
Institutional Controls Work Plan Western Processing Kent, Washington

November 16, 1999

Prepared for

Western Processing Trust Fund II

Prepared by



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INTRODUCTION

This document presents an institutional controls work plan to be implemented at the Western Processing site in Kent, Washington as part of the alternative remediation strategy approved by the Governments in a 1995 *Explanation of Significant Differences* (ESD)(EPA 1995). The ESD was prepared in response to a petition by the Trust to modify the remediation strategy at the site (see *Technical Impactability Waiver Petition, Western Processing* [Landau Associates and Geotrans 1995]). The alternative remediation strategy includes the following major components:

- Institutional controls
- Actively remediating onsite hot spots and offsite areas of concern
- Placement of a low-permeability cap over the site
- Containment pumping
- Monitoring of groundwater and surface water
- Periodic reviews of the modified strategy's overall protectiveness of human health and the environment.

This work plan addresses the institutional controls component only; work plans for the other components are available in separate documents. Institutional controls will include the following components:

- Deed restrictions for Area I of the site that protect the integrity of the final cap and monitoring system, prohibit the extraction of groundwater for potable or other uses, and require foundation vapor barriers and building ventilation systems for buildings constructed within Area I
- Use of existing regulations to control groundwater extraction and use in neighboring off-property areas
- Notification requirements to inform neighboring property owners of groundwater contamination conditions and existing regulations that control groundwater use
- Fencing and site security.

The purpose of this plan is to provide the procedures that will be used to implement each of these institutional control components. Each of these components is discussed separately below. Property ownership in the vicinity of the Western Processing site is shown on Figure 1 and in Table 1.

DEED RESTRICTIONS

The petition proposed to establish the land use notifications described in Section XII.C.1 of the 1986 Consent Decree (No. C83-252M) on Area I of the property in the form of a deed restriction. Area I (see Figure I) contains residual soil and groundwater contamination consisting of several heavy metals, volatile organic compounds, and semivolatile organic compounds. The conditions for Area I as stated in the Consent Decree are as follows:

"Within thirty (30) days after entry of the Consent Decree or before any transfer of ownership of Area I, whichever is earlier, a notation shall be placed in the property records in the King County Recorder's Office that will, in perpetuity, notify any potential purchaser of the property that:

- a. The land has been used to manage hazardous substances and waste;
- b. Post-remedial action land use is restricted such that use of the property must never be allowed to disturb the integrity of the final cover, or any other component of any containment system, or the function of the Site's monitoring system, unless the Regional Administrator for EPA Region 10 and the State find that the disturbance:
 - i. is necessary to the proposed use of the property and will not increase the potential hazard to human health or the environment; or
 - ii. is necessary to reduce a threat to human health or the environment; and
- c. The use of groundwater beneath the property may be restricted and anyone seeking to use such groundwater must comply with present and future restrictions placed on the use of such groundwater by the City of Kent or the State's Department of Ecology (Ecology)."

The petition expands on the language of Paragraph C above to include a provision that prohibits the extraction of groundwater for potable or other uses from the area within the slurry wall. This proposed language provides additional clarification regarding potential future use of the groundwater from Area I.

In addition, conditions will also be placed in the deed to require foundation vapor barriers and a property designed and functioning ventilation system for buildings constructed within Area I. Each condition is discussed separately below.

- **Foundation Vapor Barrier:** A foundation vapor barrier will be included in buildings constructed within Area I to provide a barrier to moisture and vapor migration into the building. The foundation vapor barrier will, at a minimum, consist of a layer of 10-mil polyethylene sheeting placed below the building's floor slab. The polyethylene sheeting will meet the specifications of ASTM D 4397 (Standard Specification for Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications) including the minimum requirements for water vapor transmission rate and permeance. The sheeting will also be placed against foundation walls if the walls extend below the site cap. Additional foundation vapor barrier measures that will be considered during building design are discussed in the U.S. Environmental Protection Agency (EPA) *Technical Guidance Document: Geotechnical Systems For Structures On Contaminated Sites*, EPA 30-R-93-002 (EPA 1993); and include placement of compacted, stabilized clay around the foundation; installation of a capillary break beneath the floor slab; and construction of a passive or active gas collection system beneath the building.

- **Building Ventilation:** All buildings constructed within Area I of the site will include a properly designed and functioning mechanical ventilation system to further reduce the potential for exposure to hazardous vapors (if present). Each building's ventilation system will, at a minimum, achieve the ventilation requirements of applicable building codes for the appropriate occupancy classification (see Chapter 12 of the Uniform Building Code). Additional building ventilation measures will be considered during building design to further reduce the potential for exposure to hazardous vapors (if present). One of these measures may include increasing the air exchange rate beyond the minimum code requirements in areas where the greatest potential exists for subsurface vapors to enter the building.

As discussed in the petition, the Trust has attempted to implement the land use notifications included in the Consent Decree for Area I, but has been rebuffed by the current property owner. In accordance with the Consent Decree (Section XII, Paragraph B), the Trust has requested assistance from the Governments in implementing the land use notifications for Area I and the additional conditions discussed above regarding foundation vapor barriers and building ventilation. The Trust will continue to work with the Governments to implement these land use notifications in an expeditious manner.

The Consent Decree also addresses the placement of land use notifications within the property records of Area V and areas east of Mill Creek (Figure 1) that do not meet all applicable or relevant drinking water standards and criteria as a result of a release from or activities of the Western Processing site. These notifications would be the same as those described above in Paragraph C. The petition did not include placement of these notifications within the property records because the Trust believes that the existing regulations and notification requirements discussed below will be adequate to prevent the unsuspecting use of or contact with potentially contaminated groundwater near Western Processing.

EXISTING REGULATIONS

Existing regulations will be used to control the use of groundwater in neighboring off-property areas that have been impacted from releases at the Western Processing site, including Area V and areas to the east and west of Mill Creek. These areas contain contaminated groundwater consisting of heavy metals and volatile and semivolatile organic compounds. A groundwater extraction system consisting of three extraction wells continues to remove contaminated groundwater from the plume of cis 1,2-dichloroethene located to the west of Mill Creek. Historic data indicate that contaminant concentrations in the other off-property areas described above are low and generally declining. However, natural biodegradation processes appear to be responsible for what is expected to be a temporary increase in concentrations of some breakdown products.

Existing regulations that will be used to control the use of groundwater in these off-property areas include:

- **King County Health Department regulations.** These regulations provide that sites greater than 5 acres in size can install a well for the extraction and use of groundwater only if there is no suitable public water supply within 1 mile of that property. The City of Kent currently operates a public water supply network with water lines available to the area from both 72nd Avenue S., immediately south of the site, and S. 196th Street, which intersects the northern part of the site.
- **Washington State Department of Ecology (Ecology).** Ecology requires a water right permit for groundwater withdrawals of 5,000 gallons per day or more (RCW 90.40.050). Ecology also requires permits to drill any type of well. This permit is enforceable by fines against drillers, who would generally not assume the risk of drilling a well without a properly obtained permit. Ecology would not issue such permits based on the King County Health Department regulations discussed above.
- **Zoning and land use.** The existing and probable future zoning and land use in the vicinity of Western Processing consists of commercial and light industrial operations that are likely to have little or no need for the withdrawal of groundwater for their operations. This, together with the enforceable King County Health Department regulations, suggests that the chance of groundwater development by business operations consistent with zoning and land use patterns around Western Processing is negligible.
- **Environmental permitting.** Any type of land development, including most modifications to existing facilities in the vicinity of Western Processing, would be subject to building permits, grading permits, Shorelines Management Act, State Environmental Policy Act, and potentially other permitting processes. These provide yet another checkpoint against the use of groundwater within the vicinity of Western Processing.

Furthermore, as discussed in the petition, the background water quality in the vicinity of the site, with respect to conventional drinking water quality parameters, is marginal at best. At present, the Trust is not aware of any current groundwater use in the vicinity of Western Processing for any purpose except extraction at the site for treatment and discharge to the King County publicly owned treatment works (POTW). The area's water supply is provided by the City of Kent municipal water system, which does not obtain its water from the aquifer system in the vicinity of the Western Processing site.

NOTIFICATION REQUIREMENTS

Notification requirements will also be used to minimize the chance that groundwater in neighboring off-property areas would be used. These notifications will also address restrictions on disturbing any remediation components remaining on certain neighboring properties (wells, soil cover, etc.). The Trust will administer the practice of notifying, at least annually by letter, the current neighboring property owners that there are King County Health Department and Ecology regulations relating to groundwater use (described above). The notification will also contain a reminder that the groundwater in the vicinity of Western Processing may be contaminated and regular contact with it should be avoided.

Property ownership around Western Processing is shown on Figure 1. Sample letters are provided in Attachment 1 along with a listing of the names and addresses of the appropriate property owner contact. Two letters are provided; one relating only to groundwater extraction and the other relating to excavation and property development in addition to groundwater extraction. This contact list will be periodically updated through review of King County records.

FENCING AND SITE SECURITY

A perimeter security fence will be constructed and maintained in the configuration shown on Figure 2. The fence is intended to prevent unauthorized site access and is therefore an important element in the protection of the integrity of the site cap and monitoring system. The security fence will consist of a 6 ft high chain link fence topped by barbed wire. The fence will replace temporary security fencing that was installed during construction of the cap.

The site may be patrolled by a contracted security service, or by Boeing security personnel from a neighboring facility if the Trust determines that such patrolling would be appropriate in addition to the planned Trust presence at the site. Security personnel would patrol the site from the interior perimeter road that is located on top of the site cap. Additional information on site security, including a description of signs that will be placed around the site, is provided in the *Long-Term Site Security Plan* (Landau Associates 1999).

REVIEWS

The effectiveness of the provisions of this institutional controls work plan will be evaluated during the five-year reviews required by the ESD. Changes to this plan can be made at that time or earlier, if appropriate, and by mutual consent of the Trust and the Governments.

REFERENCES

EPA. 1995. *Explanation of Significant Differences, Western Processing Superfund Site*. U.S. Environmental Protection Agency; Region X. December 11.

EPA. 1993. *Technical Guidance Document: Geotechnical Systems for Structures on Contaminated Sites*. U.S. Environmental Protection Agency. EPA/30-R-93-002.

Landau Associates. 1999. *Long-Term Site Security Plan, Western Processing*. November.

Landau Associates and Geotrans. 1995. *Technical Impracticability Waiver Petition, Western Processing*. September 12.

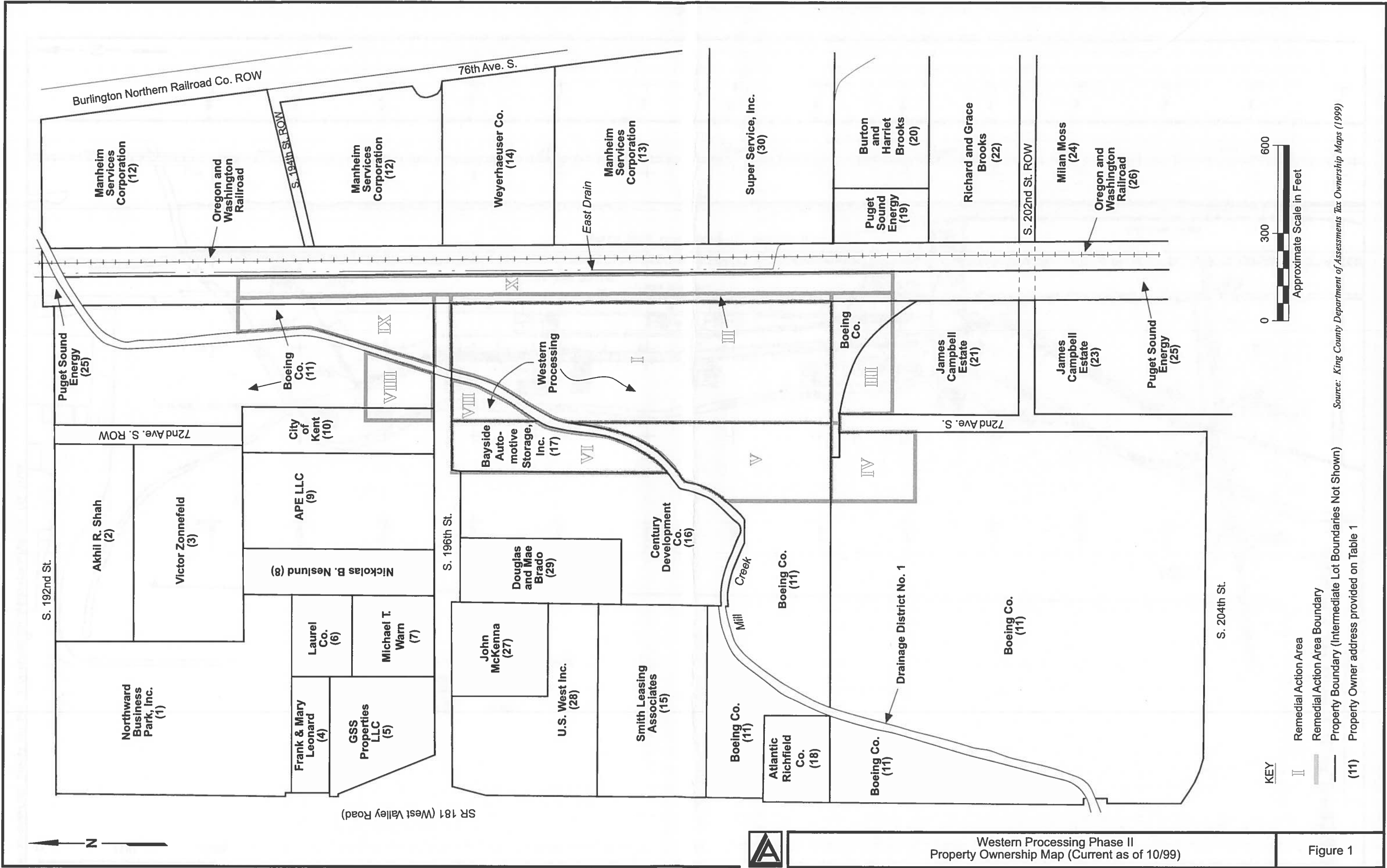
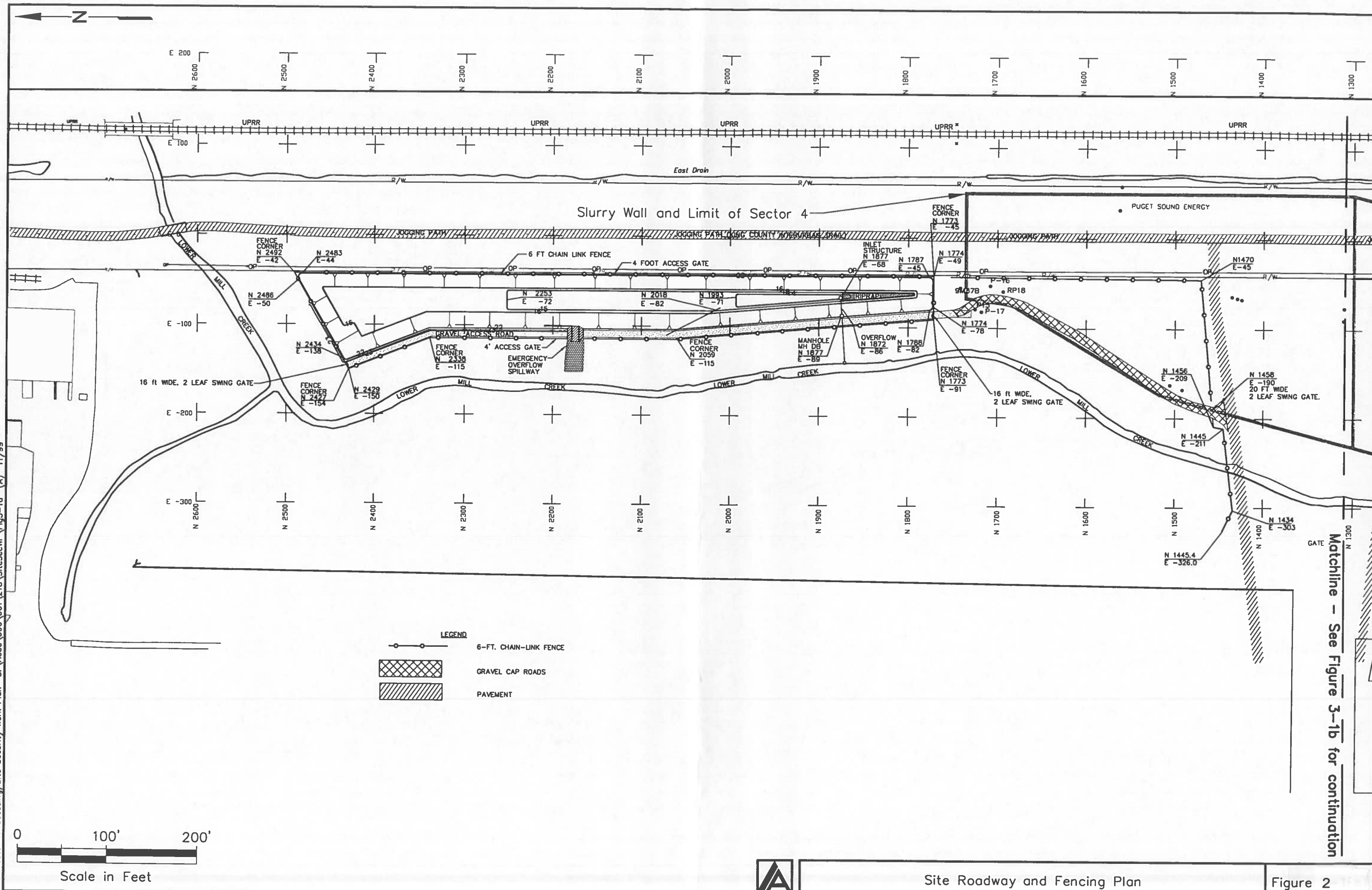
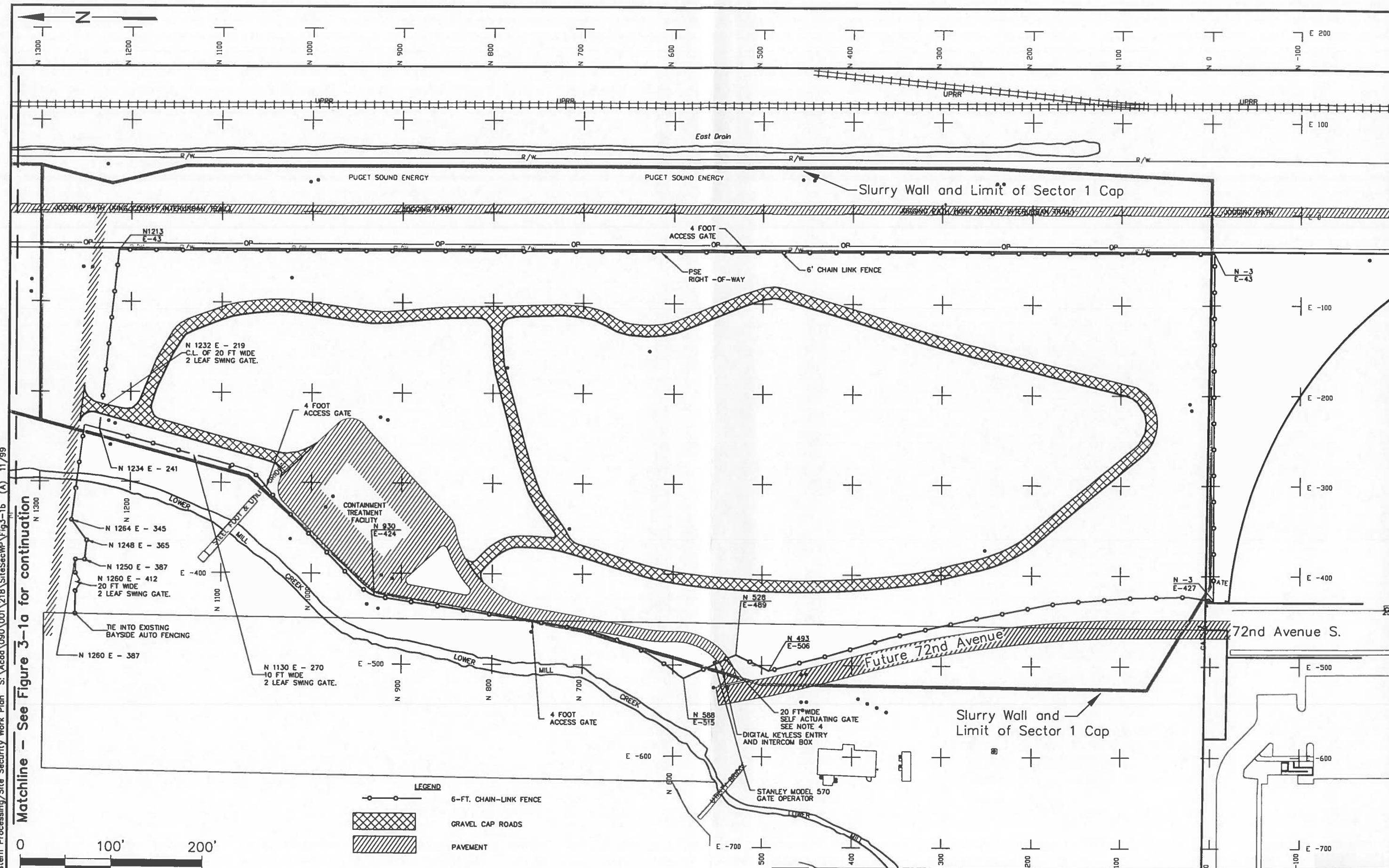


Figure 1



Matchline - See Figure 3-1a for continuation



Site Roadway and Fencing Plan

Figure 2

TABLE 1
PROPERTY OWNER ADDRESSES

	Property Owner Address	Annual Notification Letter Type
1	Northward Business Park, Inc. 3131 S Vaughn Way, No. 521 Aurora, CO 80014	none
2	Akhil R. Shah 14 W Roy St Seattle, WA 98119	none
3	Victor Zonnefeld 13411 NE 36 th St Bellevue, WA 98005	none
4	Frank and Mary Leonard 16775 16 th Ave NW Shoreline, WA 98177	a
5	GSS Properties, LLC 7815 S 180 th St Kent, WA 98032	a
6	Laurel Company 130 N Brand Blvd, No.204 Glendale, CA 91203	a
7	Michael T. Warn 13270 SE Pheasant Ct Milwaukie, OR 97222	a
8	Nickolas B. Neslund 6942 S 196 th St Kent, WA 98031	a
9	APE, LCC P.O. Box 55099 Seattle, WA 98155	a
10	City of Kent 220 4 th Ave S Kent, WA 98032	a
11	The Boeing Company P.O. Box 3703 M/S No. 1F-09 Seattle, WA 98124	b
12	Manheim Services Corp 2235 Fadaday Ave, Ste O Carlsbad, CA 92008	a

13	Manheim Services Corp 2235 Fadaday Ave, Ste O Carlsbad, CA 92008	b
14	Weyerhaeuser Co. MS: Recycling Division CCB5M Tacoma, WA 98477	b
15	Smith Leasing Associates 3607 20 th St E Tacoma, WA 98424	a
16	Century Development Co. 19637 70 th Ave S Kent, WA 98032	b
17	Bayside Automotive Storage P.O. Box 1877 Auburn, WA 98071	b
18	Atlantic Richfield Co. P.O. Box 512485 Los Angeles, CA 90051	a
19	Puget Sound Energy P.O. Box 98068 Bellevue, WA 98009	a
20	Burton and Harriet Brooks 1845 Killarney Way Bellevue, WA 98004	a
21	James Campbell Estate 1001 Kamokila Blvd Kapolei, HI 96707	b
22	Richard and Grace Brooks 3802 E McGilvra Pl Seattle, WA 98112	b
23	James Campbell Estate 1001 Kamokila Blvd Kapolei, HI 96707	none
24	Milan Moss 15 S Spokane St Seattle, WA 98134	none
25	Puget Sound Energy P.O. Box 98068 Bellevue, WA 98009	b
26	OWRR and Nav Co. P.O. Box 2500 Broomfield, CO 80020	b

27	John W. McKenna P.O. Box 66826 Seattle, WA 98166	b
28	US West, Inc. 6300 S Syracuse Way, Ste 700 Englewood, CO 80111	b
29	Douglas and Mae Brado 6 Eden Lane W Mercer Island, WA 98040	a
30	Super Service Inc. 2200 Concord Pike Wilmington, DE 19803	a

Note: See Figure 1 for locations.

ATTACHMENT 1
ANNUAL NOTIFICATION LETTER – TYPE A

Dear Property Owner:

As you may be aware, a cleanup of groundwater and soil contamination has been ongoing since 1983 at the Western Processing Superfund site near your property in Kent, Washington. Although the majority of contamination has been removed from the site, low concentrations of heavy metals and volatile organic compounds remain in the groundwater in the vicinity of the Western Processing property. This groundwater does not pose a threat to human health because it is not a source of drinking water and other exposure routes do not normally exist. Cleanup efforts continue to reduce the extent and level of residual contamination through groundwater extraction and treatment, source control, and natural biodegradation processes.

While it is highly unlikely that a property owner such as yourself would pump groundwater from this area for any purpose or use due to the presence of a public water supply system in the area, such pumping could yield contaminated groundwater, cause spreading of the residual contamination, and interfere with the continuing cleanup efforts at Western Processing. Accordingly, we provide this notification annually to property owners in the vicinity of Western Processing as a reminder that King County regulations prohibit you from installing wells for the extraction and use of groundwater if there is a suitable public water supply within 1 mile of your property. Because the City of Kent operates a public water supply system within the area, you should use the Kent water system for your water needs. You must contact King County, the Washington State Department of Ecology, and the U.S. Environmental Protection Agency if you wish to install a well on your property.

These measures and this reminder are for your continued safety during cleanup efforts at the Western Processing site and to prevent interference with cleanup operations. We greatly appreciate your cooperation in support of our cleanup efforts. We will continue to provide this notification to you annually until cleanup objectives have been met. If you have any questions or comments, please contact Paul Johansen of the Western Processing Trust Group at (425) 393-2565 or Christopher Maurer of the Washington Department of Ecology at (360) 407-7223.

Sincerely,

Paul Johansen
Western Processing Trust Group

ANNUAL NOTIFICATION LETTER – TYPE B

Dear Property Owner:

As you may be aware, a cleanup of groundwater and soil contamination has been ongoing since 1983 at the Western Processing Superfund site near your property in Kent, Washington. Although the majority of contamination has been removed from the site, low concentrations of heavy metals and volatile organic compounds remain in the groundwater in the vicinity of the Western Processing property. This groundwater does not pose a threat to human health because it is not a source of drinking water and other exposure routes do not normally exist. Cleanup efforts continue to reduce the extent and level of residual contamination through groundwater extraction and treatment, source control, and natural biodegradation processes.

While it is highly unlikely that a property owner such as yourself would pump groundwater from this area for any purpose or use due to the presence of a public water supply system in the area, such pumping could yield contaminated groundwater, cause spreading of the residual contamination, and interfere with the continuing cleanup efforts at Western Processing. Accordingly, we provide this notification annually to property owners in the vicinity of Western Processing as a reminder that King County regulations prohibit you from installing wells for the extraction and use of groundwater if there is a suitable public water supply within 1 mile of your property. Because the City of Kent operates a public water supply system within the area, you should use the Kent water system for your water needs. You must contact King County, the Washington State Department of Ecology, and the U.S. Environmental Protection Agency if you wish to install a well on your property.

In addition, monitoring wells, clean cover soil, or other remediation measures are located on your property as part of the remediation implemented at the Western Processing site. Any excavation, earthwork, or other property improvement work that has the potential to disturb these features should be carefully planned and coordinated with the Western Processing Trust. Disturbance to these features must be promptly repaired.

These measures and this reminder are for your continued safety during cleanup efforts at the Western Processing site and to prevent interference with cleanup operations. We greatly appreciate your cooperation in support of our cleanup efforts. We will continue to provide this notification to you annually until cleanup objectives have been met. If you have any questions or comments, please contact Paul Johansen of the Western Processing Trust Group at (425) 393-2565 or Christopher Maurer of the Washington Department of Ecology at (360) 407-7223.

Sincerely,

Paul Johansen

Western Processing Trust Group