PERIODIC REVIEW REPORT
FINAL

Carborundum Fill Site
Facility Site ID#: 1047
Cleanup Site ID#: 3059

3103 Lower River Road
Vancouver, Washington 98660

Southwest Regional Office

TOXICS CLEANUP PROGRAM

August 2017

TABLE OF CONTENTS

1.0 INTRODUCTION

This document is a review by the Washington State Department of Ecology (Ecology) of post-cleanup Site conditions to ensure that human health and the environment are being protected at the Carborundum Fill site (Site). Cleanup at this Site was implemented under the Model Toxics Control Act (MTCA) regulations, Chapter 173-340 Washington Administrative Code (WAC).

Cleanup activities at this Site were conducted under the Independent Remedial Action Program (IRAP). The cleanup actions resulted in concentrations of polycyclic aromatic hydrocarbons (PAHs) and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) remaining at the Site in soil that exceeded MTCA Method A cleanup levels. The MTCA Method A cleanup levels for soil are established under WAC 173-340-740(2). WAC 173-340-420 (2) requires that Ecology conduct a periodic review of a Site every five years under the following conditions:

- Whenever the department conducts a cleanup action.
- Whenever the department approves a cleanup action under an order, agreed order or consent decree.
- Or, as resources permit, whenever the department issues a no further action opinion.
- And one of the following conditions exists:

    (a) Institutional controls or financial assurance are required as part of the cleanup.
    (b) Where the cleanup level is based on a practical quantitation limit.
    (c) Where, in the department's judgment, modifications to the default equations or assumptions using site-specific information would significantly increase the concentration of hazardous substances remaining at the site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.

When evaluating whether human health and the environment are being protected, the factors the department shall consider include [WAC 173-340-420(4)]:

(a) The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the Site.
(b) New scientific information for individual hazardous substances of mixtures present at the Site.
(c) New applicable state and federal laws for hazardous substances present at the Site.
(d) Current and projected Site use.
(e) Availability and practicability of higher preference technologies.
(f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

The department shall publish a notice of all periodic reviews in the Site Register and provide an opportunity for public comment.

2.0 SUMMARY OF SITE CONDITIONS

2.1 Site History

The former Carborundum Fill Site is located at 3103 NW Lower River Road in the City of Vancouver in Clark County, Washington. A Vicinity Map is available as Appendix 6.1 and a Site Plan is available as Appendix 6.2. Remedial actions were conducted at the Site in late 1992s. A Restrictive Covenant was recorded for the Site on February 20, 1998 and Ecology issued a No Further Action determination letter on March 17, 1998.

The former Carborundum facility located at 2100 NW 26th Avenue, Vancouver, Washington manufactured silicon carbide, an abrasive that was used in a variety of industrial and commercial processes. The facility operated from approximately 1949 until 1982 when it was closed down and the property was purchased by the Port of Vancouver. In the fall of 1991, Rhine, Inc. was contracted by the Port of Vancouver (Port) for the demolition of the former Carborundum facility. During part of demolition of the Old Mix Building in early 1992, a black substance, believed to be a remnant of the Old Mix material or petroleum coke used to make it, was encountered and mixed with the demolition debris. Approximately 40 percent of this demolition debris was subsequently placed in an excavation near the Old Mix Building (OMB) and the adjoining portion of the former Furnace Building. The other 60 percent of the demolition debris was transported to a Fill Site in the northwest portion of the Port property, immediately south of Lower River Road. The fill area was a permitted wetland fill site pursuant to U.S. Army Corps of Engineers Permit No. 071-OYA-4-009164. The demolition activities were halted when the demolition debris was found to be contaminated, including the debris transported to the Fill Site. The transported soil and demolition debris were contaminated with polycyclic aromatic hydrocarbons (PAHs) including carcinogenic PAHs (cPAHs) exceeding the Model Toxics Control Act Method A and/or Method B cleanup levels. The total cPAHs concnetrations in seven samples of the waste material ranged from about 2 to 21 milligrams per kilogram (mg/kg) with an average concentration of 12 mg/kg.

2.1.1 Fill Area Removal/Remedial Activities

Following ceasing of the demolition activities, the Port of Vancouver hired Hart Crowser, Inc. to assess the situation and provide recommendations to address the problem. In May 1992, a work plan was submitted to Ecology for approval. The work plan recommended that the debris that had been inadvertently deposited in the Fill Site be removed and transported back to the Carborundum demolition site for further analysis and evaluation of disposal or remediation options. The Port decided to implement the Removal Work Plan as an independent action under WAC 173-340-510(5). The Port considered this action to be the most prudent approach to remediating this Site.

The removal activities began in October 1992. The general excavation area was divided into two sections: West and East (Appendix 6.4, Figure 2). In general, the excavations were continued until no significant visible evidence of demolition debris with suspect material was observed at

the excavation limits. Results of sampling and analysis were also used to determine the excavation limits prior to final confirmation sampling and analysis.

2.1.1.1 West Section Excavation

In October 1992, approximately 7000 cubic yards of materials were excavated from the west section to a depth of approximately six feet. Generally, the upper two feet of the demolition debris consisted of more visibly stained material. At depths greater than two feet, varying zones of more visibly and less visibly stained material were encountered. Approximately, 70 percent of the west section was excavated to an exposed clay bottom and no groundwater was encountered during the excavation.

2.1.1.2 East Section Excavation

Approximately 2500 cubic yards of demolition debris were removed from the east section in November 1992. The depth of the east section excavation varied from about three to six feet. More visibly stained material was generally encountered in the upper three feet of the excavation and varying zones of more and less visibly stained soil was encountered at depths greater than three feet. The excavation was conducted during the wet weather which resulted in the standing water at the base of portions of the east section excavation. Standing water prevented further excavation in some portions of the east section excavation.

2.1.1.3 Transportation and Stockpiles

Excavated material was transported from the fill area to the demolition site by dump trucks and trailers taking care to prevent spillage or tracking of potentially contaminated demolition debris during transportation. Demolition debris was placed into two stockpiles on an asphalt surface at the demolition site. Approximately 8,100 cubic yards were designated as "more visibly stained material" and the other remaining 1,400 cubic yards were designated as "less visibly stained material." The two stockpiles were covered with plastic sheeting.

A total of eight soil samples were collected from the two stockpiles and the samples were analyzed for PAHs. The cPAHs concentrations in the more stained stockpile soil samples ranged from 13 mg/kg to 264 mg/kg. The cPAHs concentrations in the less stained stockpile soil samples ranged from 9.4 mg/kg to 38 mg/kg. Stockpile sampling locations and soil/debris sample results are included as Appendix 6.3.

2.1.1.4 Fill Area Excavation and Confirmation Soil Sampling

A total of fifteen confirmation soil samples were collected at the bottom and side walls of the excavation. All the samples were analyzed for PAHs to assess if the cleanup goals had been achieved. The cPAHs concentration in the confirmation soil samples ranged from less than 0.05 mg/kg to 8.1 mg/kg. Results of six of soil samples were below or near the cleanup goal of 1 mg/kg. The results of cPAHs concentrations of two soil samples collected at the bottom and eastern wall of the east section excavation were 4.5 mg/kg and 8.2 mg/kg, respectively. These concentrations exceeded the cleanup goal of 1 mg/kg. Additional excavation was not performed

due to the impracticability of removing additional material in these areas. The excavation hole was backfilled with imported clean material and an asphalt cap was installed on the top. Confirmation soil sampling locations and soil sample results are included as Appendix 6.4.

Although some of the sample results exceeded the cleanup goal of 1 mg/kg (Table 1), the remaining residual threat to human health and the environment is small because there is 5 feet of clean fill and an asphalt cap on top of the contaminated material. Groundwater samples were not obtained because, based on the best professional judgement about the insoluble nature of PAHs compounds and relatively low cPAHs concentrations remaining in the remaining soils, possible impacts to groundwater were highly unlikely.

Table 1: Soil Concentration Exceedenses Left in Place

CONTAMINANT	CONCENTRATION (mg/kg)	CLEANUP LEVEL (mg/kg)
Carcinogenic PAHs	4.5 to 8.2	1 mg/kg

2.2 Cleanup Levels

Remedial activities at the Site were conducted with the goal of removing the debris that contained cPAHs concentrations greater than the MTCA Method A cleanup level of 1mg/kg. This goal was selected based on the residential land use criteria established under MTCA. Though the area is zoned for industrial use, the unrestricted land use cleanup goal was used for the excavation of contaminated debris. Some soil remains at the Site with cPAH concentrations greater than MTCA Method A cleanup level of 1 mg/kg but below MTCA Method C industrial cleanup level of 20 mg/kg. Institutional controls in the form of a restrictive covenant were implemented to further enforce continued industrial land use.

2.3 Restrictive Covenant

Following the remedial activities, a Restrictive Covenant was recorded on the property on February 20, 1998 and a no further action letter was issued on March 17, 1998. A Restrictive Covenant would serve to notify future property owners of soil contamination remaining at the Site and prevent disturbance and exposure of contaminated soils contained at the Site. The Restrictive Covenant impose the following limitations:

Section 1: The Site may be used only for industrial purposes.

Section 2: The current structures on the Site include a building covering approximately one half of the Site. It is anticipated that some disturbance of the soil may be necessary for further use of the property consistent with the Port of Vancouver's industrial purposes. Any significant disturbance will be conducted in accordance with a Health and Safety Plan consistent with then current Ecology regulations. Any removal of contaminated soil will be reported to Ecology.

Section 3: The owner of the property must give written notice to Ecology, or a successor agency, of the owner's intent to convey any interest in the property.

Section 4: No conveyance of title, easement, lease or other interest in the property shall be consummated by the owner without adequate and complete provision for continued compliance with this Deed Restriction. The owner must notify and obtain approval from Ecology, or its successor agency, prior to any use of the property that is inconsistent with the terms of this Restrictive Covenant. Ecology or its successor agency may approve any inconsistent use only after appropriate public notice and comment.

Section 5: The owner shall provide authorized representatives of Ecology, or its successor agency, the right to enter the property at a reasonable time, after prior notice to owner, for the purpose of evaluating the Cleanup Action, taking samples, inspection remedial actions conducted at the property, and inspecting records that are related to the Cleanup Action.

Section 6: No wells shall be hereafter installed on the subject property for the extraction of potable water for human ingestion.

Section 7: The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

Section 8: The owner of the Site and the owner's assigns and successors in interest reserve the right under WAC 173-340-440(7) to record an instrument which provides that this Restrictive Covenant shall no longer limit use of the property or be of any further force or effect. However, such an instrument may be recorded only with the consent of Ecology, or its successor agency Ecology, or its successor agency, may consent to the recording of such an instrument only after appropriate public notice and comment.

The Restrictive Covenant is available as Appendix 6.5.

3.0 PERIODIC REVIEW

3.1 Effectiveness of completed cleanup actions

Based upon the Site visit conducted on September 28, 2016, Site access is controlled and continues to be restricted from the general public. The Site is used for industrial purposes which are consistent with the Restrictive Covenant. The Site surface consists of an asphalt cap and currently the Site is being used as a parking lot. The asphalt cover is in excellent condition and continues to prevent direct human exposure pathways (ingestion, contact) to contaminated soils. The cap inspection is being conducted by the Port on an 18-month frequency. A photo log is available as Appendix 6.6.

The Restrictive Covenant for the Site was recorded and is in place. This Restrictive Covenant prohibits activities that will result in the release of contaminants contained as part of the cleanup without Ecology's approval, and prohibits any use of the property that is inconsistent with industrial zoning regulations.

3.2 New scientific information for individual hazardous substances for mixtures present at the Site

Cleanup levels at the Site were based on regulatory standards rather than calculated risk for chemicals and/or media. These standards are sufficient to be protective of site-specific conditions.

3.3 New applicable state and federal laws for hazardous substances present at the Site

3.3.1 Modified Cleanup Levels

Initial cleanup at the Site was governed by Chapter 173-340 WAC (1996 ed.). Current WAC 173-340-702(12) (c) provides that,

"A release cleaned up under the cleanup levels determined in (a) or (b) of this subsection shall not be subject to further cleanup action due solely to subsequent amendments to the provision in this chapter on cleanup levels, unless the department determines, on a case-by-case basis, that the previous cleanup action is no longer sufficiently protective of human health and the environment."

Contamination remains at the Site above MTCA Method A cleanup levels, though the cleanup action is still protective of human health and the environment. Overall, the changes to the original standards have not resulted in the need to conduct additional investigation or remedial actions at the Site.

3.4 Current and projected Site use

The Site is currently occupied by an asphalt paved parking lot. This use is not likely to have any negative impact on the risk posed by hazardous substances contained at the Site. There are no projected changes in the Site use.

3.5 Availability and practicability of higher preference technologies

The remedy implemented included capping of hazardous substances and it continues to be protective of human health and the environment. While higher preference cleanup technologies may be available, they are still not practicable at this Site.

3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels

The analytical methods used at the time of the remedial actions were capable of detection below MTCA Method A cleanup levels. The presence of improved analytical techniques would not affect decisions or recommendations made for the Site.

4.0 CONCLUSIONS

- The cleanup actions completed at the Site are protective of human health and the environment.

- Soils cleanup levels have not been met for cPAHs at the Site; however, under WAC 173-340-740(6) (d), the cleanup action is determined to comply with cleanup standards, since the long-term integrity of the containment system is ensured and the requirements for containment technologies have been met.

- The Restrictive Covenant for the property is in place and will be effective in protecting public health from exposure to hazardous substances and protecting the integrity of the cleanup action.

Based on this review, Ecology has determined that the remedial actions conducted at the Site continue to be protective of human health and the environment. The requirements of the Restrictive Covenant are being satisfactorily met and no additional remedial actions are required at the Site at this time. It is the property owner's responsibility to continue to inspect the Site to assure that the integrity of the surface cover is maintained.

4.1 Next Review

The next review for the Site will be scheduled five years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.

5.0 REFERENCES

Hart Crowser. Fill Site Removal Report. Port of Vancouver, Vancouver, Washington. December 24, 1992.

Port of Vancouver. Letter to Ecology regarding Submittal of a Removal Work Plan, Carborundum Fill Area. May 7, 1992.

Port of Vancouver. Letter to Ecology regarding the Implementation of the Removal Work Plan For Carborundum Fill Area. October 1, 1992.

Hart Crowser. Soil Cover Construction Report. Former Carborundum Waste Disposal Ponds, Port of Vancouver, Vancouver, Washington. November 9, 1993.

Schwabe, Williamson & Wyatt, P.C. Restrictive Covenant. Tax Parcel Number 059117-882-0. February 20, 1998.

Port of Vancouver. Letter to Ecology regarding including the "Fill Area" cleanup under IRAP Program. June 27, 1996.

Ecology. No Further Action Letter, March 17, 1998.

Ecology. Site Visit on September 28, 2016.

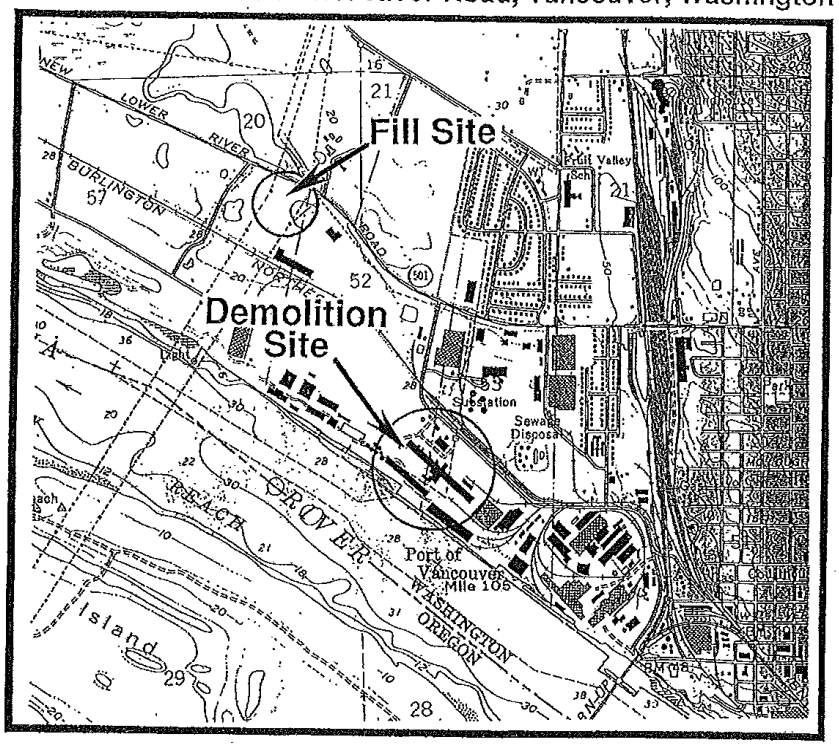
6.0 APPENDICES

6.1 Vicinity Map

Site Location Map

Former Carborundum Facility

26th Street and Old Lower River Road, Vancouver, Washington



Base map prepared from the USGS 7.5-minute quadrangle of Vancouver, Washington, 1978.

SCALE 1 : 24 000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

CONTOUR INTERVAL 20 FEET

NATIONAL GEODETIC VERTICAL DATUM OF 1929

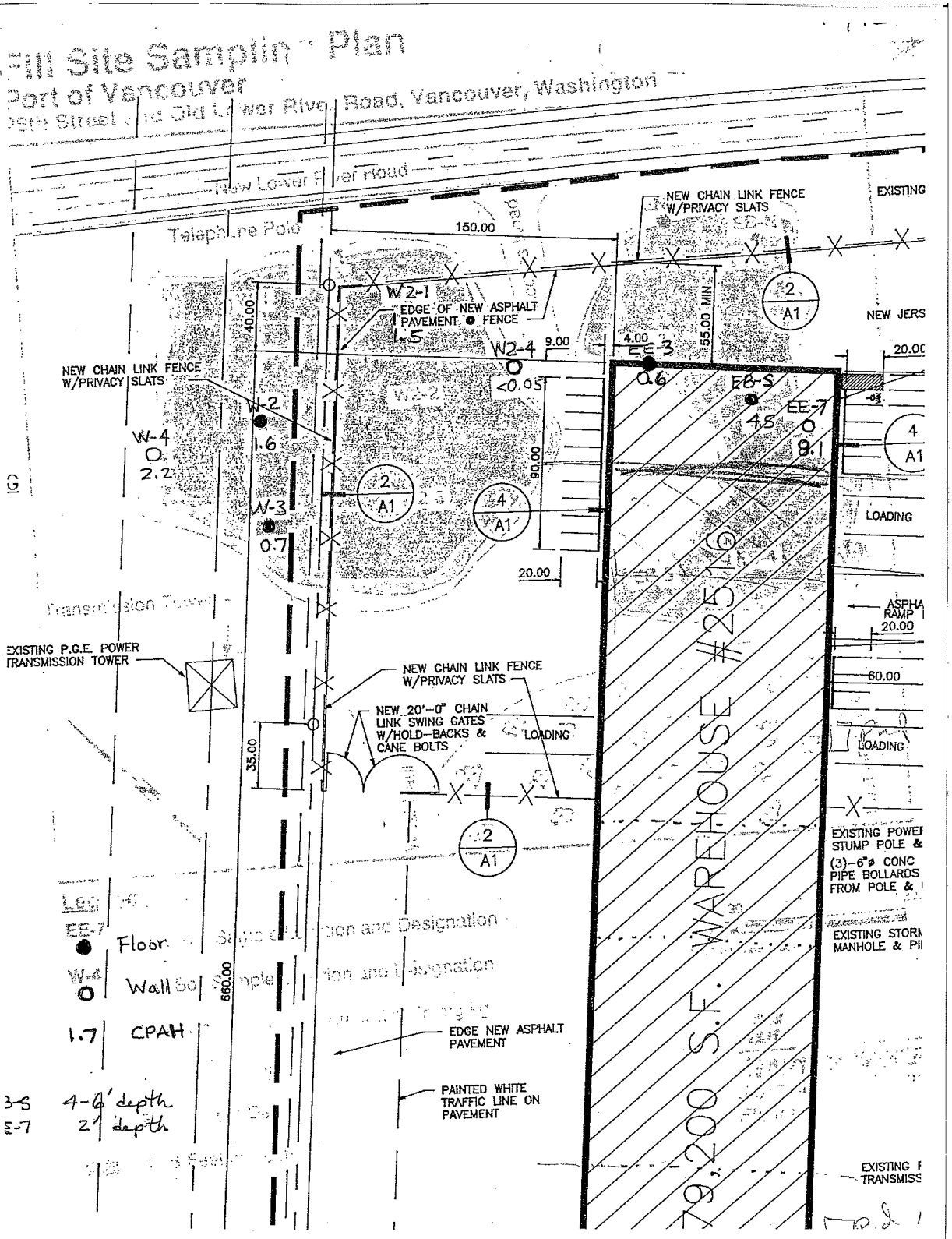
N

HARTCROWSER

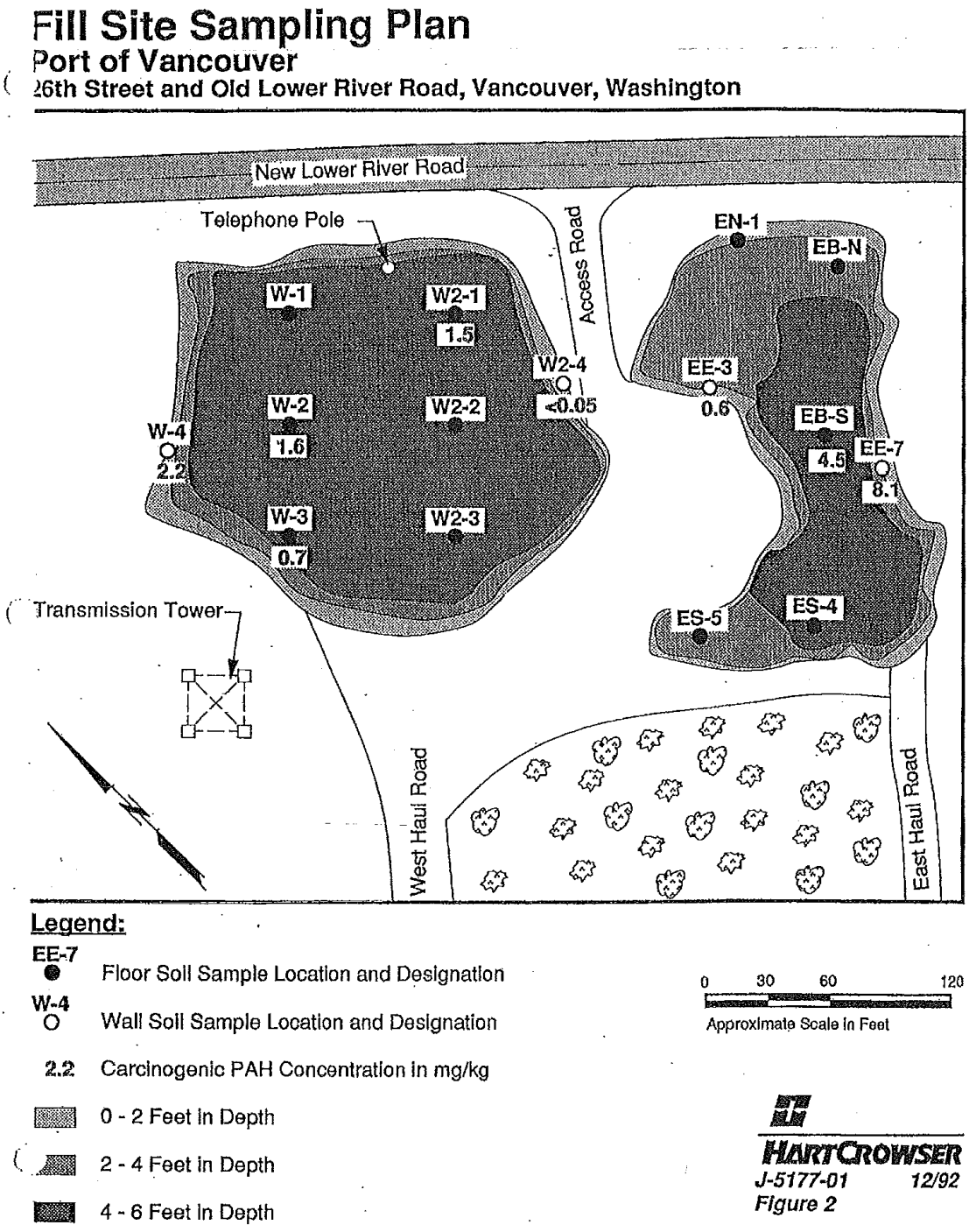
J-5177-01 12/92

Figure 1

6.2 Site Plan


Fill Site Sampling Plan
Port of Vancouver
New Lower River Road
Telephone Pole
150.00
NEW CHAIN LINK FENCE W/PRIVACY SLATS
EXISTING
EDGE OF NEW ASPHALT PAVEMENT
FENCE
W2-1
W2-4
W2-2
W-2
W-3
W-4
1.6
0.7
2.2
<0.05
0.6
4.5
9.1
1.5
40.00
55.00 MIN.
90.00
20.00
9.00
4.00
NEW JERS
LOADING
ASPHA RAMP
60.00
EXISTING P.G.E. POWER TRANSMISSION TOWER
NEW CHAIN LINK FENCE W/PRIVACY SLATS
NEW 20'-0" CHAIN LINK SWING GATES W/HOLD-BACKS & CANE BOLTS
35.00
660.00
EXISTING POWER STUMP POLE & (3)-6"ø CONC PIPE BOLLARDS FROM POLE &
EXISTING STORM MANHOLE & PI
EDGE NEW ASPHALT PAVEMENT
PAINTED WHITE TRAFFIC LINE ON PAVEMENT
EXISTING TRANSMISS
1900 S.F. WAREHOUSE #2
Floor
Wall
CPAH
4-6' depth
2' depth

6.3 Fill Site Confirmation Soil Sample Locations and Table of Results



Hart Crowser
J-5177-01

Table 1 - TPH/PAH Concentrations in Soil - Final Excavation Limits (mg/kg)
Carborundum Fill Site Remediation
Port of Vancouver

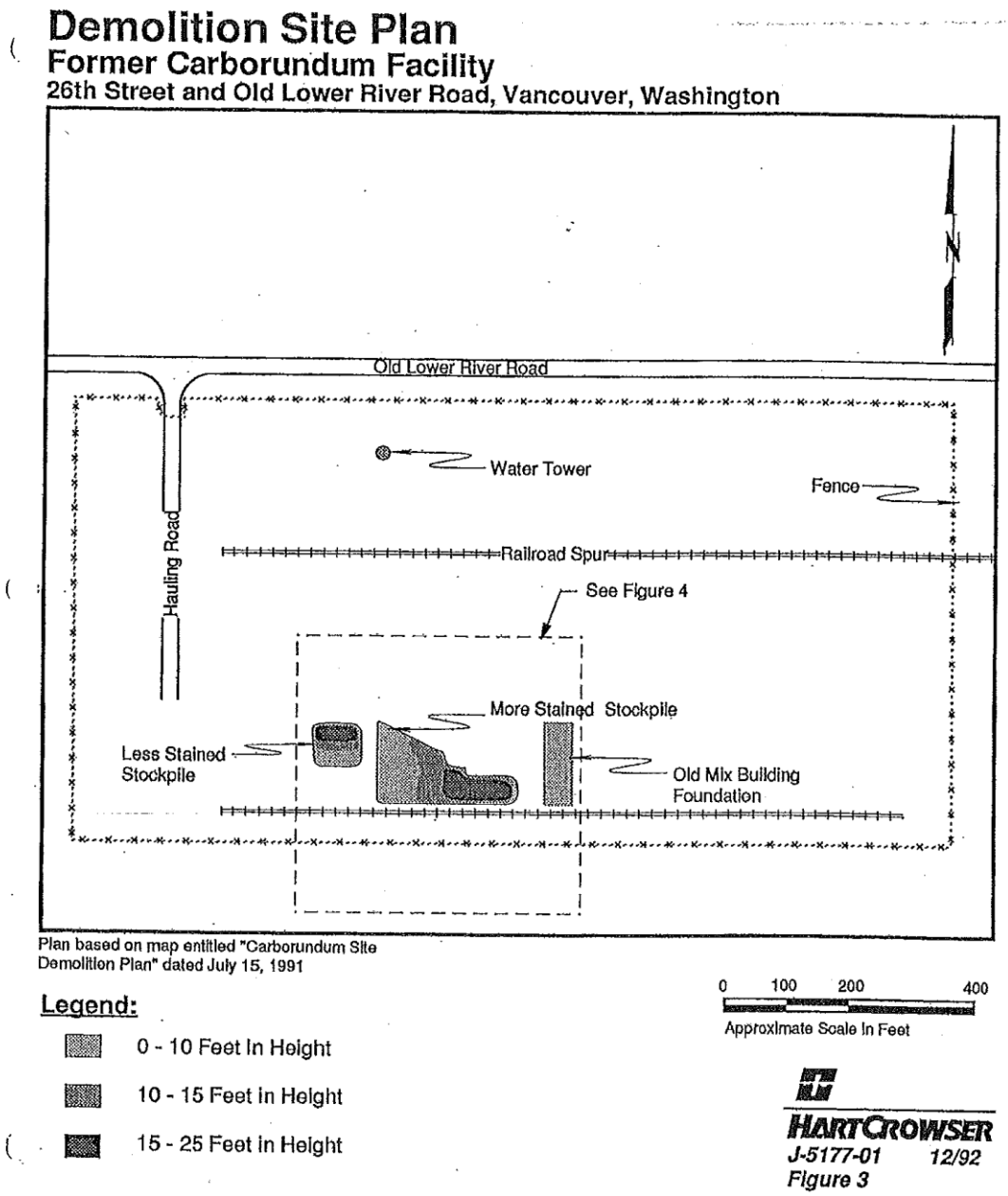
Sample	Concentration in Soil in mg/kg														
	EB-N	EB-S	EE-3	EE-7	EN-1	ES-4	ES-5	W-1	W-2	W-3	W-4	W2-1	W2-2	W2-3	W2-4
Compound															
TPH (GC/FID)	0	210	65	600	36	0	41	0	0	36	0	0	0	0	32
Naphthalene		0.1 U	0.092 U	0.11					0.11 U	0.1 U	0.09 U	0.092 U			
Acenaphthylene		0.21 U	0.19 U	0.19 U					0.22 U	0.21 U	0.18 U	0.19 U			0.12 U
Acenaphthene		0.21 U	0.19 U	0.19 U					0.22 U	0.21 U	0.18 U	0.19 U			0.25 U
Fluorene		0.043	0.019 U	0.019 U					0.032	0.038	0.15	0.11			0.025 U
Phenanthrene		0.91	0.13	1.6					0.53	0.31	0.92	0.57			0.012 U
Anthracene		0.12	0.026	0.3					0.083	0.04	0.15	0.12			0.012 U
Fluoranthene		1.7	0.26	3.7					0.87	0.38	1.3	0.95			0.025 U
Pyrene •		2.6	0.31	4.0					1.1	0.45	1.6	1.1			0.027
Benzo(a)anthracene •†		0.82	0.098	1.6					0.31	0.12	0.39	0.28			0.025 U
Chrysene •†		1.5	0.13	1.8					0.43	0.17	0.51	0.31			0.025 U
Benzo(b)fluoranthene •†		0.77	0.081	1.4					0.22	0.099	0.32	0.22			0.025 U
Benzo(k)fluoranthene •†		0.13	0.038	0.57					0.057	0.039	0.14	0.094			0.025 U
Benzo(a)pyrene •†		0.74	0.16	1.7					0.32	0.12	0.45	0.32			0.025 U
Dibenzo(a,h) anthracene •†		0.09	0.038 U	0.13					0.043 U	0.041 U	0.037	0.038 U			0.05 U
Benzo(g,h,i)perylene•		0.53	0.12	1.1					0.31	0.13	0.44	0.29			0.025 U
Indeno(1,2,3-cd)pyrene •†		0.43	0.1	0.96					0.26	0.11	0.39	0.26			0.025 U
Total PAHs		6.2	1.1	11.0					3.2	1.6	4.8	3.4			1.6
Total B2 Carcinogenic PAHs		4.5	0.6	8.2					1.6	0.7	2.2	1.5			0.05 U
Total Persistent PAHs		7.6	1.1	13.3					3.1	1.3	4.3	2.9			0.1

• indicates persistent PAH
†indicates carcinogenic PAH

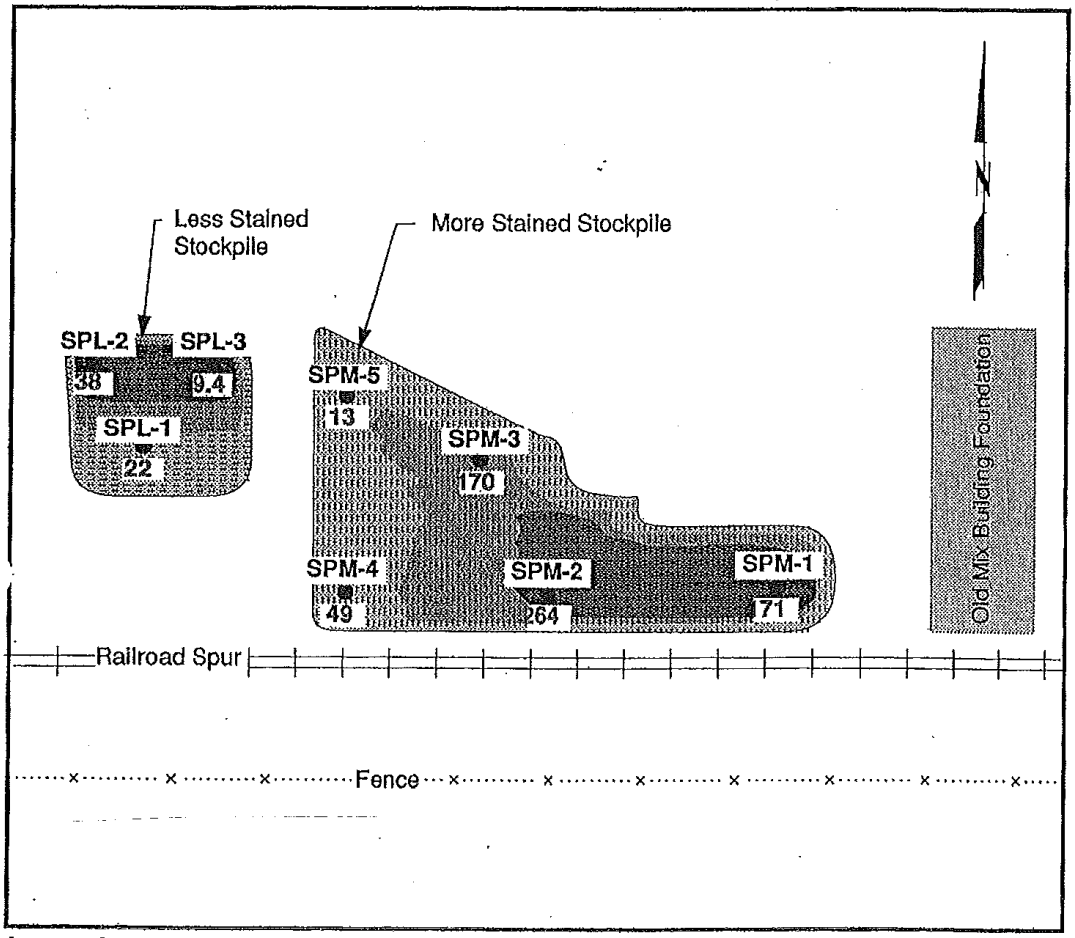
U - Indicates non-detected at the detection limit noted

Page 1 of 1

6.4 Stockpiles Sampling Locations and Table of Results



Stockpile Site Sampling Plan
Former Carborundum Facility
26th Street and Old Lower River Road, Vancouver, Washington



Legend:

SPM-4
49 — Soil Sample Location and Designation
Carcinogenic PAH Concentration in mg/kg

0 - 10 Feet in Height

10 - 15 Feet in Height

15 - 25 Feet in Height

0 30 60 120
Approximate Scale in Feet

HARTCROWSER
J-5177-01 12/92
Figure 4

Hart Crowser
J-5177-01

Table 2 - PAH Concentrations in Stockpiled Soil (mg/kg)
Carborundum Fill Site Remediation
Port of Vancouver

Sample	Concentration in Soil in mg/kg							
Compound	SPM-1	SPM-2	SPM-3	SPM-4	SPM-5	SPL-1	SPL-2	SPL-3
Naphthalene	4.7 U	9.4 U	4.8 U	1.0 U	0.97 U	0.91 U	0.89 U	0.94 U
Acenaphthylene	17	41	21	2.1 U	2.0 U	1.9 U	1.8 U	1.9 U
Acenaphthene	9.7 U	19 U	9.8 U	2.1 U	2.0 U	1.9 U	1.8 U	1.9 U
Fluorene	7.8	14	7.7	0.21 U	0.2 U	0.46	0.64	0.19 U
Phenanthrene	89	220	87	8.2	4.4	11	15	2.4
Anthracene	29	30	14	1.4	0.46	1.5	1.4	0.38
Fluoranthene	71	170	70	12	6.6	14	23	3.8
Pyrene •	87	330	86	24	9.4	19	18	6.3
Benzo(a)anthracene •†	20	41	20	7.2	1.9	3.3	5.9	1.5
Chrysene •†	24	48	25	9.2	2.9	5.7	8.1	2.2
Benzo(b)fluoranthene •†	28	26	16	6.4	1.8	2.8	4.7	1.1
Benzo(k)fluoranthene •†	13	13	7.7	2.8	0.52	1.1	2.1	0.44
Benzo(a)pyrene •†	42	81	44	13	2.8	3.3	6.3	2.0
Dibenzo(a,h) anthracene •†	9.3	24	10	2.5	1.5	2.4	4.9	0.83
Benzo(g,h,i)perylene•	45	39	25	9.2	2.4	4.0	6.8	1.6
Indeno(1,2,3-cd)pyrene •†	35	31	47	8.1	2.0	3.4	5.9	1.3
Total PAHs	353	858	318	57.5	25.8	52.3	67.1	16.9
Total B2 Carcinogenic PAHs	171	264	170	49	13.4	22	37.9	9.4
Total Persistent PAHs	303	633	281	82.4	25.2	141	62.7	17.3

• indicates persistent PAH

†indicates carcinogenic PAH

U - Indicates non-detected at the detection limit noted

6.5 Environmental Covenant

After Recording Return To: 9802230224
David F. Bartz, Jr.
Schwabe, Williamson & Wyatt, P.C.
1211 SW Fifth Avenue, Suite 1700
Portland, OR 97204

RESTRICTIVE COVENANT

DATED: 2/20, 1998

GRANTOR: PORT OF VANCOUVER
a Washington municipal corporation

GRANTEE: None

ABBREVIATED LEGAL DESCRIPTION: SEC 20 T2N R1E

FULL LEGAL DESCRIPTION LOCATED ON: PAGE 1

ASSESSOR'S PROPERTY TAX PARCEL OR ACCOUNT NUMBER: 059117-882.0

REFERENCE NUMBERS OF RELATED DOCUMENTS: None

RESTRICTIVE COVENANT

On the former Carborundum Fill Site
3309 N.W. Lower River Road, Vancouver, WA 98660

The Port of Vancouver is the fee owner of real property in the County of Clark, State of Washington (the "Site") which has been the subject of an independent remedial action under Chapter 70.105D RCW. The Site is legally described as follows:

That portion of the Henry Van Alman Donation Land Claim lying in the Northeast Quarter of Section 20, Township 2 North, Range 1 East, Willamette Meridian, City of Vancouver, Clark County, Washington, described as follows:

Beginning at a 2 inch iron pipe marking the Northwest corner of the Amos Short Donation Land Claim, as shown in Book 39 of Surveys at Page 125, records of said county; thence along the Northerly extension of the West line of said Short Donation Land Claim North 02° 19' 42" East, 2093.23 feet; thence North 87° 40' 18" West, 4062.04 feet to the intersection of the South right of way line of SR 501 (Lower River Road) with the West line of the Bonneville Power Administration right of way line as shown in Book 29 of Surveys at Page 161, records of said county; thence along said South right of way line South 64° 04' 18" East, 100.00 feet to the True Point of Beginning; thence continuing along said South right of way line South 64° 04' 18" East, 360.00 feet; thence leaving said South right of way line South 25° 55' 42" West, 210.00 feet; thence North 64° 04' 18" West, 360.00 feet; thence North 25° 55' 42" East, 210.00 feet to the True Point of Beginning.

This Restrictive Covenant is required by Ecology as defined in WAC 173-340-440 because the remedial actions undertaken to clean up the Site (the "Cleanup Actions") resulted in residual concentrations of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) which exceed Model Toxics Control Act Method A cleanup levels for soil and groundwater established under WAC 173-340-720(2).

(17/067855/070573/DFB/155423.2)9:42am 12/17/97

The remedial actions undertaken to clean up the Site (hereafter the "Cleanup Actions") are described in the following reports:

The Standard Oil Company Technical Service Response No. 5427, October 7, 1984.

The Standard Oil Company Technical Service Response No. 5554, Project 1196-02, Vancouver SIC Plant Baghouse Slurry Pond Evaluation, April 14, 1986.

Hart Crowser, Inc., Fill Site Removal Report, Port of Vancouver, Washington, December 24, 1992.

Hart Crowser, Inc., Soil Cover Construction Report, Former Carborundum Waste Disposal Ponds, Port of Vancouver, Washington, November 9, 1993.

CH2M Hill Port of Vancouver, Former Carborundum Facility, Vancouver, Washington, Groundwater Assessment, November 1994.

CH2M Hill Alternatives Assessment Report Remediation of Contaminated Soils, Port of Vancouver, Former Carborundum Facility Port of Vancouver, USA, March 1995.

CH2M Hill, Independent Remedial Action Close-out Report, Former Carborundum Site, December 1995.

CH2M Hill, December 1995 Groundwater Sampling Results, January 25, 1996.

CH2M Hill, Port of Vancouver Former Carborundum Facility Test Pit Results, November 8, 1996.

CH2M Hill, Port of Vancouver Former Carborundum Facility Railroad Soil Remediation Alternatives, February 4, 1997.

CH2M Hill, Port of Vancouver Former Carborundum Facility Quarterly Groundwater Sampling Results, June 11, 1997.

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CH2M Hill, Port of Vancouver Former Carborundum Facility Groundwater Assessment Summary, June 17, 1997.

The above documents are on file at the State of Washington, Department of Ecology ("Ecology") Southwest Regional Office.

The Cleanup Action meets the Model Toxics Control Act Method C cleanup levels for industrial soil and groundwater established under WAC 173-340-700(3)(c) and 720(4) in conformity with the criteria established in WAC 173-340-745. Soil with CPAH concentrations greater than MTCA Industrial cleanup levels is not present on the Site. The soil with elevated CPAH concentrations is covered by several feet of engineered fill, pavement and a building. Because the Site is located within the Port marine industrial area, access is limited. The Site is fenced and patrolled by Port security on a 24 hour basis.

The undersigned, Port of Vancouver, is the fee owner of the real property described above and makes the following declarations as to limitations, restrictions, and uses to which the Site may be put, and specifies that such declaration 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: The Site may be used only for industrial purposes.

Section 2: The current structures on the Site include a building covering approximately one half of the Site. It is anticipated that some disturbances of the soil may be necessary for further use of the property consistent with the Port of Vancouver's industrial purposes. Any significant disturbance will be conducted in accordance with a Health and Safety Plan consistent with then current Ecology regulations. Any removal of contaminated soil will be reported to Ecology.

Section 3: The owner of the property must give written notice to Ecology, or a successor agency, of the owner's intent to convey any interest in the property.

(17/067855/070573/DFB/155423.2)9:42am 12/17/97

Section 4: No conveyance of title, easement, lease or other interest in the property shall be consummated by the owner without adequate and complete provision for continued compliance with this Deed Restriction. The owner must notify and obtain approval from Ecology, or its successor agency, prior to any use of the property that is inconsistent with the terms of this Restrictive Covenant. Ecology or its successor agency may approve any inconsistent use only after appropriate public notice and comment.

Section 5: The owner shall provide authorized representatives of Ecology, or its successor agency, the right to enter the property at a reasonable time, after prior notice to owner, for the purpose of evaluating the Cleanup Action, taking samples, inspection remedial actions conducted at the property, and inspecting records that are related to the Cleanup Action.

Section 6: No wells shall be hereafter installed on the subject property for the extraction of potable water for human ingestion.

Section 7: The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

Section 8: The owner of the Site and the owner's assigns and successors in interest reserve the right under WAC 173-340-440(7) to record an instrument which provides that this Restrictive Covenant shall no longer limit use of the property or be of any further force or effect. However, such an instrument may be recorded only with the consent of Ecology, or its successor agency. Ecology, or its successor agency, may consent to the recording of such an instrument only after appropriate public notice and comment.

PORT OF VANCOUVER

Date: February 20, 1998

By: _____

Title: _____

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Restrictive Covenant (Carborundum Fill Site)
December 17, 1997
Page 5

STATE OF WASHINGTON)
) ss.
County of Clark)

On this 20th day of February, 1998, before me, the undersigned, a Notary Public in and for the state of Washington, duly commissioned and sworn, personally appeared Byron H. Hanke, known to be the Executive Director of the Port of Vancouver, the municipal corporation that executed the foregoing instrument, and acknowledge the instrument to be the free and voluntary act and deed of that corporation for the uses and purposes therein mentioned, and on oath stated that they were authorized to execute the instrument on behalf of the corporation.

WITNESS my hand and official seal hereto affixed the day and year first above written.

NANCY I. BAKER
NOTARY PUBLIC
STATE OF WASHINGTON
COMMISSION EXPIRES
APRIL 1, 1999

NOTARY PUBLIC in and for the State of Washington, residing at Vancouver
My Commission Expires: 4/1/99

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8-4-97
NJB/ed

MacKay & Sposito Inc.

M&S

ENGINEERS SURVEYORS PLANNERS
1703 MAIN STREET VANCOUVER, WASHINGTON 98660
WASHINGTON (360) 695-3411 FAX (360) 695-0833 OREGON (503) 289-6726 EMAIL msinc@e-z.net

LEGAL DESCRIPTION
"FILL SITE" AREA OF FORMER CARBORUNDUM COMPANY
PORT OF VANCOUVER
VANCOUVER, WASHINGTON

That portion of the Henry Van Alman Donation Land Claim lying in the Northeast Quarter of Section 20, Township 2 North, Range 1 East, Willamette Meridian, City of Vancouver, Clark County, Washington, described as follows:

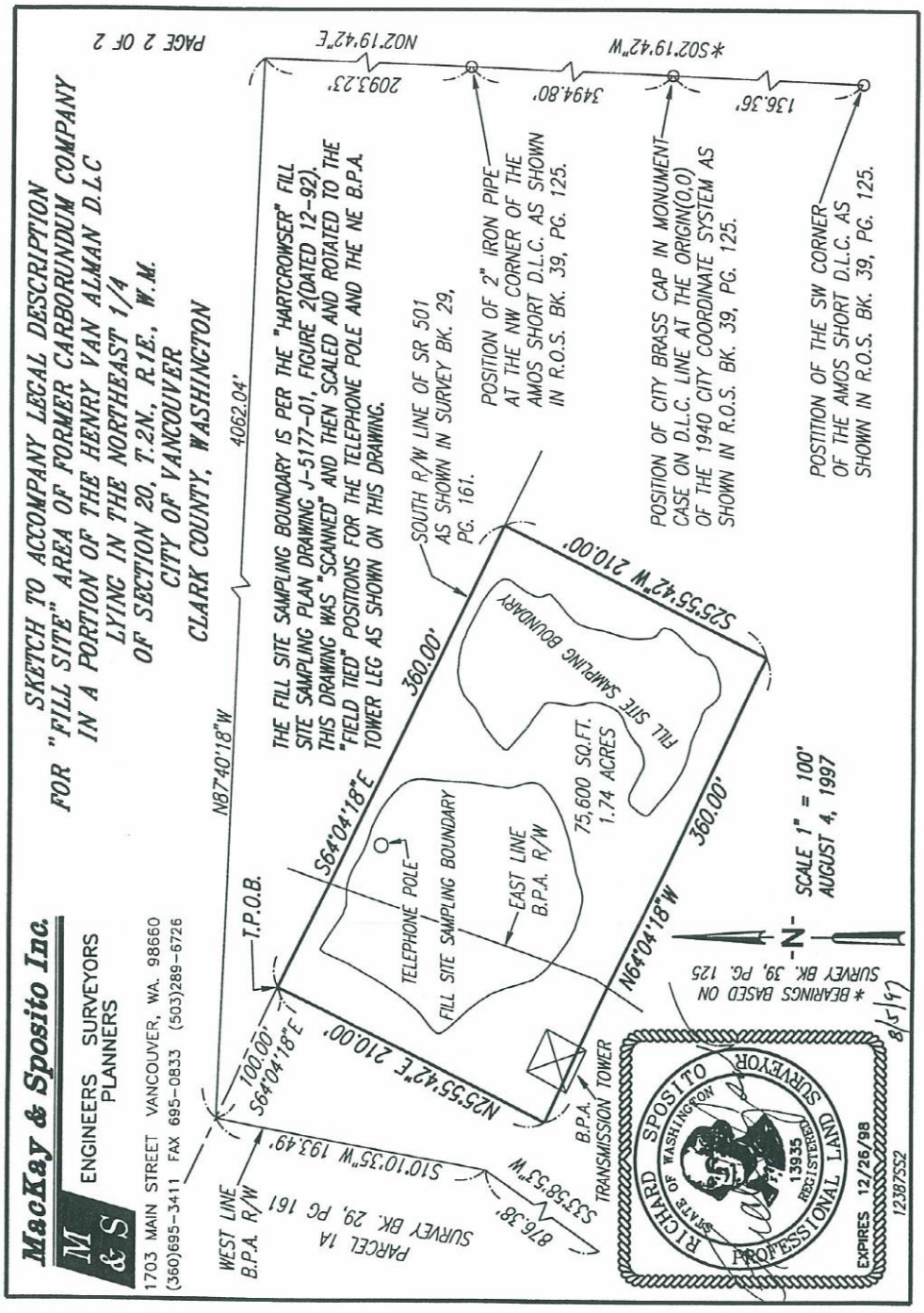
Beginning at a 2 inch iron pipe marking the Northwest corner of the Amos Short Donation Land Claim, as shown in Book 39 of Surveys at Page 125, records of said county; thence along the Northerly extension of the West line of said Short Donation Land Claim North 02° 19' 42" East, 2093.23 feet; thence North 87° 40' 18" West, 4062.04 feet to the intersection of the South right of way line of SR 501 (Lower River Road) with the West line of the Bonneville Power Administration right of way line as shown in Book 29 of Surveys at Page 161, records of said county; thence along said South right of way line South 64° 04' 18" East, 100.00 feet to the True Point of Beginning; thence continuing along said South right of way line South 64° 04' 18" East, 360.00 feet; thence leaving said South right of way line South 25° 55' 42" West, 210.00 feet; thence North 64° 04' 18" West, 360.00 feet; thence North 25° 55' 42" East, 210.00 feet to the True Point of Beginning.

Containing 1.74 acres or 75,600 sq ft.

RICHARD SPOSITO
STATE OF WASHINGTON
13935
REGISTERED
PROFESSIONAL LAND SURVEYOR
EXPIRES: 12/26/98

8/5/97

Page 1 of 2


SKETCH TO ACCOMPANY LEGAL DESCRIPTION
FOR "FILL SITE" AREA OF FORMER CARBORUNDUM COMPANY
IN A PORTION OF THE HENRY VAN ALMAN D.L.C
LYING IN THE NORTHEAST 1/4
OF SECTION 20, T.2N., R1E., W.M.
CITY OF VANCOUVER
CLARK COUNTY, WASHINGTON
PAGE 2 OF 2
MacKay & Sposito Inc.
ENGINEERS SURVEYORS
PLANNERS
1703 MAIN STREET VANCOUVER, WA. 98660
(360)695-3411 FAX 695-0833 (503)289-6726
THE FILL SITE SAMPLING BOUNDARY IS PER THE "HARTCROWSER" FILL SITE SAMPLING PLAN DRAWING J-5177-01, FIGURE 2(DATED 12-92). THIS DRAWING WAS "SCANNED" AND THEN SCALED AND ROTATED TO THE "FIELD TIED" POSITIONS FOR THE TELEPHONE POLE AND THE NE B.P.A. TOWER LEG AS SHOWN ON THIS DRAWING.
N87°40'18"W
4062.04'
N02°19'42"E
2093.23'
*S02°19'42"W
3494.80'
136.36'
SOUTH R/W LINE OF SR 501 AS SHOWN IN SURVEY BK. 29, PG. 161.
POSITION OF 2" IRON PIPE AT THE NW CORNER OF THE AMOS SHORT D.L.C. AS SHOWN IN R.O.S. BK. 39, PG. 125.
POSITION OF CITY BRASS CAP IN MONUMENT CASE ON D.L.C. LINE AT THE ORIGIN(0,0) OF THE 1940 CITY COORDINATE SYSTEM AS SHOWN IN R.O.S. BK. 39, PG. 125.
POSITION OF THE SW CORNER OF THE AMOS SHORT D.L.C. AS SHOWN IN R.O.S. BK. 39, PG. 125.
I.P.O.B.
S64°04'18"E
360.00'
S25°55'42"W 210.00'
FILL SITE SAMPLING BOUNDARY
75,600 SQ.FT.
1.74 ACRES
TELEPHONE POLE
FILL SITE SAMPLING BOUNDARY
EAST LINE B.P.A. R/W
N64°04'18"W
360.00'
N25°55'42"E 210.00'
100.00'
S64°04'18"E
S10°10'35"W 193.49'
876.38'
S33°58'53"W
WEST LINE B.P.A. R/W
PARCEL 1A SURVEY BK. 29, PG 161
B.P.A. TRANSMISSION TOWER
-N-
SCALE 1" = 100'
AUGUST 4, 1997
* BEARINGS BASED ON SURVEY BK. 39, PG. 125
RICHARD SPOSITO
STATE OF WASHINGTON
13935
REGISTERED
PROFESSIONAL LAND SURVEYOR
EXPIRES 12/26/98
12387SS2
8/5/97

6.6 Photo log

Photo 1: Former Wetland Fill Area/Carborundum Fill Site and Asphalt Cap – from the Southeast

Photo 2: Former Wetland Fill Area/Carborundum Fill Site and Asphalt Cap – from the North

Photo 3: Former Wetland Fill Area/Carborundum Fill Site and Asphalt Cap – from the South

Photo 4: Former Wetland Fill Area/Carborundum Fill Site and Asphalt Cap –from the Southwest

Photo 5: Former Wetland Fill Area/Carborundum Fill Site and Asphalt Cap – form the Southeast

Photo 6: Former Wetland Fill Area/Carborundum Fill Site and Asphalt Cap – from the Northeast