RA-1

IN THE SUPERIOR COURT OF THE STATE OF WASHINGTON
FOR KING COUNTY

RECEIVED
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DEPT OF ECOLOGY

STATE OF WASHINGTON,
DEPARTMENT OF ECOLOGY,

Plaintiff,

v.

PORT OF SEATTLE,

Defendant.

CAUSE NO.

CONSENT DECREE - BUCKLEY YARD PROPERTY

NOV 29 1995

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Attorney General of Washington
Ecology Division
Post Office Box 40117
Olympia, Washington 98504

I. INTRODUCTION

A. In entering into this Consent Decree (Decree), the mutual objective of the Washington State Department of Ecology (Ecology), and the Port of Seattle (Port) is to provide for remedial action at a facility where there has been a release or threatened release of hazardous substances. This Decree requires the Port to undertake the following remedial action(s):

(1) Conduct Soil remediation in conjunction with its redevelopment of the property in accordance with this Decree.

(2) Contain of Site Soils below surface caps.

(3) Remove Soils determined to be structurally unsuitable from the bottom of the equalization basins and place into the consolidated landfill under an MES equivalent cap, or dispose of such Soils in a landfill permitted to accept the Soils.

(4) Operate and maintain the above installations.

Ecology has determined that these actions are necessary to protect public 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

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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. In signing this Decree, the Port agrees to its entry and agrees to be bound by its terms.

D. By entering into this Decree, the parties do not intend to discharge nonsettling 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; provided, however, that the Port shall not challenge the jurisdiction of Ecology in any proceeding to enforce this Decree.

F. A full remedial investigation of groundwater at the Site has not been performed. The remedial actions required in this Decree do not address groundwater.

G. The Court is fully advised of the reasons for entry of this Decree, and good cause hiving been shown: IT IS HEREBY ORDERED, ADJUDGED, AND DECREED AS FOLLOWS:

11. JURISDICTION

A. This Court has jurisdiction over the subject matter and over the parties pursuant to Chapter 70.105D RCW, the Model Toxics Control Act (MTCA).

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 if, after public notice and 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 which is the subject of this Decree.

D. The Port is a potentially liable party at the Site and has waived notice requirements under RCW 70.105D.020(9).

E. The actions to be taken pursuant to this Decree are necessary to protect public health, welfare, and the environment.

F. The Port has agreed to undertake the actions specified in this Decree and consents to the entry of this Decree under the MTCA.

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III. PARTIES BOUND

This Decree shall apply to and be binding upon the signatories to this Decree (parties), 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 the Decree. The Port agrees to undertake all actions required by the terms and conditions of this Decree and not to contest state jurisdiction regarding this Decree. No change in ownership or corporate status shall alter the responsibility of the defendant under this Decree. The Port 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 contractors and subcontractors will be in compliance with this Decree.

IV. DEFINITIONS

Except for as specified herein, all definitions in WAC 173-340-200 apply to the terms in this Decree.

A. Site: The Site, referred to as the Buckley Yard, is located in West Seattle, between SW Florida Street and 26th Avenue SW. The Site is more particularly described in Exhibit A to this Decree which is a detailed site diagram and a legal description.

B. Parties: Refers to the Washington State Department of Ecology and the Port.

C. Port: Refers to the Port of Seattle.

D. Consent Decree or Decree: Refers to this Consent Decree and each of the Exhibits to the Decree. All Exhibits are integral and enforceable parts of this Consent Decree. In the event of conflict between this Decree and any Exhibit, this Decree shall control. The terms "Consent Decree" or "Decree", shall include all Exhibits to the Consent Decree.

E. Soil: Refers to surface and subsurface solid materials at the Site, including slag, soil/slag mixtures, municipal solid waste materials, and debris. Soil does not include groundwater.

V. STATEMENT OF FACTS

Ecology makes the following finding of facts without any express or implied admissions by the Port.

1. The Site is located in Seattle and includes the Burlington Northern Buckley Yard and two equalization basins located along the Longfellow Overflow Line. The Buckley Yard is a long narrow parcel of land, approximately 3,000 feet in length, with an average width of 200 feet. The Buckley Yard is bounded on the north by SW Florida Street and on the south by 26th Avenue SW. The West Seattle Landfill and Salmon Bay Steel bound the property to the west. West Marginal Way forms the eastern boundary of the south half of the site. Pacific Sound

Resources forms the eastern boundary of the north half of the site.

2. The Buckley Yard consists of approximately 14 acres and is used by Burlington Northern for railcar staging operations. One main trunk rail line provides access to the yard from the main Burlington Northern Yard located in Seattle along East Marginal Way. The project area consisted of tidal flats, tidal marshes, and shallows prior to 1895. Nearly all of the tidelands were eliminated by two phases of filling and dredging at the mouth of the Duwamish River between 1895 and 1940. Based on review of the Port's aerial photographs, major fill activities occurred west of the railroad lines in 1956 and 1961. The railroad tracks were expanded in the 1980s when two tracks were relocated to the west of the Buckley Yard.

3. One Longfellow Overflow Line equalization basin is present in the north area of the Buckley Yard, and one basin is 50 feet east of the north Buckley Yard area The basins range in size from approximately 2,000 to 9,000 square feet and extend vertically to depths of 15 to 20 feet below ground surface. The sediments in the bottom of the basins may be considered structurally unsuitable for the bedding material required for future stormwater drainage improvements to be made in these areas.. Hence, the upper 1 foot of Soils in these

basins may be removed as part of redevelopment of the Site. Because the sediments contain low levels of contaminants, the handling and relocation of these materials are included in this Decree. 4. Burlington Northern Railroad is the current owner of the Buckley Yard. The Port of Seattle intends to lease the property from Burlington Northern, and purchase the property following completion of construction activities for the Southwest Harbor Redevelopment Project. The Port of Seattle owns the parcel containing the equalization basin just east of the north Buckley Yard area.

5. The Site has historically been used for industrial purposes and is zoned for industrial use by the City of Seattle, which is a city that has conducted land use planning under Chapter 36.701 RCW. The Site is surrounded by properties that are used for industrial purposes and are zoned for industrial use by the City of Seattle. Hazardous substances in Soil remaining at the property after the remedial action will not pose a threat to human health and the environment in adjacent areas.

6. The Port intends to redevelop the Site and other adjacent properties for industrial use as a container shipping facility.

7. Since 1987, investigations have been conducted at the subject property that provide information on Site characteristics.and the nature and extent of contamination at the property. More than four investigations that studied groundwater, surface water, and surface and subsurface Soil conditions have been completed at or near the Site. In addition, beginning in 1993, the Port conducted investigations that included surface and subsurface Soil sampling and groundwater well installation and sampling at the Site. Aquifer testing and monitoring of groundwater level changes in response to tidal fluctuations in Elliott Bay has also been conducted on adjacent sites. Studies that have been conducted since 1993 and investigations prior to 1993 are presented in the RI/FS and the CAP.

8. The primary hazardous substances at the Site that exceed MTCA Method B cleanup levels for soils (or Method A, when no Method B cleanup level exists) are polychlorinated biphenyls (PCBs), carcinogenic polynuclear aromatic hydrocarbons (cPAHs), total petroleum hydrocarbons (TPH), arsenic, and lead, as documented in the RI/FS and the CAP. These contaminants are widespread, but generally at low levels, with discrete, random locations that have higher concentrations.

9. The nature and extent of contamination is well understood in the vicinity of the Site boundaries. However, information on Soil quality within the operational area of the rail yard is more limited due to drilling constraints imposed by ongoing railyard operations. The only identifiable sources of contamination in the yard appear to be related to contaminants present within historical fill materials interspersed across the Site. Hence contamination is likely to be randomly distributed in the shallow subsurface Soils and fill. As a result, estimates regarding the quantities and costs associated with remediation of contaminated Soils at the Buckley Yard are necessarily uncertain.

10. As documented in the RI/FS and the CAP, reuse, destruction, or detoxification of all the hazardous substances at the Site is not practicable due to the uncertainty with regards to the extent of contamination, the high cost of such reuse, aestruction, or detoxification, and the lack of additional environmental benefit in comparison to the on-Site containment remedy proposed for Site hazardous substances by the CAP. The proposed remedy includes long-term monitoring and institutional controls, as required by WAC 173-340-360(8)(b), and is consistent with the remedial approaches taken by Ecology on the adjacent SWHP Remediation Areas.

11. The Port of Seattle is an "owner or operator" as defined at RCW 70.105D.020(7) of a "facility" as defined at RCW 70.105D.020(4).

12. The Site is an "industrial property" as defined at RCW 70.105D.020(13). The hazardous substances remaining in the Soil at the Site after the remediai action will not pose a threat to human health or the environment in adjacent nonindustrial areas.

13. The substances found at the facility as described above are "hazardous substances" as defined at RCW 70.105D.020(6).

14. Based on the presence of these hazardous substances at the facility and all factors known to Ecology, there is a release or threatened release of hazardous substances, from the facility, as defined at RCW 70.105D.020(11).

15. Pursuant to RCW 70.105D.030(1) and 70.105D.050, Ecology may require potentially liable persons to investigate or conduct other remedial actions with respect to the release or threatened release of hazardous substances, whenever it believes such action to be in the public interest.

16. Based on the foregoing facts, Ecology believes the remedial action required by this Decree is in the public interest.

17. The work performed under this Decree is interim action pursuant to WAC 173-340-430. This Decree does not constitute final Site cleanup.

VI. WORK TO BE PERFORMER

This Decree contains a program designed to protect public health, welfare and the environment from the known release, or threatened release, of hazardous substances or contaminants at, on, or from the Site and to implement the CAP attached as Exhibit B..

Based on the foregoing Facts and Determinations, the Port shall take the following remedial actions and these actions shall be conducted in accordance with Chapter 173-340 WAC unless otherwise specifically provided for herein.

A. Scope of Work. The Port, through its contractor(s) and subcontractors(s) as necessary, shall accomplish the following work:

1. Submittal Requirements. Prior to implementing cleanup work, the Port shall submit Design Documents that meet the requirements of WAC 173-340-400, 173-340-410, and 173-340-820, to be approved by Ecology. The Design Documents shall consist of the following: (1) an engineering design report, (2) construction plans and specifications, (3) an operations and maintenance plan, and (4) a compliance monitoring plan. Specific elements of the design that must be included are

measures to limit and control generation of fugitive dust and volatile air emissions, and procedures to control runoff and erosion and otherwise protect the environment. The operations and maintenance plan shall include procedures for inspecting and maintaining the covers to be constructed over the hazardous substances remaining on the Site. It shall also include activities to ensure that Site security is maintained. The compliance monitoring plan shall include a sampling and analysis plan that meets the requirements of WAC 173-340-820 and shall provide that all analyses of soil and water performed pursuant to this Decree be conducted by a laboratory accredited under Chapter 173-50 WAC. Upon approval, the Design Documents shall become integral and enforceable parts of this Decree, and shall be complied with by the Port:

2. Health and Safety. The Port shall prepare a Site Safety and Health Plan in accordance with the most recent OSHA, WISHA, Department of Ecology and EPA guidance as well as applicable regulations, to be reviewed by Ecology. Specific elements that must be included in the plan aredecontamination of vehicles, equipment, and materials coming into contact with hazardous substances.

3. Site Security. The Port shall provide security at the Site to discourage entry by unauthorized persons. Site security shall include maintenance of current fencing,

installation of any additional fencing needed to establish Site perimeter security and signs. Security measures shall be maintained during the duration of this Decree, unless otherwise agreed to by Ecology.

4. Soil with TPH, cPAH, PCB, Arsenic, and Lead Contamination. The Port shall leave all Soil in place, other than structurally unsuitable Soil materials present at the bottom of the equalization basins. The Port shall ensure that constructed covers are installed above all Site Soils. Soils may be regraded in conformance with redevelopment plans and the Ecology-approved Engineering Design Report. Grading activities must be conducted in compliance with Health and Safety Plan provisions. Following grading activities, constructed covers will be installed to cap all exposed Site Soils. Future penetration of the constructed covers will be allowed if performed in compliance with the Ecology-approved Operations and Maintenance Plan and Health and Safety Plan.

5. Structurally Unsuitable Soil Materials Within Equalization Basins. Where engineering designs require the removal of structurally unsuitable materials in the basins, the Port shall excavate and relocate the excavated Soils to landfill cells constructed by the Port on the adjacent Former SSI property. In the event that the landfill cell does not

contain sufficient capacity to receive these materials, the Soils will be tested and transported off Site to a facility permitted to receive the contaminated Soils.

6. Constructed Covers. As part of the redevelopment of the Site into a container terminal, constructed covers shall be installed that will cap contaminated materials. Constructed covers will include asphalt pavement, concrete pavement, and ballast surface treatments below railroad track areas. Asphalt and concrete covers will reduce surface water infiltration into the contaminated materials. The Port shall construct these various types of covers in the general areas indicated in the CAP. The cover designs shall be submitted to Ecology as part of the engineering design report and shall include an evaluation of thickness and permeability, load-bearing capabilities, inspection and maintenance, erosion control, and surface water control. The final constructed cover shall meet the requirements and perform according to the specifications in the approved engineering design report.

B. Schedule of Work. The schedule for performance of the work identified above is as follows. No work shall be performed until Ecology has approved the plans and reports required in this Decree governing that work.

1. The Contractor's Safety and Health Plan shall be submitted to Ecology within 60 days of the Notice to Proceed given to the Contractor to perform work described in this Decree. Ecology shall use its best efforts to review and comment on the plan within 21 days.

2. The Engineering Design Report, Compliance Monitoring Plan, and Operation and Maintenance Plan drafts shall be submitted to Ecology within 60 days of the effective date of the Decree. Draft final construction plans and specifications for the work described in this Decree shall be submitted to Ecology on the date such plans and specifications are completed to the 90% design level. Ecology shall use its best efforts to review and comment on the documents within 21 days. Within 30 days of receipt of Ecology's comments on the drafts, the Port shall submit to Ecology the final documents which shall incorporate Ecology's comments. The documents shall not be final until approved by Ecology in writing. The documents may be submitted in separate volumes or sections, as appropriate, to coincide with the phases of the work to be performed.

3. Within 2 years of the effective date of the Decree, the following work shall be completed: All structurally unsuitable materials in the equalization basins shall be excavated and relocated to landfill cells adjacent to the Site or transported

off Site for disposal. Excavated areas shall be backfilled. All Site Soils shall be regraded in preparation for installation of constructed covers.

4. Within one year following the completion of the work described in paragraph B.(3), the constructed covers shall be installed.

5. Compliance monitoring shall occur in accordance with the schedule in the approved,compliance monitoring plan.

C. During the operation of this Decree, the Port agrees not to perform any remedial actions outside the scope of this Decree unless the parties agree to amend the scope of work to cover these actions. All work conducted under this Decree shall be done in accordance with Chapter 173-340 WAC unless otherwise provided herein.

D. The Port agrees to exercise due care or other higher standard if required by applicable laws in implementation of this Decree.

E. The parties anticipate that the long-term monitoring, operation, and maintenance activities required under this, Decree will eventually be included in a master Consent Decree for all properties being cleaned up under MTCA or CERCLA that are owned or leased by the Port in the immediate area and are being used as part of the container shipping terminal facility.

F. For each individual parcel or part of the property within the Site not owned by the Port as of the effective date of the Decree, the Port shall record the restrictive covenant shown in Attachment C with the King County Auditor's Office within 30 days of the date on which title to that portion of the Site vests in the Port. For the portion of the Site that the Port owns as of the effective date of this Decree, the Port shall record the restrictive covenant within 30 days of entry of the Decree. The Port shall provide Ecology with proof of all recordings of restrictive covenants.

VII. DESIGNATED PROJECT COORDINATORS

The project coordinator for Ecology is:

Glynis Carrosino
Washington Department of Ecology
Northwest Regional Office
3190 160th Avenue S.E.
Bellevue, WA 98008-5452

The project coordinator for the Port is:

Elizabeth Stetz
Port of Seattle
P.O.Box 1209
Seattle, WA 98111
(206) 728-3191

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

between Ecology and the Port 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 remedial work required by this Decree. The project coordinators may agree to minor modifications to the work to be performed without formal amendments to this Decree. Minor modifications will be documented in writing by Ecology.

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

VIII. PERFORMANCE

All work performed pursuant to this Decree shall be under the direction and supervision, as necessary, of a professional engineer or hydrogeologist, or equivalent, with experience and expertise in hazardous waste site investigation and cleanup. Any construction work must be under the supervision of a professional engineer. The Port shall notify Ecology in writing as to the identity of such engineer(s) or hydrogeologist(s), or others and of any contractors and subcontractors to be used in carrying out the terms of this Decree, in advance of their involvement at the Site.

IX. ACCESS

Ecology or any Ecology authorized representatives shall have the authority to enter and freely move about all property at the Site 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 the Port'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 the Port. All parties with access to the Site pursuant to this paragraph shall comply with approved health and safety plans.

X. SAMPLING, DATA REPORTING, AND AVAILABILITY

With respect to the implementation of this Decree, the Port shall make the results of all sampling, laboratory reports, and/or test results generated by it, or on its behalf available to Ecology and shall submit these results in accordance with Section XI of this Decree.

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

split or duplicate samples to be taken by the Port or its authorized representatives of any samples collected by Ecology pursuant to the implementation of this Decree provided it does not interfere with the Department's sampling. Without limitation on Ecology's rights under Section IX, Ecology shall endeavor to notify the Port prior to any sample collection activity.

XI. PROGRESS REPORTS

The Port shall submit to Ecology written monthly progress reports which describe the actions taken during the previous month to implement the requirements of this Decree. The progress 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 schedule 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 analysis) received by the Port during the past month and an identification of the source of the sample;

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

All progress reports shall be submitted by the tenth day of the month in which they are due after the effective date of this Decree. Unless otherwise specified, progress reports and any other documents submitted pursuant to this Decree shall be sent by certified mail, return receipt requested, to Ecology's project coordinator.

XII. RETENTION OF RECORDS

The Port shall preserve, 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 XXV, all records, reports, documents, and underlying data in its possession relevant to the implementation of this Decree and shall insert in contracts with project contractors and subcontractors a similar record retention requirement. Upon request of Ecology, the Port shall make all non-archived records available to Ecology and allow access for review. All archived records shall be made available to Ecology within a reasonable period of time.

XIII. TRANSFER OF INTEREST IN PROPERTY

No voluntary or involuntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated without provision for continued operation and maintenance of any containment system,

treatment system, and monitoring system installed or implemented pursuant to this Decree.

Prior to transfer of any legal or equitable interest in all or any portion of the property, and during the effective period of this Decree, the Port shall serve a copy of this Decree upon any prospective purchaser, lessee, transferee, assignee, or other successor in interest of the property; and, at least thirty (30) days prior to any transfer, the Port shall notify Ecology of said contemplated transfer.

XIV. RESOLUTION OF DISPUTES

A. In the event a dispute arises as to an approval, disapproval, proposed modification or other decision or action by Ecology's project coordinator, the parties shall utilize the dispute resolution procedure set forth below.

(1) Upon receipt of the Ecology project coordinator's decision, the Port has fourteen (14) days within which to notify Ecology's project coordinator of its objection to the decision.

(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) The Port may then request Ecology 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 Ecology's project coordinator's decision.

(4) Ecology's Program Manager shall conduct a review of the dispute and shall issue a written decision regarding the dispute within thirty (30) days of the Port's request for review. The Program Manager's decision shall be Ecology's final decision on the disputed matter.

B. If Ecology's final written decision is unacceptable to the Port, the Port 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 the Port 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.

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

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.

XV. AMENDMENT OF CONSENT DECREE

This Decree may only be amended by a written stipulation among the parties to this Decree 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 shall not be unreasonably withheld by any party to the Decree.

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

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 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 the reason(s) the extension is needed.

An extension shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. A requested extension shall not be effective until approved by Ecology or the Court. Ecology shall act upon any written request for extension in a timely fashion. It shall not be necessary to formally amend this Decree pursuant to Section XV when a schedule extension is granted.

B. The burden shall be on the Port to demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timeiy fashion and that good cause exists for granting the extension. Good cause includes, but is not limited to, the following.

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

(2) Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or ocher unavoidable casualty; or

(3) Endangerment as described in Section XVII.

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

C. Ecology may extend the schedule for a period not to, exceed ninety (90) days, except where an extension is needed as a result of:

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

(2) Other circumstances deemed exceptional or extraordinary by Ecology; or

(3) Endangerment as described in Section XVI.

Ecology shall give the Port written notification in a timely fashion of any extensions granted pursuant to this Decree.

XVII. ENDANGERMENT

In the event Ecology determines that activities implementing or in noncompliance with this Decree, or any other circumstances or activities, are creati'ng or have the potential to create a danger to the health or welfare of the people on the Site or in the surrounding area or to the environment, Ecoiogy may order the Port to stop further implementation of this Decree for such period of time as needed to abate the danger or may petition the Court for an order as appropriate. During any stoppage of work under this'section, the obligations of the Port with respect to the work under this Decree which is ordered to be stopped shall be suspended and the time periods for performance of that work, as well as the time period for any other work dependent upon the work which is stopped, shall

be extended, pursuant to Section XVI of this Decree, for such period of time as Ecology determines is reasonable under the circumstances.

In the event the Port determines that activities undertaken in furtherance of this Decree or any other circumstances or activities are creating an endangerment to the people on the Site or in the surrounding area or to the environment, the Port may stop implementation of this Decree for such period of time necessary for Ecology to evaluate the situation and determine whether the Port should proceed with implementation of the Decree or whether the work stoppage should be continued until the danger is abated. The Port shall notify Ecology's project coordinator as soon as possible, but no later than twenty-four (24) hours after such stoppage of work, and thereafter provide Ecology with documentation of the basis for the work stoppage. If Ecology disagrees with the Port's determination, it may order the Port to resume implementation of this Decree. If Ecology concurs with the work stoppage, the Port's obligations shall be suspended and the time period for performance of that work, as well as the time period for any other work dependent upon the work which was stopped, shall be extended, pursuant to Section XVI of this Decree, for such period of time as Ecology determines is reasonable under the circumstances. Any disagreements pursuant,

to this section shall be resolved through the dispute resolution procedures in Section XIV.

XVIII. OTHER ACTIONS

Ecology reserves its rights to institute remedial action(s) at the Site and subsequently pursue cost recovery, and Ecology reserves its rights to issue orders and/or penalties or take any other enforcement action pursuant to available statutory authority under the following circumstances:

(1) Where the Port fails, after notice, to comply with any requirement of this Decree;

(2) In the event or upon the discovery of a release or threatened release not addressed by this Decree;

(3) Upon Ecology's determination that action beyond the terms of this Decree is necessary to abate an emergency situation which threatens public health or welfare or the environment; or

(4) Upon the occurrence or discovery of a situation beyond the scope of this Decree as to which Ecology would be empowered to perform any remedial action or to issue an order and/or penalty, or to take any other enforcement action. This Decree is limited in scope to the geographic Site described in Exhibit A and to those contaminants in Soils which Ecology knows to be at the Site when this Decree is entered.

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

Ecology reserves the right to take any enforcement action whatsoever, including a cost recovery action, against potentially liable persons not party to this Decree.

XIX. INDEMNIFICATION

The Port 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 arising from or on account of acts or omissions of Port, its officers, employees, agents, or contractors in entering into and implementing this Decree. However, the Port shall not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State, in implementing the activities pursuant to this Decree.

XX. COMPLIANCE WITH APPLICABLE LAWS

A. All actions carried out by the Port 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 paragraph B of this section.

B. pursuant to RCW 70.105D.090(1), the substantive requirements of chapters 70.94, 70.95, 70.105, 75.20, 90.48, and 90.58 RCW and of any laws requiring or authorizing local government permits or approvals for the remedial action under this Decree that are known to be applicable at the time of entry of the Decree have been included in Exhibit B, the Cleanup Action Plan, and are binding and enforceable requirements of the Decree.

The Port 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 the Port or Ecology 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 the Port shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, the Port shall promptly consult with the appropriate state and/or local agencies and provide Ecology with written documentation from those agencies of the substantive requirements those agencies believe are applicable to the remedial action. Ecology shall make the final determination on

the additional substantive requirements that must be met by the Port and on how the Port must meet those requirements. Ecology shall inform the Port in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Decree. The Port shall not begin or continue the remedial action potentially subject to the additional requirements until Ecology makes its final determination.

Ecology shall ensure that notice and opportunity for comment is provided to the public and appropriate agencies. prior to establishing the substantive requirements under this section.

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 which is necessary for the State to administer any federal law, the exemption shall not apply and the Port 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.

XXI. REMEDIAL AND INVESTIGATIVE COSTS

The Port agrees to pay costs incurred by Ecology pursuant to this Decree. These costs shall include work,performed by Ecology or its contractors for, or on, the Site under Ch.

70.105D RCW both prior to and subsequent to the issuance of this Decree for investigations, remedial actions, and Decree preparation, negotiations, oversight and administration. Ecology costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2). The Port agrees to pay the required amount within ninety (90) 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. Failure to pay Ecology's costs within ninety (90) days of receipt of the itemized statement will result in interest charges.

XXII. IMPLEMENTATION OF REMEDIAL ACTION

If Ecology determines that the Port has failed without good cause to implement the remedial action, Ecology may, after notice to the Port, perform any or all portions of the remedial action that remain incomplete. If Ecology performs all or portions of the remedial action because of the Port's failure to comply with its obligations under this Decree, the Port shall reimburse Ecology for the costs of doing such work in accordance with Section XXI, provided that the Port is not obligated under this section to reimburse Ecology for costs

incurred for work inconsistent with or beyond the scope of this Decree.

XXIII. FIVE YEAR REVIEW

As remedial action, including ground water 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 site monitoring as often as is necessary and appropriate under the circumstances. At least every five years the partied shall meet to discuss the status of the Site and the need, if any, of further remedial action at the Site. Ecology reserves the right to require further remedial action at the Site under appropriate circumstances. This provision shall remain in effect for the duration of the Decree.

XXIV. PUBLIC PARTICIPATION

Ecology shall maintain the responsibility for public participation at the Site. However, the Port shall cooperate with Ecology and, if agreed to by Ecology, shall:

A. Prepare drafts of public notices and fact sheets at important, stages of the remedial action, such as the submission of work plans and engineering design reports. Ecology will finalize (including editing if necessary) 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 the Port prior to the issuance of all press.releases and fact sheets, and before major meetings with the interested public and local governments;

C. 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. In cooperation with Ecology, arrange and/or continue information repositories to be located at the Port's office at Pier 69, 2711 Alaskan Way, Seattle, WA, 98121 and Ecology's Northwest Regional Office at 3190 - 160th Ave. S.E., Bellevue, WA 98008-5452. At a minimum, copies of all public notices, fact sheets, and press releases; all quality assured ground water, surface water, soil sediment, and air monitoring data;, remedial actions plans, supplemental remedial planning documents, and all other similar documents relating to performance of the remedial action required by this Decree shall be promptly,placed in these repositories.

XXV. DURATION OF DECREE

This Decree shall remain in effect and the remedial program described in the Decree shall be maintained and

continued until the Port has received written notification from Ecology that the requirements of this Decree have been satisfactorily completed.

XXVI. ~~CLAIMS AGAINST THE STATE~~

The Port 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 , except that the Defendant may make a claim against the Local Toxics Control Account for certain costs incurred in implementing this Decree. Except as provided above, however, Port expressly reserves its right to seek to recover any costs incurred in implementing this Decree from any other potentially liable person.

XXVII. COVENANT NOT TO SUE UNDER MTCA; REOPENERS

In consideration of the Port's compliance with the terms and conditions of this Decree, Ecology agrees that compliance with this Decree shall stand in lieu of any and all administrative, legal, and equitable remedies and enforcement actions available to Ecology against the Port for the release or threatened release of hazardous substances covered by the terms of this Decree.

This covenant is strictly limited in its application to the liability for Soil contamination at the Site specifically defined in Exhibit A and to those hazardous substances which Ecology knows to be located in the Soil at the Site as of the

Attorney General of Washington
Ecology Division
Post Office Box 40117
Olympia, Washington 98504

entry of this Decree. This Covenant is not applicable to any other hazardous substance or area and the state retains all of its authority relative to such substances and areas. This covenant shall not take effect until the Port has recorded restrictive covenants pursuant to Paragraph VI.F of this Decree for all property within the Buckley Yard Site.

A. Reopeners: In the following circumstances the State of Washington may exercise its full legal authority to address releases of hazardous substances at the Site notwithstanding the Covenant Not to Sue set forth above:

1. In the event the Port fails to comply with the terms and conditions of this Consent Decree, including all exhibits, and, after written notice of noncompliance, fails to come into compliance;

2. In the event new information becomes available regarding factors previously unknown to Ecology, including the nature or quantity of hazardous substances at the Site, and Ecology determines, in light of this information, that further remedial action is necessary at the Site to protect human health or the environment, and the Port, after notice, fails to take the necessary action within a reasonable time;

3. In the event conditions at the Site cause an endangerment to human health or the environment under Section

XVII of this Consent Decree, and the Port, after notice, fails to eliminate the endangerment within a reasonable time;

4. In the event the remedial action conducted at the Site fails to meet the requirements set forth in the Cleanup Action Plan and Section VI of this Decree.

5. To the extent the Port exacerbates the known, documented Soil contamination described in this Decree.

6. In the event the Port interferes with any remediation of the Site conducted or required by Ecology.

B. Applicability. The Covenant Not to Sue set forth above shall have no applicability whatsoever to:

1. Criminal liability;

2. Liability for damages to natural resources;

3. Any Ecology action against potentially liable parties not a party to this Decree;

4. Liability for groundwater contamination on or off the site.

XXVIII. EFFECTIVE DATE

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

XXIX. PUBLIC NOTICE AND WITHDRAWAL OF CONSENT

This Decree has been the subject of public notice and comment under RCW 70.105D.040(4)(a). As a result of this

process, Ecology has found that this Decree will lead to a more expeditious cleanup of hazardous substances at the Site.

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 Compiaint shall be dismissed without costs and without prejudice. In such an event, no party shall be bound by the requirements of this Decree.

Mary E. Burg 9-28-95
MARY BURG Date
Program Manager
Toxics Cleanup Program

Date 8/30/95
Assistant Attorney General

For Port of Seattle

Date 9-6-95

DATED this _____ day of _____, 1995.

_____
JUDGE
King County Superior Court.

RA 1 - Spokane St. Properties & Buckley Yard - aka BNBY

BUCKLEY YARD DESCRIPTION

THOSE PORTIONS OF BLOCKS 433, 434, 440, 441, AND 442, IN SEATTLE TIDELANDS AND OF VACATED SOUTHWEST HANFORD STREET, VACATED SOUTHWEST LANDER STREET, VACATED 28TH AVENUE SOUTHWEST, VACATED 29TH AVENUE SOUTHWEST AND VACATED SOUTHWEST FLORIDA STREET; AND BLOCKS 440A THROUGH 442A IN HALLER'S SUPPLEMENTAL PLAT OF BLOCKS 428, 432, 433 AND 439 THROUGH 442 IN SEATTLE TIDELANDS, DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT ON THE EASTERLY LINE OF LOT 25, IN SAID BLOCK 434 OF SEATTLE TIDELANDS, WHICH IS 5.00 FEET SOUTHERLY FROM THE NORTHEAST CORNER OF SAID LOT, SAID POINT ALSO BEING ON THE NORTHERLY RIGHT-OF-WAY MARGIN OF SOUTHWEST SPOKANE STREET; THENCE NORTHERLY ALONG THE EAST LINE OF SAID BLOCK 434 NORTH 00°00'08" EAST A DISTANCE OF 71.01 FEET TO A POINT ON A NON-TANGENT CURVE TO THE RIGHT, HAVING A RADIUS POINT WHICH BEARS NORTH 46°20'24" EAST A DISTANCE OF 940.37 FEET; THENCE NORTHWESTERLY ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 20°28'11" AN ARC LENGTH OF 335.96 FEET TO A POINT OF TANGENCY, SAID POINT ALSO BEING ON THE WESTERLY RIGHT-OF-WAY MARGIN OF WEST MARGINAL WAY SOUTHWEST; THENCE ALONG SAID MARGIN NORTH 23°11'25" WEST 919.53 FEET; THENCE NORTH 23°08'58" WEST A DISTANCE OF 1,271.52 FEET TO THE BEGINNING OF A TANGENT CURVE TO THE LEFT, HAVING A RADIUS OF 970.09 FEET; THENCE NORTHWESTERLY ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 20°30'28" AN ARC DISTANCE OF 347.22 FEET TO THE POINT OF TANGENCY; THENCE NORTH 43°39'26" WEST A DISTANCE OF 183.09 FEET TO THE SOUTHERLY RIGHT-OF-WAY MARGIN OF SOUTHWEST FLORIDA STREET; THENCE ALONG SAID MARGIN SOUTH 76°42'31" WEST 84.77 FEET TO THE NORTHEAST CORNER OF LOT 17, IN BLOCK 442 OF SEATTLE TIDELANDS; THENCE SOUTH 22°37'38" EAST A DISTANCE OF 938.15 FEET; THENCE SOUTH 23°18'33" EAST A DISTANCE OF 1,002.01 FEET; THENCE SOUTH 31°26'59" EAST A DISTANCE OF 794.77 FEET; THENCE SOUTH 42°10'03" EAST A DISTANCE OF 406.65 FEET TO THE TRUE POINT OF BEGINNING.

POND AREA DESCRIPTION

THAT PORTION OF VACATED SOUTHWEST FLORIDA STREET IN THE SEATTLE TIDELANDS, LYING WITH A CIRCLE HAVING A RADIUS OF 60.00 FEET, THE RADIUS POINT OF SAID CIRCLE BEING DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT AT THE NORTHEAST CORNER OF LOT 17, IN BLOCK 442 OF SAID PLAT, SAID POINT ALSO BEING ON THE SOUTHERLY MARGIN OF SOUTHWEST FLORIDA STREET; THENCE ALONG SAID MARGIN NORTH 76°42'31" EAST 112.64 FEET; THENCE SOUTH 13°17'29" WEST A DISTANCE OF 60.00 FEET TO SAID DESCRIBED RADIUS POINT.

FINAL
CLEANUP ACTION PLAN
FOR SOILS AT THE BUCKLEY YARD

FOR THE

SOUTHWEST HARBOR CLEANUP AND REDEVELOPMENT PROJECT
REMEDIATION AREA 1
BURLINGTON NORTHERN BUCKLEY YARD SITE
SEATTLE, WASHINGTON

PREPARED BY:
URS CONSULTANTS, INC.
SEATTLE, WASHINGTON

PREPARED FOR:
PORT OF SEATTLE
SEATTLE, WASHINGTON

OCTOBER 1995

CONTENTS

TABLES

FIGURES

ABBREVIATIONS AND ACRONYMS

APL	American President Lines
ARAR	Applicable or Relevant and Appropriate Requirement
BNBY	Burlington Northern Buckley Yard
CAP	cleanup action plan
cPAH	carcinogenic polycyclic aromatic hydrocarbon
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
FS	feasibility study
MTCA	Model Toxics Control Act (Washington State)
NTR	National Toxics Rule
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
Port	Port of Seattle
PSAPCA	Puget Sound Air Pollution Control Agency
RA	remediation area
RAO	remedial action objective
RCW	Revised Code of Washington
RETS	Renton Effluent Transfer System
RI	remedial investigation
SEPA	State Environmental Policy Act
URS	URS Consultants, Inc.
WAC	Washington Administrative Code
WISHA	Washington Industrial Safety and Health Administration

1.0 INTRODUCTION

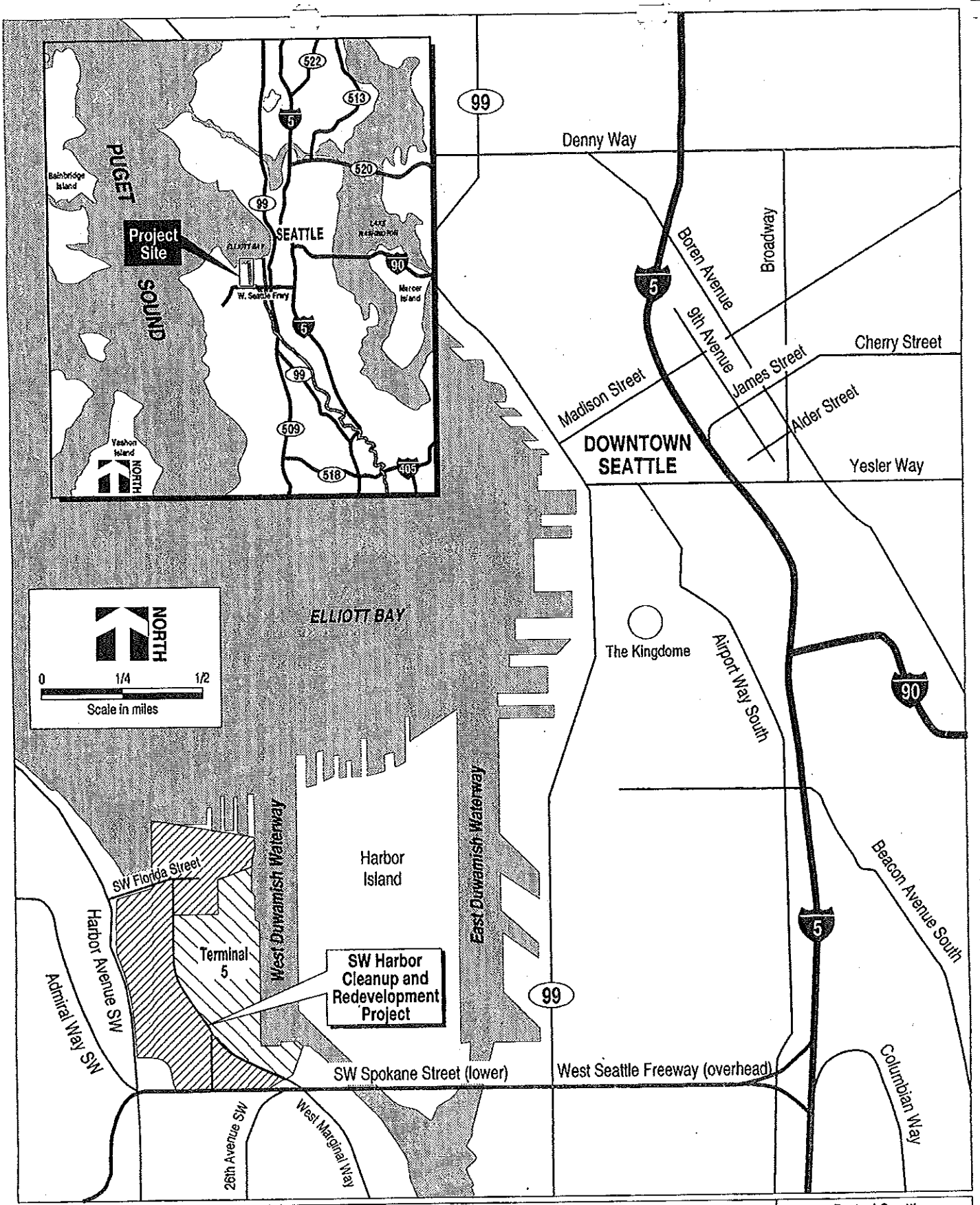
This cleanup action plan (CAP) has been produced by the Port of Seattle to document the remedial action for the soils in the Burlington Northern Buckley Yard (BNBY) of Remediation Area 1 (RA1) of the Southwest Harbor Project (SWHP) in Seattle, Washington (Figure 1-1). This cleanup is being performed in compliance with the Model Toxics Control Act (MTCA) (173-340 WAC) under a Consent Decree between the Washington State Department of Ecology (Ecology) and the Port of Seattle.

A remedial investigation/feasibility study (RI/FS) was conducted by the Port of Seattle to assist in acquisition and redevelopment of the BNBY (URS 1995). To support the Port of Seattle's acquisition of this property and the SWHP for other future industrial developments, cleanup actions are required for site soils. These cleanup actions have been designed to be compatible with plans for industrial redevelopment of the site. The RI/FS was written to support the development of this Cleanup Action Plan (CAP) for the BNBY as part of a Consent Decree requested by the Port of Seattle under the Model Toxics Control Act (MTCA) regulations. [The methods of assessment and analysis of the site that were used in the RI/FS are consistent with RA2.]

The FS for BNBY analyzed remedial alternatives for soils on the site. Soil remediation must occur on an accelerated schedule to meet the needs of site redevelopment. Following soil remedial actions and terminal facility construction, groundwater will be monitored throughout the SWHP remediation areas to determine whether groundwater remediation is necessary. However, the FS and this CAP do not address groundwater monitoring or remedial alternatives.

This CAP is provided to describe the remedial action for soils at BNBY. The purposes of this CAP are to: (1) describe the site, including a summary of its history and extent of contamination as presented in the RI/FS and other investigations; (2) identify the site-specific cleanup standards; (3) summarize the remedial alternatives presented in the FS; and (4) describe the selected alternative for site remediation.

Thorough descriptions of the site and the remedial alternatives set forth are found in the RI/FS (URS 1995). Remediation at the site will be conducted under a Consent Decree between the Port of Seattle and the Washington State Department of Ecology (Ecology), requested by the Port of Seattle under MTCA jurisdiction.



URS CONSULTANTS, INC.

Figure 1-1
Southwest Harbor Project Vicinity Map

Port of Seattle
Southwest Harbor Project
Remediation Area 1-BNBY
CAP

537159-39-091694-BNBY

A formal comment period for the RA1 BNBY investigation and cleanup documents was held in summer 1995. During this period the RI/FS and CAP were available for public review and comment. The documents were available at the Seattle Public Library's Downtown Branch and West Seattle Branch and at Ecology's Northwest Regional office. In addition, Ecology held a public hearing on the cleanup plans to answer questions and allow for formal oral comments to be recorded.

2.0 PROJECT AND SITE DESCRIPTION

2.1 SOUTHWEST HARBOR PROJECT

The purpose of the SWHP is to redevelop and enlarge an existing container shipping terminal for American President lines (APL) and other Port of Seattle customers in order to meet projected container service demands here and abroad. An integral part of the project purpose and the planning to date focuses on constructing container shipping facilities that are compatible with, and provide opportunities to improve, the site's urban and natural surroundings. Corollary project objectives, therefore, include avoiding or minimizing land use and aquatic area impacts, improving the Harbor Avenue SW corridor and increasing public shoreline access, cleaning up contaminated areas, and improving fish and wildlife habitat.

Planning studies by the Port of Seattle and others have identified a need for container shipping facilities to improve efficiency and to meet projected container service demand. Moreover, Terminal 5, an existing 100-acre container shipping terminal at the project site, does not meet the current or projected needs of its tenant, APL, because of insufficient berthage, container marshaling yard, and intermodal rail facilities.

About 200 acres of land surrounding Terminal 5 have been designated for industrial use in adopted City of Seattle and Port land use plans. Although some of this land has active industrial uses, a substantial portion is composed of abandoned or soon-to-be-abandoned industrial property. Much of this area has contaminated soils and sediments that require remediation under state and federal laws. The project is complex, but as different stages are completed, the project has the potential to facilitate cleanup and pollution prevention on more than 200 acres, restore and enhance habitat and natural resources, and increase water-dependent maritime uses and public use of shoreline.

The SWHP area is located in the Duwamish estuary where the mouth of the Duwamish River flows into Elliott Bay and Puget Sound. The area owned or likely to be available for use by the Port includes about 285 acres—from SW Spokane Street to Elliott Bay and from Harbor Avenue SW to the West Waterway. The proposed facilities would be located within the "project area." The project area, which also provides accommodation for additional redevelopment in the future, coincides with the area between the Duwamish River and West Seattle designated for urban industrial port use in Seattle

Shoreline and Coastal Zone Management Plan and in the Port's *Harbor Development Strategy for Marine Cargo and Long-Term Container Plan.*

The part of the project area proposed for the container shipping terminal is approximately 190 acres, and includes the existing 100-acre Terminal 5 facility, 60 additional acres of container marshaling yard, and a 30-acre intermodal rail yard.

For the purposes of upland cleanup, the project area has been divided into five remediation areas (RAs), RA1 through RA5. The remediation areas were defined based on previous ownership and land use. RA1 was divided into two subareas: Spokane Street Properties (cleanup being performed under an independent cleanup action) and BNBY.

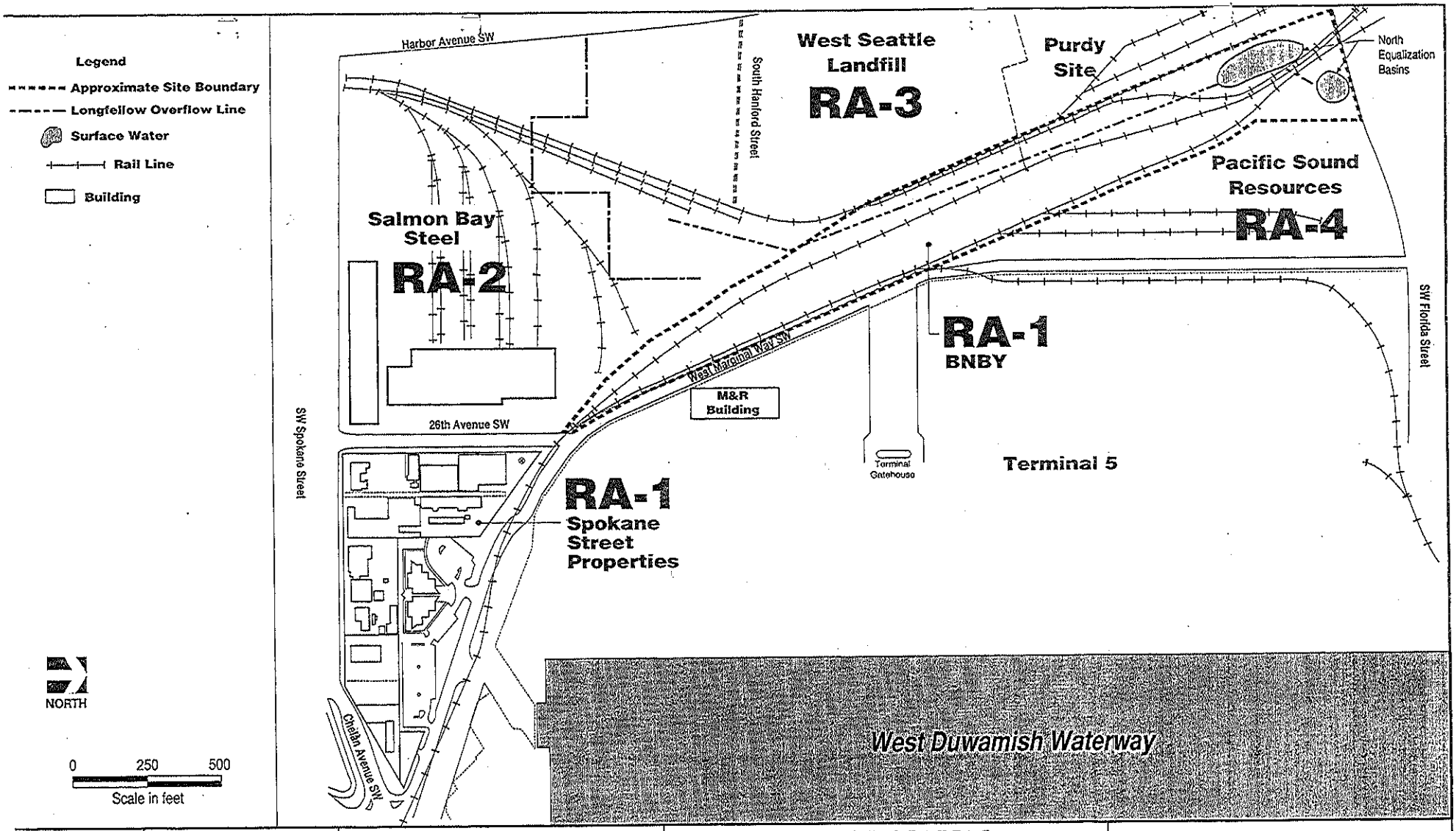
2.2 SITE DESCRIPTION

BNBY consists of approximately 6 acres and is used by Burlington Northern for railcar staging operations (Figure 2-1). One main trunk rail line provides access to the yard from the main Burlington Northern Yard located in Seattle along East Marginal Way. The main rail line is connected via switches to five rail lines in the Buckley yard proper, with additional spurs serving the Purdy property, Birmingham Steel (formerly called Salmon Bay Steel), Terminal 5, and Terminal 2.

BNBY is bounded on the north by SW Florida Street and on the south by 26th Avenue SW. RA-4 (Pacific Sound Resources) is adjacent to the northeast side of the yard, and RA2 and RA3 are adjacent to the southwest and northwest sides, respectively. The only features on the site are five sets of railroad tracks and a small storage shed, which is located in the southwest corner of the yard.

The BNBY site is generally flat, with the lowest part of the site at the southern end of the yard near the intersection of West Marginal Way and 26th Avenue SW. To the south and west of BNBY, the topography rises to higher elevations along the flanks of north-south trending ridges. With the exception of small areas along the edges of roads and small gravel parking areas, the surrounding area is level and paved to the north, east, and west.

Several subsurface structures are located within the BNBY area. The two of primary interest are the Renton Effluent Transfer System (RETS) line and the Longfellow Creek Overflow Line (Figure 2-1). Various other smaller utilities (e.g., gas, electricity, water,



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PORT OF SEATTLE

MARINE FACILITIES

SOUTHWEST HARBOR PROJECT

WORK ORDER NO. 5371973

CONSULTANT NO.

PORT OF SEATTLE NO.

Figure 2-1
BNBY Project Area
RA1 - BNBY CAP

-35-041905 -BNBY

and sewer) traverse the area. The Longfellow Creek Overflow Line is oriented north-south and is an 84-inch diameter storm drain. The Longfellow Overflow Line has permeable backfill relative to the surrounding subsurface soils which creates preferential drainage and groundwater movement pathways trending north to northwest across the site.

All the land included in the site area is zoned for industrial use. Zoning in the site vicinity is implemented by the City of Seattle, which is conducting land-use planning under the Growth Management Act.

2.3 SITE HISTORY

The project area consisted of tidal flats, tidal marshes, and shallows prior to 1895. Nearly all of the tidelands were eliminated by two phases of filling and dredging at the mouth of the Duwamish River between 1895 and 1940. Based on review of the Port's aerial photographs, major fill activities occurred west of the railroad lines in 1956 and 1961. The railroad tracks were expanded in the 1980s when two tracks were relocated to the west of BNBY.

Burlington Northern has periodically used the yard to stage railcars containing industrial chemicals (acids, bases, etc.), hydrocarbons, and nonhazardous materials. In addition, the yard was reportedly used by Burlington Northern for railcar cleaning. During the environmental investigations, no patterns of contamination were found consistent with this activity.

Historical documentation for the BNBY area indicates that extensive filling has occurred since the early 1900s. Much of the fill material was derived from local sources, but some was derived from Seattle regrade projects. Depending on the original sources, it is possible that contaminated soil and hazardous materials were deposited at the site during filling operations. Standard practices at the time the sites were filled (1895 to 1960s) were performed with no concern for the chemical quality of fill materials. Previous investigations at BNBY indicated contamination of soils with total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs) and metals (Parametrix 1994).

3.0 SITE CHARACTERIZATION

This section presents a summary of the investigations conducted on and adjacent to the RA1-BNBY site, including the remedial investigation/feasibility study (RI/FS) performed in 1994. Sampling locations from previous investigations at the RI/FS are shown in Figure 3-1.

3.1 PREVIOUS INVESTIGATIONS

3.1.1 Bethlehem Steel Geotechnical Assessment

A geotechnical study was performed in 1969 to assess the feasibility of a proposed property development. Four subsurface borings were installed within and adjacent to the BNBY site. Chemical testing was not performed. Visual observations during the installation of the borings indicated that sanitary landfill debris were present in borings west of BNBY and within RA-3. Wood, concrete, logs, and other debris were observed in borings installed within the BNBY site at depths down to approximately 10 feet below ground surface (Parametrix 1994).

3.1.2 Seattle Steel Environmental Assessment

In 1987, an environmental assessment of the Seattle Steel property included the collection and chemical analysis of a soil sample from the bottom of the North Equalization Basin within the BNBY site. Analytical results were not available from this study (Parametrix 1994).

3.1.3 Renton Effluent Transfer System Geotechnical Exploration

In 1985, a geotechnical and environmental investigation was performed on behalf of the Municipality of Metropolitan Seattle (Metro) to evaluate the proposed corridor for the Renton Effluent Transfer System (RETS) pipeline (Converse 1985). The proposed pipeline route paralleled the western boundary of the BNBY site within the adjoining properties. During this investigation, 14 soil borings were constructed along this route from the south boundary to the northern boundary of the BNBY site. The borings were installed on a property immediately west of the present BNBY site. Thus, none of the borings were representative of the yard itself.

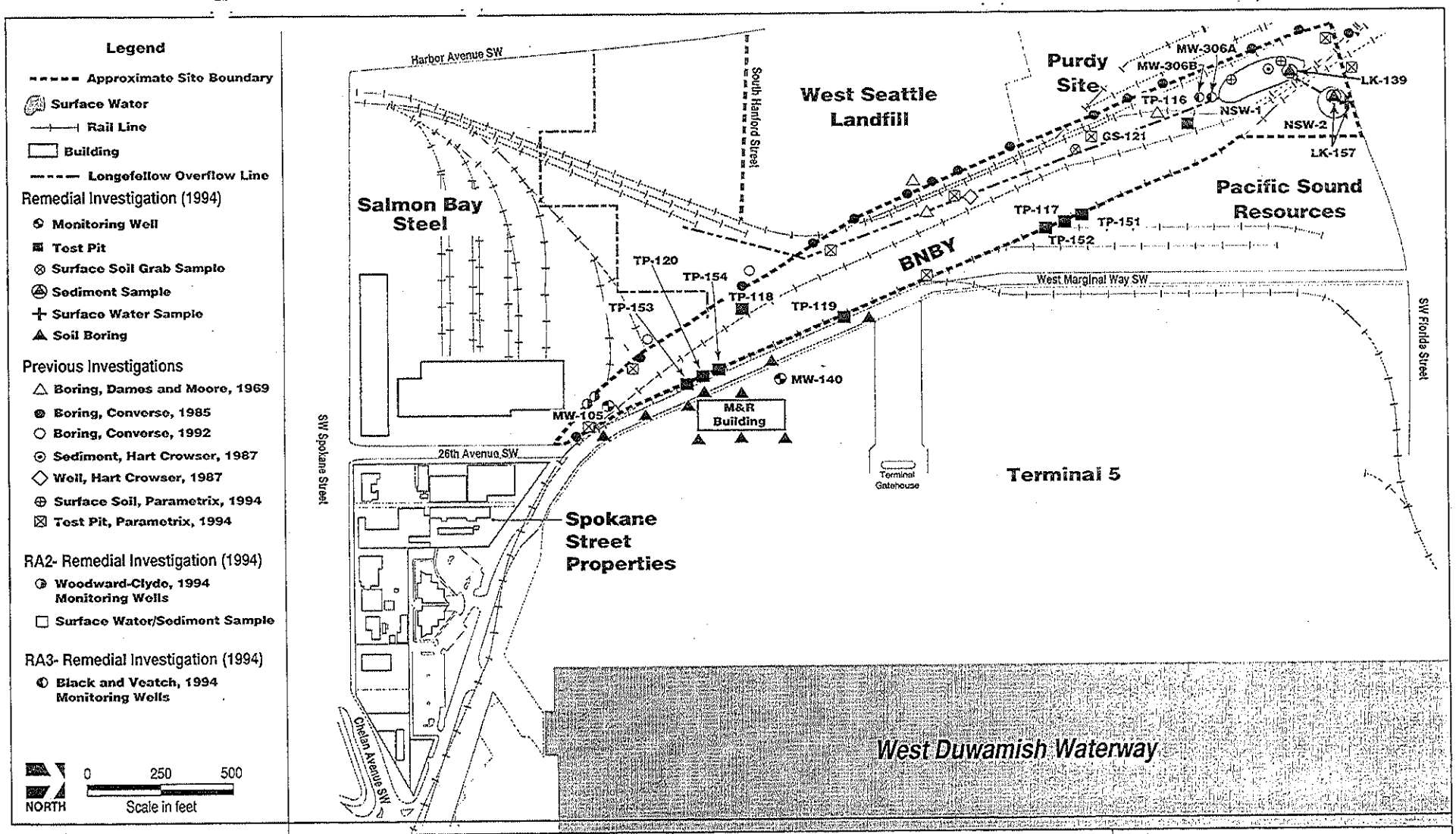
Subsurface soil sampling along the proposed RETS route primarily consisted of composite sampling between the depths of 2 and 30 feet below ground surface during the installation of the borings. Chemical testing within these composite samples was generally limited to screening for PCB compounds and leaching extraction tests for heavy metals to assess disposal costs of excavation spoil during trench excavation for the pipeline. But several samples were also tested for total metals, volatile organics, semivolatile organic compounds, chlorinated pesticides, and total petroleum hydrocarbons.

Borehole logs indicated that slag was present in the southern borings and sanitary fill and debris were present in the borings adjacent to the northern half of the BNBY site. The analytical results of the subsurface testing showed that PCBs were present along the proposed RETS route subsurface. The detected PCB concentrations ranged from 1 mg/kg or less south of Hanford Street to 6 to 265 mg/kg north of Hanford Street. Volatile organics and cPAH compounds were found in several locations below 1 mg/kg. Total lead and manganese were found in exceedance of MTCA C or MTCA A industrial soil cleanup standards in one location. The sanitary landfill debris in the northern boreholes confirm that these borings are representative of the eastern boundary of the West Seattle Landfill and not the BNBY.

For a related project (Metro Alki CSO), two monitoring wells were also placed along the route of a proposed force main pipeline in 1992 west of BNBY. One of the wells was placed near the terminus of Hanford Street and the second well was placed approximately 300 feet south of Hanford Street, within the Salmon Bay Steel facility (Converse 1992).

3.1.4 Phase I Environmental Site Assessments of BNBY

In June of 1993, Phase I environmental site assessments were performed on the BNBY site by Burlington Northern Railroad and the Port of Seattle. The Burlington Northern Phase I site assessment described the site history and potential sources of contamination. The site uses included lubrication of railroad switches and a rail car cleaning area. According to Burlington Northern sources, reported procedures during railcar cleaning included hauling rinse materials off site for disposal (Kennedy-Jenks 1993). A specific area designated for railcar cleaning was not identified during these previous investigations. The Port of Seattle Phase I report reviewed aerial photographs and the site history and recommended intrusive sampling to develop a better understanding of environmental conditions within the yard (Parametrix 1993).



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PORT OF SEATTLE

MARINE FACILITIES

SOUTHWEST HARBOR PROJECT

WORK ORDER NO. 5371873

CONSULTANT NO.

PORT OF SEATTLE NO.

Figure 3-1
Sampling Locations During the RI/FS and Previous Investigations
BNBY CAP

5371873-43-041995-CA1

3.1.5 Preliminary Soil Investigation of BNBY

A preliminary soil investigation was conducted by the Port of Seattle in the Fall of 1993. Discussions were held with Ecology as the investigation approach was developed. Soil samples were collected from eight test pits, two locations within the North Equalization Basins, and from two stained areas along the Burlington Northern Railroad tracks (Parametrix 1994).

All soils encountered in the test pits were fill materials consisting typically of sand and gravel. Variable amounts of debris, including concrete, wood, bricks, plastic, glass, and metal, were encountered in the fill material test pits; minor amounts of slag were encountered in test pits in the southern portion of the site. Detected PCBs and cPAH compounds were found at concentrations below 1 mg/kg in the test pits sampled. Arsenic was the only compound found in excess of MTCA C action levels for industrial soils and this was only at one location. This sample also exceeded the Dangerous Waste rule for carcinogenic mixtures. No chlorinated herbicides were detected. Total petroleum hydrocarbons were found in four test pits ranging between 250 and 2,000 mg/kg.

Sampling and testing of the two samples from the North Equalization Basins indicated the presence of total petroleum hydrocarbons and PCBs. One sample contained extremely high concentrations of petroleum hydrocarbons (180,000 mg/kg) and relatively moderate concentrations of PCBs (10.4 mg/kg). The second sample from the North Equalization Basin contained 1,100 mg/kg of total petroleum hydrocarbons and less than 1 mg/kg of PCBs.

During sampling of oil-stained areas at switches between the tracks at the BNBY, soil staining was observed to be limited to depths of less than 6 inches below ground surface. Based on visual observations, the extent of hydrocarbons was determined to be limited to areas immediately surrounding the switches 1 to 3 feet in diameter. Since lubrication of switches is a necessary operating procedure for a railroad yard and application of oils did not appear to have a detrimental effect on the soils below one foot, these potential source areas were not targeted for further sampling or testing. Future investigations focused on areas that were accessible and distributed across the large site area.

3.2 BNBY REMEDIAL INVESTIGATION/FEASIBILITY STUDY

The RI for BNBY was conducted in two phases, beginning in November 1993 and completed in June 1994. The objectives of the RI were to characterize potential contamination in the surface and subsurface soils and groundwater at the site. The investigation consisted of installing one monitoring well, excavating nine test pits, and testing surface water and soil samples collected from the North Equalization Basins. Because of the constraints of working within an active railroad yard, sampling and testing were confined to areas that were accessible and would not prohibit Burlington Northern's use of the yard.

In addition, adjacent studies for Remediation Area 3 (RA-3) and Remediation Area 1 along West Marginal Way were performed during the Summer of 1994. The RA-3 investigation included the installation of two monitoring wells within the north section of BNBY. Investigations along West Marginal Way included installation of five soil borings along the eastern boundary of the site, five soil borings around the Maintenance & Repair (M&R) building, and one monitoring well (MW-140) approximately 50 feet east of BNBY.

3.2.1 Soil Quality

The RI/FS report presents a complete discussion of the chemical results from soil samples collected during the field investigation. These results are summarized here. Twenty-eight soil samples were collected from soil borings and test pits located throughout the site. These samples were analyzed for contaminants found in previous investigations and representative of suspected sources of contamination. Testing included volatile organic compounds, semivolatile organic compounds, PCBs, pesticides, petroleum hydrocarbons, metals, pH, total organic carbon, and TCLP metals.

PCBs, carcinogenic PAHs (cPAHs), petroleum hydrocarbons, arsenic, and lead were found at concentrations in soils exceeding the MTCA Method C industrial soil cleanup level (or Method A level where no Method C value exists) in localized areas. The highest levels of organic contamination occurred in a thin stratum of black, oily soil encountered below 5 feet in two discrete locations. The findings of the preliminary soil investigation support the conclusion that contaminants were related to zones containing debris materials and were more likely present within the fill materials at the time of their placement on the site, and not related to spills originating in the areas around the railroad tracks. Findings during the remedial investigation also support the conclusion that contamination is related to the historical quality of the fill material underlying

BNBY. Isolated areas of relatively high petroleum and cPAH contamination were observed within the test pits. However, the horizontal and vertical extent of the contamination appeared to be random and not related to one specific, identifiable source.

Because of the lack of discernible sources of contamination in the yard, the estimated quantity and extent of contaminated soils in BNBY contains a high degree of uncertainty. It is highly likely that other contaminated zones exist outside of the specific locations investigated during the RI. Based on the results of the RI, at a minimum approximately 2,000 cubic yards of soils were estimated as potentially exceeding the MTCA Method C or Method A cleanup levels for industrial soils.

3.2.2 Sediment Quality

The sediment quality observed in the North Equalization Basins tested during the remedial investigation conducted at BNBY were consistent. PCBs ranged between 0.26 and 1.1 mg/kg; total petroleum hydrocarbons between 1,200 and 2,600 mg/kg; Arsenic between 28 and 46 mg/kg; Lead between 328 and 389 mg/kg; and cPAH (total) between 3 and 4 mg/kg. The relatively high TPH and PCB concentrations detected in one sample collected during the preliminary soil investigation (Parametrix 1994) were not duplicated during the RI. Hence, the sampling results obtained during the preliminary soil investigation are believed to be isolated and more reflective of bias during sample collection than representative of an average measure of contamination for the basin soils.

3.2.3 Groundwater Quality

Three monitoring wells were installed in the BNBY site. Two in the shallow fill aquifer (MW105 and MW306A) and one in the deeper estuarine aquifer (MW306B). Additional monitoring wells were precluded by the limited access in the operating railyard and the long narrow nature of the property. Numerous monitoring wells have been installed in adjacent properties as part of the SWHP remedial investigations on RA-2, RA-3, and RA-4.

Based on information from the on-site and adjacent monitoring wells, the shallow fill aquifer was encountered underlying the BNBY site at depths ranging between 6 and 8 feet below the ground surface. The estuarine aquifer was encountered at depths between 15 and 20 feet below the ground surface. These aquifers are separated by a thin silt layer which appears to thin toward the east. Groundwater flow in the shallow fill aquifer underlying the BNBY site is influenced by the presence of the Longfellow

Overflow Line (LOL), which acts as a groundwater sink. Therefore, groundwater in the shallow aquifer flows toward the LOL or to the west. Groundwater flow in the estuarine aquifer is less impacted by the presence of the LOL and, therefore, flows from the uplands to the east toward Elliott Bay and the West Waterway.

Ecology made the determination that the groundwater underlying the SWHP and, therefore, the BNBY property is not considered a drinking water aquifer. Therefore, groundwater quality was screened against the most restrictive criteria for surface water and, in particular, marine surface water. This was referred to in the RA-1 RI/FS as the surface water quality criteria (SWQC) and is used in the RI/FS and this CAP as reference screening levels only.

Monitoring wells MW306A and MW306B were located along the LOL immediately south of the northern equalization basins. Based on groundwater elevation contours generated during the RI/FS, the mean groundwater gradient within the shallow fill aquifer underlying the BNBY site is toward the LOL corridor. Therefore, MW306A is downgradient of the shallow fill aquifer that underlies the BNBY site. Groundwater from monitoring well MW306A, screened in the shallow fill aquifer, and MW306B, screened in the deeper estuarine aquifer, was analyzed for total and dissolved metals, semivolatile organics, volatile organics, pesticides and PCBs, and inorganic parameters. The analytical results showed that nitrate/nitrite concentrations in the shallow fill aquifer and estuarine aquifer slightly exceeded the SWQC in these wells.

Monitoring well MW105 was located in the southern portion of the BNBY property and was screened within the shallow fill aquifer. Groundwater flow in this area was generally toward the northeast with a portion of the flow moving toward the LOL corridor and a portion flowing toward the existing Terminal 5 property. Groundwater results from MW105 showed levels of copper, lead, nickel, PCBs, 1,1-dichloroethene, and bis(2-ethyhexyl)phthalate which were slightly above the SWQC screening levels. These compounds were not identified as contaminants of concern in the soil of the BNBY property. Monitoring wells MW204 and MW204B are located approximately 100 feet northwest of MW105 within RA-2. Groundwater samples from these wells also showed low concentrations of volatile organics (DCA, TCE, and TCA) and PCBs. Soil samples from soil borings and testpits in RA-2 near MW105 did detect low concentrations of volatile organics and PCBs within the fill in this area. However, these detections were randomly located and did not indicate a discrete source area.

The SWQC for copper, lead, and nickel are very low. These detected concentrations of these inorganic compounds exceeded the SWQC in a number of monitoring wells across

the SWHP remediation areas, and these exceedances did not form a discernable pattern in groundwater. Therefore, it is assumed that the exceedances are the result of the random quality of the fill material across the SWHP site and not a discrete or definable source area.

The contaminants of concern in the soil on the BNBY site are TPH and cPAHs. Groundwater collected from the three wells on site and adjacent downgradient wells MW204 and MW206 did not show exceedances of the SWQC screening levels for these compounds. Therefore, soil contamination on the BNBY does not appear to be impacting the local groundwater quality.

4.0 CLEANUP STANDARDS

4.1 MODEL TOXICS CONTROL ACT CHAPTER 70.150D RCW; CHAPTER 173-340 WAC

The Model Toxics Control Act (MTCA) is found in Chapter 70.105D of the Revised Code of Washington (RCW). The statute was created as a result of citizens' initiative Measure No. 97. MTCA requires Ecology to establish and periodically update minimum cleanup standards for hazardous substances, and investigate and remediate releases or threatened releases of hazardous substances. This law defines who the liable parties are, and establishes these parties as jointly and severally liable.

The regulation of Washington Administrative Code (WAC) 173-340, promulgated under MTCA establishes administrative processes and standards to identify, investigate, and cleanup facilities where hazardous substances pose a threat to human health and the environment. MTCA is the primary basis for remediation activities at BNBY.

MTCA defines a cleanup standard as having two main parts, cleanup levels and points of compliance. The cleanup level is the concentration of hazardous substance that is protective of human health and the environment. The point of compliance is the location on the site where cleanup levels must be attained.

MTCA provides three basic methods for establishing cleanup levels: Method A, Method B, and Method C. Method A is designed for sites undergoing routine cleanup actions and at sites that involve relatively few hazardous substances. Method B is applicable to all sites and is considered the standard method for determining cleanup levels. Method B uses risk-based formulas with conservative exposure assumptions designed for residential sites. MTCA states that Method B "shall be used to develop cleanup levels unless one or more of the conditions for using Method A or Method C are demonstrated to exist". Method C is a conditional method for determining cleanup levels and also uses risk-based formulas. Method C cleanup levels may be used at industrial sites as defined in MTCA (RCW 70.105D.020[13]).

MTCA, through recent statutory amendments in Senate Bill 6123, states that industrial cleanup standards shall be used at industrial properties, as defined at RCW 70.105D0.20C, provided that:

- Hazardous substances remaining at the property after remediation do not pose a threat to human health or the environment in adjacent nonindustrial areas.

- The site is not converted to nonindustrial use without approval from Ecology, which may require further cleanup at that time.

BNBY is an industrial property that will meet these criteria following remediation. BNBY is zoned for industrial use (classification IG2) by the City of Seattle, which is a municipality conducting land use planning under Chapter 36.70A RCW. BNBY has been used for industrial purposes since it was created by filling this portion of Elliott Bay. The site development plans for BNBY are to be included in the expansion of Terminal 5, which is a major container shipping terminal. Institutional controls are proposed to be implemented on BNBY as a part of the remedial action. A deed restriction will be in place requiring the Port to maintain industrial uses at the site and notify and receive approval from Ecology of any changes to nonindustrial use. Therefore, BNBY meets all the requirements for using industrial soil Method C cleanup levels.

The future use of this site as a container shipping terminal includes plans for installation of pavement and railroad ballast over the surface of the entire site. In conjunction with institutional controls, these cover materials will provide compliance at the ground surface with the MTCA Industrial Method C soil cleanup standards for the BNBY site by cutting off the exposure pathways of ingestion and direct contact.

MTCA requires that soil be remediated to levels that are protective of the highest beneficial use of groundwater. The highest beneficial use of groundwater at the SWHP is determined to be its effect on adjacent surface waters.

Groundwater at the SWHP site is not a potential potable water source and is not considered a potential potable water source by Ecology. It is not considered a drinking water source for the following reasons:

- The aquifer is not currently used for drinking purposes.

- Municipal drinking water supply is available and is the source required by the King County Department of Health.

- Contaminants in the shallow groundwater do not pose a threat to deeper groundwater supplies.

- If the shallow groundwater were pumped for drinking water, rapid saltwater intrusion will likely occur, making it nonpotable.

- Institutional regulatory restrictions against placing a drinking water well within the proximity of a landfill, sewer line, etc., severely restrict the placement of a drinking water well at BNBY.

As a result of this five-point rationale, Ecology has determined that protection of this shallow aquifer for the beneficial use as drinking water is not necessary.

MTCA allows site-specific calculations to determine allowable concentration of contaminants in soil. These are discussed in the following section.

4.2 SITE-SPECIFIC MTCA CONSIDERATIONS FOR SOIL CLEANUP

WAC 173-340-745(4)(a) states that Method C soil cleanup levels shall not cause contamination of groundwater at levels that exceed groundwater cleanup levels established under WAC 173-340-720 as determined by multiplying the appropriate groundwater cleanup level (in this case equivalent to surface water criteria) by one hundred, unless it can be demonstrated that a higher soil concentration is protective of groundwater.

To demonstrate that higher soil concentrations are protective of groundwater, site specific risk based calculations were performed to determine contaminant levels that may be present in soils without causing the surface waters of Elliott Bay to receive contaminant concentrations above acceptable regulatory limits. These site-specific calculations are presented in Appendix J of the RI/FS Report.

The approach consists of back-calculating soil concentrations from marine ambient surface water quality criteria using a conceptual hydrogeologic model developed for groundwater movement through the Longfellow Overflow Line and its backfill materials at the site. The hydrogeologic model for BNBY shows that the majority of groundwater at BNBY travels to Elliott Bay via the Longfellow Overflow Line corridor. This represents the "worst case" scenario for contaminant transport via groundwater due to the preferential transport of groundwater along this corridor.

The site-specific calculations are based on a mass balance equation and a soil/water partitioning relationship. The calculations use estimated values for the following

characteristics to derive the soil concentrations that are protective of the adjacent surface water:

- Attenuation/dilution of groundwater contaminants as they are transported to the exposure point at the marine surface waters.
- Dilution of the infiltrating water, and hence dilution of the chemical contaminants, as it mixes with underlying groundwater.
- Chemical concentrations in infiltrating water that are protective of underlying groundwater.
- Chemical concentrations in soil due to equilibrium partitioning based on protective concentrations in infiltrating water.

The transport of soil contaminants to groundwater is highly dependent on infiltration of water through the vadose zone. Infiltrating water is the primary transport mechanism for soil contaminants to groundwater, and thereby to adjacent surface waters. The amount of infiltration in any area of the site depends on the surface treatment. Soil concentrations that are protective of groundwater have been developed based on the proposed surface treatments installed as a component of site redevelopment. Appendix J of the RI/FS Report details the assumptions made for proposed surface treatments and their infiltration rates.

A sensitivity analysis performed on the model used in Appendix J has concluded that the input parameters used are conservative resulting in conservative output.

4.3 PROPOSED CLEANUP LEVELS

Proposed Cleanup Action Levels for RA1 soils are shown in Table 4-1. Proposed cleanup action levels include both capping action levels and excavation action levels. Ecology guidance (Memorandum dated July 29, 1993, from Lynn Coleman, Toxics Cleanup Program, *Cleanup Standards vs. Selection of Remedy)* states that "the term 'action level' should be used to delineate the range of concentrations for which a particular remedial technology will take place. For example, 'excavation action level(s)' would delineate those areas where excavation of soil would take place, 'capping level(s)' would describe those soils which would be capped, etc. Sites could have multiple 'action

levels' . . . ." Action levels for the site have been defined in accordance with this guidance.

Capping action levels for the BNBY site are equivalent to MTCA Method C Industrial soil cleanup standards for arsenic, PCBs, and carcinogenic PAH compounds, and MTCA Method A cleanup levels for industrial soils for lead and diesel. These action levels focus on exposure to contaminants in the soil through ingestion or direct contact. Therefore, soils which exceed these capping action levels will require a soil cover and institutional controls to cut off these exposure pathways.

Soils with contaminant concentrations above the capping action levels exist in several areas at the BNBY site. The distribution of soils above the capping action levels is shown in Figure 4-1. The SWHP redevelopment plans for the BNBY site consist of capping the entire site with either an asphalt pavement or railroad ballast. Institutional controls will be enforced for all site areas.

Section 4.2 briefly described the surface water protection model which was used to develop site specific cleanup action level protective of groundwater discharging to surface water. These cleanup levels are equivalent to the excavation action levels presented for paved and unpaved areas in Table 4-1. Soils with contaminant concentrations above excavation levels will require excavation and either treatment/disposal or placement below a more protective cover type. To determine excavation action levels, the distribution of existing contaminant concentrations was compared to the average concentrations needed for protection of surface water. The comparison is specific for each proposed cap type. The model results, coupled with the empirical data, show that existing contaminant concentrations do not pose a potential threat to groundwater.

Table 4-1
Proposed Cleanup Action Levels—BNBY Soils
(all concentrations in mg/kg)

Compound	Existing Contaminant Level (95% UCL)			Proposed Capping Action Level	Proposed Excavation Action Level[c]	
	Paved Soil	Unpaved Soil	Unpaved Sediments		Paved Soil	Unpaved Soil/Sediments
Arsenic	327	2.9	46.3	188[a]	744,000	12,400
Lead	391	ND	389	1,000[b]	>1,000,000	1,000,000
TPH-Diesel	2,510	17	2,700	200[b]	No Free Phase	29,000
Benzo(a)anthracene	75	ND	0.6	18[a]	250,000	4,160
Benzo(a)pyrene	71	ND	0.6	18[a]	997,000	16,660
Benzo(b)fluoranthene	89	ND	0.92	18[a]	99,700	1,660
Benzo(k)fluoranthene	57	ND	1	18[a]	99,700	1,660
Chrysene	128	ND	1	18[a]	36,200	603
Dibenz(a,h)anthracene	12	ND	0.2	18[a]	598,000	9,950
PCB (total)	0.50	ND	2.0	17[a]	155	2.58

[a]MTCA Method C Industrial Standard
[b]MTCA Method A Industrial Standard
[c]The existing soil contaminant level will not impact groundwater at levels which would adversely effect adjacent surface waters.

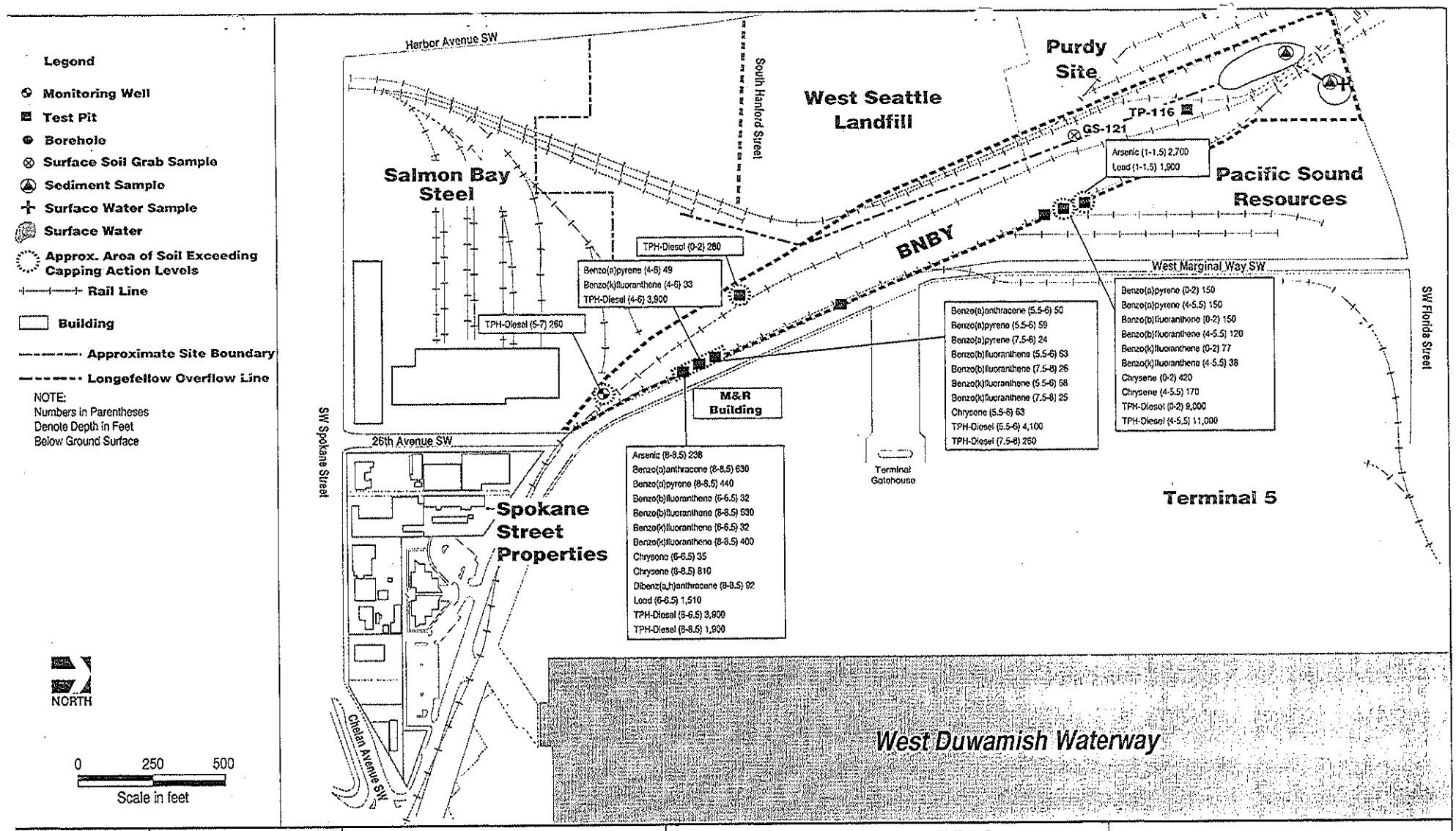

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Figure 4-1
Analytical Results in Soils Which Exceed Capping Levels at BNBY, Metals and Organics (mg/kg)
RA1 - BNBY CAP

5.0 SUMMARY OF REMEDIAL ALTERNATIVES

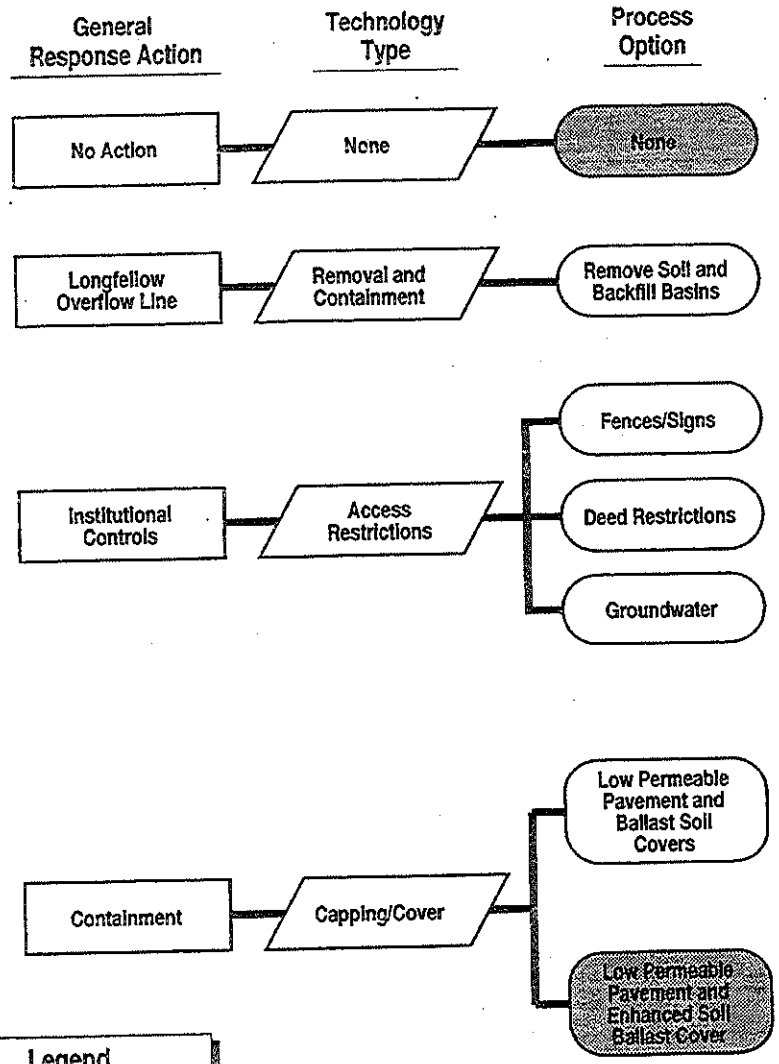
MTCA requires at a minimum that all cleanup actions protect human health and the environment, comply with cleanup standards, comply with applicable state and federal laws, and provide for compliance monitoring. In addition, all cleanup actions must consider implementation time, cost-effectiveness, permanent solutions, and resource recovery technologies to the maximum extent practicable. Remedial alternatives were considered only for soils that exceeded capping levels. No soils exceeded excavation action levels; hence removal and disposal options were not evaluated.

A number of potential remediation alternatives were screened in the FS process to select the most effective, implementable, and cost-effective alternatives for more detailed evaluation. Figure 5-1 is a matrix of technology types that were reviewed prior to development of remedial action alternatives.

General response actions that were evaluated included No Action, Longfellow Overflow Line Equalization Basin Improvements, Institutional Controls, and Containment. Process options were evaluated based on effectiveness in complying with state and federal regulations, implementability given site constraints, impacts to future redevelopment plans, and relative cost. The improvements to be made to the Longfellow Overflow Line Equalization Basins include removal of the top 6 inches of sediments and organic material which are unsuitable for future support of pavement and soil covers. Unsuitable materials include unstable materials, such as peat, muck, water-impregnated clays, and swampy or other undesirable materials, including buried logs, stumps, or trash.

Longfellow Overflow Line Equalization Basin Improvements and institutional controls were considered easily implemented, consistent with future redevelopment plans, and relatively low in cost. Containment options, which use paving on soil ballast covers, are considered high in effectiveness, consistent with future development plans, and relatively medium in cost. Enhanced soil ballast covers were also considered high in effectiveness. However, placement and maintenance of geomembranes would result in high impacts to redevelopment and future use of the site and also result in relatively high cost.

The FS developed two remedial alternatives to address potential human health and the environmental risks associated with the soil at the site. A third alternative includes stormwater drainage improvements along the Longfellow Overflow Line equalization basins. Remedial actions alternatives for the site were assembled from remedial



General Response Action	Technology Type	Process Option	Description	Effectiveness	Implementability	Cost
No Action	None	None	No Action	Medium	High	None
Longfellow Overflow Line	Removal and Containment	Remove Soil and Backfill Basins	Pipe sections added, northend basins backfilled and covered	High	High	$10K - $20K
Institutional Controls	Access Restrictions	Fences/Signs	Fencing around site and warning signs	Medium	High	$15K
		Deed Restrictions	Administrative measures to limit public access	Medium	High	$5K
		Groundwater	Groundwater sampling and monitoring	Medium	High	$30K
Containment	Capping/Cover	Low Permeable Pavement and Ballast Soil Covers	Low permeable pavement over areas exceeding unpaved capping levels; Soil ballast over areas below unpaved capping levels	High	High	$1.8 - $2.0 Million
		Low Permeable Pavement and Enhanced Soil Ballast Cover	Low permeable pavement over areas exceeding unpaved capping levels; Enhanced soil ballast cover with geomembrane for areas below unpaved capping levels	High	Medium	$2.4 - $2.6 Million

Figure 5-1
Process Option Screening Results for Contaminated Soil at BNBY

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technologies and process options that have passed initial and secondary screening. The three remedial action alternatives include:

1. No Action
2. Containment of Soils Above Capping Levels
3. Longfellow Overflow Line Equalization Basin Improvements

The RI/FS determined that PCB, cPAH, TPH, arsenic, and lead contamination with concentrations greater than MTCA Method C (or Method A) cleanup levels for soil required remediation. The redevelopment cover along with institutional controls (which are required under MTCA whenever compounds are left on site at concentrations greater than Method A or Method B cleanup levels) would provide adequate protection for human health and the environment for all contaminants at known concentrations in these areas. The redevelopment plans, which call for paving some areas of soil contamination found on BNBY, would provide a relatively impermeable cap over those areas that have soil contamination above excavation action levels. Maintenance of the cap would be required.

The primary asphalt pavement design for BNBY includes 8 inches of asphaltic concrete and 12 inches of crushed base course. In areas where railroad tracks are to be constructed, a minimum of 24 inches of ballast would be placed below railroad ties. The proposed pavement and ballast cover designs are considered adequate to minimize human exposure through all pathways with a secondary benefit of limiting downward migration of contaminants into groundwater in paved areas and lateral migration of contaminated particles in stormwater runoff.

Institutional controls and monitoring includes deed restrictions to limit public access, to prevent use of groundwater as a drinking water source, and to control future excavation activity in contaminated areas and will be carried through all alternatives. Long-term groundwater monitoring would be conducted at BNBY as part of a regional SWHP groundwater monitoring program. Groundwater monitoring is anticipated to be performed on a quarterly basis for a period of five years. At the end of five years, the monitoring program would be evaluated to determine whether redevelopment and remedial actions in the area have provided sufficient protection to groundwater at BNBY and to determine whether the monitoring strategy should change.

5.1 ALTERNATIVE 1: NO REMEDIAL ACTION

The no remedial action alternative is considered as a baseline alternative for comparison purposes only.

5.2 ALTERNATIVE 2: CONTAINMENT OF SOILS ABOVE CAPPING LEVELS

5.2.1 Alternative 2a: Low Permeability Pavement and Ballast/Soil Covers

This alternative only involves capping measures that are associated with redevelopment of Terminals 5 and is considered a baseline alternative. These capping measures include asphalt concrete pavement, concrete slabs and pavements, and ballast/soil covers below train track right-of-ways. No soil will be treated or removed off site.

5.2.2 Alternative 2b: Low Permeability Pavement and Enhanced Soil Ballast Cover

The primary difference between Alternatives 2a and 2b is that under Alternative 2b, the ballast and soil areas are enhanced with geomembrane asphalt to reduce their permeability to a level equivalent with low permeability pavements. The geomembrane would be placed under the railroad ballast or soil cover to provide a low permeability barrier to limit downward migration of surface water. The combination of the asphalt concrete cap, concrete slabs, and a geomembrane below ballast or soil covers would provide a site-wide low permeability cap. The geomembrane would provide added protection against seepage of surface water and possible contaminant mobilization.

5.3 ALTERNATIVE 3: LONGFELLOW OVERFLOW LINE EQUALIZATION BASIN IMPROVEMENTS

During the implementation phase of the Southwest Harbor Redevelopment Project, the equalization basins along the Longfellow Overflow Line in the north portion of BNBY would be replaced with large diameter conduits and then backfilled to the surface. The invert elevation of the equalization basins is approximately 15 to 20 feet below ground surface. During the construction phase, it is anticipated that the surface and shallow subsurface soils (0 to 6 inches) within the equalization basins will require removal prior to placement of bedding and the piping. The removal of these materials would include the removal of soil with observed low level PCB and TPH contamination.

Alternative 3 includes the removal of the unsuitable soils in the equalization basins, if necessary, and hauling the contaminated soils to a landfill cell which would be constructed as part of the Southwest Harbor RA3 remedial action project. In the event that the landfill cell does not contain sufficient capacity to receive these materials, the soils will be tested and transported off site to a facility permitted to receive the soils. Following removal of the contaminated soils, stormwater drainage improvements would be constructed, and the equalization basins would be covered with ballast or low permeable pavements as described in Alternative 2.

Alternative 3 addresses the uncertainty of PCB contamination observed in one location that exceeds excavation action levels for unpaved soils (Parametrix 1994). Although one sample exceeded the capping action levels for unpaved soil areas during the preliminary soil investigation, samples collected during the RI/FS indicate the average PCB concentrations in soil are likely to be below the unpaved soil action level. Additional sampling and analysis would be required to substantiate this conclusion. The action proposed in Alternative 3 will effectively remove potential contaminants and contain the soil within a landfill under MFS equivalent caps, or disposed of in a landfill permitted to accept such soils, thereby achieving levels protective of surface water.

6.0 SELECTED CLEANUP ACTION

Alternative 2a (Containment of Soils Above Capping Action Levels) and Alternative 3 (Longfellow Overflow Line Equalization Basin Improvements) provide the greatest protection of human health and the environment, for the relative costs incurred. Ecology concurs in this determination. Alternatives 2a and 3 incorporate a combination of actions including consolidation, removal, capping, monitoring, and institutional controls to meet remedial action objectives (RAOs).

Alternatives 2a and 3 consist of measures that cap all contaminated materials above and below capping action levels, and reduce infiltration in areas of highest known contamination within BNBY, while removing unsuitable materials from the Longfellow Overflow Line Equalization Basins. This alternative consists of installing surface treatment related to the current design for the expansion of Terminal 5 at BNBY. All contaminated soil located under the proposed pavement and railroad ballast areas has been shown in the RI/FS to not pose a threat to human health or the environment as long as pavement or soil covers are maintained to minimize infiltration and institutional controls are in place.

6.1 DESCRIPTION OF THE SELECTED ALTERNATIVE

Containment measures such as railroad ballast soil covers, asphalt pavement, concrete slabs and concrete pavement are part of the expansion design of Terminal 5 for BNBY. In addition, limited removal of unsuitable materials from 0 to 6 inches below existing grade in the equalization basins along the Longfellow Overflow Line may be required for stormwater improvements to the site. The surface areas of work to be performed are shown on Figure 6-1. Limited removal and capping remedial measures will be used under this alternative described as follows:

- Contaminated areas that exceed capping action levels but are below excavation action levels will be contained beneath asphalt or concrete paving covers. This activity will be performed for contaminated soils found in the south half of the BNBY site. The paved sections will consist of 8 inches of asphalt underlain by approximately 12 inches of crushed base course. Parts of the area will also consist

of concrete slabs, buildings, small structures, and railroad tracks. The concrete slabs would be 9 to 12 inches thick. The railroad tracks would either be paved both on the outside and between the tracks or the tracks will be mounted on railroad ties with ballast underneath.

- This activity will be performed for soil areas in the north half of the BNBY site. Areas will be covered with a minimum of 24 inches of ballast below the railroad ties. These areas were found to be below unpaved capping levels.

- Unsuitable materials at the bottom of the equalization basins will be removed and placed under caps adequate for the protection of downgradient surface water quality. This activity will be performed only for the surface and shallow subsurface soils in the areas of the north equalization basins of the Longfellow Overflow Line within or adjacent to the BNBY site. Suitable locations for placement of the contaminated soils include Remediation Area 3 landfill cells or off-site disposal at a facility permitted to receive the soils.

- Institutional controls will include fencing and security, health and safety guidance for future excavation work, confirmational groundwater monitoring on adjacent and downgradient sites, periodic inspection and maintenance of the constructed cover, and restriction of the site for industrial uses only. The site will be securely fenced with lockable gates installed at the access points. Use of the site will be monitored on a daily basis by the Port of Seattle and its tenants.

6.2 PROCESS RESIDUALS

The only process residual stream associated with the selected alternative is the surface and shallow subsurface soils to be removed from the equalization basins along the Longfellow Overflow Line. This soil will be consolidated by relocating it on site within a landfill cell and cover constructed on the adjacent RA3 site or tested and transported off site to a facility permitted to receive the soils.

6.3 SITE REQUIREMENTS

There are no special site requirements other than those associated with redevelopment of the site.

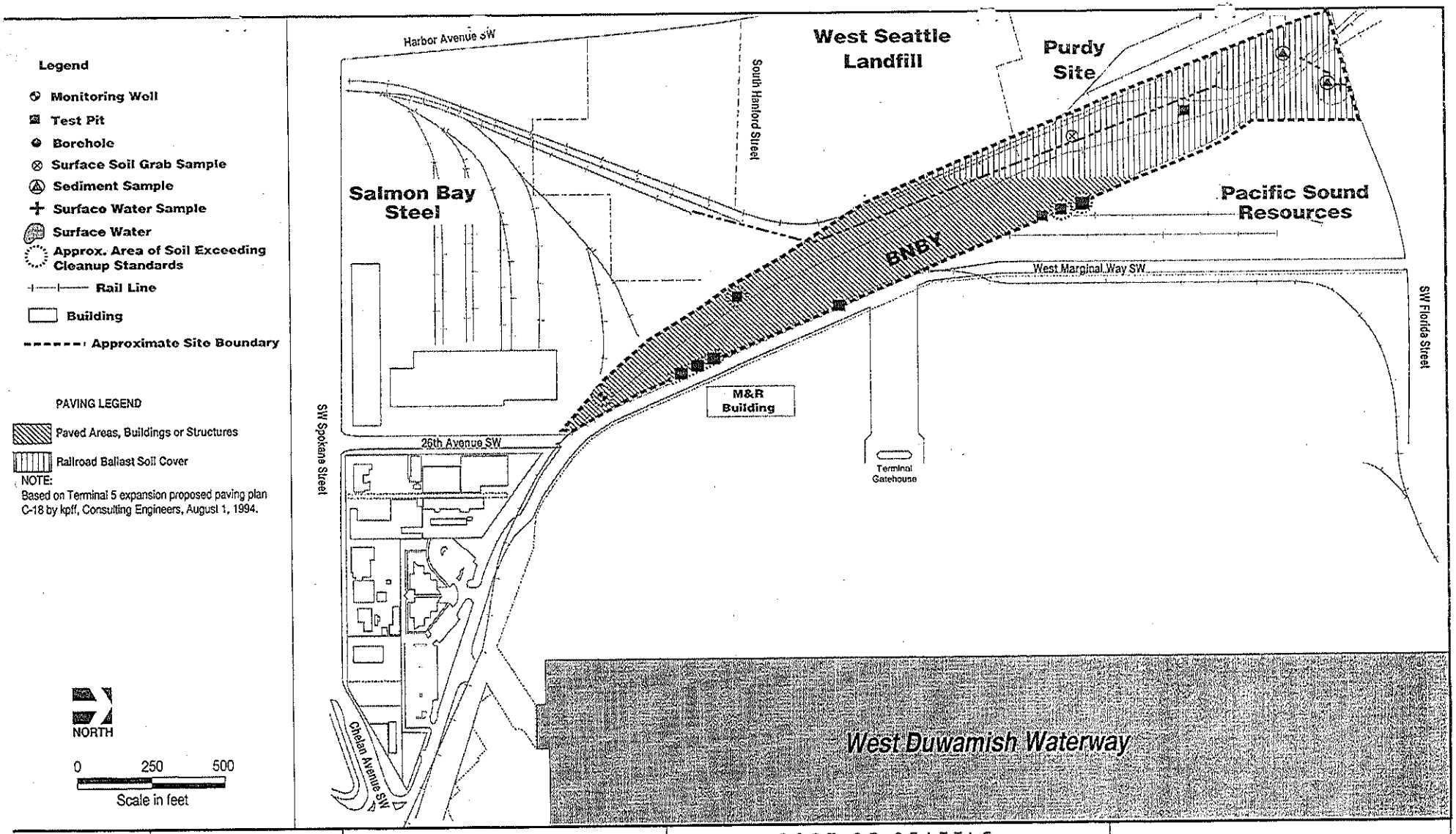

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Figure 6-1
Preliminary Paving Plans at BNBY

6.4 PERMITTING

Based on recent amendments to MTCA, most permits do not have to be obtained for cleanup of BNBY. However, remedial activities must comply with the substantive requirements of these permits. The state and local permits that must be addressed for BNBY include the State Environmental Policy Act SEPA checklist and the City of Seattle master use permit. The SEPA checklist is used to determine the environmental impacts of the cleanup activity; and has been completed (Port of Seattle 1994). The master use permit has been issued for the demolition and remediation activities at BNBY (City of Seattle 1994).

6.5 INSTITUTIONAL CONTROLS

Institutional controls are measures undertaken to limit or prohibit activities that may interfere with integrity of the cleanup action or which may result in exposure to hazardous substances remaining at the site in excess of cleanup levels. Specifically, institutional controls at the site will include the following:

- Site fencing and security
- Health and safety guidance for future excavation work
- Confirmational monitoring requirements and procedures
- Procedures for periodic inspection and maintenance of facility constructed cover
- Restriction of site use to industrial only.

6.6 MAINTENANCE AND COMPLIANCE MONITORING

Groundwater monitoring at BNBY and project wide will continue after cleanup to verify the performance of the soil remediation. Additionally, periodic maintenance and inspection of the capping measures will be conducted to ensure their integrity. Cap maintenance and groundwater monitoring plans will be produced as part of the design plans under a consent decree.

Long-term groundwater monitoring at BNBY will be required to ensure that the cap is protecting groundwater from further infiltration of contaminants.

Redevelopment activities at BNBY will necessitate the abandonment of existing monitoring wells in Fall 1995 (see Figure 3-1, monitoring wells MW-105, MW-306A, MW-306B). However, a monitoring well located adjacent to the eastern boundary of the site will be used for groundwater monitoring. In addition, monitoring wells included in the area wide SWHP groundwater monitoring program will provide useful data for establishing the effectiveness of remedial actions at BNBY.

Costs associated with groundwater monitoring include labor, incidental equipment expenses, laboratory analytical costs, and analytical results documentation.

6.7 PROTECTION MONITORING AND HEALTH AND SAFETY CONSIDERATION

Protection monitoring will confirm that human health and the environment are adequately protected during remedial action and the operation and maintenance period of cleanup action. Protection monitoring will utilize air monitoring during excavation activities. A series of samples will be collected and analyzed for particulates using current U.S. Environmental Protection Agency (EPA) procedures and other air monitoring measures as appropriate to comply with Puget Sound Air Pollution Control Agency (PSAPCA) requirements. Remedial action work will adhere to worker safety and health requirements in MTCA (WAC 173-340-810). Details will be developed in the compliance monitoring plan, which would be prepared during design phase per WAC 173-340-410.

7.0 JUSTIFICATIONS/DETERMINATIONS

MTCA requires that any alternative selected for site remediation must, as a minimum, meet four threshold requirements: protect human health and the environment; comply with cleanup standards; comply with applicable state and federal laws; and provide for compliance monitoring. MTCA (WAC 173-340-360) also requires that cleanup actions meet three cleanup criteria: use permanent solutions to the maximum extent practicable; provide for reasonable restoration time frame; and consider public concerns raised during the public comment period. Additionally, cleanup actions are evaluated against the following five primary balancing criteria: long-term effectiveness; reduction of toxicity, mobility, or volume; short-term effectiveness; implementability; and cost.

To justify selection of a containment action, MTCA requires that it must not be practicable to reuse, destroy or detoxify the hazardous substances. Practicability is defined as the ability to design, construct, and implement a solution in a reliable and effective manner including consideration of cost.

Selection of the preferred alternative for the RA1-BNBY site is appropriate for several justifications. The surface water protection model used in the RI/FS determined concentrations for specific contaminants which could remain in the soil under specific caps and not pose a risk to the surface waters of Elliott Bay. However, as with many other models used as predictive tools for future risk to the environment, the limitations of this simple analytical model and the inherent uncertainty in input parameters, prompted Ecology to require that the remedy selection process include a "Substantial and Disproportionate" analysis (see Section 7.4) to further support the proposed containment action.

As with all remedies in which contamination above cleanup standards is allowed to remain onsite, long term groundwater monitoring will be provide assurance that the soil remediation remedies for the Southwest Harbor Project are providing acceptable protection to the environment. If long term groundwater monitoring identifies a risk to surface water quality in Elliott Bay, then additional groundwater remedial actions may be necessary. The selected remedy for the RA1-BNBY site includes comprehensive, long term groundwater monitoring as one of its critical components.

7.1 THRESHOLD CRITERIA

7.1.1 Overall Protection of Human Health and the Environment

Alternative 3 and 4 would limit all exposure potential and migration of contaminants to groundwater at levels of concern. During soil excavation and during future intrusive activities, proper health and safety and erosion control measures would be required. The site modeling indicates the reduction in infiltration provided by pavement would reduce the threat to groundwater.

7.1.2 Compliance With ARARs

The following is an evaluation of ARARs relative to this alternative:

- Chemical-Specific ARARs. MTCA would be complied with under this alternative. All contaminated soils would be isolated from human exposure. Threats to the environment are reduced because the pavement would provide a low permeability barrier, which would reduce infiltration rates of surface water to very low levels. The soil cleanup standards for the protection of groundwater would be complied with under this alternative.

- Action-Specific ARARs. SEPA and the Port of Seattle's corresponding resolutions would be complied with. The Clean Air Act would be complied with as dust control measures and monitoring would be performed to verify compliance during grading activities. The standards for construction and maintenance of monitoring wells will be complied with under this alternative. Several monitoring wells constructed for the RI would be properly abandoned prior to site grading and redevelopment. New monitoring wells, if required, would be constructed in accordance with these regulations to monitor compliance with all ARARs. The Washington Industrial Safety and Health Administration (WISHA) hazardous waste operation regulations would be complied with under this alternative.

- Location-Specific ARARs. Location-specific ARARs were not identified for BNBY. However, if archaeological resources are discovered during the redevelopment construction activities, the Historic Preservation Act may become an ARAR and would be complied with.

7.1.3 Compliance Monitoring

Dust control measures would be instituted during construction and excavation activities to protect workers from inhalation of contaminated particles and to minimize the spread of contaminated material. Dust monitoring equipment would be placed on the worker until data show that there is no risk to workers, and at remote locations, to ensure compliance with the Clean Air Act and WISHA. Long-term groundwater monitoring would be instituted site wide to verify the adequacy of the remedial measures.

7.2 CLEANUP CRITERIA

7.2.1 Permanent Solution

Low-permeability pavements and railroad ballast covers are considered a long-term solution for contaminated soils above MTCA cleanup levels. Although contaminant concentrations are not reduced, the exposure and environmental threats are eliminated. This alternative does not provide a net reduction of on-site contamination. Deed restrictions would be instituted as part of this alternative to limit the use of groundwater and to control access along with excavation and redevelopment activities. Since excavation action levels were not exceeded, the selected alternative adequately protects the highest beneficial use of groundwater.

7.2.2 Restoration Time Frame

Cleanup action measures would be fully implemented by July 1996, when expansion of Terminal 5 is to be completed. Table 7-1 provides a schedule for remediation and redevelopment activities at BNBY.

7.2.3 Public Review State/Community Acceptance

Public participation is an integral part of MTCA (WAC 173-340-600) as well as for Port policies. Under MTCA, the public has the opportunity to review and comment at critical stages during the cleanup process. A 30-day comment period occuring before the draft CAP was finalized. A public meeting was held during the comment period.

Following receipt of public comments and the public meeting, Ecology accepted the Port's chosen cleanup action alternative for the site. The remediation design will be finalized following issuance of this Final CAP.

Table 7-1
Schedule for Remediation of Redevelopment Activity at BNBY

Activity	Date
RI/FS, CAP, CD to Public Comment	Summer 1995
CD filed with Superior Court	Fall 1995
Building Demolition Begins	Fall 1995
Construction of Pavement/Ballast Cover Begins	Spring 1996
Site Construction Complete	Summer 1996

7.3 PRIMARY BALANCING CRITERIA

7.3.1 Long-Term Effectiveness and Permanence

Because none of the soil is removed from the BNBY project area, Alternatives 2a and 3 are not considered a permanent solution. Use of capping measures will prevent human exposure to the contaminated soils. The asphalt concrete pavement and ballast soil cover is expected to range in depth between 20 and 30 inches which is adequate to prevent exposure through all direct contact pathways. Long-term management of the cap and cover would be required. Pavement and ballast covers would need to be maintained. To minimize erosion, proper drainage would be required. Long-term monitoring is required as residual contamination would remain on site. Operation and maintenance of the cap would require regular inspections. During future intrusive activities, proper health and safety and erosion control measures would be required to prevent exposure to contaminated soil that is above action levels. A 5-year review would be required as long as contaminated soil above MTCA cleanup levels remains on site. The effectiveness and reliability of this alternative to meet the RAOs is moderate.

7.3.2 Reduction of Toxicity, Mobility, or Volume Through Treatment

This alternative does not incorporate treatment or removal and disposal of contaminated soil above action levels; therefore, there would be no reduction of toxicity or volume of the contaminants.

7.3.3 Short-Term Effectiveness

The primary risk to the community and workers during construction is dust generation. Dust suppression measures and monitoring would be required during all construction and excavation activities. Dermal contact with the contaminated soil may also pose a health risk to workers. Workers would be required to follow proper health and safety requirements. The primary potential for environmental impact during construction is erosion. Erosion control measures would be required to prevent off-site migration of contaminated soil during construction. This measure alone will not meet the RAOs regarding removal and treatment of soil above action levels.

7.3.4 Implementability

Standard construction techniques, methods, and equipment would be used for paving areas. Groundwater monitoring would be adequate to assess the potential for off-site migration of contaminants. A pavement inspection and maintenance program would be adequate to prevent dermal contact with the contaminated material. This alternative is easily implemented for soil with any mixture of contaminants and of any density or grain size.

7.3.5 Cost

Redevelopment of Southwest Harbor will include surfacing (asphalt-concrete pavement, concrete, and ballast) the majority of BNBY. These surfacing activities may be considered containment technology because the pavement and concrete would function as a cap for the contaminated soil areas. To evaluate whether the contaminated soil areas will actually be capped after redevelopment, the proposed paving plans for Southwest Harbor redevelopment were overlaid onto the BNBY base map.

Figure 6-1 indicates that all five of the identified contaminated soil areas that exceed capping action levels within BNBY will be capped with 8-inch-thick, asphalt-concrete pavement or 12-inch-thick concrete. Thus, the proposed redevelopment surfacing activities would provide a cap for BNBY without additional surfacing requirements or incremental cost to the site remedy.

7.4 JUSTIFICATION OF CONTAINMENT ACTION

WAC 173-340-360 describes a hierarchy of treatment technologies that Ecology is to give preference to during the selection of remedy process. Containment, institutional controls, and monitoring are the lowest preference remedies on the hierarchy. However, choice of containment and institutional controls remedy for the site can clearly be justified in accordance with MTCA (WAC 173-340-360[5][vi]) that states that "a cleanup action shall not be considered practicable if the incremental cost of the cleanup action is substantial and disproportionate to the incremental degree of protection it would achieve over a lower preference cleanup action."

Although the limits of contamination are well understood in terms of the site boundaries, the information on soil quality within the site boundary is limited because of the drilling constraints for performing work within an operating railyard. The only identifiable sources of contamination in the yard appear to be related to contamination present within historical fill materials at random across the site. Hence, contamination is likely to be randomly distributed in the shallow subsurface soils and fill. Therefore, large uncertainty exists with estimates regarding the quantities and costs associated with remediation of contaminated materials at BNBY.

Capping, as well as the other potential alternatives, meets MTCA C industrial criteria and surface water protection criteria at the points of compliance. The capping remedy controls all of the potential risk of the materials at the site for an achievable cost. Because of the nature of contaminant distribution in the soil materials, the cost of any alternative other than capping would add in excess of $300,000 to the site redevelopment costs, and the incremental costs and associated costs related to the uncertainty of the contaminant distribution would be disproportionate to the potential increase in protection to the environment.

Empirical data also justify the proposed remedial alternative. The contaminants of concern in soil on the BNBY site are TPH and CPAHs. Groundwater collected from the three wells on site and adjacent downgradient wells did not show exceedances of screening levels for these compounds. Soil contamination on the BNBY does not appear to be impacting the local groundwater quality. Therefore, a capping remedy is appropriate.

8.0 REFERENCES

City of Seattle, Department of Construction and Land Use. Master Permit, Application 9401860, 1994.

Converse Consultants, NW. 1992. *Phase I Environmental Sampling Report, West Seattle Forcemain-Alki CSO, Seattle, WA,* Technical Memorandum, prepared for HDR Engineering, Inc. August 1992.

Ecology. 1993. *Cleanup Standards vs. Selection of Remedy,* Memorandum from Lynn Coleman, Washington State Department of Ecology Toxics Cleanup Program, to Interested parties, July 29, 1993.

Kennedy/Jenks Consultants. 1993. *Final Phase I Environmental Assessment, Buckley Yard.* West Seattle, Washington, prepared for Burlington Northern Railroad. Federal Way, Washington.

Parametrix. 1994 *Preliminary Soil Investigation, Burlington Northern Railroad, Buckley Yard.* Kirkland, Washington. January 1994.

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Port of Seattle. 1994. *Southwest Harbor Cleanup and Redevelopment Project, Draft Environmental Impact Statement.* Joint Lead Agencies, Army Corps of Engineers, Washington Department of Ecology, Port of Seattle. January 1994.

URS Consultants, Inc. (URS). 1995. *Final Remedial Investigation/Feasibility Study, Burlington Northern Buckley Yard. Remediation Area 1.* Seattle, Washington. June 1995.

Washington Administrative Code (WAC). Chapter 173-303 WAC, Washington Dangerous Waster Regulations. Chapter 173-340 WAC, Model Toxics Control Act Cleanup Regulations.

EXHIBIT C
RESTRICTIVE COVENANT

The property that is the subject of this Restrictive Covenant has been the subject of remedial action under Chapter 70.105D RCW. The work done to clean up the property (hereafter the "Cleanup Action") is described in the Consent Decree entered in State of Washington Department of Ecology v. Port of Seattle, King County Superior Court Cause No. _____, and in attachments to the Decree and in documents referenced in the Decree. This Restrictive Covenant is required by Ecology under Ecology's rule WAC 173-340-440 (1991 ed.) because the Cleanup Action on the Site resulted in residual concentrations of total petroleum hydrocarbons, polychlorinated biphenyls, arsenic, lead, and other hazardous substances which exceed Ecology's Method A and B cleanup levels for soil established under WAC 173-340-740(3). Method C and A industrial soil cleanup standards were used in the Cleanup Action. Contaminated soils, including materials that exceed Method A and C cleanup standards, are contained on portions of the property under various covers.

The undersigned, Port of Seattle, is the fee owner of real property in the County of King, State of Washington (legal description attached), hereafter referred to as the "Site." The Site refers to the former Burlington Northern Railroad Buckley Yard property located in Seattle and bounded on the north by S.W. Florida Street and on the south by 26th Avenue S.W. West Marginal Way forms the eastern boundary of the south half of the property, and the former Pacific Sound Resources site forms the eastern boundary of the north half of the property. The former West Seattle Landfill and Salmon Bay Steel bound the property ot the west. The Port of Seattle makes the following declaration as to limitations, restrictions, and uses to which the Site 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 Site.

Section 1. No groundwater may be taken for domestic purposes from any well in the area encompassed by the Port's Southwest Harbor Project, which includes the area bounded to the north by Elliott Bay, to the West by Harbor Avenue, to the south by Spokane Street, and to the East by the West Waterway.

Section 2. Any activity on the Site that may interfere with the Cleanup Action is prohibited. Any activity on the Site that may result in the release to the environment of a hazardous substance that was contained as a part of the Cleanup Action is prohibited unless approved by Ecology or in compliance with the approved Operations and Maintenance Plan. Some examples of activities that are prohibited in the capped areas unless approved by Ecology or in compliance with the approved Operations and Maintenance Plan 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 3. The Site shall not be used for any activities other than traditional industrial uses, as described in RCW 70.105D.020(13), and defined in and allowed under the City of Seattle's zoning regulations.

Section 4. The owner of the Site must give written notice to the Department of Ecology, or to a successor agency, of the owner's intent to convey any interest in the Site. No conveyance of title, easement, lease or other interest in the Site shall be consummated by the owner without adequate and complete provision for the continued operation, maintenance and monitoring of the Cleanup Action.

Section 5. The owner must notify and obtain approval from the Department of Ecology, or from a successor agency, prior to any use of the Site that is inconsistent with the terms of this Restrictive Covenant. The Department of Ecology or its successor agency may approve such a use only after public notice and comment.

Section 6. The owner shall allow authorized representatives of the Department of Ecology or of a successor agency, the right to enter the Site at reasonable times for the purpose of evaluating compliance with the Cleanup Action Plan and the Consent Decree, to take samples, to inspect Cleanup Actions conducted at the Site and to inspect records that are related to the Cleanup Action.

Section 7. The owner of the Site and the owner's assigns and successors in interest reserve the right under WAC 173-340-440 (1991 ed.) to record an instrument which provides that this Restrictive Covenant shall no longer limit use of the Site or be of any further force or effect. However, such an instrument may be recorded only with the consent of the Department of Ecology, or of a successor agency. The Department of Ecology or a successor agency may consent to the recording of such an instrument only after public notice and comment.

Dated: _____

_____

Name: _____

Title: _____

For The Port of Seattle

STATE OF WASHINGTON)
) ss.
COUNTY OF KING)

This is to certify that on the _____ day of_____, 1995, before me, the undersigned Notary Public, personally appeared _____, to me known to be the _____ of the Port of Seattle described in and who executed the foregoing document, and acknowledged to me that ___ signed and sealed the same as ____ free and voluntary act and deed, for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year first above written.

_____
NOTARY PUBLIC in and for the State of Washington, residing at _____
My Commission Expires: _____
Print Name: _____

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