	18.43	18	**18**	**yes**	**background**
Lead	48,200	1000	NR	NR	yes	3000	15	**1000**	**yes**	**Method A**
Mercury	6.1	2	NR	1100	no			1100	no	below PCUL
Selenium	4.4	no data	NR	18,000	no			18,000	no	below PCUL
cPAHs										
Benz[a]anthracene		no data	TEF	NR	no					
Benzo(a)pyrene	8.744	2	18	NR	no			18	no	below PCUL
Benzo(b)fluoranthene		no data	TEF	NR	no					
Benzo(k)fluoranthene		no data	TEF	NR	no					
Chrysene		no data	TEF	NR	no					
Indeno(1,2,3-cd)pyrene		no data	TEF	NR	no					
TPH										
Diesel Range Organics	12,800	2000	NR	NR	yes	(a)		**2000**	**yes**	**Method A**
Motor Oil	10,600	2000	NR	NR	no	(b)		**2000**	**yes**	**Method A**
VOCs										
Acetone	0.028	no data	NR	350,000	no			350,000	no	below PCUL
Methylene Chloride	0.18	0.02	18,000	210,000	no			210,000	no	below PCUL
Naphthalene	34.5	5	NR	70,000	no			70,000	no	below PCUL
1,2,4-Trimethylbenzene	0.14	NR	NR	180,000	yes	1.6		1.6	no	below PCUL
Toluene	0.53	7	NR	280,000	no			280,000	no	below PCUL
Xylenes (total)	2.9	9	NR	700,000	yes	14.63		14.63	no	below PCUL
SVOCs										
Acenaphthene	8.51	no data	210,000		no			210,000	no	below PCUL
Acenaphthylene	1.17	NR	NR	NR	no				no	No MTCA criteria
Anthracene	1.13	no data	NR	1,100,000	no			1,100,000	no	below PCUL
Benzo(ghi)perylene		NR	NR	NR	no				no	No MTCA criteria
Fluoranthene	4.44	no data	NR	140,000	no			140,000	no	below PCUL
Fluorene	12	no data	NR	140,000	no			140,000	no	below PCUL
Phenanthrene		NR	NR	NR	no				no	No MTCA criteria
Pyrene	9.47	no data	NR	110,000	no			110,000	no	below PCUL
PCBs										
PCB-aroclor 1260	0.2	10	66	NR	no			10	no	below PCUL

PCUL = preliminary cleanup level
mg/kg = milligrams per kilogram
NR = not researched - no value exists for this parameter
cPAH = carcinogenic polycyclic aromatic hydrocarbons
TPH = total petroleum hydrocarbons
SVOC = semivolatile organic compounds
PCB = polychlorinated biphenyls
a = value based on protection of groundwater
b = value based on preventing accumulation of free product on groundwater
bold = indicator

Table 4. Soil Cleanup Levels Evaluation

Analyte	Max Conc-entration (C_m)	Applicable State & Federal Laws			MTCA Cancer Risk at MCL	MTCA Hazard Quotient at MCL	Is MCL Protective?	Adjusted MCL	Human Health Protection			Drinking Water Protection Criteria	Applicable Back-ground	Final Cleanup Level	Basis
		Federal MCL	Federal MCLG	State MCL					Method A	Method B, carcin-ogenic	Method B, non-carcinogenic				
	ug/L	ug/L	ug/L	ug/L				ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
Metals															
Arsenic	9.37	10	10		$1.72x10^{-4}$	2.083	no	0.58		0.058	4.8	**0.58**	5	**5**	**background**
Barium	72	2000	2000	2000		0.625	yes			NR	3200	2000		C_m<CUL	MCL
Cadmium	5.1	5	5	5		0.625	yes			NR	16	5		C_m<CUL	MCL
Chromium, total	4.79	100	100	100						NR	NR				no MTCA criteria
Chromium, III		100	100			0.004	yes			NR	24000	100		C_m<CUL	MCL
Chromium, VI			100	100		2.083	no	48		NR	48	48		C_m<CUL	MCL, adjusted to HQ of 1
Lead	11.1	15	15							NR	NR	15		C_m<CUL	MCL
Silver	3.53	NR	NR	NR						NR	80	80		C_m<CUL	Method B
TPH															
TPH, Diesel	82200	NR	NR	NR					500	NR	NR	**500**		**500**	**Method A**
VOCs															
1,2,4-Trimethylbenzene	0.5	NR	NR	NR						NR	no data				no MTCA criteria
Total Xylenes	0.86	10000	10000	10000		6.25	no	1600		NR	1600	1600		C_m<CUL	MCL, adjusted to HQ of 1

C_m = maximum concentration
ug/L = micrograms per liter
MCL = Federal maximum contaminant level
MCLG = Federal maximum contaminant level goal
CUL = cleanup level
NR = not researched
HQ = hazard quotient
TPH = total petroleum hydrocarbons
VOC = volatile organic compound
bold = indicator

Table 5. Groundwater Cleanup Levels Evaluation

1. Estimate of area of contiguous undeveloped land on the site or within 500 ft of any area of the site to the nearest half acre:		
	Acreage	Points
	0.25 or less	**4**
	0.5	5
	1	6
	1.5	7
	2	8
	2.5	9
	3	10
	3.5	11
	4.0 or more	12
2. Is this an industrial property?		
	yes	**3**
	no	1
3. Enter a score for habitat quality of the site:		
	high - ecologically significant habitat: native plants, high species diversity, presence of rare species, priority habitat, part of larger habitat area	1
	intermediate - not high or low	2
	low - noxious/nonnative vegetation, severe human disturbance, intensive cropland, isolation from other habitat	**3**
4. Is the undeveloped land likely to attract wildlife?		
	yes	1
	no	**2**
5. Are any of the following contaminants present: chlorinated dioxin/furans, PCBs, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, hetpachlor, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, pentachlorobenzene?		
	yes	**1**
	no	4
Total:		**9**
If Total is greater than score for #1, then evaluation may be ended:	9 > 4 evaluation ended	

Table 6. Terrestrial Ecological Evaluation

Cleanup Action Implementation	
Ch. 18.104 RCW; Ch. 173-160 WAC	Water Well Construction; Minimum Standards for Construction and Maintenance of Water Wells
Ch. 173-162 WAC	Rules & Regulations Governing the Licensing of Well Contractors & Operators
Ch. 70.105D RCW; Ch. 173-340 WAC	Model Toxics Control Act; MTCA Cleanup Regulation
Ch. 43.21C RCW; Ch. 197-11 WAC	State Environmental Policy Act; SEPA Rules
29 CFR 1910	Occupational Safety and Health Act
Groundwater and Surface Water	
42 USC 300	Safe Drinking Water Act
33 USC 1251; 40 CFR 131; Ch. 173-201A WAC	Clean Water Act of 1977; Water Quality Standards
Ch. 70.105D RCW; Ch. 173-340 WAC	Model Toxics Control Act; MTCA Cleanup Regulation
40 CFR 141; 40 CFR 143	National Primary Drinking Water Standards; National Secondary Drinking Water Standards
Ch. 246-290 WAC	Department of Health Standards for Public Water Supplies
Ch. 173-154 WAC	Protection of Upper Aquifer Zones
Air	
42 USC 7401; 40 CFR 50	Clean Air Act of 1977; National Ambient Air Quality Standards
Ch. 70.94 RCW; Ch. 43.21A RCW; Ch. 173-400 WAC	Washington Clean Air Act; General Regulations for Air Pollution
Ch. 173-460 WAC Ch. 173-470 WAC	Controls for New Sources of Air Pollution Ambient Air Quality Standards for Particulate Matter
Ch. 70.105D RCW; Ch. 173-340 WAC	Model Toxics Control Act; MTCA Cleanup Regulation

Table 7. Applicable or Relevant and Appropriate Requirements For the Cleanup Action

Criteria	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	No action	Full excavation; gw treatment	Partial excavation & capping; gw treatment	Full capping; gw treatment
Threshold Requirements				
Protection of human health & environment	no	yes	yes	yes
Compliance with cleanup standards	no	yes	yes	yes
Compliance with state & federal laws	no	yes	yes	yes
Provision for compliance monitoring	yes	yes	yes	yes
Other Requirements				
Use of Permanent Solutions (disproportionate cost analysis)	--	rank #2	rank #1	rank #3
Protectiveness	--	high	med-high	medium
Permanent Reduction	--	high	medium	low
Cleanup Cost (estimated)	--	$3,987,277	$1,764,057	$1,042,458
Long-term Effectiveness	--	high	medium	med-low
Short-term Risk	--	medium	med-high	high
Implementability	--	medium	med-high	med-high
Consider Public Concerns	--	high	high	high
Provide Reasonable Time Frame	--	high	medium	low
Consider Public Comments	--	yes	yes	yes

Table 8. Evaluation of Cleanup Action Alternatives

Exhibit C

Scope of Work and Schedule

EXHIBIT C
SCOPE OF WORK AND SCHEDULE
for the Cleanup Action at the BNSF Parkwater Railyard Site, Spokane, WA

In order to implement the Cleanup Action Plan for the BNSF Parkwater Railyard Site (Site), BNSF will complete all elements of this Scope of Work following the Schedule. BNSF shall provide for all personnel, materials and services necessary for, or incidental to, implementing the CAP.

BNSF shall submit the following required deliverables to Ecology for review and approval according to the schedule contained below:

A. Implementation Plan
BNSF shall prepare an Implementation Plan in compliance with the Cleanup Action Plan. The Implementation Plan shall incorporate the following required deliverables, which shall conform with all applicable requirements of Chapter 173-340 WAC:

1. Engineering Design Report (EDR)
The EDR shall meet the requirements 173-340-400 and shall describe the characteristics and the anticipated quantities of soil to be removed and specifications of cover materials. The EDR must include maps identifying existing site conditions, the locations of the proposed cleanup actions, a soil excavation and disposal plan, material and design specifications, sampling specifications, information on backfill placement, testing, compaction, and final grading. Information specific to working on or near active rail lines also needs to be included. Also included shall be specific measures to manage short-term hazards associated with the construction phase of this cleanup action, including but not limited to dust control, surface water/storm water runoff and any accidental spills, and the specifics of any quality control testing to be performed and additional information to address applicable state, federal, and local requirements. In addition, the EDR shall include:

a. Health and Safety Plan
BNSF shall prepare a health and safety plan and perform the cleanup in compliance with that plan. The health and safety plan shall conform to WAC 173-340-810 and includes emergency information, characteristics of waste, levels of protection, hazard evaluation, and any other applicable site specific information. Information specific to the hazards of working on or near active rail lines also needs to be included.

b. Quality Assurance Project Plan
The Quality Assurance Project Plan from the RI/FS shall be reviewed, revised as necessary, and incorporated into the Construction Plans.

2. Operations and Maintenance Plan (O&M Plan)

The O&M Plan is intended to present technical guidance and regulatory requirements to assure effective operations of a facility or on-going cleanup under normal and emergency conditions. The O&M Plan shall meet the requirements in WAC 173-340-400 and include contingency procedures and any procedures for maintenance of the facility after completion of the cleanup action. The following information shall be included in the O&M Plan:

a. Sampling & Analysis Plan (SAP)
The SAP will meet the requirements of WAC 173-340-820 and include soil and groundwater sampling methodology, analytical parameters, quality assurance / quality control protocols, and a groundwater sampling schedule. If any well is damaged or needs to be removed, the SAP will require the installation of a replacement well to Ecology's specifications.

b. Compliance Monitoring Plan
Compliance monitoring consists of protection monitoring, performance monitoring and confirmational monitoring. Protection monitoring confirms that human health and the environment are adequately protected during construction and operation of a cleanup action. Performance monitoring confirms that the cleanup action has attained cleanup and/or performance standards. Confirmational monitoring confirms the long-term effectiveness of the cleanup action once cleanup standards are attained.

Soil monitoring provides protection and performance monitoring. Soil samples will be collected during the implementation of the cleanup action to evaluate the appropriateness and adequacy of the selected actions.

Groundwater monitoring provides performance and confirmational monitoring.

The Compliance Monitoring Plan must meet the requirements of WAC 173-340-400, and will provide for groundwater sampling to take place quarterly for groundwater indicators until cleanup levels have been achieved consistent with WAC 173-340-720(9).

B. Progress Reports
Progress Reports shall be completed and submitted monthly as outlined in the Decree, Section XI.

C. Cleanup Action Report
BNSF shall submit a cleanup action report after the completion of all elements of the Implementation Plan, except confirmational monitoring. The report shall include, but not be limited to:

- All aspects of the completed cleanup action, including documentation of soil removal, consolidation and disposition of excavated contaminated soils.

- Site maps illustrating the location of all cleanup related activities, soil and groundwater monitoring data, surveyed groundwater elevation contours, groundwater flow direction.
- All compliance monitoring data gathered.
- A stamped statement from a professional engineer attesting to the completed cleanup action and substantial compliance with the plans and specifications for the site.
- A copy of the Environmental Covenant. BNSF shall submit a draft environmental covenant to Ecology with the draft Cleanup Action Report that appropriately reflects final site conditions. BNSF shall file the environmental covenant that is approved by Ecology following completion of compliance monitoring, and a certified copy of the final environmental covenant documenting that institutional controls are in place shall be included in the final Cleanup Action Report.

D. Cleanup Action Performance

To track the performance of the cleanup action, BNSF shall prepare and submit to Ecology quarterly reports presenting the results of compliance monitoring.

Schedule of Deliverables

Deliverables	Date Due
1. Effective date of Consent Decree	Start
2. Draft Implementation Plan and Schedule of Work to be Performed	120 days after start
3. Final Implementation Plan and Schedule of Work to be Performed	30 days after Ecology approval of draft
4. Begin Implementation of Remedial Action Schedule of Work to be Performed	30 days after approval of Following Implementation Plans
5. Draft Cleanup Action Report	60 days after completion of all elements of the Implementation Plan, except confirmational monitoring
6. Final Cleanup Action Report	30 days after Ecology approval of Draft Cleanup Action Report
7. Progress Reports	Monthly beginning effective date of Decree and ending with approval of Cleanup Action Report
8. Groundwater Compliance Monitoring Reports	Quarterly until Ecology determines that groundwater cleanup levels have been attained.

Exhibit D

Public Participation Plan

EXHIBIT D

BNSF RAILWAY COMPANY (BNSF) PARKWATER RAILYARD SITE

Amended Public Participation Plan for a

Consent Decree

Prepared by:
Washington State Department of Ecology

Para asistencia en Español Richelle Perez 360/407-7528
Если вам нужно помощь по русский, звоните
Tatyana Bistrevesky 509/477-3881

December 2011

Getting Involved in the Cleanup at the BNSF Parkwater Railyard Site

This Public Participation Plan has been amended for a Consent Decree between the Washington State Department of Ecology and BNSF Railway Company (BNSF). The Consent Decree is a legal document filed in court that formalizes the agreement between Ecology and BNSF for BNSF to perform the cleanup actions needed at the Parkwater site. Several interim actions have been taken at the site, and the Consent Decree moves the site into the final stage of cleanup.

Ecology encourages the public to learn about and get involved in decision-making opportunities at the BNSF Parkwater Railyard site. Opportunities are available during specific stages of the investigation and cleanup of petroleum products and other contaminants that may be identified in soil and groundwater at the site. The site is located at 5302 East Trent Avenue and straddles the boundary between the cities of Spokane and Spokane Valley in Spokane County, Washington.

The Public Participation Plan (Plan) provides an overview of the Model Toxics Control Act (MTCA) that guides the formal cleanup process at sites in Washington State. The document also outlines the purpose of the Plan, when public notice will occur, the amount of time the public has to comment, where the potentially affected area is located and ways the public may get involved in providing feedback. It also provides site background, a community profile, and community concerns.

Purpose of the Plan

The Public Participation Plan has three main purposes:

- To promote public understanding of the Washington Department of Ecology's (Ecology) responsibilities, planning, and cleanup activities at the site.
- To serve as a way of gathering information from the public. This information will assist Ecology and the potentially liable persons (PLPs) to conduct the investigation and plan for cleanup in a manner that is protective of human health and the environment.
- To inform the community living near the site, as well as the general public about cleanup activities and how to contribute to the decision-making process.

Overview of the Public Participation Plan and Model Toxics Control Act (MTCA)

The Plan is required under authority of the Model Toxics Control Act. MTCA is a "citizen-mandated" law that became effective in 1989 to provide guidelines for the cleanup of contaminated sites in Washington State. This law sets standards to make sure the cleanup of sites is protective of human health and the environment. A glossary of MTCA terms is included as Appendix C of this Plan.

Ecology's Toxic Cleanup Program investigates reports of contamination that may threaten human health and the environment. If contaminants are confirmed during an investigation, the site is generally ranked and placed on a Hazardous Sites List (HSL).

The BNSF Parkwater Railyard site ranked a three on the Hazardous Sites List. A rank of one represents the highest level of concern and five the lowest. Current and former owners or operators, as well as any other PLPs of a site, may be held responsible for cleanup of contamination based on MTCA. The PLP identified by Ecology for this site is the BNSF Railway Company (BNSF).

Public participation is an important part of cleanup under the MTCA process. The participation needs are assessed at each site according to the level of public interest and degree of risk posed by contaminants. Individuals who live near the site, community groups, businesses, government, other organizations and interested parties are provided an opportunity to become involved in commenting on the cleanup process.

The Plan includes requirements for public notice such as: identifying reports about the site and the repositories where reports may be read; providing public comment periods; and holding public meetings or hearings. Other forms of participation may be interviews, citizen advisory groups, questionnaires, or workshops.

Public Participation Grants and Technical Assistance

Additionally, citizen groups living near contaminated sites may apply for public participation grants (during open application periods). These grants help citizens receive technical assistance in understanding the cleanup process and create additional public participation avenues. **NOTE:** Ecology currently does not have a citizen technical advisor for providing technical assistance to citizens on issues related to the investigation and cleanup of the site.

Amendments

The Plan was developed by Ecology and complies with the Model Toxics Control Act regulations (Chapter 173-340-600 WAC). It is being amended for the Consent Decree and final stage of cleanup at the site. Amendment requests may be submitted to Ecology's site manager, Sandra Treccani, for review and consideration. Ecology will determine final approval of the Plan as well as any amendments.

Review of Documents and Project Contacts

Documents relating to the cleanup may be reviewed at the repositories listed on pages 9 of this Plan. If individuals are interested in knowing more about the Site or have comments regarding the Public Participation Plan, please contact one of the individuals listed on page 4.

WA Department of Ecology Contacts: Sandra Treccani, Site Manager WA State Department of Ecology Toxics Cleanup Program 4601 N. Monroe Spokane, WA 99205-1295 509-329-3412 Sandra.treccani@ecy.wa.gov Carol Bergin, Public Involvement WA State Department of Ecology Toxics Cleanup Program 4601 N. Monroe Spokane, WA 99205-1295 509-329-3546 Carol.bergin@ecy.wa.gov Kari Johnson, Public Disclosure WA Department of Ecology 4601 N. Monroe Spokane, WA 99205-1295 509-329-3415 Kari.johnson@ecy.wa.gov **Para asistencia Espanol** Richelle Perez WA Department of Ecology 300 Desmond Drive Lacey, WA 98504-7600 360-407-7528 Richelle.perez@ecy.wa.gov **Если вам нужно помощь по русский, звоните** Tatyana Bistrevesky 509-477-3881	**BNSF Company Contact:** Mr. Bruce Sheppard BNSF Railway Company 2454 Occidental Avenue South, Suite 1A Seattle, WA 98134 Telephone: 206/625-6035 bruce.sheppard@bnsf.com

SITE BACKGROUND

History

The BNSF Parkwater facility, formerly known as Yardley, is one half mile south of the Spokane River and lies over the Spokane Valley Rathdrum Prairie Aquifer in the Spokane Valley. The property covers 130 acres and has been used as a railyard for nearly 100 years. BNSF Parkwater was the main facility for the Northern Pacific Railroad in the early 1900s until the roadhouse was torn down in 1959. Operations included fueling,

maintenance, and switching of rail cars. Fuel tanks containing diesel, waste oil, gasoline and cleaning solvent were housed on-site to support the daily operations. In 2004 many of the operations at BNSF Parkwater were switched to a new facility in Hauser, Idaho. Currently, BNSF Parkwater serves as a support to the Hauser facility when there are periods of high demand.

In 1991 an underground storage tank containing petroleum was being removed and a petroleum release was discovered. Ecology conducted an initial investigation in January of 1991 to evaluate the reported release. Additional petroleum contamination was discovered during soil excavation in another area at the site. Since the discovery of the release, BNSF conducted limited investigation and independently cleaned up some of the contamination.

In January 1996, Spokane County Health District completed a Site Hazard Assessment of the BNSF Parkwater Railyard. The site ranked a three on the Hazardous Sites List. The Hazardous Sites List is a record of contaminated sites throughout the state that are ranked on a scale of one to five. One represents the greatest potential threat to human health and the environment; five represents the least potential threat. The site ranked a three because of the amount of petroleum contamination in soil and the potential for groundwater and aquifer contamination.

Companies responsible for contamination at a site have an opportunity to pursue cleanup through Ecology's Voluntary Cleanup Program (VCP). If Ecology determines the VCP program is not an appropriate avenue for the cleanup it becomes part of Ecology's formal cleanup process. The Agreed Order between BNSF and Ecology at this site began the formal cleanup process.

AGREED ORDER

The Washington State Department of Ecology entered into an Agreed Order with the BNSF Railway Company (BNSF) to clean up contamination at the Parkwater Railyard site. The site is located at 5302 East Trent Avenue, Spokane, Spokane County, Washington 99212 (See Appendix A – Site Map Figure 1).

The Agreed Order is a legal document issued by Ecology. It formalized the agreement between Ecology and BNSF to begin cleanup actions needed at the site. The purpose of the Remedial Investigation was to gather more information to determine where and how much contamination is in site-related soil and groundwater. The Feasibility Study evaluated cleanup alternatives in preparation for a cleanup action. BNSF began certain limited independent cleanup work at the site prior to the formal Agreed Order. The report and work plan required under the Agreed Order were necessary for Ecology to evaluate any actions previously taken and decide whether to include them in the formal cleanup plan developed for the site.

The Order required BNSF to complete the following tasks for the Parkwater Railyard site:

- Conduct a Remedial Investigation and Feasibility Study (RI/FS).

- Submit a report detailing independent cleanup actions previously taken at the site to treat petroleum-contaminated groundwater. Include a work plan outlining proposed plans to continue previous cleanup actions in the future under Ecology's oversight.
- Implement the work plan after Ecology approval.

Remedial Investigation Results

The Remedial Investigation determined what contaminants were in soil and groundwater, how much was present and where they were located. The following ten areas were studied as part of the investigation:

- Koch Asphalt Lease Area
- Diesel Shop and Materials Storage Building
- Western Fruit Express (Generator Storage Area)
- Dismantling Spur and East and West Debris and Soil Deposit Area
- Yardley Office (Main Line No. 1)
- Ralston Lead Track
- TTX Facility
- Fueling Area
- Former "Paint" Building
- Former Gasoline Storage Tank Area

The investigations confirmed that there were contaminants exceeding state standards in seven of the ten areas (see Figure 2). The TTX Facility and areas near monitoring wells MW22 and MW23 by the Fueling Area *did not* exceed state standards. The Former Paint Building and Gasoline Storage Tank areas were not contaminated.

The following is a list of contaminants that exceeded state standards: Please see the Remedial Investigation Report for details about where and how much of these contaminants were found in the seven areas at the site.

Petroleum hydrocarbons	Arsenic
Cadmium	Lead
Mercury	Naphthalene
Methylene chloride	cPAHs

Soil Contamination

Soil contamination in most areas is limited to shallow soil between the surface and 8 feet below the ground surface. The Fueling Area has deeper contamination between 12 and 65 feet below the ground surface. Monitoring results show treatment systems in the Fueling Area are successfully treating and removing petroleum hydrocarbons from soil and groundwater.

Groundwater Contamination

Diesel-contaminated groundwater forms what is called a "plume" under the Fueling Area. This plume of diesel-contaminated groundwater has moved in a west, northwest direction but does not leave the site. Groundwater in the Fueling Area where the spill occurred is

being addressed with the existing treatment system. There are no drinking water wells on the site, and contaminated groundwater doesn't leave the site. Therefore, the public is not exposed to contaminants in drinking water.

Feasibility Study Results

Three alternatives were evaluated for cleanup of soil and groundwater at the site. Based on the Remedial Investigation findings, no further action was recommended at the TTX Facility or near monitoring wells MW22 and MW23 in the Fueling Area. The Former paint Building and Gasoline Storage Tank areas were not contaminated. These areas were not further evaluated as part of the Feasibility Study.

The following are the three cleanup alternatives evaluated in the Feasibility Study:

1. Remove contaminated soil at all accessible areas except the Fueling Area. Continue the current treatments of deep soil and groundwater at the Fueling Area.
2. Remove contaminated soil near the Western Fruit Express, Materials Storage Building, Dismantling Spur (excluding the East and West Debris Areas), Yardley Office, and Ralston Lead Track. Use asphalt or gravel as a protective cap to cover remaining contamination. Continue the current treatments of deep soil and groundwater at the Fueling Area.
3. Use an asphalt or gravel cap and institutional controls in areas where contaminants are present. Continue current treatment of deep soil and groundwater at the Fueling Area.

BNSF proposed Alternative No. 2 as the preferred cleanup action.

Cleanup Action Plan

The Cleanup Action Plan selects the proposed cleanup actions for addressing contaminants at the site. Ecology evaluated BNSF's proposed cleanup alternative and selected the following cleanup actions for the site:

- Remove contaminated soil and replace it with clean soil in the WFE, Material Storage Building, Dismantling Spur, Yardley Office, and Ralston Lead Track Areas.
- Place a cap made of a minimum of 6" of gravel in the Koch Asphalt and East & West Debris Areas.
- Place an asphalt cap at the Diesel Shop Area.
- Place restrictive covenants on all of these areas to restrict how the property may be used.
- Provide institutional controls on the site to ensure public safety and proper performance and maintenance of the remedies.
- Continue the groundwater treatment system (Soil Vapor Extraction/air sparging) in the Fueling area to address both contaminated groundwater and deeper contaminated soils. The groundwater treatment system will be turned off temporarily and assessed after one month to determine whether contaminant concentrations will rebound. Deed restrictions for soil will not be required here because soil contamination is deeper than 15 feet, protecting the dermal exposure

pathway. However, groundwater restrictions will be required if the level of contamination doesn't meet state standards after a temporary system shutdown.
- Conduct compliance monitoring to ensure the remedies are working properly.
- Take precautions to control dust during work at the site.

The Consent Decree will provide the legal agreement to implement the cleanup actions at the site.

COMMUNITY BACKGROUND

Community Profile

The site is surrounded by industrial and commercial businesses. There has been recent growth in the residential homes found north of the site from Trent to the Spokane River. Homes are also found along the railroad tracks near the south boundaries of the site and some are interspersed between industrial and commercial businesses in the neighborhood.

The neighborhood population, although predominantly Caucasian, is becoming more diverse as the area grows. There are individuals of Slavic descent who speak Russian/Ukrainian and some Spanish-speaking Latinos who help make up the culture of this neighborhood.

According to the 2000 census, the majority of people living in the area have incomes below the county poverty level. There are new families who have recently become homeowners and others who have lived in the area since close to the time Parkwater was established.

Businesses vary from fast-food, plumbing and landscape services to travel, machine and fabrication, asphalt and cement product companies and many more. There are several new small businesses emerging along the Trent corridor.

Community Concerns

A few community interviews were conducted on September 15, 2008. Some could not be conducted due to language barriers. Efforts are being made to have a translator participate in some additional interviews.

Most people were unaware of any contamination issues at the site and indicated BNSF was a "good neighbor." Some of the concerns expressed were as follows:

- "The tap water tastes and smells bad – it has an iron-like taste to it."
- Are there any contaminants in the drinking water that we should be worried about? Should I be worried about my children drinking the water? Should we be on bottled water?
- One person wanted to be sure that BNSF was not shut down during the cleanup process.
- There has been a "horrible, dead body like smell" in the area about three weeks ago. A few of the interviewees reported they had smelled something really bad

about three weeks ago. Some thought it might be the rendering plant, but others said it was different than what they had smelled before.

These questions and concerns were answered, based on current knowledge, during the interviews. Additional information will be shared with the neighborhood as it becomes available. Questions and concerns will also be addressed through the activities listed in the Public Participation Activities and Timeline section below.

Public Participation Activities and Timeline

The following is a list of some of the public participation efforts that will occur until the cleanup actions are completed:

- A **mailing list** was developed for individuals who live near the site. The potentially affected vicinity covers any adjacent properties and homes and businesses within close proximity to the site, and areas to be investigated. These persons, along with BNSF, received and will continue to receive copies of all fact sheets developed regarding the cleanup process via first class mail. Additionally, individuals, organizations, local, state, and federal governments, and any other interested parties will be added to the mailing list as requested. Other interested persons may request to be on the mailing list at any time by contacting Carol Bergin at the Department of Ecology (see page 4 for details).

- **Public Repositories** are locations where documents may be reviewed. Due to reduced hours at many libraries throughout the county, three repositories originally were established. Now, due to space restrictions at the libraries and budget constraints, documents may be reviewed at Ecology's Spokane office or Ecology's website.

  WA Department of Ecology
  Kari Johnson, Public Disclosure Coordinator
  4601 North Monroe
  Spokane, WA 99205-1295
  509-329-3415
  Kari.johnson@ecy.wa.gov

  Ecology's Web Site https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=1318

- **Opportunity to Comment**
  - During each stage of cleanup **fact sheets** are created by Ecology, then distributed to individuals on the mailing list. These fact sheets explain the stage of cleanup, the site background, what happens next in the cleanup process and asks for comments from the public.
  - A **30-day comment period** allows interested parties time to comment on the process. The fact sheet contains contact information about where to submit comments and where and when public meetings or hearings will be held if requested.

The information from these fact sheets is also published in a statewide **Site Register** which is sent to those who request to be on that mailing list. Persons interested in receiving the Site Register should contact Seth Preston of Ecology at 360-407-6848 or e-mail seth.preston@ecy.wa.gov . The fact sheets are also posted on Ecology's web page under the Toxics Cleanup Program at https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=1318

- **Display ads or legal notices** are published in the Spokesman Review, ethnic newspapers when available, and on Ecology's Public Events Calendar http://www.ecy.wa.gov to inform the general public. These notices are published at the beginning of the 30-day comment period for the public notices. They are also used to announce public meetings and workshops or public hearings.

- **Public meetings, workshops, open houses, and public hearings** are held based on the level of community interest. If ten or more persons request a public meeting or hearing based on the subject of the public notice, Ecology will hold a meeting or hearing and gather comments. These meetings, workshops, or hearings will be held at a location that meets ADA standards and is close to the site. They may be held away from the site if it is necessary to accommodate large numbers of interested persons. These events are announced using the same methods as display ads or legal notices.

- **Flyers** may also be made available in various locations throughout the community (e.g., postings at local businesses, schools, libraries, etc.) to announce public comment periods, meetings, workshops, etc.

Answering Questions from the Public

Individuals in the community may want to ask questions to better understand the cleanup process. Page 4 lists the contacts for Ecology and the project manager for the BNSF Parkwater Railyard

site. Interested persons are encouraged to contact these persons by phone or e-mail to obtain information about the site, the process and potential decisions.

Public Notice and Comment Periods- Timeline

ACTION TAKEN	DATE
Negotiations began for an Agreed Order	June 26, 2008
Agreed Order for a Remedial Investigation and Feasibility Study	February 2009
Fact Sheet about the Agreed Order and Remedial Investigation and Feasibility Study – 30 day public comment period	January 12 through February 10, 2009
Public Meeting to introduce the Agreed Order and proposed Remedial Investigation and Feasibility Study	January 13, 2009
Fact Sheet about results of the Remedial Investigation and Feasibility Study – 30 day public comment period	September 3, 2010 through October 4, 2010
Fact Sheet about Draft Cleanup Action Plan, State Environmental Policy Act (SEPA) and Determination of Non-Significance (DNS) – 30 day public comment period	September 30, 2011 through October 31, 2011
Fact Sheet about Consent Decree	May 2012

Appendix A – Figure 1
Site Map

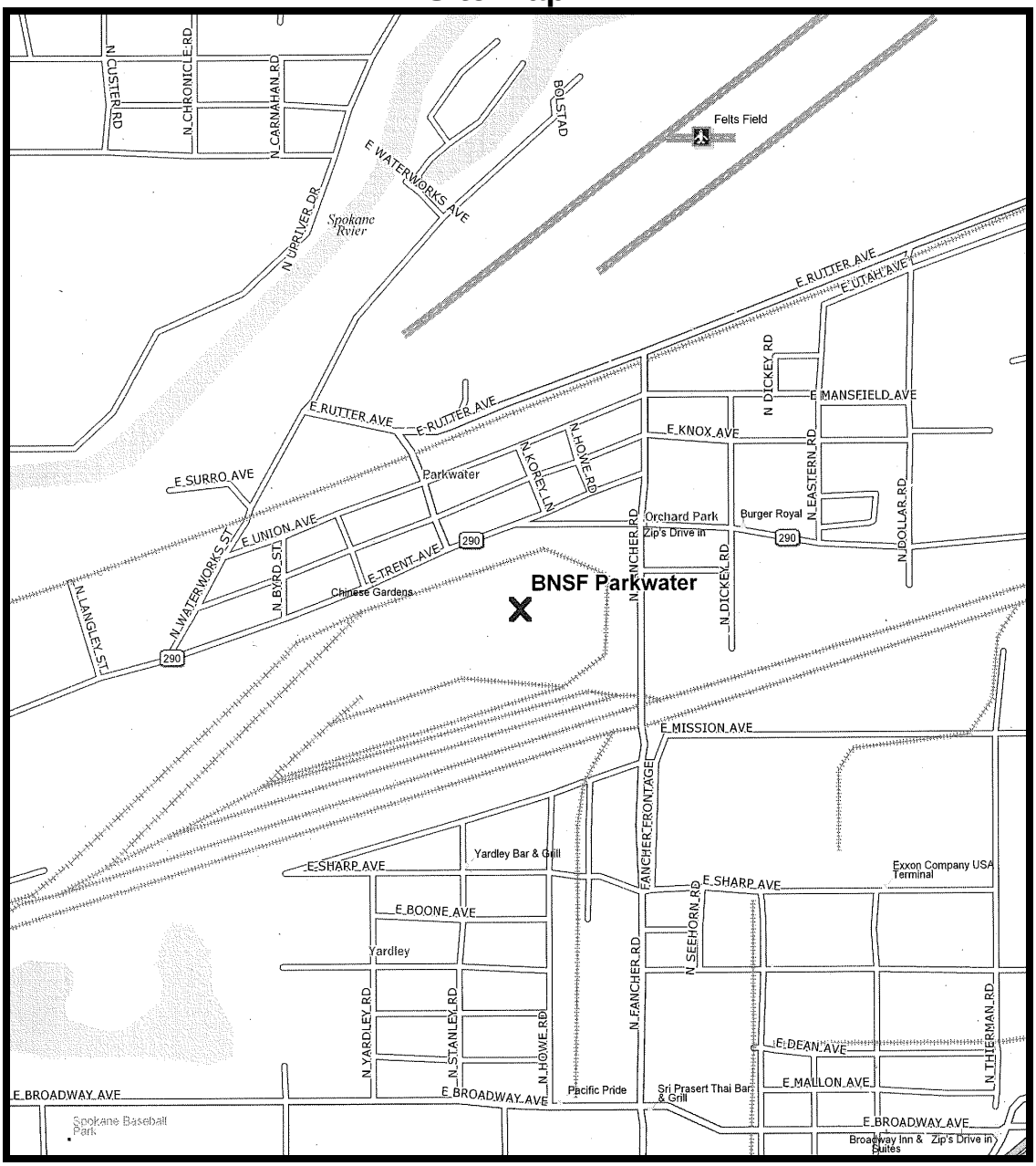
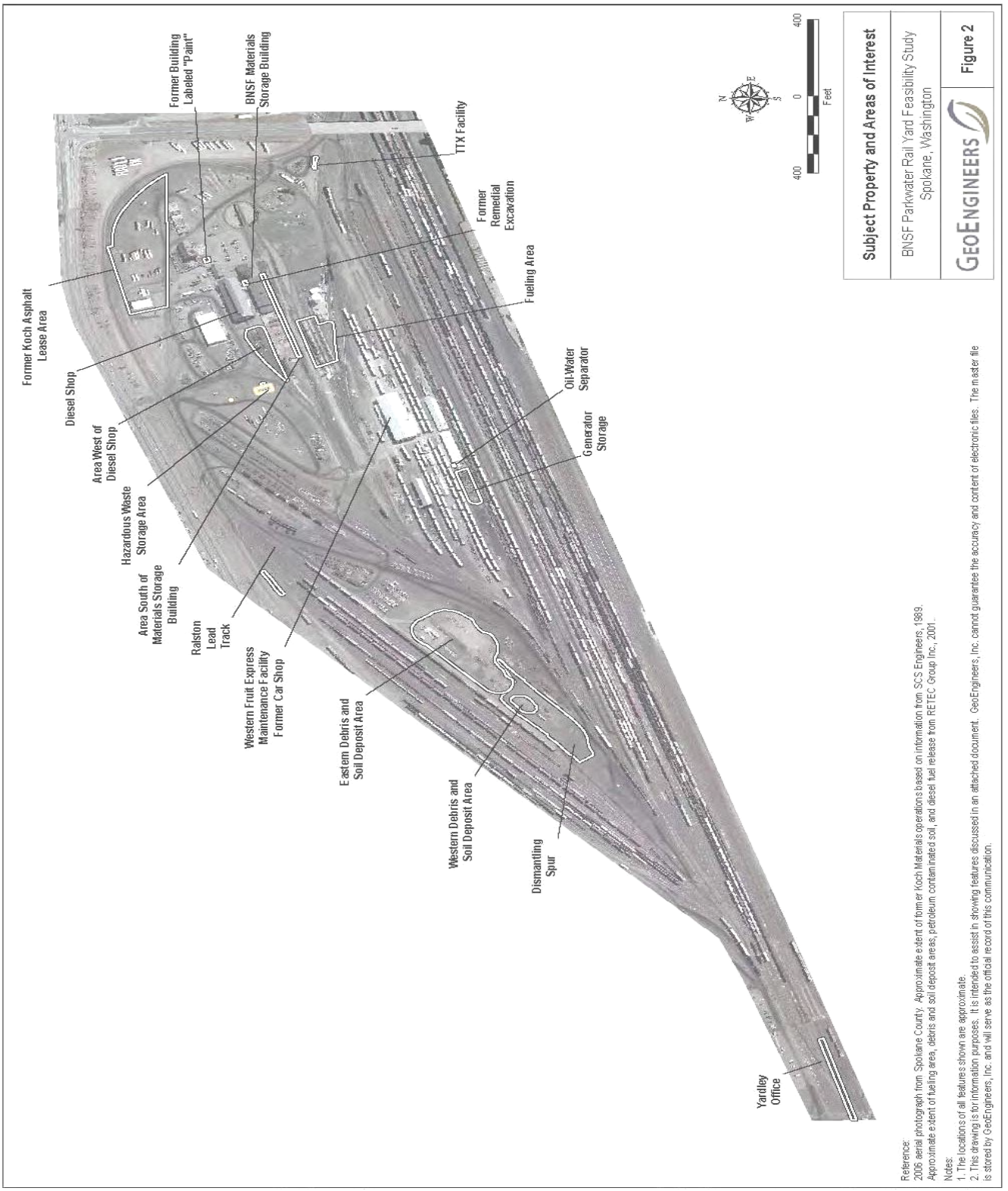


Figure 2
Site Areas Studied



APPENDIX B

BNSF PARKWATER RAILYARD SITE

CURRENT MAILING LIST
provided upon request -
retained in Ecology's Spokane office

APPENDIX C
GLOSSARY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Site: See Facility.

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

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

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

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

TCP: Toxics Cleanup Program at Ecology

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

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

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

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

Exhibit E

Environmental Covenant Form

After Recording Return to:

_____

Department of Ecology
[fill in regional address]

Environmental Covenant

Grantor: **[land owner]**
Grantee: State of Washington, Department of Ecology
Legal: **[fill in brief legal description]**
Tax Parcel Nos.: **[fill in]**
Cross Reference: **[if amendment, recording number of original covenant]**

Grantor, **[land owner]**, hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants such other rights under this environmental covenant (hereafter "Covenant") made this _ day of _____, 200__ in favor of the State of Washington Department of Ecology (Ecology). Ecology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act, RCW 70.105D.030(g), and the Uniform Environmental Covenant Act, 2007 Wash. Laws ch. 104, sec. 12.

This Declaration of Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by [NAME OF PROPERTY OWNER], its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology").

A remedial action (hereafter "Remedial Action") occurred at the property that is the subject of this Covenant. The Remedial Action conducted at the property is described in the following document[s]:

[INSERT THE DATE AND TITLE FOR CLEANUP ACTION PLAN and other documents as applicable].

These documents are on file at Ecology's [Insert Office Location] Office.

This Covenant is required because the Remedial Action resulted in residual concentrations of [SPECIFICALLY LIST SUBSTANCE(S)] which exceed the Model Toxics Control Act Method B Residential Cleanup Level(s) for [SOIL, GROUNDWATER, ETC.] established under WAC 173-340-____.

The undersigned, [NAME OF PROPERTY OWNER], is the fee owner of real property (hereafter "Property") in the County of [NAME OF COUNTY], State of Washington, that is subject to this Covenant. The Property is legally described [AS FOLLOWS: (insert legal description language)] -or- [IN ATTACHMENT A OF THIS COVENANT AND MADE A PART HEREOF BY REFERENCE (attach document containing legal description)].

[NAME OF PROPERTY OWNER] makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereafter "Owner").

Section 1. (This Section must describe with particularity the restrictions to be placed on the property.)

1. If the groundwater contains hazardous substances above drinking water standards (and a prohibition on withdrawal of groundwater will not be accomplished by alternate means under WAC 173-340-440(8)(c)) use the following sentence: "No groundwater may be taken for domestic use from the Property."

2. If contaminated soil remains that is above Method A or B Residential Cleanup Levels describe prohibited activities as follows:

For contaminated soil under a structure use the following sentence: "A portion of the Property contains [SPECIFICALLY LIST SUBSTANCE(S)] contaminated soil located [SPECIFICALLY DESCRIBE WHERE THE SOIL IS LOCATED, I.E., UNDER THE SOUTHEAST PORTION OF BUILDING 10]. The Owner shall not alter, modify, or remove the existing structure[s] in any manner that may result in the release or exposure to the environment of that contaminated soil or create a new exposure pathway without prior written approval from Ecology."

b. Example language for contaminated soil under a cap: "Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited. Some examples of activities that are prohibited in the capped areas include: drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork."

Section 2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 4. The Owner of the property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

Section 5. The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Restrictive Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times, with proper notification for security and safety purposes, for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the property, and to inspect records that are related to the Remedial Action.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Restrictive Covenant shall no longer limit use of the Property

or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

Section 9. Neither Ecology nor the Owner intend to include any third party beneficiaries with enforcement rights under this Covenant.

Section 10. By signing this Covenant, the Owner does not intend to affect the scope of existing preemption under the Interstate Commerce Commission Termination Act, 49 U.S.C. § 100501.]

[NAME OF GRANTOR]

_____

[Name of Signatory]
[Title]
Dated: _____

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

_____

[Name of Person Acknowledging Receipt]
[Title]
Dated: _____

[INDIVIDUAL ACKNOWLEDGMENT]

STATE OF _____
COUNTY OF _____

On this _____ day of _____, 20__, I certify that _____ personally appeared before me, and acknowledged that **he/she** is the individual described herein and who executed the within and foregoing instrument and signed the same at **his/her** free and voluntary act and deed for the uses and purposes therein mentioned.

_____
Notary Public in and for the State of Washington, residing at _____.
My appointment expires_____.

[CORPORATE ACKNOWLEDGMENT]

STATE OF _____
COUNTY OF _____

On this _____ day of _____, 20__, I certify that _____ personally appeared before me, acknowledged that **he/she** is the _____ of the corporation that executed the within and foregoing instrument, and signed said instrument by free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that **he/she** was authorized to execute said instrument for said corporation.

_____
Notary Public in and for the State of Washington, residing at _____.
My appointment expires_____.

[REPRESENTATIVE ACKNOWLEDGEMENT]

STATE OF _____
COUNTY OF _____

On this _____ day of _____, 20__, I certify that _____ _____ personally appeared before me, acknowledged that **he/she** signed this instrument, on oath stated that **he/she** was authorized to execute this instrument, and acknowledged it as the _____ [type of authority] of _____ [name of party being represented] to be the free and voluntary act and deed of such party for the uses and purposes mentioned in the instrument.

_____
Notary Public in and for the State of Washington, residing at _____.
My appointment expires _____.