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STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

PO Box 47775 • Olympia, Washington 98504-7775 • (206) 407-6300

June 26, 1995

Mr. Greg Narum
Simpson Tacoma Kraft Co.
PO Box 2133
Tacoma, WA 98401

Dear Mr. Narum:

Re: Cleanup of Simpson Tacoma Kraft Company Property, Leased to Investco Financial Corporation, 733 East 11th Street, Tacoma, Washington

Based on the report of activities and testing provided by Airo Services, Inc., for the above noted site, Ecology is satisfied that the abandoned wastes and contaminated soils have been cleaned up in accordance with state guidelines for metals, PCBs, and petroleum hydrocarbons.

Documentation provided by the contractor indicates that soils meet MTCA Method A cleanup levels and waste materials were disposed of in accordance with MTCA and Dangerous Waste regulations. Since the work was done as an independent cleanup, without formal Ecology oversight, this decision is advisory only, per WAC 173-340-130(3)(a).

Per our conversation on June 23, 1995, I am not aware of any lists of cleanup sites on which this property has been placed by Ecology. Please let me know which list you are referring to. It would seem appropriate to "de-list" the site at this time if it has been placed on one of the lists that include sites that are to receive remedial action.

Thank you for your help and cooperation in getting the site contamination problem resolved. P Please let me know if you have any questions relating to the cleanup work performed. I can be reached at (360) 407-6259.

Sincerely,

Marv Coleman
Site Manager/Inspector/UBAT
Toxics Cleanup Program
Southwest Regional Office

MC:jr

cc: Lee Bagley, Ecology Dangerous Waste Program
Christina Ngo, EPA Region X
Jim Oberlander, Ecology Spills Program
Dave Smith, Ecology UBAT Supervisor

File: SIMINV1.ltr/clsr/6-26-95/rcl

USEPA SF
1310346

WESTON
MANAGERS DESIGNERS/CONSULTANTS
ROY F. WESTON, INC.
SUITE 5700
700 FIFTH AVENUE
SEATTLE, WASHINGTON 98104-5057
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FACSIMILE TRANSMITTAL
FAX 206-521-7601

TO: CHRISTINA NGO
EPA

Recipient's Telecopy Telephone # 553-0124
Recipient's Telephone #

FROM: DENA HUGHES

521-7665A
Originator's Telephone #

TOTAL PAGES: 5 (incl. cover sheet)

DATE: 7/20/95

W.O. #: Thea Foss

COMMENTS:

Christina - I have faxed you the methods/DL for TBT analysis that Hart Crowser used for Round 1 samples. They use Laucks as their lab; when WESTON collected split samples, we used Columbia Analytical Services (Kelso, WA). Both labs used "Krone et al" as the basis for their analytical technique (full citation is enclosed on 2nd page of Hart Crowser attachment). Hopefully this will help answer Joyce's questions. If not, I would suggest that either you or Joyce speak directly with WESTON's chemist - Roger McGinnis @ 521-7668 - who can provide additional info re: TBT analysis in Sediments. Dena

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55 Offices Worldwide

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Table 2-2 - Methods of Analysis and Detection Limit Goals - Sediments

Analyte	SQO	Detection Limit Goals (8)	Test Methods Sediments Reference	Method	
CONVENTIONALS & MISC.					
Total Solids		1 %	SM	2540 G	
Total Vol Solids		1 %	SM	2540 E	
Total Organic Carbon		0.1 %	SW 846	9060 with I.R.	
Ammonia		50 ppm	MCAWW	350	
pH		NA	SW 846	9045	
Sulfide		NA	PSEP	NA	
Grain Size		NA	ASTM	D-422	
METALS in mg/kg (ppm)					
Antimony	150	100	CLP	SOW ILM03.0	(11)
Arsenic	57	1	CLP	SOW ILM03.0	(1)
Chromium		1.2	CLP	SOW ILM03.0	(1)
Mercury	0.59	0.1	CLP	SOW ILM03.0	
Silver	6.1	1	CLP	SOW ILM03.0	(1)
Copper	390	2.5	CLP	SOW ILM03.0	(1)
Nickel	140	4	CLP	SOW ILM03.0	(1)
Cadmium	5.1	1	CLP	SOW ILM03.0	(1)
Lead	450	0.6	CLP	SOW ILM03.0	(1)
Zinc	410	2	CLP	SOW ILM03.0	(1)
Tributyltin (as Tin) in µg/kg (ppb)		30	Laucks SOP	3550/8270	(7)
PHENOLS & SUB PHENOLS in µg/kg (ppb)					
Phenol	420	100	CLP	SOW OLM01.8	(2)
2-Methylphenol	63	55	CLP	SOW OLM01.8	(2)
4-Methylphenol	670	100	CLP	SOW OLM01.8	(2)
2,4-Dimethylphenol	29	29	CLP	SOW OLM01.8	(2,9)
Pentachlorophenol	360	200	CLP	SOW OLM01.8	(2)
LPAHs in µg/kg (ppb)					
Naphthalene	2100	100	CLP	SOW OLM01.8	(2)
2-Methylnaphthalene	670	100	CLP	SOW OLM01.8	(2)
Acenaphthylene	1300	100	CLP	SOW OLM01.8	(2)
Acenaphthene	500	100	CLP	SOW OLM01.8	(2)
Fluorene	540	100	CLP	SOW OLM01.8	(2)
Phenanthrene	1500	100	CLP	SOW OLM01.8	(2)
Anthracene	960	100	CLP	SOW OLM01.8	(2)
HPAHs in µg/kg (ppb)					
Fluoranthene	2500	100	CLP	SOW OLM01.8	(2)
Pyrene	3300	100	CLP	SOW OLM01.8	(2)
Benzo(a)anthracene	1600	100	CLP	SOW OLM01.8	(2)
Chrysene	2800	100	CLP	SOW OLM01.8	(2)
Total Benzofluoranthene (10)	3600	100	CLP	SOW OLM01.8	(2)
Benzo(a)pyrene	1600	100	CLP	SOW OLM01.8	(2)
Indeno(1,2,3-cd)pyrene	690	100	CLP	SOW OLM01.8	(2)
Dibenzo(a,h)anthracene	230	100	CLP	SOW OLM01.8	(2)
Benzo(g,h,i)perylene	720	100	CLP	SOW OLM01.8	(2)

Table 2-2 - Methods of Analysis and Detection Limit Goals - Sediments

Analyte	SQO	Detection Limit Goals (8)	Test Methods Sediments		
			Reference	Method	
PESTICIDES/PCBs in µg/kg (ppb)					
Total PCBs	150	80	CLP	SOW OLM01.8	(5,6)
4,4'-DDE	9	8	CLP	SOW OLM01.8	(6)
4,4'-DDD	16	8	CLP	SOW OLM01.8	(6)
4,4'-DDT	34	8	CLP	SOW OLM01.8	(6)
Chlordane (alpha, gamma)		8	CLP	SOW OLM01.8	(6)
Aldrin		8	CLP	SOW OLM01.8	(6)
Dieldrin		8	CLP	SOW OLM01.8	(6)
Heptachlor		8	CLP	SOW OLM01.8	(6)
Lindane		8	CLP	SOW OLM01.8	(6)

Notes:

(1) CLP digestion is 1gm/200 ml. Our digestion would be 1 gm/100 ml.
(2) Target analytes detected below the established linear range of the instrument but meeting the mass spectral identification criteria will be J-flagged as estimate values.
(3) Determined in the ABNs analysis.
(4) Determined in the pesticide fraction.
(5) Total values are calculated by summing concentrations above detection limits. Concentrations not detected at the detection limit value will not be included.
(6) Modified as necessary for the limited target anlayte list and including any or all of the following cleanups: florisil cleanup; SW 846 Method 3620; sulfite sulfur cleanup; or elemental mercury cleanup for sulfur.
(7) Based on Krone et al., 1989 (NOAA) A method for analysis of Butyltin species and measurement of butyltins in sediment and English Sole Livers from Puget Sound. Modified to achieve required DLG (SOP).
(8) Based on dry weight with assumption of sediment moisture content <50%.
(9) Detection limit goal is below anlayte's method detection limit. Samples with no semivolatile target analytes detected above the SQO value(s) will be reanalyzed, subsequent to further concentration of the sample extract, as a means to achieve detection limit goals. Please note that detection limits are highly matrix dependent, and may not always be achievable.
(10) Sum of benzo(b)fluoranthene and benzo(k)fluoranthene.
(11) Antimony will be analyzed along with other metals; however, QC criteria will not be enforced to reanalyze the sample.

SM	Standard Methods, 18th Edition
DLG	Detection Limit Goals
CLP	Contract Laboratory Program
MCAWW	Methods for the Chemical Analysis of Water and Waste
PSEP	Puget Sound Estuary Program

Actual Sample Detection Limits may vary from Method Detection Limits depending on the influences of limited sample volume, matrix interferences, blank contamination, and moisture content of sediments.

JOBS\407205\Table2-2.wk1

Table 2-4 - Quality Assurance Objectives - Surrogate Recoveries for Sediments

Analyte	Acceptance Criteria (%Recovery)
TRIBUTYLTIN by GC/MS	
Tritropyltin	20 - 160
ABNs by GC/MS	
2-Fluorobiphenyl	30 - 115
2-Fluorophenol	25 - 121
2,4,6-Tribromophenol	19 - 122
d14-p-Terphenyl	18 - 137
d5-Nitrobenzene	23 - 120
d5-Phenol	24 - 113
d4-2-Chlorophenol	20 - 130*
d4-1,2-Dichlorobenzene	20 - 130*
PESTICIDES/PCBs	
Tetrachloro-m-xylene	60 - 150*
Decachlorobiphenyl	60 - 150*
VOAs by GC/MS	
d8-Toluene	84 - 138
Bromofluorobenzene	59 - 113
d4-1,2-Dichloroethane	70 - 121

* Advisory

407205\Table2-4.wk1

Table 2-7 - Sample Containers, Preservation, and Holding Times for Sediments

Analyte	Surface Sediment					
	Containers			Preservation	Holding Time (From Sampling Date)[1]	
	Type	Size	Quantity		Prep.	Analysis
Grain Size	P	16 oz	1	N/A	N/A	
Total Organic Carbon	W/G	4 oz	1	Cool, 4°C	N/A	28
Total Solids	W/G	16 oz	1	Cool, 4°C	N/A	14
TVS					N/A	7
pH					N/A	14
Ammonia					N/A	28
Metals, except Mercury					N/A	180 days
Mercury					N/A	28 days
Tributyltin	G/T	8 oz[2]	1	Frozen	14[3]	40[3]
Sulfide	A/G/T	16 oz[2]	1	ZnOAc Cool, 4°C	N/A	7 days
GC/MS ABNs	G/T	8 oz	1	Cool, 4°C	14 days	40 days
GC/ECD Pesticides/PCBs					14 days	40 days
GC/MS VOAs	G/T	2 oz	1	Cool, 4°C	N/A	14 days

Notes:
A Amber
G Glass
P Polyethylene
G/T Glass with Teflon Liner
W/G Widemouth Glass Jar

[1] The holding times are based on water criteria or EPA recommended holding time, because no holding time criteria are established for the sediment analysis.
2 Leave sufficient room in the sample container for mixing the sediment with the preservative or expansion during freezing.
3 These are the project advisory holding times, because there is no established holding time for TBT samples.

407205\Table2-7.wk1

UBAT INSPECTION SUMMARY

ENTITY: Johnny's Sea Food Company

INSPECTOR: Stephens, Coleman

PRESIDENT: Gary Gerontis

INSPECTION DATE: 12/2/92

LOCATION: 1199 Dock Street
Tacoma, WA 98402

CONTACT: Robert (Ivy) Iverson, Vice President and Plant Supervisor

TYPE OF FACILITY: Sea Food Processor & Restaurant

PERMIT(S): Tacoma Pierce County Health Department Permits

1. Food Processing
2. Restaurant

DRAINS TO:
1. Sanitary Sewer [Tacoma Plant #1 (Central Plant)]
2. Storm water outfall 230

PATHWAY/QUANTITY:

Process Water - Fish waste is taken to a rendering plant in Seattle. Chlorine base sanitary agents, vinegar, olive oil, detergents, and glass cleaners along with domestic wastes are discharged to the sanitary sewer.

Groundwater - No data.

Storm Water - Both parking lots contain catchbasins which discharge to storm water outfall 230.

Spill - None

SUSPECTED CONTAMINANTS: None

SAMPLING: None

FACILITY DESCRIPTION: Inspection was started at 9:03 a.m. The weather was clear, cold and windy. Ivy, Vice President and Plant Supervisor provided a tour and information.

The facility holds a fish processing and restaurant permits with the Tacoma Pierce County Health Department. Both are current.

The store front contains a stainless steel sinks, refrigeration counters and some food preparation facilities. The take out restaurant only prepares seafood salads and clam chowder. Fresh seafood is sold over the counter.

The back room contains 3 walk in freezers, stainless steel tables, and live tanks. The live tanks uses recirculating water. Fish are cleaned and cut up into fillets or steaks than packaged for shipping. Thirty two gallon buckets are used to store fish wastes. Twice a week (Tuesdays and Thursdays) a rendering Plant from Seattle picks up fish wastes. Approximately 640 gallons of fish wastes is removed weekly.

The building has a concrete floor with 7 floor drains in the back and 1 in the front. All of the floor drains within the building and the receiving area discharge to the sanitary sewer.

Approximately 98% of the fish are trucked in. The remaining 2% is off loaded from fishing vessels during the salmon season. The receiving area has a catchbasin which was routed to the sanitary sewer three years ago. Prior to three years ago this catchbasin discharged to storm sewer outfall 230.

Marv Coleman, UBAT Inspector, discussed BMP's for the receiving area. The receiving area has a high spot which flows towards parking lot catchbasin. Marv witnessed containers within the receiving area being washed out and flowing to the adjacent parking lot catchbasin which discharges to outfall 230. This area should be avoided or bermed to ensure that all wash water flows to the receiving area catchbasin and discharges to the sanitary sewer.

Each parking lot contains a catchbasin which discharges to storm sewer outfall 230.

Inspection was concluded at 9:45 a.m.

M

URBAN BAY ACTION PROGRAM INSPECTION REPORT

ENTITY:	LMR Trucking	**INSPECTOR:**	D. Reale
LOCATION:	3rd and D Streets Tacoma, WA 98421	**DATE:**	12/10/92

OWNER: John Stevens
CONTACT: John Stevens
TYPE OF FACILITY: Truck dispatching and saleable tire storage
PERMITS: None.

DRAINS TO: Mouth of Thea Foss

PATHWAY/QUANTITY

PROCESS WATER: None.

GROUND WATER: N/A

STORMWATER: N/A

SPILLS: None.

SUSPECTED CONTAMINANTS: None.

SAMPLING: None.

FACILITY DESCRIPTION: Two very old looking petroleum pumps on-site are owned by lessor Puget Sound Plywood. Mr. Stevens said these were emptied and backfilled with sand "many years ago." This site is not felt to be a contributor of problem chemicals to Mouth of Foss waterway.

(dr1i/4)

RECEIVED
JUN 22 1994
SUPERFUND REMEDIAL BRANCH

PETRICH MARINE DOCK

June 10, 1994

Ms. Karen Keeley
EPA, Region 10
1200 Sixth Avenue
Seattle, WA 98101

RE: Source Control

Dear Ms. Keeley:

In January of 1994, Petrich Marine Dock shared a preliminary environmental assessment report with DOE. The assessment revealed contaminants on the property, attributable to activities conducted by Marine Iron Works (MIW), also doing business as MIW Aerospace and Puget Sound Heat Treating.

Of major concern to DOE were source control issues relating to storm drain lines that traversed the property, draining into the Thea Foss. The catch basins on lines that originated in MIW Buildings contained significant contamination.

DOE requested that MIW clean out its lines and catch basins.

Although, MIW initially indicated a willingness to cooperate, it insisted on performing tests and cleaning up the contaminants itself on its own time schedule. Petrich Marine Dock made no objection, but became progressively more dismayed as MIW failed to act.

After five (5) months, Petrich Marine Dock informed MIW that it would tolerate no further delays. Petrich Marine Dock hired someone to clean out the catch basins, to place impermeable surfaces (cement) at the bottom of french drains and to take away the dirt. After much strum and drang, MIW finally flushed "its" lines on June 3.

MIW took a bizarre view of what constituted "its" drain lines, refusing to flush one that ran from inside its building.

1118 East D Street • Tacoma, WA 98421 • 206-272-1005

As to the drain lines running from the Puget Sound Heat Treat Plant, MIW ignored DOE's recommendation and refused to flush to the outfall, flushing only one segment down gradient of "its" contaminated catch basins.

Petrich Marine Dock (through CECon) completed the balance of the work for MIW and Dutch Harbor Seafoods on June 6, 1994, capturing water for appropriate disposal.

Dutch Harbor Seafoods operates on the Waterway section of the property. They immediately agreed to cooperate. We tested their catch basins and found only typical parking lot runoff.

* * * * * * * * * * * *

It is my understanding that you have requested a copy of Hart Crowser's final report on the site when it becomes available. MIW has once again blocked release of the Final Report by requesting a further delay.. We are now negotiating a separate agreement with Hart Crowser to procure the release of the report. If this alternative is successful, we should have the report before the second week in July.

* * * * * * * * * * * *

Recently, it has come to our attention that Petrich Marine Dock was placed on a list of sources to the Thea Foss. We request removal of our name from this list.

Tenants on the property are and have been required to take responsibility for storm drains, procuring either permission to operate without a storm drain permit or to procure permits in their own names. The generators on this property were MIW and Dutch Harbor Seafoods. DOE forced MIW to maintain its storm water permit until the drain and catch basin work was completed.

To tag Petrich Marine Dock, an entity that conducts no operations on the property, for a Source Control list, when the source of the contaminants had been identified as MIW, seems excessive. This is particularly true when these lists are being used for other purposes, e.g. by the City in determining participation requirements, lender financing, etc.

Joyce Mecuri informed us that you have never taken anyone off a list before. I would appreciate it if this could be a first.

I will appreciate if you could contact my assistant, Carol Murray, at your convenience to resolve the matter.

Yours sincerely,

Clare Petrich

CLARE PETRICH

cc: Charles Douthwaite

WASHINGTON STATE DEPARTMENT OF ECOLOGY
URBAN BAY ACTION PROGRAM INSPECTION REPORT

INSPECTORS: Mercuri, McKenna 12/11/91
Mercuri, Feria 11/4/92

ENTITY: Marine Iron Works
Aerospace and Puget Sound Heat Treat
LOCATION: 1120 East "D" Street

OWNER: Martin Petrich
(Petrich Marine Dock is Property Owner)

CONTACT: Harold Cleveland, Jerry Bourne

TYPE OF FACILITY: Machining of aircraft parts

PERMITS: No

DRAINS TO: Head of Foss

PATHWAY/QUANTITY:

Process water: No

Ground water: Site is paved.

Stormwater: Aside from coolant problem, limited activities outside.

Spills: Coolant from dumpsters leaks out. A few drums stored outside.

SUSPECTED CONTAMINANTS: Trimsol coolant.

SAMPLING: ~~no~~ Yes (Puget Sound Heat Treat)

FACILITY DESCRIPTION:
On 12/11/92 inspectors Joyce Mercuri and Marc McKenna arrived at the site at 10:10 a.m. and were shown around the site by Harold Cleveland, Chief Operations Officer. UBAT was also present during a dangerous waste inspection on 11/4/92. Jerry Bourne, environmental officer, was contacted on the second visit. This facility is called Aerospace, and is a division of Marine Iron Works, Inc. A companion facility located at the same site was called Puget Sound Heat Treat but has since gone out of business. The land is owned by Petrich Marine Dock, whose office is also located at the site. Aside from the large buildings of Aerospace and Puget Sound Heat Treat, there are four small warehouse/sheds on the site. Aerospace uses two of these for storage. The other two are leased to Dutch Harbor Sea Foods.

Aerospace
The facility is devoted to machining components for aircraft, primarily of aluminum, stainless steel, and titanium. Most of the inside of the building is occupied by machining equipment. There are two restrooms in the building which are connected to city sewer. A coolant called "Trimsol" is used for machining operations. There is a coolant storage area in a small building near the rear yard entrance. During the initial inspection coolant was recycled on site by a mobile recycler. By the time of the latter inspection, coolant was being hauled off site by Basin Oil. Mr. Bourne explained that it was cheaper to send it away than to have it recycled.

Lathe cuttings, grindings and scraps with Trimsol on them are deposited in several dumpsters outside of the building. When we were initially on site,

the water soluble coolant had leaked out of the dumpsters due to rain, and was pooled on the ground around the dumpsters. Mr. Cleveland told us that a similar spill had occurred about 1-1/2 years ago. Ecology responded to the spill at that time and determined that Trimsol was extremely toxic to fish. I requested that the spilled coolant be cleaned up immediately, and that covers be put on the dumpsters and holes in them be patched to avoid future spills. On the second visit, the dumpsters had been sealed and taps installed to drain off accumulated coolant when the metal recycler picks up the scraps.

A manhole in the floor in the south part of the Aerospace building is now plugged with cement. This part of the building was added on over what had been a parking lot.

A vapor degreaser in the northwest corner of the building uses Trichloroethane. About 100 gallons is pumped out of the degreaser once a year by Chempro. An unused solvent still that used to be used for recycling the degreaser wastes is next to the degreaser. Small quantities (a few gallons at a time total) of methylene chloride, methyl-ethyl ketone and toluol are kept on site for cleaning parts. Several new 55 gallon drums containing lube oil, way oil, hydraulic oil and Trimsol were located next to the restroom area within a spill containment pan. Two five gallon containers of an anti-corrosive liquid called Braycote 154 were also on site. This is used in small quantities for spraying parts to prevent corrosion. Mr. Cleveland informed us at the 12/11/91 inspection that a small quantity of chromic sulfate (brand name Alodyne) is kept on site as well. They used to use this a lot when they had a painting operation at the facility. A very limited amount of painting occurs at the facility. An underground storage tank was removed from the property in 1989. Ten drums of used oil were lined up under the eave of the coolant shed. All drums were closed but there was not a spill containment pan. Basin Oil hauls the oil away when the drums are full. A forklift battery is located near the coolant shed also. I suggested that Mr. Bourne provide containment for the used oil and store the battery inside of the building.

Two small warehouse buildings directly west of the Aerospace building are used for storage of parts and raw materials.

<u>Puget Sound Heat Treat</u> — NOW OUT OF BUSINESS (6/93-gm)
This facility used to be a metal tempering operation. As of the 12/4/92 inspection it was out of business, and most equipment and materials had been removed from the site. The operation consisted of a heating area with a quench tank. An overflow pipe near the top of the quench tank discharges to Foss Waterway. They did not have an NPDES permit when in operation. A floor drain near the quench tank has pipes in it coming from inside of the building and exiting toward the building exit. Mr. Bourne did not know if this drains to the storm sewer. At the 12/11/92 inspection, this drain was steaming. There are two salt tanks that used to contain heat transfer salts. Products used were Liquid Heat 168 and Draw Temp 275. At the 12/4/92 inspection several barrels of the salt were on site awaiting removal.

SITE HISTORY/FILE REVIEW:
Aerospace has been at this location for 50 years. Tacoma Sewer Utility inspected site several years ago, and dye tested the effluent from the quench tank. Ecology responded to Trimsol spill in 1990. Marine Iron Works submitted a spill containment and countermeasure plan as a result of the spill.

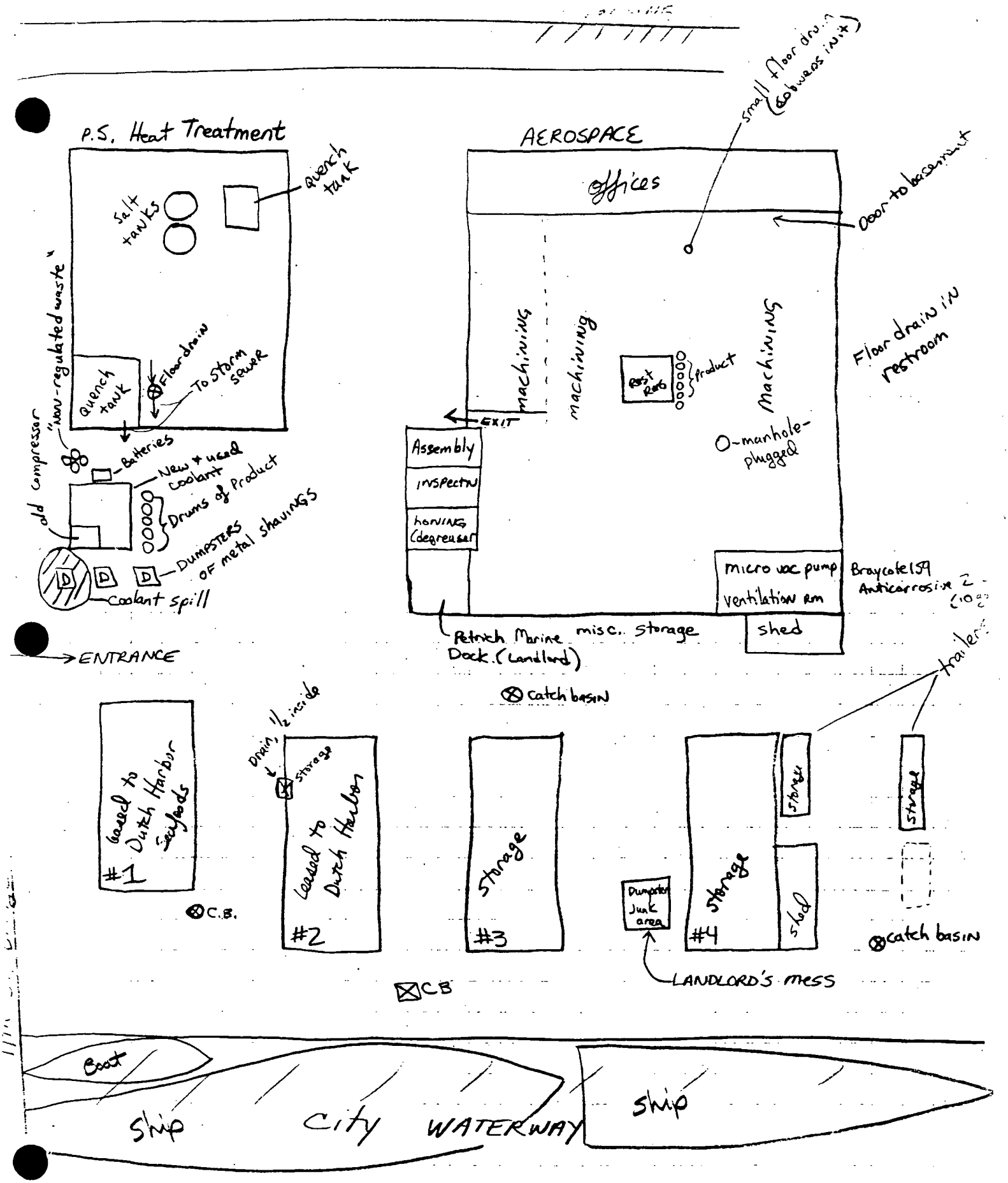
A water sample was taken by Ecology staff from drain #740 on 5/2/92. Flow from the drain was very small, and the water was slightly warm. The sample

was analyzed for cadmium, copper, lead, nickel, zinc, and mercury. Copper (75 ug/l) was elevated above the marine acute water quality criteria (2.9 ug/l).

Photo Log:

1. Trimsol spill, 12/11/91
2. Trimsol coolant in use on six spindle machine, 12/4/92.
3. Dirty coolant storage area, 12/4/92.
4. Floor drain near quench tank at Puget Sound Heat Treat, 12/4/92.
5. Sample location, 5/6/92.

-end of report-



MARINE IRON Works (AEROSPACE & Heat Treatment)
1120 E. 'D' Street

MEMORANDUM

September 10, 1992

TO: MARINE IRON WORKS (PUGET SOUND HEAT TREAT) File

FROM: Joyce Mercuri, UBAT Inspector

SUBJECT: Sampling at MARINE IRON WORKS (PUGET SOUND HEAT TREAT)

A sample was taken at the discharge pipe from MARINE IRON WORKS on 5/6/92 as part of the "FOSSLO" sampling project on Foss Waterway. The sample was taken at 2:35 p.m. Low tide on that day was a -1.1 tide at 1:49 p.m. Samples were obtained by Marv Coleman and Dave Smith, and were transported to the Ecology cooler at the end of the sampling day. Samples were kept on ice in an ice chest while en route.

The pipe discharging from Puget Sound Heat Treat is identified as #740 on the TPCHD drainage map. Puget Sound Heat Treat is on the property with Marine Iron Works, and is essentially a part of the MIW operation. Sample #FLMIW is a water sample taken from the pipe, which had a small flow. The water was warm to the touch.

RESULTS:

See attached lab sheets for Q/A information.

All data in ug/kg ug/L	FLMIW	Marine Acute Criteria
Cadmium	10U	43
Copper	75	2.9
Lead	100U	140
Nickel	50U	75
Zinc	36P	95
Mercury	.051PNB	2.1

See Ecology Laboratory Manual for explanation of data qualifiers.

Copper exceeds the state marine acute water quality criteria.

Puget Sound HT
Out of business

Karen

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
7272 Cleanwater Lane • PO Box 47775 • Olympia, Washington 98504-7775 • (206) 753-2353

February 9, 1994

Richard Petrich
Marine Iron Works
Post Office Box 1751
Tacoma, Washington 98401

Dear Mr. Petrich:

As you know, I have recently reviewed some data from catch basin samples at the Marine Iron Works/Petrich Marine Dock site. Although I did not receive a full report, it appears that three catch basins were sampled. All three basins contained levels of copper, lead, and zinc above the sediment quality objectives for Commencement Bay. Contaminated sediments from catch basins can be flushed out to the waterway during rain storms, creating a pollution problem in the waterway sediments. The role of the Ecology Urban Bay Action Team is to control sources of pollution to the Commencement Bay waterways in order to prevent continuing contamination of waterway sediments. Therefore, I request that Marine Iron Works clean out contaminated catch basins and storm drain lines on the site of your former operation. Specifically, the areas to be cleaned are as follows:

- Catch basin labeled as "SED-2" on the December 1993 map from the Hart Crowser report.

- All catch basins and storm drain lines upstream from SED-2, including catch basin SED-3 inside of the old Puget Sound Heat Treat building and the basin you informed me of which was discovered when the old coolant shed was removed. Sludges or sediments should be removed from any other sumps or structures found to contribute to this drain system.

- Catch basin SED-1 which is located adjacent to the west wall of the main building.

Please submit a letter to me by March 4, 1994, describing a plan of action for cleaning the drain system. The letter should describe a specific plan of action and a specific time line for carrying out the activities. Please include the following elements:

- Sketch of storm drain system flowing to SED-2 showing all catch basins and drain lines.

- Sampling to characterize waste for disposal. At times, sediments from catch basins can be classified as dangerous waste (per Chapter 173-303 WAC, the state Dangerous Waste Regulations). Even though you already have samples from some of the drains, they have not been tested for dangerous waste status. This usually involves a Toxicity Characteristics Leaching Procedure (TCLP) test. Different landfills may have different testing requirements, so I recommend that you contact several to determine what tests will be needed.

- Procedure to be used for cleaning of the catch basins and drain lines (normally this involves use of high pressure water) and name of company to perform service.

- Plans for storage and disposal of solid wastes that are generated from the cleaning.

- Plans for disposal of water generated from the cleaning process. Any water generated during the cleaning should <u>not</u> be disposed of to the storm drain system. You may be able to dispose of the water at the Tacoma sewage treatment plant after receiving permission from the Tacoma Sewer Utility. Mike Kennedy at the Tacoma Sewer Utility (591-5588) can provide you with information about discharge of waste water to the plant. Any discharge to the sewer utility will be required to meet local water quality pretreatment standards, which may entail holding the water on site for some time for it to settle. It may be more cost and time efficient to have the water disposed of through a waste treatment facility.

I appreciate your willingness to clean out the drain system. From my conversations with you, it sounds as if you have already researched most of the above items, and have a good idea of what this will involve. I will be glad to answer any questions or help in any way that I can to make this process go smoothly. Please call me at (206) 586-4692 if you have any questions or concerns.

Sincerely,

Joyce Mercuri

Joyce Mercuri
Urban Bay Inspector
Southwest Regional Office
Toxics Cleanup Program

JM:ak

cc: Claire Petrich

March 8, 1994

MEMORANDUM

TO: Dave Smith

THROUGH: Joyce Mercuri

FROM: Marv Coleman

RE: Hart Crowser report for Marine Iron Works (MIW) contamination on Petrich property.

The following recommendation is based upon review of data provided to Ecology by Petrich Marine Dock. The data is helpful, but was provided in what appears to be incomplete form, and the report ~~is~~ does not appear to address all the factors that bear upon the site's environmental cleanliness.

The data indicates that the site has not suffered serious environmental degradation from past industrial practices, based on the sampling performed by Hart Crowser. The most serious problem to be addressed would seem to be the contaminants that have been found in the site storm drain catch basins (CBs).

The sediments in the catch basins clearly need to be removed and properly disposed. Whether these contaminated sediments have resulted in more wide spread contamination, e.g., as a result of contaminant migration from the bottoms of the CBs, is only partly addressed by the data in the H.C. report.

Wells drilled in proximity to the contaminated CBs do not indicate that contaminants have migrated to soil or groundwater underlying the CBs. However, the report (at least what we have of it) does not indicate the depth to groundwater, and groundwater samples were not run for all the parameters that were tested in the CB sediments. Notably, Cd, Pb, Hg, Ni, and Ag were elevated above sediment cleanup standards in the CBs, but were not tested in the groundwater. Nor were samples of sediments from deeper in the CBs, or soils beneath them run for contaminants other than TPH. Having this data would have provided a more clear cut indication as to whether there has been additional migration of the contaminants found in the CBs.

Cleaning the site CBs and drain system would seem to be the only necessity at this point. If the site owners are concerned about longer-term liability, Ecology review of a site remedial investigation, and preservation of contribution rights under MTCA[1], a proper RI/FS process would include generating more complete data regarding the groundwater depth and gradient, and whether contamination (including <u>all</u> the contaminants found in the CBs) is present in soils below the CBs down to the depth of groundwater. Although the current data does not indicate migration of contaminants from the CBs to surrounding soils and groundwater, this additional work would provide a more complete data base for the full suite of contaminants and for the <u>potential</u> for future migration of contaminants.

This procedure should also include the additional CB that was apparently found in the solvent storage shed on the north side of the facility, after the Hart Crowser work was done.

(1)Please refer to WAC 173-340-550 for new regulatory provisions regarding independant investigation and remedial action review by Ecology, as well as preservation of private rights of action (contribution rights).

Tacoma
City of Tacoma
Public Works Department

RECEIVED
SEP 1 1996
Environmental Cleanup Office

August 29, 1996

Garin Schrieve, Site Manager
Department of Ecology - SWRO
Toxics Cleanup Program
300 Desmond Drive SE
P.O. Box 47775
Olympia, WA 98504-7775

Subject: Martinac Shipbuilding
Agreed Order for Interim Remedial Action

Dear Mr. Schrieve:

We have reviewed the Department of Ecology Agreed Order for the Interim Remedial Action at the Martinac Shipbuilding site on the Thea Foss Waterway and offer the following comments:

1. The City of Tacoma has entered into an Administrative Order on Consent (AOC) with the Environmental Protection Agency to perform pre-remedial design study and remedial design for contaminated sediments in the Thea Foss and Wheeler-Osgood Waterways. In the work performed under the AOC, PCBs have been identified as one of the key contaminants requiring remediation in the waterway. Sediment sampling performed in accordance with this AOC on the bank and subtidal sediments has shown an area of PCB enrichment adjacent to the Martinac site. EPA's June 28, 1996 letter to the City providing comments on the Round 2 Data Evaluation Report for the Thea Foss and Wheeler-Osgood Waterways states the following:

   "SQO exceedences in bank/beach samples for copper and zinc are matched by SQO exceedences in the subtidal sediments offshore of Martinac, establishing Martinac as an ongoing source of contaminants to the waterway, at least in the immediate area offshore of the site. PCBs and phthalates also exceeded SQOs in the bank samples in this area, indicating that Martinac is (not may be) an ongoing source of these contaminants to the waterway."

   Surface sediment concentrations for PCBs detected during two rounds of sampling in this area have been plotted onto the attached map for your review. Since this area of PCB enrichment is localized and is at relatively high enrichment (over 9 times greater than the cleanup level) it should be addressed under this Order.

2. The site must be evaluated to ensure that there is not an ongoing source of PCBs to the waterway that requires additional source control measures in order to prevent recontamination.

3. Under the order, the property owner is held responsible for removal of contaminated material down to 0.00 feet MLLW only. There is currently no mention in the Order of this property owner's longer term liabilities associated with the contaminated sediments at this site. Following implementation of the interim action, contamination related to this site e.g. sandblast grit may remain on the lower banks and in

the subtidal sediments adjacent to this site. This remaining contamination will need to be dealt with during remediation of the sediments throughout the Thea Foss and Wheeler-Osgood Waterways, and this Order should state that the property owner will remain responsible for contamination which is related to the site but not dealt with by this Order.

In order to coordinate this project with the remedial design work currently ongoing in the waterway, we request continued communication on the status and scope of work at this site.

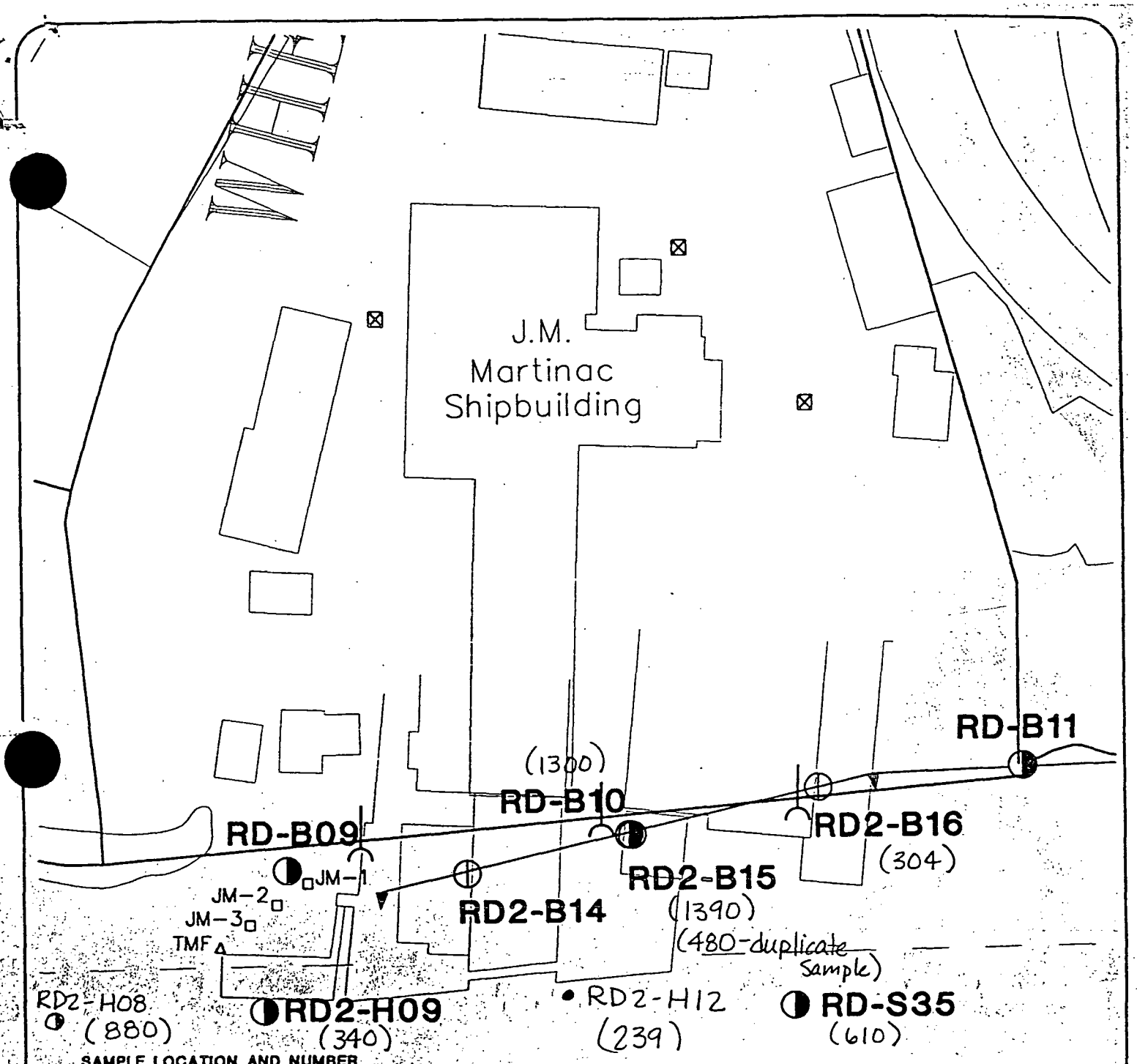
We appreciate the opportunity to comment on this Order. If you have any questions regarding these comments, please contact me at 591-5588.

Sincerely,

Mary L. Henley, P.E.
Project Coordinator
Utility Services Engineering

cc. Bob Betcone, Legal
Peggy Justus, EPA

File: TFW - 1.10 - Ecology Correspondence



FILE: hcr01gi5 JOB: hcr001

ENGINEERING GROUP
COSMOPOLITAN
Civil, Environmental and Recreational Consulting

Figure GI-5 Sample Locations of J.M. Martinac Shipbuilding

File

SMITH & LOWNEY, P.L.L.C.
157 YESLER WAY, SUITE 601
SEATTLE, WASHINGTON 98104
(206)624-0893, FAX (206)624-3670

BY CERTIFIED MAIL - RETURN RECEIPT REQUESTED
Managing Agent
J.M. Martinac Shipbuilding Corp.
401 East 15th St
Tacoma, WA 98421

August 6, 1996

Re: NOTICE OF INTENT TO FILE SUIT UNDER THE CLEAN WATER ACT

Dear Managing Agent:

We represent Waste Action Project, P.O. Box 4832, Seattle, Washington 98104, (206)622-7803. Any response or correspondence related to this matter should be directed to us at the letterhead address. This letter is to provide you with sixty days' notice of Waste Action Project's intent to file a citizen suit against J.M. Martinac Shipbuilding Corp. ("Martinac") pursuant to Section 505 of the Clean Water Act ("CWA"), 33 USC § 1365. Martinac has violated and continues to violate the CWA (see Sections 301 and 402 of the CWA, 33 USC §§ 1311 and 1342) and its National Pollutant Discharge Elimination System ("NPDES") permit (Permit No. WA-004028-2, issued by the Washington Department of Ecology ("Ecology") on January 30, 1991, with an expiration date of January 30, 1996, but which remains in effect, the "permit"). These violations are described below.

I. EFFLUENT LIMITATIONS

The permit authorizes Martinac to discharge stormwater runoff from its shipyard facility to the Thea Foss Waterway, Commencement Bay. The permit establishes limitations for various pollutant parameters of Martinac's effluent. Martinac has violated these effluent limitations.

A. Condition S1.A. of the permit sets the daily maximum effluent limitation for zinc concentration from outfall 001 at 95 ug/L. Martinac has violated this limitation:

	Month of Violation	daily maximum zinc effluent concentration
1.	1/96	535 ug/L
2.	11/95	360
3.	10/95	523
4.	8/95	924
5.	7/95	461
6.	4/95	571
7.	3/95	400
8.	1/95	254
9.	12/94	270
10.	11/94	559
11.	10/94	229
12.	11/93	228
13.	10/93	296

14.	8/93	222
15.	7/93	541
16.	6/93	305
17.	4/93	304
18.	3/93	777
19.	1/93	415
20.	10/92	405
21.	9/92	666
22.	8/92	1141
23.	4/92	1110
24.	3/92	840
25.	2/92	622
26.	1/92	175
27.	12/91	403
28.	10/91	725
29.	8/91	1040

B. Condition S1.A. of the permit sets the daily maximum effluent limitation for zinc concentration from outfall 002 at 95 ug/L. Martinac has violated this limitation:

	Month of Violation	daily maximum zinc effluent concentration
1.	1/96	626 ug/L
2.	11/95	478
3.	10/95	543
4.	8/95	1020
5.	7/95	576
6.	4/95	1010
7.	3/95	585
8.	1/95	480
9.	12/94	648
10.	11/94	692
11.	10/94	369
12.	11/93	248
13.	10/93	445
14.	8/93	179
15.	7/93	726
16.	6/93	540
17.	4/93	422
18.	3/93	636
19.	1/93	411
20.	10/92	317
21.	9/92	1650
22.	8/92	1050
23.	6/92	917
24.	4/92	1690
25.	3/92	1770
26.	2/92	1580
27.	1/92	312
28.	12/91	443
29.	10/91	705

30.	8/91	463

C. Condition S1.A. of the permit sets the daily maximum effluent limitation for zinc concentration from outfall 003 at 95 ug/L. Martinac has violated this limitation:

	Month of Violation	daily maximum zinc effluent concentration
1.	1/96	799 ug/L
2.	11/95	609
3.	10/95	824
4.	8/95	1370
5.	7/95	1240
6.	4/95	1070
7.	3/95	732
8.	1/95	764
9.	12/94	753
10.	11/94	376
11.	10/94	616
12.	11/93	324
13.	10/93	586
14.	8/93	180
15.	7/93	876
16.	6/93	682
17.	4/93	729
18.	3/93	950
19.	1/93	694
20.	10/92	1650
21.	9/92	1940
22.	8/92	837
23.	6/92	1850
24.	4/92	2000
25.	3/92	2080
26.	2/92	1520
27.	1/92	488
28.	12/91	1530
29.	10/91	2000
30.	8/91	2450

D. Condition S1.A. of the permit sets the daily maximum effluent limitation for copper concentration from outfall 001 at 2.9 ug/L. Martinac has violated this limitation:

	Month of Violation	daily maximum zinc effluent concentration
1.	1/96	51 ug/L
2.	11/95	16
3.	10/95	29
4.	8/95	104
5.	7/95	57
6.	4/95	74
7.	3/95	22
8.	1/95	24

9.	12/94	36
10.	11/94	42
11.	10/94	12
12.	11/93	53
13.	10/93	5
14.	8/93	129
15.	7/93	62
16.	6/93	16
17.	4/93	9
18.	3/93	73
19.	1/93	64
20.	10/92	37
21.	9/92	78
22.	8/92	148
23.	6/92	no report
24.	4/92	133
25.	3/92	53
26.	2/92	60
27.	1/92	8
28.	12/91	41
29.	10/91	59
30.	8/91	183

E. Condition S1.A. of the permit sets the daily maximum effluent limitation for copper concentration from outfall 002 at 2.9 ug/L. Martinac has violated this limitation:

	Month of Violation	daily maximum zinc effluent concentration
1.	1/96	58 ug/L
2.	11/95	25
3.	10/95	29
4.	8/95	82
5.	7/95	68
6.	4/95	83
7.	3/95	36
8.	1/95	46
9.	12/94	58
10.	11/94	51
11.	10/94	19
12.	11/93	34
13.	10/93	30
14.	8/93	97
15.	7/93	82
16.	6/93	24
17.	4/93	14
18.	3/93	49
19.	1/93	56
20.	10/92	50
21.	9/92	118
22.	8/92	129
23.	6/92	102

24.	4/92	190
25.	3/92	76
26.	2/92	102
27.	1/92	9
28.	12/91	29
29.	10/91	62
30.	8/91	88

F. Condition S1.A. of the permit sets the daily maximum effluent limitation for copper concentration from outfall 003 at 2.9 ug/L. Martinac has violated this limitation:

	Month of Violation	daily maximum zinc effluent concentration
1.	1/96	63 ug/L
2.	11/95	34
3.	10/95	62
4.	8/95	78
5.	7/95	83
6.	4/95	73
7.	3/95	32
8.	1/95	61
9.	12/94	75
10.	11/94	33
11.	10/94	34
12.	11/93	41
13.	10/93	9
14.	8/93	103
15.	7/93	72
16.	6/93	30
17.	4/93	13
18.	3/93	82
19.	1/93	39
20.	10/92	105
21.	9/92	116
22.	8/92	95
23.	6/92	140
24.	4/92	110
25.	3/92	101
26.	2/92	78
27.	1/92	22
28.	12/91	133
29.	10/91	77
30.	8/91	149

II. MONITORING AND REPORTING

Condition S2 of the permit established a monitoring schedule for stormwater discharges from Martinac's shipyard facility and for the receiving water in the marine way. Condition S3 of the permit requires Martinac to monitor the pollutant parameters in accordance with Condition S2 and to maintain a record of all monitoring data. Condition S3.A. of the permit requires Martinac to summarize and report monitoring

data on a quarterly basis on discharge monitoring reports ("DMRs") which are required to be submitted to Ecology.

A. Condition S2.A of the permit requires that Martinac take monthly samples of flow from each outfall using a "Reasonable Device". Martinac has violated this condition and/or Condition S3 by never sampling flow and/or never submitting flow sampling data.

B. Condition S2.A of the permit requires that Martinac take monthly samples of volatile organic compounds ("VOC") from each outfall. Martinac has violated this condition and/or Condition S3 by never sampling VOC's and/or never submitting VOC sample results since September 14, 1992.

C. Condition S2.A of the permit requires that Martinac take monthly samples of priority pollutants from each outfall. Martinac has violated this condition and/or Condition S3 by never sampling priority pollutants and/or never submitting priority pollutant sample results.

D. Condition S2.A of the permit requires Martinac to take monthly samples of 12 pollutant categories from each outfall. Martinac has violated this condition and/or Condition S3 by failing to take any samples and/or submit sample results for the following months.

Months during which no samples were taken and/or results reported
12/95
9/95
6/95
5/95
2/95
4/95
9/94
8/94
7/94
6/94
5/94
4/94
3/94
2/94
1/94
12/93
9/93
5/93
2/93
12/92
7/92
5/92
11/91

E. Condition S2.A of the permit requires that Martinac take monthly samples of cadmium from each outfall. Martinac has violated this condition and/or Condition S3 by

failing to monitor cadmium and/or failing to submit sample results for the following months.

	Month of Violation
1-3.	8/95
4-6.	4/95
7-9.	12/94
10-12.	11/94
13-15.	11/93
16-18.	8/93
19-21.	7/93
22-24.	3/93
25-27.	1/93
28-30.	10/92
31-33.	9/92
34-36.	8/92
37-39.	6/92
40-42.	4/92
43-45.	3/92
46-48.	2/92
49-52	1/92

F. Condition S2.A of the permit requires that Martinac take monthly samples of chromium from each outfall. Martinac has violated this condition and/or Condition S3 by failing to monitor chromium and/or failing to submit sample results for the following months.

	Month of Violation
1-3.	8/95
4-6.	4/95
7-9.	12/94
10-12.	11/94
13-15.	11/93
16-18.	8/93
19-21.	7/93
22-24.	3/93
25-27.	1/93
28-30.	10/92
31-33.	9/92
34-36.	8/92
37-39.	6/92
40-42.	4/92
43-45.	3/92
46-48.	2/92
49-52	1/92

G. Condition S2.A of the permit requires that Martinac take monthly samples of lead from each outfall. Martinac has violated this condition and/or Condition S3 by failing to monitor lead and/or failing to submit sample results for the following months.

	Month of Violation
1-3.	8/95
4-6.	4/95
7-9.	12/94
10-12.	11/94
13-15.	11/93
16-18.	8/93
19-21.	7/93
22-24.	3/93
25-27.	1/93
28-30.	10/92
31-33.	9/92
34-36.	8/92
37-39.	6/92
40-42.	4/92
43-45.	3/92
46-48.	2/92
49-52	1/92

H. Condition S2.A of the permit requires that Martinac take monthly samples of mercury from each outfall Martinac has violated this condition and/or Condition S3 by failing to monitor mercury and/or failing to submit sample results for the following months.

	Month of Violation
1-3.	8/95
4-6.	4/95
7-9.	12/94
10-12.	11/94
13-15.	11/93
16-18.	8/93
19-21.	7/93
22-24.	3/93
25-27.	1/93
28-30.	10/92
31-33.	9/92
34-36.	8/92
37-39.	6/92
40-42.	4/92
43-45.	3/92
46-48.	2/92
49-52	1/92

I. Condition S2.A of the permit requires that Martinac take monthly samples of nickel from each outfall Martinac has violated this condition and/or Condition S3 by failing to monitor nickel and/or failing to submit sample results for the following months.

	Month of Violation
1-3.	8/95
4-6.	4/95
7-9.	12/94

10-12.	11/94
13-15.	11/93
16-18.	8/93
19-21.	7/93
22-24.	3/93
25-27.	1/93
28-30.	10/92
31-33.	9/92
34-36.	8/92
37-39.	6/92
40-42.	4/92
43-45.	3/92
46-48.	2/92
49-52	1/92

J. Condition S3.A. of the permit requires that Martinac summarize monitoring results on discharge monitoring reports ("DMRs") and submit DMRs to the Department of Ecology on a quarterly basis. Martinac has violated this condition by failing to submit DMRs for the following months.

Months for which no DMR submitted
6/95
7/94
6/94
5/94
4/94
3/94
2/94
1/94
12/93
11/92
7/92
5/92
11/91

III. FAILURE TO REPORT OR EXPLAIN EXCEEDENCES

Condition G4 of the permit requires that Martinac provide Ecology with specified information in the event of a violation or anticipated violation of any condition of the permit. Martinac has violated this condition by failing to submit the required information for any of the violations described herein.

IV. SOLID WASTE CONTROL PLAN

Condition S4.C. of the permit requires Martinac to submit a solid waste control plan to Ecology within six months of permit issuance. The condition further requires Martinac to submit an update of the plan with the application for permit renewal. Martinac has violated this condition by failing to submit either the solid waste control plan or the update as required.

V. ACUTE TOXICITY TESTING (STORMWATER)

Condition S6.A. of the permit requires Martinac to conduct acute toxicity testing of stormwater as specified four times in the first year of the permit and twice per year thereafter. Martinac has violated this condition by failing to perform the required testing.

VI. SEDIMENT MONITORING

Condition S7.A. of the permit requires Martinac to prepare a comprehensive site-specific baseline study plan addressing specified requirements concerning study of the sediments in the area of Martinac's discharge and to submit such plan within 18 months of permit issuance. The condition further requires that Martinac conduct sampling and analysis for sediment chemistry during March and April, 1992 and that a written report of the results of the testing be submitted to Ecology by September 1, 1992. Martinac has violated this condition by failing to submit the study plan, to conduct the sampling and analysis or to submit testing results to Ecology as required.

VII. SPILL PLAN

Condition S8 of the permit requires Martinac to annually update its Spill Control Plan, with specified components and requirements, and to submit the first update to Ecology within six months of permit issuance. Martinac has violated this condition by failing to submit any updates of the spill control plan.

VIII. BEST MANAGEMENT PRACTICES PLAN

Condition S9 of the permit requires Martinac to submit a best management practices ("BMP") plan to Ecology within two months of permit issuance. Martinac has violated this condition by failing to submit a BMP plan.

IX. STORM DRAIN SEDIMENT AND GRIT REMOVAL

Condition S10.C. of the permit requires Martinac to submit a plan for the removal of sediments and sandblasting grit from the storm drain system within 15 days of permit issuance. The condition further requires the removal of such sediments and grit and the submission to Ecology of a final report describing the sediment and grit removal effort within specified time frames. The condition further requires Martinac to submit a plan by the sixth month of the permit proposing technology for eliminating grit discharge to the waterway. Martinac has violated this condition by failing to submit the required plans and report and by failing to conduct the removal effort as required.

X. SANDBLASTING GRIT CONTAINMENT/CLEANUP (SHORELINE AREA)

Condition S10.D. of the permit requires Martinac to submit a plan to Ecology for cleanup of the sandblast grit accumulation on the adjacent banks at and within the Martinac facility with specified contents and within a specified time frame. The condition further requires Martinac to conduct the removal by January 1993 and to submit a report to Ecology summarizing the removal effort. Martinac has violated this condition by failing to submit the required plans and report and by failing to conduct the removal effort.

XI. STORMWATER FLOW CALCULATION

Condition S10.E. of the permit requires Martinac to submit to Ecology on an annual basis an annual estimate of the stormwater flow from each storm drain system. Martinac has violated this condition by failing to submit the information for the years 1991, 1993, 1994, and 1995.

XII. ANNUAL SPILL EVENT SUBMITTAL

Condition S10.F. of the permit requires Martinac to submit to Ecology on an annual basis a list of significant spills and leaks of toxic or hazardous pollutants that occurred at the shipyard facility during the year with specified information. Martinac has violated this condition by failing to submit the information for the years 1991, 1993, 1994, and 1995.

XIII. UNAUTHORIZED SIGNATURE

Condition G12. of the permit incorporates all requirements of 40 CFR 122.41 and 122.42 into the permit. 40 CFR 122.41(k) directs that all reports submitted by the permittee to the permit issuing agency must be signed and certified and refers to 40 CFR 122.22. 40 CFR 122.22 requires that the signature be that of either a principal executive officer or a ranking elected official or a duly authorized representative. Martinac has violated these conditions by failing to have an appropriate or duly authorized person sign the discharge monitoring reports submitted to Ecology for the past five years.

The above-described violations reflect only what information currently available to Waste Action Project indicates. Waste Action Project intends to sue for all permit violations, including those yet to be uncovered and those committed subsequent to the date of this notice of intent to sue.

Waste Action Project alleges that Martinac continues to violate its NPDES permit.

Pursuant to Section 309(d) of the CWA, 33 USC § 1319(d), <u>each</u> of the above-described violations subjects the violator to a penalty of up to $25,000 per violation per day. In addition to civil penalties, Waste Action Project will seek injunctive relief to prevent further violations pursuant to Sections 505(a) and (d) of the CWA, 33 USC § 1365(a) and (d), and such other relief as is permitted by law. Also, Section 505(d) of the CWA, 33 USC § 1365(d), permits prevailing parties to recover costs including attorney's fees.

Waste Action Project believes that this NOTICE OF INTENT TO SUE sufficiently states grounds for filing suit. We intend, at the close of the 60-day notice period, or shortly thereafter, to file a citizen suit against Martinac under Section 505(a) of the Clean Water Act for violations.

During the 60-day notice period, we would be willing to discuss these allegations, effective remedies for the violations noted in this letter and settlement terms. if you wish to pursue such discussions in the absence of litigation, we suggest

that you initiate those discussions within 10 days of receiving this notice so that a meeting can be arranged and so that negotiations may be completed before the end of the 60-day notice period. We do not intend to delay the filing of a complaint in federal court if discussions are continuing when the notice period ends.

Very truly yours,

SMITH & LOWNEY, P.L.L.C.

By: _____
Knoll D. Lowney
Richard A. Smith

cc:
Carol Browner, Administrator U.S. EPA
Charles Clarke, Administrator Region 10 U.S. EPA
Mary Riveland, Director Washington Department of Ecology
J.S. Martinac, registered agent

CN

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Reply to
ATTN of: WD-128

JUL 29 1996

RECEIVED
JUL 30 1996
Environmental Cleanup C...

Colonel Donald T. Wynn
District Engineer
Seattle District, Corps of Engineers
P.O. Box C-3755
Seattle, Washington 98124-2255

ATTN: Chief, Regulatory Branch

RE: Agency Notification, Nationwide Permit 38 (Cleanup of Hazardous Waste), Reference Number 96-4-01205, J.M. Martinac, on Thea Foss Waterway, Tacoma, Pierce County, WA

Dear Colonel Wynn:

The Environmental Protection Agency (EPA) has reviewed the referenced Agency Notification and will provide only a recommendation at this time. The development of the project is a cleanup agreement between the WA Department of Ecology and the applicant under NPDES Permit WA-004028-2. EPA supports the cleanup as long as it meets the conditions of the Commencement Bay Nearshore Tide Flats Superfund Site Record of Decision, and as long as confirmational sampling shows that the project meets EPA cleanup standards.

All cleanup activities should be coordinated with Kris Flint (553-8125), project liaison at EPA, and with all the other concerned natural resource agencies.

If during the permitting process we learn that the proposed project has been modified, or that one of the other conditions is not being met, EPA will reassess its current position.

For further coordination contact, Richard Clark, at (206) 553-5198.

Sincerely,

Gary Voerman
Chief Wetland Section

cc: Ecology
DNR
WDF&W
USFW
NMFS
Applicant
Kris Flint, EPA

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PYI

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

August 2, 1996

Reply To
Attn Of: ECL 116

Garin Shrieve
Washington Department of Ecology
Southwest Regional Office
PO Box 47775
Olympia, WA 98504-7775

Dear Mr. Shrieve:

This letter responds to your request that EPA review the draft Agreed Order that Ecology proposes to enter into with J. M. Martinac Shipbuilding Corporation (Martinac) for a cleanup of sandblast grit and other metals turnings disposed on certain portions of the Martinac's property above and below the 12' MHHW line (the bank cleanup). EPA agrees that the sandblast grit is a potential source of ongoing releases of hazardous substances into the Thea Foss Waterway and should be addressed as a source control measure. EPA appreciates Martinac's willingness to perform the cleanup described in the Agreed Order.

EPA understands that the Martinac corporation wishes a statement that EPA agrees with the proposed cleanup for the bank portions described in the Agreed Order. EPA supports the cleanup in the proposed area as long as it will meet the conditions of the Commencement Bay Nearshore Tide Flats Record of Decision (ROD), and as long as confirmational sampling meets the ROD's sediment cleanup standards, known as the Sediment Quality Objectives (SQOs).

In addition, we understand that the cleanup is not intended to address all problem chemicals that exist in other intertidal areas of the Martinac property. Data indicates that there are metal and polychlorinated bi-phenyls SQO exceedances outside the planned excavation areas. EPA and Ecology will continue discussions about these areas.

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Please call me if you or the company have questions about this letter or our enclosed comments.

Sincerely,

Margaret Justus
Remedial Project Manager

cc: Lori Houck, ORC
Martinac Corporation
Kris Flint, EPA

MARTINAC SHIPBUILDING

RECEIVED
JUL 30 1996
Environmental Cleanup Office

Agreed Order for Interim Action Proposed

The Washington State Department of Ecology and the J.M. Martinac Shipbuilding Corporation have agreed to a Model Toxics Control Act (MTCA, Chapter 70.105D RCW) order to conduct an interim action to remove sandblast grit from the upper beach at the Martinac Shipbuilding site. An agreed order is a legal document formalizing an agreement between Ecology and potentially liable persons (PLP's), to ensure that proposed site cleanup activities are conducted in a timely fashion, in accordance with MTCA and other applicable laws and regulations.

In addition, Ecology is recommending a State Environmental Policy Act (SEPA, Chapter 197-11 WAC) determination of non-significance (DNS) for the interim action proposed in the agreed order. After review of the completed environmental checklist and other information on file, Ecology (as SEPA lead agency) has determined that this proposal will not have a probable significant adverse impact on the environment. Instead, this action should have a significant positive environmental impact by eliminating the release of metals from the site.

Your comments on this agreed order and SEPA DNS are welcome through **August 29, 1996**. The box to the right provides information about where to review the agreed order, as well as where to submit comments.

Site Background

The Martinac beach cleanup is located at the Martinac Shipbuilding facility, 401 East 15th Street along the east bank of the Thea Foss Waterway. Martinac Shipbuilding is an active shipbuilding and repair business that has been in operation since 1924. The beach cleanup area is about 67 feet wide by about 130 feet long.

In 1982, the Commencement Bay Nearshore/Tideflats was added to the National Priorities List (NPL) under the Comprehensive Environmental Response Compensation and Liabilities Act of 1980 (CERCLA). The NPL site includes Thea Foss Waterway and those upland sites which are believed to contribute contamination to the waterway. The Thea Foss Waterway is identified in the September 1989 EPA Record of Decision for the Commencement Bay Nearshore/ Tideflats Superfund site as a problem area with contaminated sediments. The Martinac Shipbuilding site, as a contamination source of the Thea Foss Waterway, is considered a part of this Superfund site. EPA is responsible for cleanup of waterway sediments, while Ecology is overseeing cleanup of upland areas and shoreline or bank areas that are continuing contamination sources to the waterway. This agreed order is part of the overall source control measures to

Continued on Page 2

July 1996

FACT SHEET

Ecology Southwest Regional Office
Toxics Cleanup Program
300 Desmond Drive SE
P.O. Box 47775
Olympia, WA 98504-7775
(360) 407-6300 (voice)
(360) 407-6306 (TDD)
e-mail gsch461@ecy.wa.gov

PUBLIC COMMENT PERIOD ON AGREED ORDER AND SEPA DNS:

July 29, 1996 to August 29, 1996

Written comments and requests for updates should be directed to Garin Schrieve, Site Manager, at the Ecology address listed above.

INFORMATION REPOSITORIES

The agreed order and SEPA DNS can be reviewed at the following locations:

Ecology Southwest Regional Office address listed above

Citizens for a Healthy Bay
771 Broadway
Tacoma, WA 98402-3700
(206) 383-2429

Tacoma Public Library-Main Branch
Northwest Room
1102 Tacoma Avenue South
Tacoma, WA 98402-2006
(206) 591-5666

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If you have special accommodation needs, please call (360) 407-6300 or (360) 407-6306 (TDD).

Continued from Page 1

eliminate or reduce hazardous substance releases into the marine environment.

Abrasive sand blasting has been performed at the Martinac Shipbuilding site for many years. Past disposal practices have resulted in about 1000 cubic yards of spent sandblast grit being located on the beach at the north end of the facility. This sandblast grit is up to 6 to 9 feet deep on the upper beach and more than 3 feet deep in the middle of the beach. The sandblast grit contains levels of metals (including arsenic, copper, and zinc) which well exceed the applicable sediment standards. Ecology and EPA have determined that the sandblast grit is a source of ongoing contamination to the sediments of the waterway. The interim action will remove sandblast grit that is accessible from upland. Some of the grit may be below the low tide level and inaccessible from the beach. Contamination below the low tide mark will be dealt with by EPA in the waterway-wide sediment remediation effort.

What Is Being Done?

The agreed order requires Martinac Shipbuilding to take the following actions:

- remove and dispose of sandblast grit from the beach;
- excavate and dispose of metals turnings (lathe tailings) pile at the edge of the dock adjacent to the beach;
- sample the beach area, where sandblast grit was removed, to verify cleanup compliance;
- backfill the beach area, where sandblast grit was removed, with clean fill to reestablish the beach grade.

Ecology will oversee the project to ensure that all terms of the agreed order are satisfied.

What Happens Next?

Public comment on the proposed agreed order will be considered and the order may be modified, if necessary, based on the comments received. The work required by the order is expected to be completed by October 1996.

Ecology Wants Your Comments!

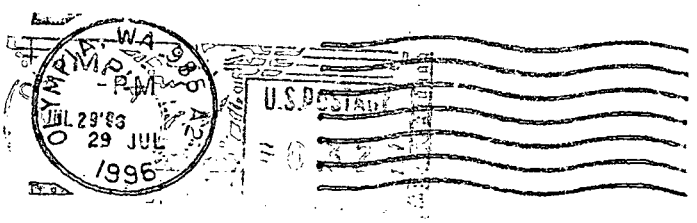
You are invited to review and comment on the agreed order and SEPA DNS through **August 29, 1996**. The public comment period presents an opportunity to have your ideas and comments heard by Ecology. Information repositories, which include the agreed order and SEPA DNS, have been set up at the locations listed in the box on page one. To review more detailed site documents than those in the information repositories, contact Ecology's regional records center at (360) 407-6365 to schedule an appointment.

Please submit your written comments to Garin Schrieve, Site Manager, at the Ecology address listed in the box on page one. Ecology will review and respond to all comments received, and may revise the agreed order. Updates of site activities will be provided to those who submit comments or request to be placed on the site mailing list.

Ecology is an Equal Opportunity and Affirmative Action employer.

Continued from Page 2

Ecology Southwest Regional Office
Toxics Cleanup Program
300 Desmond Drive SE
P.O. Box 47775
Olympia, WA 98504-7775



CHRISTINA NGO
EPA REGION 1

Christina:

Bottom Line:

If this work prevents sediment recontamination, i.e. exceedances of SQOs ⇒ it is in accordance with EPA's TF remediation

We'll confirm this w/ Houck & Team Mtg on 3/27. RJ

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. Box 47775 ◦ Olympia, Washington 98504-7775 • (360) 4

February 27, 1996

Ms. Christina Ngo
Environmental Protection Agency-Region 10
1200 Sixth Avenue
Seattle, WA 98101-3118

Dear Christina:

Re: Proposal for Cleanup of the Martinac Beach

As discussed on the phone the other day, J.M.Martinac Shipbuilding Co. (Ma plans for cleanup of the sandblast grit from their beach area on the Thea Foss years Ecology and Martinac have gone back and forth on the cleanup and wh proposals have been "workable" with respect to permitting requirements.

Martinac's current submittal finally gets beyond those. They are proposing to do an excavation/removal of all the grit on their beach area. They plan to dispose of this material in the same manner as they do of their spent blasting grit--by taking it to a cement company for recycling. In addition, they plan to remove the metals debris piles under the dock nearest the beach. Following excavation, they are proposing to reestablish the existing beach grade (for habitat purposes) with clean backfill. They will do some reinforcing of the existing bank to prevent additional uplands from being lost. Please see the enclosed cover letter and plans for more detail.

Martinac has indicated that they are interested in doing only the grit/debris removal at this time. While they are willing to do confirmational sampling to ensure cleanup of grit has been accomplished, they have indicated that they are not interested in doing further sampling of other, unrelated contamination at this time.

Ecology considers this proposal to be a good one--it is what we've been working toward for the last year. It consists of complete removal of grit materials accessible from upland. In addition, the proposed backfill with some fine-tuning will answer the resource agencies' interest in maintaining the current beach habitat at the facility. Ecology and Martinac plan to negotiate an agreed order to establish the legal framework for this action and to take advantage of the MTCA permit exemption.

I urge you to work with us to ensure that this action takes place as quickly (following the "fish window") as possible. If you have any questions, please contact me at (360) 407-6253.

Sincerely,

Garin Schrieve
Environmental Engineer/Project Manager
Toxics Cleanup Program
Southwest Regional Office

GS:jr
Enclosures

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47775 ◦ Olympia, Washington 98504-7775 ◦ (360) 407-6300

RECEIVED
FEB 29 1996

February 27, 1996

Ms. Christina Ngo
Environmental Protection Agency-Region 10
1200 Sixth Avenue
Seattle, WA 98101-3118

Dear Christina:

Re: Proposal for Cleanup of the Martinac Beach

As discussed on the phone the other day, J.M.Martinac Shipbuilding Co. (Martinac) has submitted plans for cleanup of the sandblast grit from their beach area on the Thea Foss Waterway. For several years Ecology and Martinac have gone back and forth on the cleanup and whether or not their past proposals have been "workable" with respect to permitting requirements.

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Sincerely,

Garin Schrieve
Environmental Engineer/Project Manager
Toxics Cleanup Program
Southwest Regional Office

GS:jr
Enclosures

Martinac

J. M. MARTINAC SHIPBUILDING CORPORATION 401 EAST 15TH STREET, TACOMA, WASHINGTON 98421 206-572-4005 FAX: 206-627-2816

February 20, 1996

Mr. Garin Schrieve
Site/Permit Manager
Toxics Cleanup Program
Department of Ecology
P. O. Box 47775
Olympia, WA 98504-7775

Re: Spent Sandblasting Material/Beach Clean-Up

Dear Garin:

After much consideration of options available for the beach clean-up and pursuant to our previous discussions regarding this subject, we would like to propose the following revised plan for your consideration.

First, as discussed earlier, it appears that the best and most expedient solution is to issue a MTCA order for the clean-up.

We have had Fletcher General Construction assess the site and feel the best clean-up is as follows:

All spent blasting material and other debris will be removed completely including the northernmost steel shaving piles located at the edge of the North Dock. The material removed will then be disposed of in the same method as our current sandblast grit is handled. We estimate the amount of material to be removed to be approximately 1,000 cubic yards.

The existing bank will then be stabilized by installing a rip rap bulkhead over geo-fabric material from the North Dock edge to the railroad property to the north (fence line), approximately 110'. In addition, there will be 25' of sheetpile driven along the north edge of the dock to stabilize that portion of the bank. The rip rap will be placed within 5' of the existing bulkhead line. Once the removal is completed and geo-fabric and rip rap are in place, clean fill will be brought in from Lone Star Products. Backfill will be replaced to existing levels as this appears to be the most desirable slope to the Department of Fisheries. Please refer to the enclosed drawings which should illustrate the proposed plan.

- continued -

We are confident that this is a fix that can be agreed to by all agencies and one that can be accomplished in a reasonably short time.

As this proposal is close to all the discussions we've previously held we would again expect this to be agreed to by the EPA in accordance with any future Thea Foss clean-up actions.

We feel this is a good and reasonable clean-up proposal and we are prepared to expedite this clean-up as soon as we can reach an agreement.

Sincerely,

Joe Martinac, Jr.
President

JSMjr/slh

- level of comfort of EPA's involvement.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE
SEATTLE, WA 98101

TARGET SHEET

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This is due to the Original being:

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Document Information

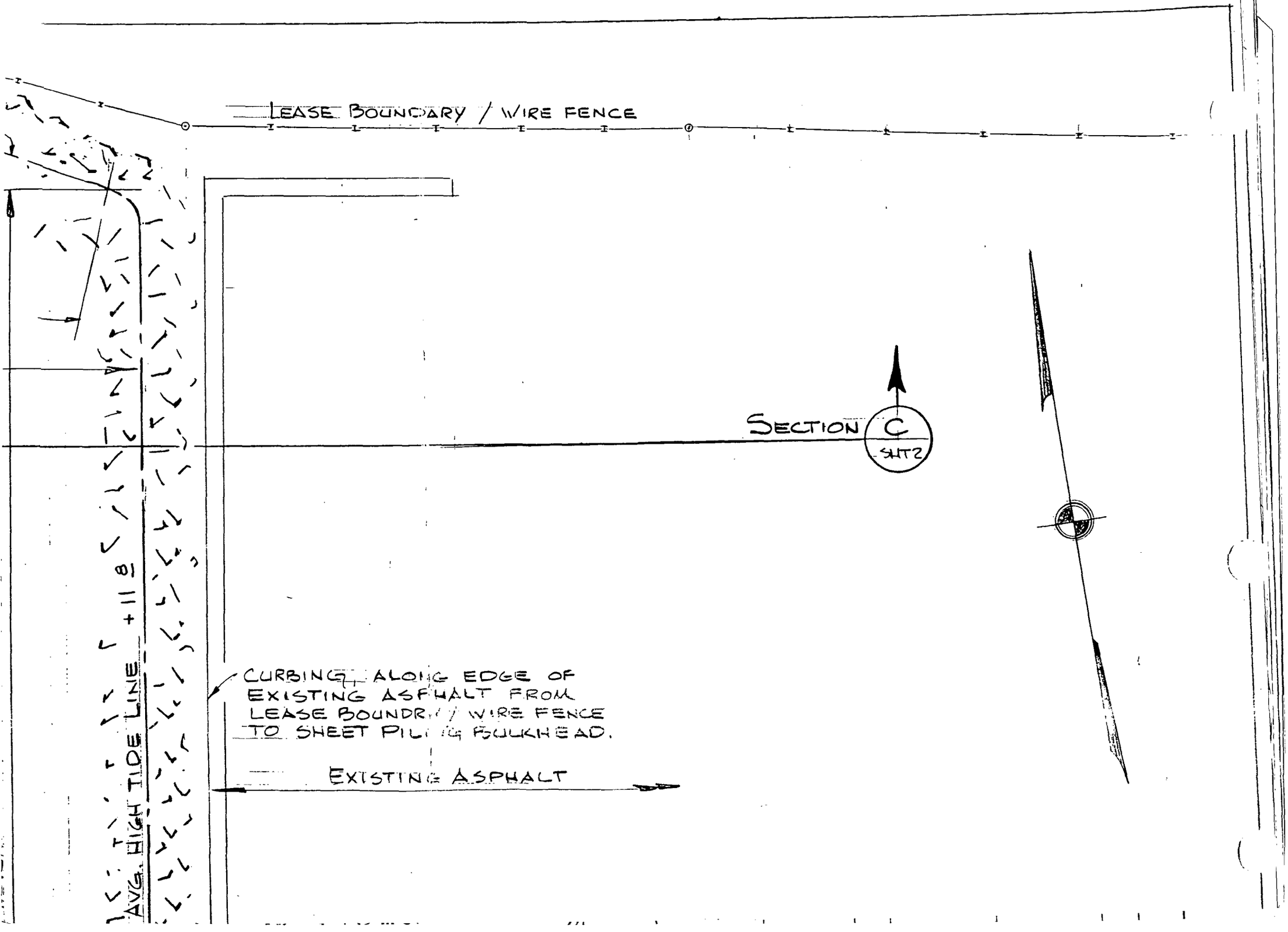
Document ID #: **1310346**

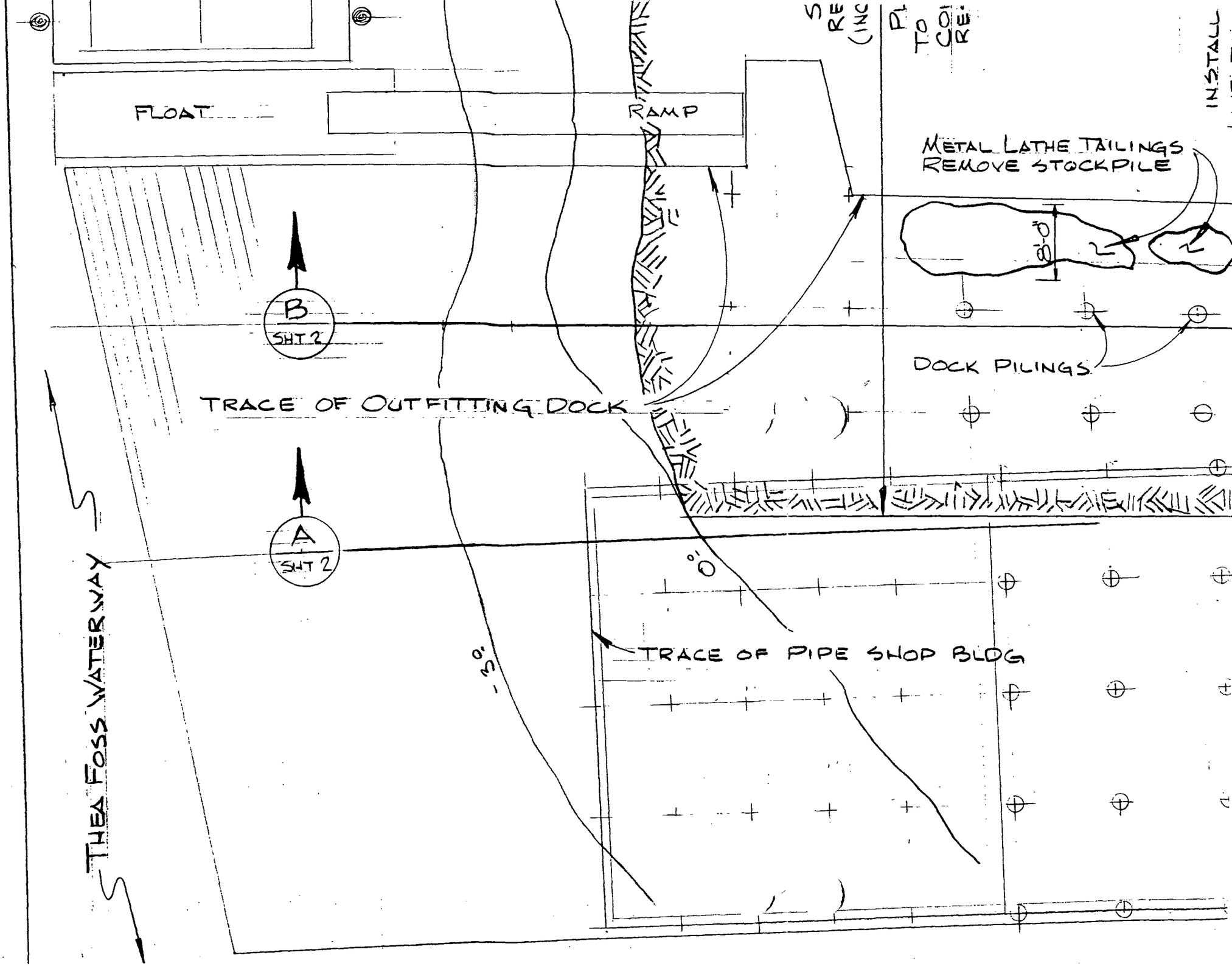
File #: **17.5.6.2 v2**

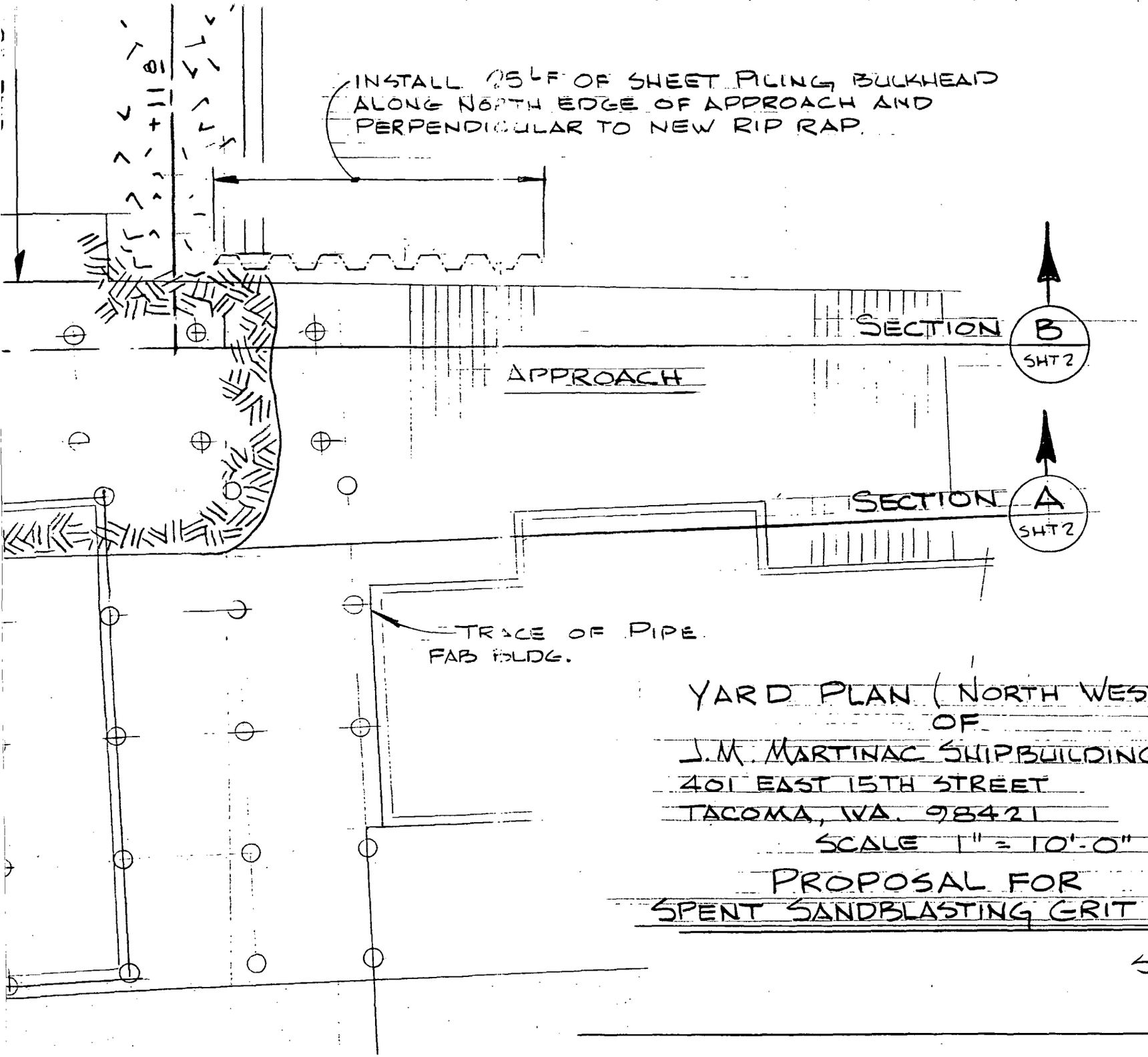
Site Name: **CBNSF**

SHT 1/2

PILINGS
EXISTING RIP RAP
+11.8
67'-0"
-3°
0°
-3°
0°
C
SHT 2
BOAT HOUSE
PER SANDBLASTING GRIT-
MC 130'-0" ALONG BEACH FRONT
LD UNDER DOCK) X 67'-0" OUT INTO WATERWAY
ACE NEW PIT SAND BACKFILL MTL
REPLACE REMOVED SANDBLAST GRIT.
NTOUR OF THE BACKFILL MTL IS TO
EMBLE THE EXISTING CONTOUR.
110 LF OF RIP RAP AT HIGH TIDE
PREVENT EROSION OF THE SHORE LINE


LEASE BOUNDARY / WIRE FENCE
SECTION C
SHT 2
AVG. HIGH TIDE LINE +11.8
CURBING ALONG EDGE OF EXISTING ASPHALT FROM LEASE BOUNDRY / WIRE FENCE TO SHEET PILING BULKHEAD.
EXISTING ASPHALT


FLOAT
RAMP
METAL LATHE TAILINGS
REMOVE STOCKPILE
8'-0"
DOCK PILINGS
B
SHT 2
TRACE OF OUTFITTING DOCK
A
SHT 2
0'
-3'
TRACE OF PIPE SHOP BLDG
THEA FOSS WATERWAY



YARD PLAN (NORTH WEST CRNR)
OF
J.M. MARTINAC SHIPBUILDING CORPORATION
401 EAST 15TH STREET
TACOMA, WA. 98421
SCALE 1" = 10'-0"

PROPOSAL FOR
SPENT SANDBLASTING GRIT REMOVAL

SHT 1/2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE
SEATTLE, WA 98101

TARGET SHEET

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**A copy of the document may be requested from the Superfund Records Center.

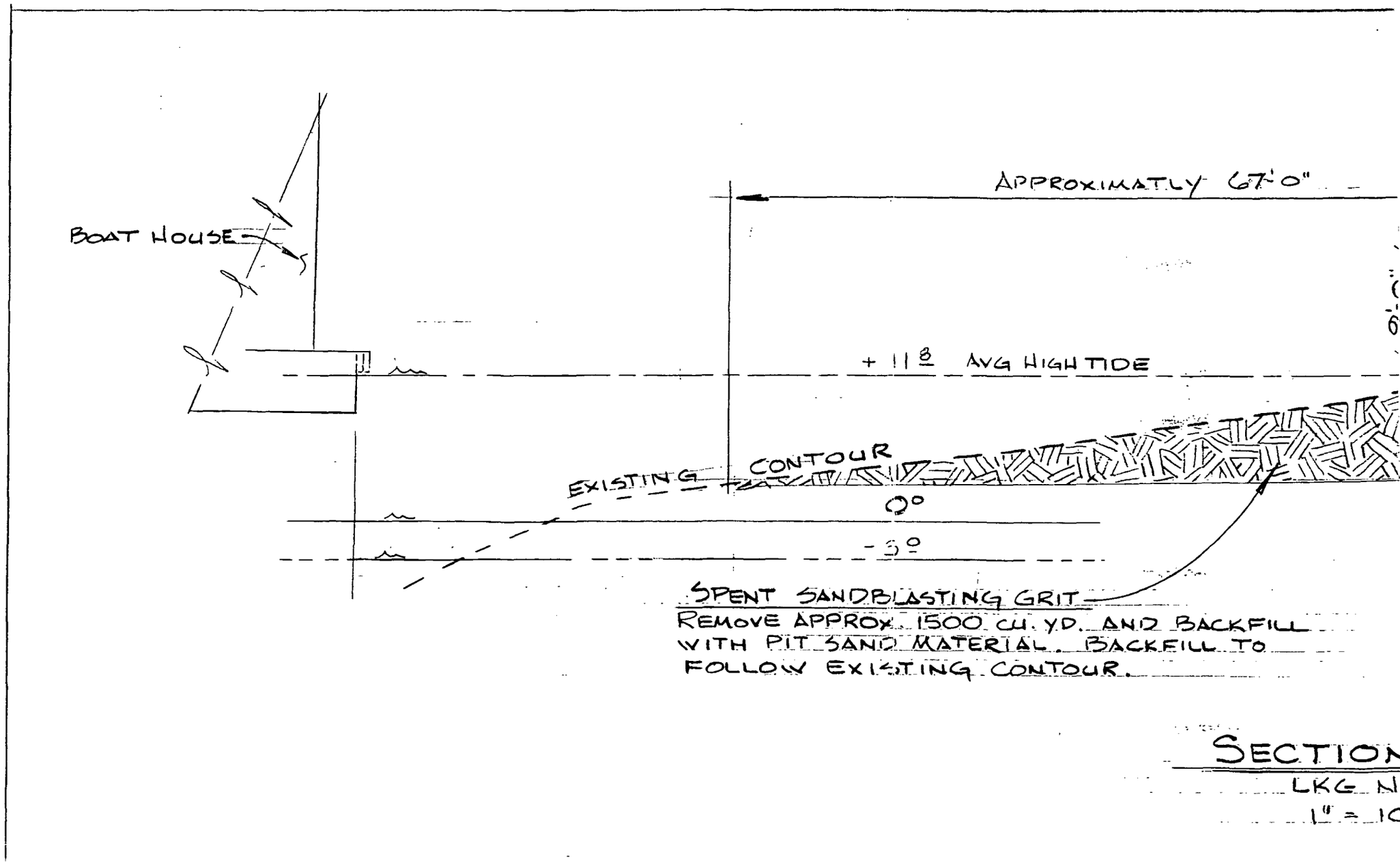
Document Information

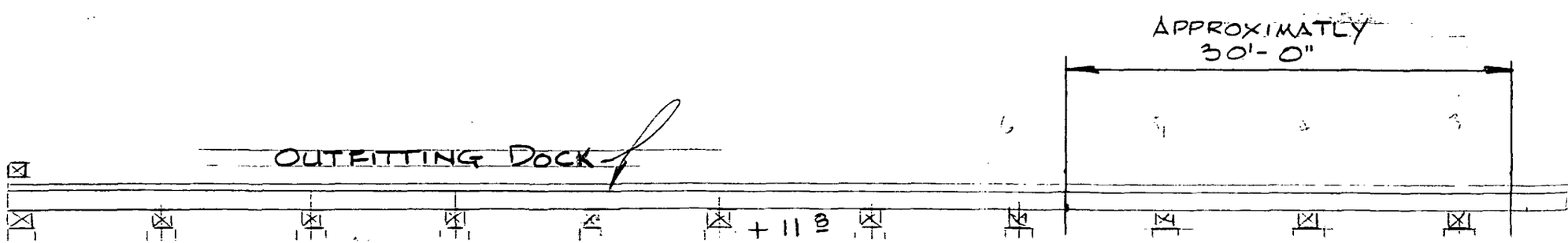
Document ID #: **1310346**

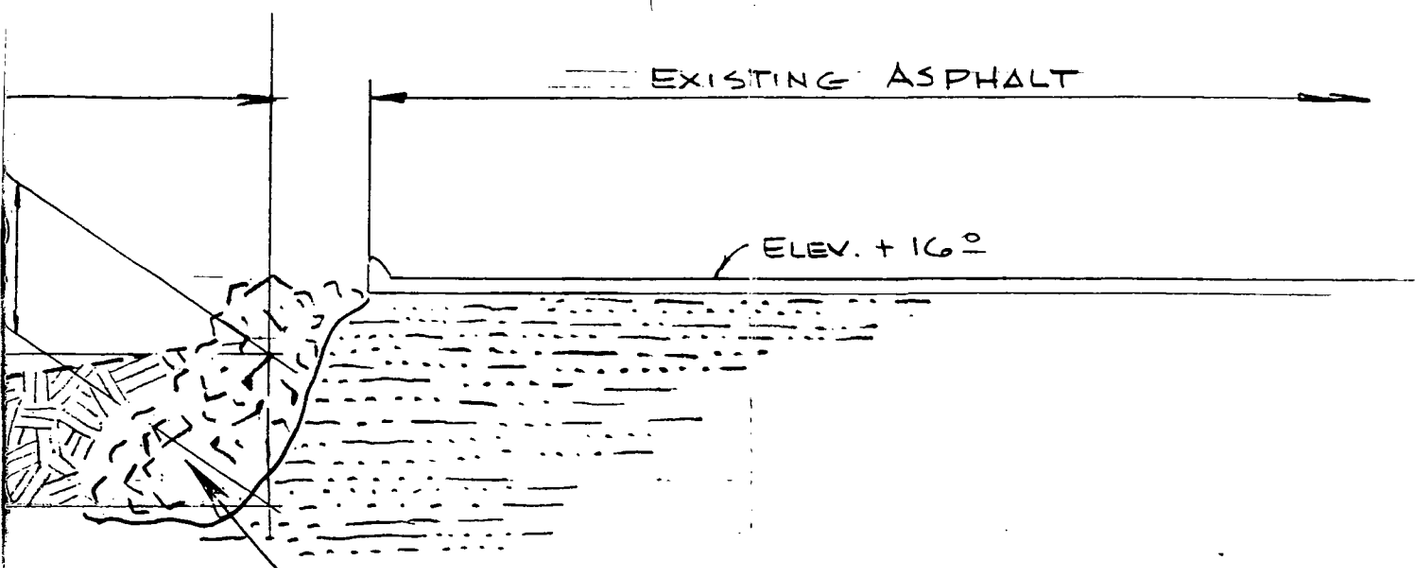
File #: **17.5.6.2 v2**

Site Name: **CBNSF**

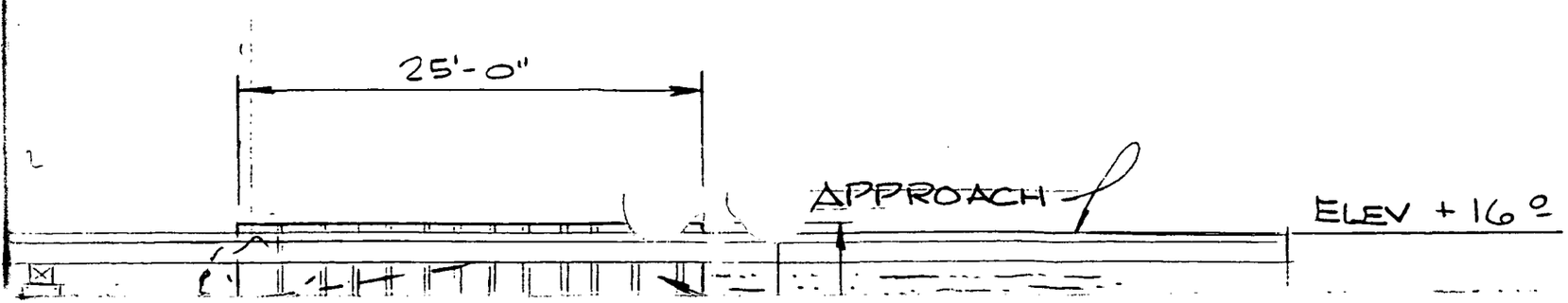
SHT 2/2

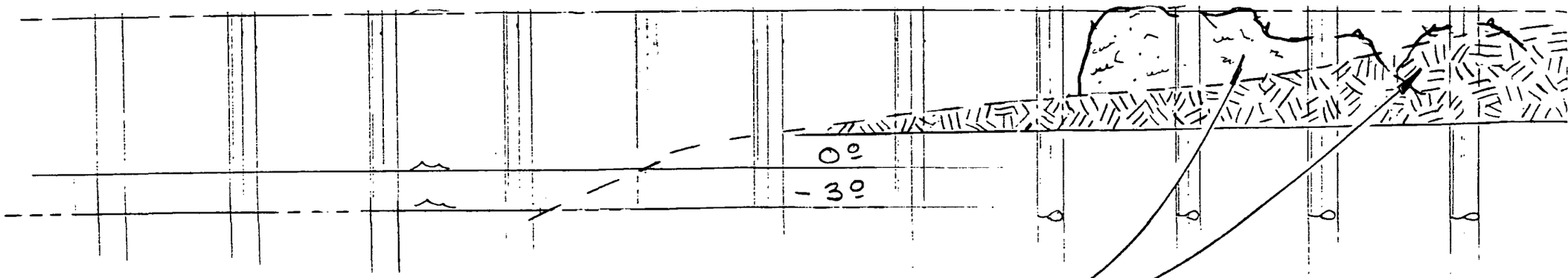

APPROXIMATLY 67'-0"
BOAT HOUSE
+ 11.8 AVG HIGH TIDE
EXISTING CONTOUR
0°
-3°
SPENT SANDBLASTING GRIT
REMOVE APPROX. 1500 CU. YD. AND BACKFILL WITH PIT SAND MATERIAL. BACKFILL TO FOLLOW EXISTING CONTOUR.
SECTION
LKG N
1" = 10


APPROXIMATLY 30'-0"
OUTFITTING DOCK
+ 11.8


EXISTING ASPHALT
ELEV. + 16 ±
RIP RAP
PLACED ABOVE HIGH TIDE LINE TO PREVENT
EROSION OF SHORELINE. RIP RAP PLACED
ON GEO-F ATERIAL

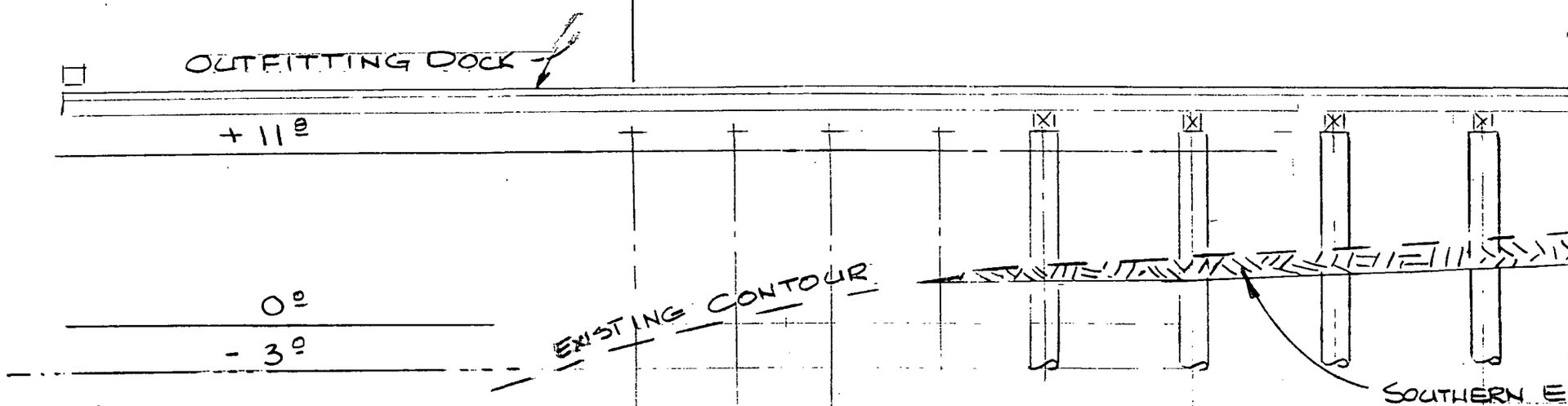
" C-C"
ORTH
'-0"


25'-0"
APPROACH
ELEV + 16 ±



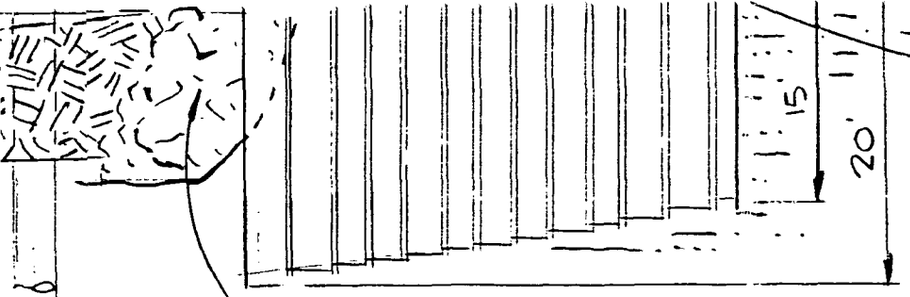
METAL, LATHE TAILINGS
REMOVE STOCKPILE THAT IS APPROX.
30' LG. x 8' WIDE x 6' HIGH.

SECTION
LKG NOR
1" = 10'



SOUTHERN E
BACKFILL
EXISTING

SECTION
LKG NOR
1" = 10



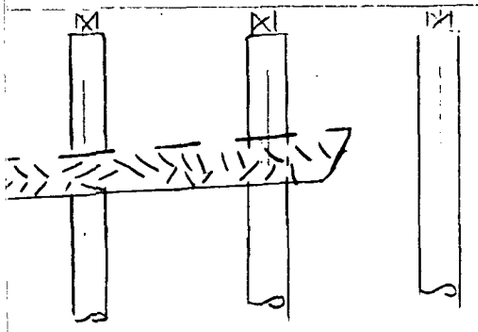
SHEET PILING
INSTALLED ALONG NORTH EDGE OF APPROACH

RIP RAP STOPS AT FAR SIDE
OF SHEET PILING

"B-B"
TH
0"

APPROACH

ELEV. + 16.0



XTENT OF SAND BLASTING GRIT.
ITH PIT SAND MATERIAL FOLLOWING
CONTOUR.

"A-A"
TH
'-0'

PROPOSAL FOR SPENT SANDBLASTING GRIT REMOVAL

SHT 2/2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

March 13, 1996

Reply To
Attn Of: HW-113

Garin Schrieve
Toxics Cleanup Program
Washington State Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, Washington 98504-7775

Re: Draft NPDES Permit and Fact Sheet for J. M. Martinac Shipbuilding Corporation

Dear Mr. Schrieve:

Enclosed are the U.S. Environmental Protection Agency (EPA) Superfund Program comments regarding the Draft National Pollutant Discharge Elimination System (NPDES) Waste Discharge Permit and Fact Sheet for the J. M. Martinac Shipbuilding Corporation, Thea Foss Waterway, Commencement Bay Nearshore/Tideflats Superfund site.

Again, I apologize for my delay in getting these comments to you in a timely manner. Please feel free to call me at (206) 553-0171 or Peggy Justus, the Thea Foss Waterway Project Manager, at (206) 553-2138 if you have questions.

Sincerely,

Christina Ngo

Christina Ngo
Superfund Project Manager

Enclosures

cc: Peggy Justus, EPA
Kris Flint, EPA
Lori Houck, EPA
Dave Smith, Ecology
Russ McMillan, Ecology

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Give CHB
Heads up ?

Will all
governing yards
in P.S. Need MXZ
size ???

EPA SUPERFUND'S COMMENTS
DRAFT NPDES PERMIT & FACT SHEET
J.M. MARTINAC SHIPBUILDING FACILITY
March 13, 1996

FACT SHEET

General Comments

1. Please make sure that page numbers will be included on the final Fact Sheet and Permit.

2. A detailed explanation of how this permit is different from the previous one and why would be helpful.

3. EPA suggests that the AOC for cleanup of the Martinac beach be negotiated concurrently with this permit to ensure the cleanup of sandblasting grit.

4. State water quality standards are discussed in the fact sheet, however, sediment quality standards are not addressed at all. Given that EPA will soon be remediating sediments in the Thea Foss Waterway, and that the recontamination potential from discharges is one of Superfund's primary concerns, please state how sediment quality standards have been addressed.

Ecology must provide an analysis of whether or not existing water quality criteria are *also* protective of sediment quality or equivalent to the promulgated sediment quality standards. If, on the other hand, the State has already determined that water quality standards are *generally* protective of, or equivalent to, sediment quality standards, then a statement to that effect must be added to the fact sheet.

5. EPA recommends that Ecology follow the process outlined in the "Sediment Source Control Standards User Manual" regarding BMP/AKART, mixing zones, etc.

6. EPA recommends that the AKART discussion be rewritten in a clearer way to inform the public. In addition, the AKART study needs to consider if sediment concentrations, after Superfund remediation, will meet EPA's SQOs in the waterway. Since a mixing zone in a Superfund area is under consideration, EPA requests a copy for review.

Also, the permit/fact sheet should incorporate the EPA's Record of Decision (ROD) requirements for potential temporary mixing zones in the Superfund area. The EPA ROD states that a temporary sediment impact zone may be established if treatment technology proves to be inadequate. However, this will not delay or alter the implementation of the remedy and sediment will be subject to the same ROD remedy. In addition, post remediation source monitoring will remain to ensure source control effectiveness and that new contaminants are not being introduced. Monitoring results will also be used as feedback to technology requirements during permit renewals and modifications.

7. Tributyltin (TBT) has been detected at levels exceeding EPA's screening level in the sediment around the Martinac facility. Attached is a map that depicts the concentrations of TBT measured in the vicinity of Martinac. Concentrations are presented in three units; as tin (Sn); as the ion (ion); and as the ion normalized to total organic carbon (TOC) content (ion-TOC normalized). The concentration normalized to TOC is the value directly comparable to the EPA sediment protective criterion (or screening level) that was recently developed at 19,250 ug TBT/kg TOC normalize, or an interstitial water concentration of 0.7 ug TBT/L. Has Ecology considered water quality-based permit limits for TBT, or will BMPs prevent TBT sediment recontamination. Russ McMillan and Theresa Michelson of Ecology are on the EPA workgroup that developed the TBT sediment criterion. EPA suggests that they be consulted regarding this matter.

Specific Comments

1. BACKGROUND, 1st paragraph, last sentence: Should "machining sandblasting" be "machinery sandblasting"?

2. _____, 3rd paragraph, 3rd sentence: The facility description is not clear with respect to whether or not runoff from unpaved areas (i.e., main sandblasting and grit storage areas) are subject to limits in the current permit or will be subject to same in the proposed limit. "Sheet flow" to the adjacent waterway must meet both water and sediment quality standards. It is unacceptable for a mostly-paved site with existing stormwater collection to be allowed discharge of uncontrolled runoff - particularly if the runoff comes from the main sandblasting and grit storage areas. At a minimum, BMPs should be applied to "sheet runoff" as well as the discharges from outfalls 1, 2, and 3.

3. _____, 5th paragraph, last sentence: This should begin "Any oily bilge water...."

4. RECEIVING WATER: Discussion of the State's sediment quality criteria must be incorporated.

5. PREVIOUS PERMIT, 1st paragraph, 1st line: Insert a comma after "January 30, 1991".

6. _____, 3rd paragraph: States that the discharge monitoring report (DMR) data collected "during this period" show trends for some of the limited pollutants. Please specify how long the aforementioned "period" was because readers should understand whether data was collected for the full 5-year period of the permit for all pollutant parameters or just for some of them. This comment is relevant to subsequent comments on stormwater characterization.

7. _____, 3rd paragraph: States that Martinac implemented BMPs specified in the (existing) permit to control pollutants in the stormwater. Ecology should clarify which BMPs (of the wide variety available to this industry) were implemented and whether those BMPs also applied to "sheet runoff" (i.e., uncollected runoff). For instance, did the operator use, or

considered using vacuum trucks or filters for gratings? Did the operator install new, or upgrade existing oil/water separators? Is Ecology going to require more stringent BMPs or is Ecology relying on the operator's selection of AKART to control all parameters that BMPs have not?

Additional questions raised by this section of the fact sheet are: At what point has Ecology determined a method of source control ceases to be a BMP and becomes a technology (e.g., filters on gratings, vaults for solids retention)? If unspecified BMPs are not adequate to ensure discharges meet water and sediment quality standards, then please explain how Ecology supports the statement in paragraph 2 of WATER QUALITY-BASED EFFLUENT LIMITATIONS that "...the discharges of [metals] shall be controlled by the BMPs required by the permit."

8. _____, 4th paragraph: A statement is made here that based on current stormwater quality data from Martinac and other shipyards, "the Department now believes that source control BMPs alone will not be able to reduce concentrations of metals in stormwater to meet the water quality based limits..." Is there a decision document/report at Ecology that supports and confirms this statement? If so, EPA would like to request a copy.

9. _____: A 6th paragraph is needed to explain whether or not the monitoring data may be used to evaluate the impact of discharges on sediment quality - especially for those pollutants for which EPA has established sediment quality objectives. If Ecology has determined that effluent monitoring data is representative of sediment impacts, then an explanation of the derivation or the policy is needed.

10. STORM WATER CHARACTERIZATION, Table 1 & discussion: Units are missing from the range column values for mercury. Were all parameters monitored 12 months/year from 1991 through 1995? If so, at what frequency? Does the range column represent a equal universe for each pollutant (e.g., 60 samples for each) or were some pollutants monitored less frequently (e.g., once/year for a total of 4 samples)? Were sufficient samples of cadmium, mercury and nickel taken in order to judge whether or not the standard of one- or four-hour average concentrations (once/3 years) occurred more than once?

Cadmium, chromium, nickel, and mercury are deleted because discharge monitoring are either non-detects or so low they probably will not exceed water quality criteria from "current" operations of the facility. However, EPA recommends that water quality standard limits for those metals remain in the permit since Martinac is legally required to treat down to those standards to protect the environment for potential discharges common to ship repair.

Ecology should explain the following: (1) whatever correlation (policy- or science-based) exists between sediment and water quality criteria, (2) how the proposed limits will protect both sediment and water quality and (3) how the removal of limits (particularly for Cd, Ni and Hg) allows the proposed permit to protect both water and sediment standards and uses. Based on EPA's sediment quality objectives for this waterway and the State's sediment quality standards, Ecology should evaluate the proposed discharge and develop discharge limits accordingly.

11. PROPOSED PERMIT LIMITATIONS AND CONDITIONS, 3rd paragraph: Again, a statement is made here that "source control BMPs alone will not result in an effluent which is able to meet water quality-based standards at this facility." EPA requests either a backup report or a formal decision document pertaining to this matter.

12. _____, 3rd paragraph, last sentence: "[A]nd" in the following phrase appears to be misplaced, " .... stormwater discharges directly to the intertidal sediment during low tides and therefore cannot be allowed a mixing zone." We note that this statement should apply for sediment standards too.

13. _____, 8th paragraph, 2nd line: "[P]lacement of an outfall/diffuser" implies one of two things, either Martinac has submitted a proposal for an extended/modified outfall design or Ecology has determined that an extended outfall is necessary. This fact sheet must contain some concise explanation of the basic changes Martinac intends to make.

14. _____, 8th paragraph, 1st sentence: Copper and zinc are both discussed, what about lead?

15. _____, 12th paragraph, last sentence: Permit limitations for metals other than copper, lead, and zinc have been removed from the permit because of certain conclusions drawn from 1991 to 1995 monitoring data. Was that data evaluated for potential sediment SQO exceedances post-remediation of the Superfund site?

As written, the fact sheet does not provide adequate documentation to support either of the statements made in this sentence. Table 1 and the attendant discussion do not present monitoring data in terms of "before and after" line cleanout. If data are tabulated in this form, perhaps in a technical memorandum to a file, include that table to reference the tabulation/memo, or don't make the statement.

As for chemicals not detected, although mercury was consistently not detectable, even half of the detection limit exceeds the acute and chronic water quality criteria. Perhaps the Water Quality Standards group may provide some discussion about how or why it is reasonable to drop limits for mercury due to detection limits which exceed their criteria levels. Of the chemicals no longer limited, chromium is the only monitored metal which truly did not exceed the water quality criteria as compared with data presented on Table 1. Finally, for nickel, the 1995 mean value exceeds the chronic water quality criterion: this fact is not consistent with either the non-detect claim or the no-longer-present/historical contamination argument.

16. SCHEDULE OF COMPLIANCE, 1st paragraph, 3rd line: Copper and zinc are discussed, but what about lead?

The Schedule of Compliance (SOC) indicates that permit limits contained in Section S1.B apply July 1, 1998. EPA will select its remedial action in Winter 1998 for the Thea Foss Waterway. Why will limits not apply before July 1998?

The SOC also presupposes that a submerged outfall/mixing zone will be required and granted by Ecology. Please clarify that the permittee must first conduct an AKART analysis prior to any decisions made by Ecology.

17. BASIS OF INDIVIDUAL LIMITATIONS, TECHNOLOGY-BASED, TSS: Please add a note that the 45 mg/l limit is being applied as a 24-hour, or daily, maximum value for TSS.

18. BASIS OF INDIVIDUAL LIMITATIONS, WATER QUALITY-BASED EFFLUENT LIMITATIONS: Once again, sediment protection have not been included.

19. OTHER PERMIT CONDITIONS, EFFLUENT MIXING STUDY: Copper and zinc are not, according to the permit, the only metals for which a mixing zone will be determined. Please include lead in this discussion. Also note that a discussion of sediment recontamination will need to be added when sediment quality and protection discussions are added to the balance of this fact sheet.

20. OTHER PERMIT CONDITIONS, TOXICITY MONITORING, 1st paragraph: The proposed permit requires acute toxicity testing twice per year from 1998 through expiration of the permit which would be 2001, assuming permit issuance in 1996. Given that reissuance of NPDES permits is often a prolonged process, we strongly recommend that the requirement be changed to read "... for the effective period of the permit." With respect to the requirement for only acute toxicity testing of the effluent, we strongly recommend that chronic toxicity testing also be required based on the apparent exceedance of chronic water quality criteria for most metals. In addition, it will be necessary for Ecology to require sediment bioassay as well in order to determine compliance with sediment quality standards and demonstrate whether (or not) sediments will recontaminate.

The fact sheet also states that samples will consist of "100% stormwater effluent". Given that the permit requires a sample for bioassay to be split and analyzed for all of the other pollutant parameters as well, Ecology should consider requiring sampling on the basis of flow to ensure that enough sample will be available for all testing requirements.

PROPOSED PERMIT

Specific Comments

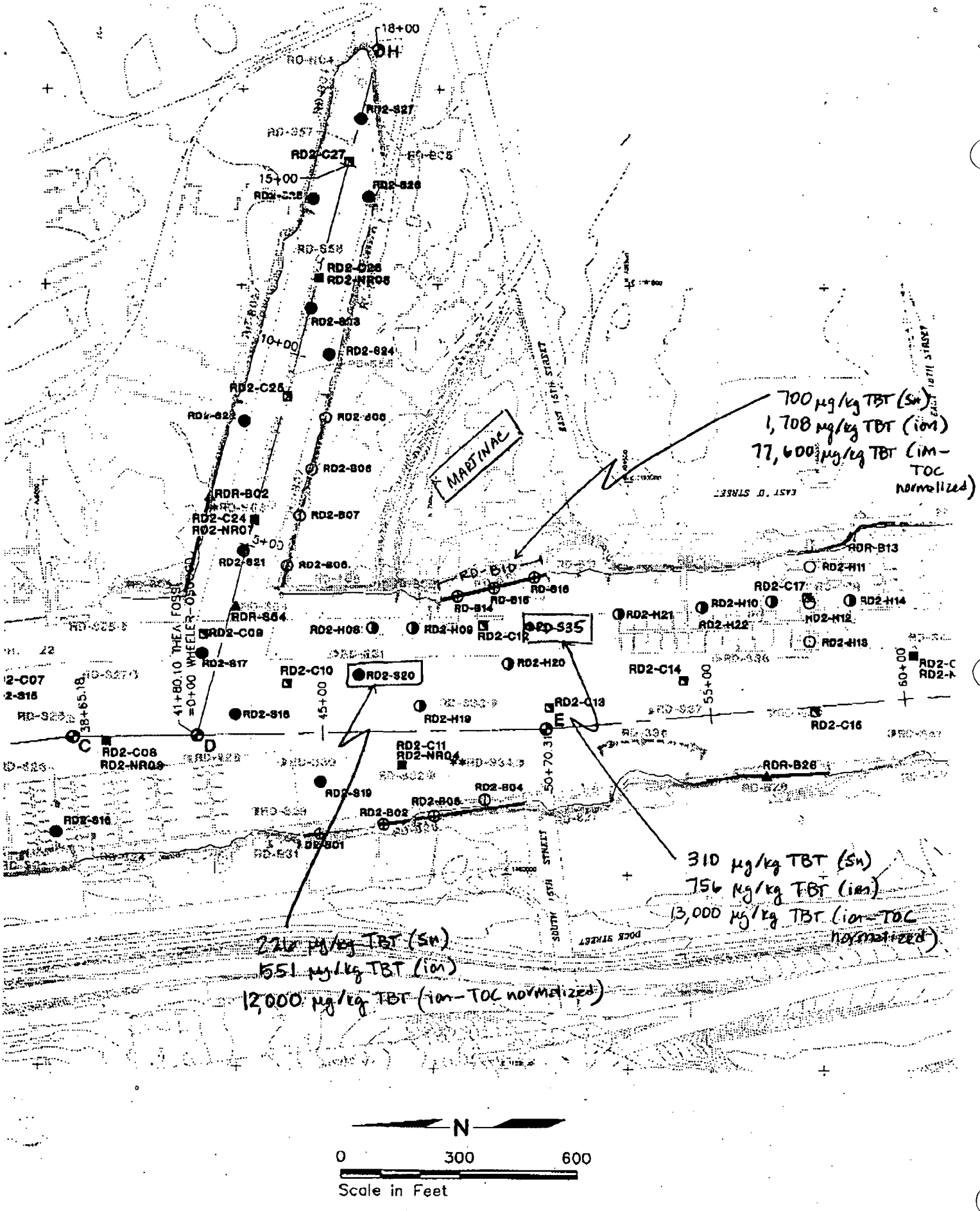
S.1.A. & B., Storm Water Discharges...: BMPs and/or limits for tributyltin should be considered for the permit, either in this section (for immediate compliance upon issuance) or to S.1.B. (requiring compliance 7/1/98). In addition, limits based on sediment protection should be developed and included as needed to ensure recontamination does not occur.

S1.C., Mixing Zone Description: Where is the radius length derived or prescribed? The fact sheet should explain how a radius length of 16 feet was determined (e.g., as 25% of waterway width at MLLW). References to the applicable WAC should be included with the explanation/derivation.

It is not clear how Ecology or the permittee will be required to ensure that the Martinac mixing zone will not overlap (potential) mixing zones for other outfalls (STORM WATER or otherwise).

S.6., ACUTE TOXICITY STUDY; Pursuant to specific comments on the fact sheet (see #18, above), requirements for chronic toxicity and sediment toxicity should be added to the permit.

S.9.G., Bilge and Ballast Water; This discussion is not limited to practices for storage, repair, and minimization, as are other paragraphs in this section. This discussion contains very specific language prohibiting the discharge of contaminated bilge/ballast water and limits on the discharge of uncontaminated bilge/ballast (i.e., no sheen, oil & grease NTE 10 mg/l). While we understand that the proposed permit is focussed on limiting the discharge of STORM WATER, it is equally important that other (incidental) discharge limits and/or prohibitions be highlighted to avoid future permit violations. Therefore, we recommend adding some footnote or cross-reference to this paragraph at the front of the permit where discharge limits for STORM WATER are addressed.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RD-S16
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RD-S15
RDR-S64
RD2-C09
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RD2-C12
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RD2-S20
RD2-H20
RD2-C14
RD2-C07
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RD2-C08
RD2-NR09
RD2-C11
RD2-NR04
50+70.31
RDR-B26
RD2-S19
RD2-S04
RD2-S03
RD2-S02
RD2-S16
RD2-S01
700 µg/kg TBT (Sn)
1,708 µg/kg TBT (ion)
77,600 µg/kg TBT (ion-TOC normalized)
310 µg/kg TBT (Sn)
756 µg/kg TBT (ion)
13,000 µg/kg TBT (ion-TOC normalized)
2212 µg/kg TBT (Sn)
551 µg/kg TBT (ion)
12,000 µg/kg TBT (ion-TOC normalized)
N
0
300
600
Scale in Feet

Concentrations (ug/kg) of TBT measured in Thea Foss sediments in the vicinity of Martinac.						
Round	Station	Depth	TOC (%)	TBT (Sn)	TBT (ion)	TBT (ion-TOCN)
1	RD-B10	Intertidal	2.2	700	1706	77636
1	RD-S35	Subtidal	5.8	310	756	13041
2	RD2-S20	Subtidal	4.6	226	551	11968
2	RD-B14	Intertidal	NA	32	78	NA
2	RD-B15	Intertidal	NA	4800	11712	NA
2	RD-B16	Intertidal	NA	640	1562	NA
2	RD2-H08	Subtidal	NA	420	1025	NA
2	RD2-H09	Subtidal	NA	21	51	NA

- what is schedule for reissuance?
- why reissue if current permit is being appealed?
- will Martinac appeal this too?

DRAFT

FEB 07 1996

FACT SHEET

This fact sheet is a companion document to the draft National Pollutant Discharge Elimination System (NPDES) Permit No. WA-004028-2. The Department of Ecology is proposing to issue this permit, which will allow the discharge of industrial stormwater to waters of the State of Washington.

This fact sheet explains the nature of the proposed discharge, the Department's decision on limiting the pollutants in the stormwater, and the regulatory and technical basis for those decisions. Public involvement information is contained in Appendix A. Definitions are included in Appendix B.

APPLICANT:	J.M. Martinac Shipbuilding Corporation
FACILITY LOCATION:	401 East 15th Street Tacoma, Washington 98421
PERMIT NUMBER:	WA-004028-2
ACTIVITY:	Ship construction and repair
RECEIVING WATER:	Thea Foss Waterway-Commencement Bay (Class C)

J.M. Martinac Shipbuilding Corporation (Martinac) has applied for a National Pollutant Discharge Elimination System (NPDES) Permit renewal to discharge pollutants pursuant to the provisions of Chapter 90.48 Revised Code of Washington (RCW), as amended, and the Federal Water Pollution Control Act. The Washington Department of Ecology (the Department) has tentatively determined to reissue the NPDES permit for the discharge of stormwater to the Thea Foss Waterway, subject to certain effluent limitations and other conditions necessary to carry out the provisions of state and federal law.

why are we reissuing if previous permit is still on appeal?

BACKGROUND

Martinac has been constructing vessels at its present location on the east bank of Thea Foss Waterway since 1924. Predominant activities are the design and new construction of fishing vessels and tugs and the repair and retrofitting of existing vessels. Activities include welding, cutting, machining sandblasting, painting, carpentry, pipefitting, and electrical wiring.

The Martinac facility covers approximately 6.2 acres. Their facilities include two covered marine ways which can each handle vessels up to 250 ft in length and 44 ft in width. Other areas of the facility include plate and fabrication areas, marine construction buildings, outfitting docks, grit blasting and paint spray areas, lumber and metal storage areas and warehouses.

3:30 - Agreed not to appeal given acceptable conditions

(*) Will this permit be enforced if Martinac does not like the conditions?

407-6253

Martinac does not have a drydock or graving dock.

The entire Martinac site is paved and precipitation that collects as surface water on-site is collected in three storm drain systems discharging to Thea Foss Waterway (Outfalls 1, 2, and 3). These outfalls discharge directly to the top of the intertidal bank. Some areas of the yard (including the main sandblasting and grit storage area) are drained by sheet flow to the adjacent waterway. The stormwater discharge (which is to be addressed in this NPDES permit) becomes contaminated with metals due to the contact of stormwater with pollutants/materials that have been deposited on the ground at the facility. The types of material that may cause this contamination at the Martinac facility include: spent abrasive grit; antifouling paint chips; antifouling paint overspray; scrap metals; welding rods; miscellaneous solid waste; etc. Because sandblasting is done in several areas and areas have only partial containment, grit may be present throughout the yard and may enter all storm drain systems and the marine intertidal area. The various types of motorized equipment used in the shipyard are potential sources of oil/fuel to the storm drain systems.

With the exception of steam cleaning there are no industrial processes at Martinac that generate wastewater. The shipyard infrequently disposes of bilge, ballast, or gray waters from vessels. Any oil bilge water is stored in a 500-gal tank prior to being disposed of by a subcontractor.

Sanitary wastewater from the facility is discharged to the City of Tacoma sanitary sewer system.

Solid waste generated at the site includes sandblast grit. This material is currently transported offsite for recycling at a cement plant. Scrap metal is recycled offsite. Some solvents are redistilled on-site; other solvents are stored in drums until transport offsite by a solvent recycler. Waste paints are allowed to dry in buckets, and are then disposed of as municipal waste. The permittee has previously submitted a solid waste control plan than addresses handling and disposal of all solid waste materials generated at the site.

RECEIVING WATER

Stormwater runoff from the Martinac facility is discharged to Thea Foss Waterway-Commencement Bay. In the vicinity of the facility, Thea Foss Waterway is classified by the Washington State Water Quality Standards as Class C marine surface waters. The characteristic beneficial uses of these waters are: industrial water supply; fish (salmonid and other fish migration); recreation (secondary contact recreation, sport fishing, boating, and aesthetic enjoyment); and, commerce and navigation.

The applicable receiving water quality standards are those adopted by the Department and approved by the U.S. Environmental Protection

Agency (EPA) Region 10 Administrator pursuant to Section 303 of the Clean Water Act. The specific applicable standards for Class C waters are found in WAC 173-201A and include the following:

Parameter	Standard
Dissolved Oxygen	Shall exceed 4.0 mg/l
Temperature	Shall not exceed 22 degrees Celsius due to human activities
pH	Shall be within the range 6.5 to 9
Turbidity	Shall not exceed 10 NTU over background

In addition, Washington State Water Quality Standards have been adopted for the maximum allowable concentration of potentially toxic substances in surface waters of the state in WAC 173-201A-040. This same regulation requires that no toxic substance shall be introduced above natural background levels in waters of the state which may adversely affect characteristic water uses, cause acute or chronic conditions to the aquatic biota, or adversely affect public health, as determined by the Department.

The portion of the Thea Foss Waterway to which Martinac stormwater discharges (Head of Thea Foss) is identified as a sediment problem area as part of the Commencement Bay/Nearshore Tideflats Superfund Site. The Thea Foss Waterway sediment remediation effort is currently (as of the issuance date of this permit) in the pre-remedial design phase--meaning that sediment contamination is still being assessed in order to define what remedial steps will be taken to clean-up the sediments in the waterway. It is likely that the remedial actions selected will involve some active clean-up of the sediments in the vicinity of the Martinac facility. The actual cleanup of the Thea Foss Waterway may not occur until 1999 or later. Check w/ Peggy.

PREVIOUS PERMIT

Martinac's previous permit was issued on January 30, 1991 and became effective on February 15, 1991. The previous permit placed effluent limitations on stormwater and receiving water in the marine ways. These effluent limitations included water quality based limits for metals. - what about limits for total suspended solids, O&G, etc?

Martinac appealed the permit's use of water quality based limits for metals in stormwater discharge to the Pollution Control Hearings Board (PCHB). On September 22, 1992, the PCHB ruled in Martinac's favor and reversed the use of water quality based metals limits. The Department appealed this decision to Superior Court. The Superior Court reversed the PCHB's decision on July 31, 1995, and restored the use of water quality based limits in the permit. Martinac filed an appeal of this decision to the state Supreme Court; this appeal is now pending, however the Supreme Court

No, they are required to meet WQ based limits!!

So at this time, Martinac is not meeting WQ limits for discharge?

refused to stay the use of water quality based limits in the permit until the appeal is heard.

While the permit was on appeal, Martinac ~~generally complied with the permit and implemented the~~ Best Management Practices (BMPs) specified in the permit to control pollutants in stormwater runoff. The discharge monitoring report (DMR) data collected during this period indicate that BMPs have been effective in reducing Total Suspended Solids (TSS), oil and grease, and metals concentrations in stormwater. Concentrations of TSS and oil and grease have been reduced to below permit limits. However, while metals concentrations in runoff have been significantly reduced, copper and zinc are still present in stormwater discharge at levels well exceeding the water quality based permit limitations.

clarify

Describe what these measures are.

What about lead?

Based on stormwater quality data from this and other shipyards in the Puget Sound area that have implemented similar source control BMPs, the Department now believes that source control BMPs alone will not be able to reduce concentrations of metals in stormwater to meet the water quality based limits as contained in the previous permit.

Does this re-issuance contain schedule? good warrant

The previous permit did not contain a schedule of compliance to allow the facility to work toward attainment of water quality based limits.

STORMWATER CHARACTERIZATION

The stormwater discharges from the site have been characterized by the Discharge Monitoring Report data from the previous permit cycle. A summary of the data for the regulated parameters is given in Table 1 below.

Table 1. Stormwater quality data summary, 1991-1995.

Parameter	Range	Recent Year (1995) Mean[1]
TSS	0.2 - 662 mg/l	17 mg/l
Oil & Grease	0.1 - 84.2 mg/l	3.2 mg/l
pH	5.8 - 8.5	6.9
cadmium	ND(2)[2] - 9 ug/l	ND(3 ug/l)[2]
chromium	ND(7)[2] - 8 ug/l	4.5 ug/l
copper	5 - 1594 ug/l	50 ug/l
lead	ND(1)[2] - 393 ug/l	35 ug/l
nickel	ND(2)[2] - 82 ug/l	10.5 ug/l

zinc	175 - 7689 ug/l	651 ug/l
mercury	ND(0.5)[2]	ND(0.5 ug/l)[2]

[1] Mean calculated using one-half detection limit for non-detected samples

[2] Not detected at the concentration shown

Concentrations of TSS, oil and grease, and metals have been reduced significantly from the levels observed in the first few sampling events. This is attributable to implementation of BMPs and the cleanout of contaminants historically present in the catchbasins and drainlines. Data from the most recent year have been included in the table as an indication of the current quality of stormwater runoff from the facility following implementation of BMPs.

PROPOSED PERMIT LIMITATIONS AND CONDITIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be based on the level of pollution reduction that treatment technology can achieve and the level of pollutant discharge above which water quality standards would be violated; these are called technology-based limits and water quality-based limits, respectively. The more stringent of these two types of limits must be chosen as the effluent limitation for each parameter.

So at this pt, a limit has not been chosen by Ecology? Decision will be made following AKART?

Technology-based effluent limitations are set by regulation (called effluent guidelines) for some discharge types or are determined on a case-by-case basis (40 CFR and Chapter 173-220 WAC). Water quality-based effluent limitations are required to ensure that water quality standards set for a given receiving water are not exceeded because of the discharge.

No effluent guidelines (technology-based limits) have been issued for the shipyard industry. The Department has determined that technology-based limits shall be determined for each facility on a case-by-case basis to account for the inherent variability in stormwater discharges from different shipyards. This variability in stormwater quantity and quality is the result of differences in physical plant layout and the specific types of operations taking place at a given shipyard. It is now apparent to the Department that source control BMPs alone will not result in an effluent which is able to meet water quality-based standards at this facility. In the current situation at the Martinac facility, stormwater discharges directly to the intertidal sediment during low tides and therefore cannot be allowed a mixing zone.

In this reissuance of this permit, the Department proposes to define the process by which technology-based and water quality-based effluent limits will be applied. A study to determine "All Known, Available and Reasonable methods of Treatment" (AKART) shall

AKART analysis only concentrated on treatment technology for copper, zinc, and lead?

be conducted to determine technology-based limits. The AKART study consists of an engineering analysis to identify known and available treatment technologies and an economic test of reasonability. After receipt of the AKART analysis, the Department will then define AKART for the facility. If the Permittee disagrees with the Department's AKART determination, the Permittee shall submit the cost, earnings, and revenue data needed to perform a plant-level economic achievability test.

what's the time frame?

why go into such detail about mixing zones?

what about discharge to intertidal area?

Following the selection and implementation of AKART, the Department may authorize the use of a mixing zone (per Chapter 173-220 WAC). Thereby the Permittee may take advantage of dilution effects in the receiving environment in order to meet water quality-based effluent limitations. Mixing zones are authorized in accordance with the geometric configurations and flow restriction for mixing zones given in Chapter 173-201A WAC.

Talking about submerged outfall for discharge?

Subsequent to the Department's selection of AKART and authorization of the use of a mixing zone, the Permittee shall conduct an effluent mixing analysis as described under Special Condition S5 of the permit to determine the dilution factors of effluent to receiving water that occur within these zones.

Following the implementation of the Department's selected AKART alternative and the placement of an outfall/diffuser, the effluent limitations for copper and zinc contained in Section S1.B of the Permit will be compared to the calculated concentration at the edge of the appropriate mixing zone. Compliance with these permit limits will be assessed by taking into account the dilution ratios/degree of mixing determined in the Ecology-approved effluent mixing study. The Department may modify the permit to include "end-of-pipe" technology-based limits based on operational performance of the treatment system which support the attainment of water quality standards at the edge of the mixing zone. The Department may also modify the Permit to adjust technology-based limits for lead and TSS based on the performance data from the AKART system.

If the AKART system and outfall/diffuser are not in-place and operating according to the schedule of compliance contained in Special Condition S4. of the permit, the Permit limits for copper and zinc contained in Special Condition S1.B shall apply at "end-of-pipe" upon written notification by the Department.

This Permit does not include effluent limitations on the receiving water in the marine ways. The pollutant concentration present in the receiving water in the marine ways is the result of both on- and off-site sources (such as nearby municipal stormwater outfalls or shoreline contamination) and is not necessarily under control of the Permittee. Water quality of the receiving water in the marine ways shall be monitored after each use in order to ensure the effectiveness in source control BMPs used in this area.

The proposed permit does not include a requirement to conduct a

Sediment Baseline Study or ongoing sediment chemistry and toxicity testing. Given that the chemical characteristics of the sediments adjacent to this facility will be dramatically changed by the Superfund cleanup actions expected to occur, these studies will be postponed until the Thea Foss Waterway remediation efforts are completed. These requirements will be addressed in the next issuance of the permit.

Do we agree?

Based on discharge monitoring data ~~for 1991 through 1995~~, permit limitations for metals other than copper, zinc and lead have been removed from this Permit. These metals include mercury, cadmium, chromium, and nickel. These metals are either not detected in discharge monitoring data from 1991-1995 or have been present in such low concentrations after cleanout of historical contamination from drainlines as to pose no reasonable potential to exceed water quality criteria from the current operations at the facility.

↳ eliminated metals were compared to water quality criterias?

SCHEDULE OF COMPLIANCE

what about lead?

The Department is proposing to issue this permit with a Schedule of Compliance (SOC) for application of discharge limitations for copper and zinc. This is being done to allow Martinac time to complete the steps necessary to implement stormwater treatment. These necessary steps include: performing AKART study; preparing engineering report for the AKART technology chosen; completing a effluent mixing/ outfall/diffuser analysis; shoreline permit process to construct a submerged outfall/diffuser if necessary; installation of the AKART technology (and outfall/diffuser); and, a period to gather operational data on system performance. Also included in this time period are the necessary Departmental determinations and approvals including the Department's selection of the AKART alternative and the approval of the engineering report for the selected AKART technology.

Seems like technology-based requirements are the preferred decision.

Ecology presupposing mixing zone

The Schedule of Compliance for implementation of the permit is outlined in Table 2.

Table 2. Schedule of Compliance

Task	Date
Submit AKART analysis	June 30, 1996
Engineering Report & Effluent Mixing Study	December 15, 1996
Complete installation of AKART system and outfall/diffuser	October 30, 1997
Permit limits contained in Section S1.B apply	July 1, 1998

The Engineering Report shall include engineering plans for

implementing the selected AKART system. The requirements for the Engineering Report are found in WAC 173-240. The Engineering Report shall also include plans for the collection and treatment of all stormwater runoff from areas of the facility where abrasive blasting grit is used and stored.

The Effluent Mixing Study shall evaluate the degree of mixing to be achieved using the outfall/diffuser design specified in the Department-approved Engineering Report.

In order to meet the deadlines of the Schedule of Compliance, the Permittee must make timely and complete application for the Federal, State and local permits necessary to complete the prescribed actions. Failure to make timely and complete application for these permits shall not be cause for an extension of schedule.

BASIS OF INDIVIDUAL LIMITATIONS

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

Oil and Grease- The effluent limitation for oil and grease is set at 10 mg/l monthly average and 15 mg/l daily maximum with no visible sheen allowed. This limitation is based on the proven performance of gravity oil/water separators.

metals- The technology-based effluent limit for copper, lead and zinc shall be determined through an AKART analysis as previously discussed. Following implementation of AKART, performance data will be collected to evaluate system efficiency.

TSS- The final TSS limitation of 45 mg/l is defined as technology-based for primary treatment.

pH- A limit for pH of 6.0 to 9.0 is based on demonstrated performance of simple neutralization equipment; this limit will apply only if the AKART system installed results in modification of stormwater pH for the purposes of treatment.

WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Water Quality Standards.

metals- Limit based on marine acute criteria for

What about Oil & Grease and TSS (8)

copper, lead and zinc. Only the acute ~~criteria is~~ applied because of the intermittent nature of stormwater discharge.

pH- Because of the high buffering capacity of marine water, compliance with the technology-based limits (if applied based on AKART system selected) will assure compliance with water quality standards.

Do we have back-up data to confirm?

No effluent limitations and monitoring requirements have been established for settleable solids. It is expected that the discharge of these pollutants shall be controlled by the BMPs required by the permit. The stormwater discharge shall not violate the Washington State Water Quality Standards for pH, settleable solids, aesthetic values, and turbidity in Class C marine waters.

addressed by suspended solids in the discharge.

BMPs would handle settleable solids?

MONITORING AND REPORTING

Effluent monitoring, recording, and reporting are required (WAC 173-220-210) to verify the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring and testing schedule is detailed in the permit under Special Condition S3. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

OTHER PERMIT CONDITIONS

EFFLUENT MIXING STUDY

Special Condition S5 of this permit requires the discharger to accurately determine the mixing characteristics of the discharge. Mixing will be measured or modeled under conditions specified in the permit. The results of this effluent mixing study will be used to determine compliance with the water quality standards for copper and zinc.

TOXICITY MONITORING

collect data once AKART system is in place. Data avail for next permit.

The Permittee shall conduct 48-hour acute toxicity testing using 100% of the stormwater effluent at a frequency of twice per year (Fall and Spring) beginning in November 1998 and continuing through the expiration date of the Permit. Toxicity testing conducted during the past permit cycle has shown that the untreated effluent exhibits considerable toxicity. Further testing prior to installation of the AKART alternative selected by Ecology will not provide any additional information not already available. Acute toxicity testing will begin during the rainy season immediately following implementation of AKART in order to assess the toxicity of the treated discharge.

Acute toxicity testing results will be used to evaluate the need for toxicity limits to protect aquatic biota. Because the discharge is not continuous (i.e. discharge occurs only as a result of precipitation), chronic toxicity monitoring is not required at this time.

Effluent samples collected for the acute toxicity testing and the chemical (i.e. metals) monitoring samples shall be collected on split samples of 100% effluent. As part of the normal effluent sampling schedule, conventional parameters (i.e. pH, oil and grease) shall be measured at the time of toxicity testing.

SPILL PLAN

The Department has determined that the Permittee uses and stores chemicals that have the potential to cause water pollution if accidentally released. the Permittee has developed best management plans and emergency response to prevent and contain accidental release under authority of 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080. The Permittee has developed, and the Department has approved, a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The permit requires the Permittee to update this plan and submit it to the Department prior to permit expiration.

↳ Shouldn't Ecology set a date? or not expiration date.

SOLID WASTE PLAN

This permit requires, under the authority of 90.48.080, that the Permittee comply with the solid waste plan designed to prevent solid waste from causing pollution of the waters of the state. The plan was submitted to the Department on May 20, 1991.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual NPDES permits issued by the Department.

PERMIT MODIFICATIONS

The Department may modify this permit to adjust numerical permit limitations at "end-of-pipe" to reflect the degree of dilution achieved through use of a diffuser/mixing zone.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic live, and the beneficial uses of waters of the State of Washington.

The Department proposes that this permit be issued for 5 years.

REVIEW BY THE PERMITTEE

A proposed permit was reviewed by the Permittee for verification of facts. Only factual items were corrected in the draft permit.

- State reserved authority to enforce WQ limits at end of pipe if AKART analysis not completed by 06/96.
- Public decision to write off the use of water. (mixing zone)
- If mixing zone contaminates sediments, can we go back later and penalize them for not meeting federally permitted release.
  → Address sediment standards now !! (effluent discharge protective of sediment quality).

Lori –
TBT
Mixing zone (recontaminate after sed. remediation)
fed. permitted release
legal justification for using AKART and/or WQ in combination
how removing limits for other metals serves anti-degradation (how are they not violating anti-degradation)
other metals removed based on WQ quality data, not sediment (did they violate ~~anything~~ sed. recontam)

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Issuance Date: _____
Effective Date: _____
Expiration Date: _____

DRAFT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM WASTE DISCHARGE PERMIT

State of Washington
DEPARTMENT OF ECOLOGY
Olympia, Washington 98504-8711

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1251 et seq.

J. M. Martinac Shipbuilding Corporation
401 East 15th Street
Tacoma, Washington 98421

Industry Location:

401 East 15th Street
Tacoma, Washington 98421

Waterway Segment Number:

05-10-01

Water Body I.D. No.:

WA-10-0020

Industry Type:

Ship Construction

Receiving Water:

Thea Foss Waterway
Commencement Bay
Class C Marine Waters

Discharge Location:

001 Latitude:	47° 15′ 00"
001 Longitude:	122° 25′ 49"
002 Latitude:	47° 15′ 01"
002 Longitude:	122° 25′ 49"
003 Latitude:	47° 15′ 02"
003 Longitude:	122° 25′ 48"

---

is authorized to discharge in accordance with
the special and general conditions which follow.

_____
David B. Jansen, P.E., Section Supervisor
Toxics Cleanup Program
Southwest Regional Office

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SUMMARY OF SUBMITTALS

Permit Section	Submittal	Frequency	First Submittal Date
S3.A	Discharge Monitoring Report	Quarterly	
S4.A	AKART Analysis Report		6/30/1996
S4.B	Engineering Report		12/15/1997
S4.B	Effluent Mixing Study		12/15/1997
S6	Acute Toxicity Testing	2/year first year 1/year thereafter	12/1/1997
S8	Spill Control Plan Update		180 days prior to expiration
S9	BMP Plan update		Within 90 days of issuance
G17	Duty to Reapply		180 days prior to expiration

SPECIAL CONDITIONS

S1. EFFLUENT LIMITATIONS

A. Storm Water Discharges - Outfall No. 001, 002, 003[1]

Beginning on the issuance date of this permit and lasting through the June 30, 1998, the Permittee is authorized to discharge process contact storm water runoff to Thea Foss Waterway at the permitted locations subject to meeting the following limitations:

	EFFLUENT LIMITATIONS	
Parameter	Monthly Average[2]	Daily Maximum[3]
Oil & Grease (mg/L)	10	15
	no visible sheen	
pH		report[4]
Total Suspended Solids (mg/L)		45
Copper (ug/L)[5]		report[6]
Lead (ug/L)[5]		140
Zinc (ug/L)[5]		report[6]

[1] In lieu of outfalls 001, 002, and 003, the Permittee may discharge storm water directly from a consolidated stormwater outfall or stormwater treatment system if such structures are

used to convey, contain and treat storm water in accordance with a Department-approved engineering report.

[2] The monthly average is defined as the average of the measured values obtained over a calendar month's time.

[3] The daily maximum is defined as the greatest allowable value for any calendar day. For cases in which the sampling frequency is monthly, or less frequently, the monthly average is the limiting standard. If a monthly average has not been established, then no sample shall exceed the daily maximum.

[4] A numerical limit has not been established for pH because no activities occur on the facility which could potentially alter the pH of stormwater discharge. Following implementation of AKART, a numerical effluent limitation for pH will apply if the treatment system installed requires adjusting the pH of stormwater for treatment purposes.

[5] All metals shall be analyzed as "total recoverable, also known as acid-extractable metals" as defined in Standard Methods (18th edition, 1992) under 3010A and as method 4.1.4 in Methods for Chemical Analysis of Water and Waste (EPA-600/4-79-020).

[6] Effluent limitations for these metals will be established according to the Schedule of Compliance contained in Special Condition S4. If the Permittee does not meet the deadlines for deliverables due under the Schedule of Compliance, the effluent limitations contained in Special Condition S1.B.

shall be effective immediately upon written notice from Ecology.

B. Storm Water Discharges - Outfall No. 001, 002, 003[1]

Beginning on July 1, 1998, and lasting through the expiration date of the Permit, the Permittee is authorized to discharge process contact storm water runoff to Thea Foss Waterway at the permitted locations subject to meeting the following limitations:

	EFFLUENT LIMITATIONS	
Parameter	Monthly Average[2]	Daily Maximum[3]
Oil & Grease (mg/L)	10	15
	no visible sheen	
pH	within a range of 6.0 to 9.0 std units[4]	
Total Suspended Solids (mg/L)		45[5]
Copper (ug/L)[6]		2.5[7]
Lead (ug/L)[6]		140
Zinc (ug/L)[6]		95[7]

[1] In lieu of outfalls 001, 002 and 003, the Permittee may discharge storm water directly from a consolidated outfall or storm water treatment system if such structures are used to

contain and treat storm water in accordance with a Department-approved engineering report.

[2] The monthly average is defined as the average of the measured values obtained over a calendar month's time

[3] The daily maximum is defined as the greatest allowable value for any calendar day. For cases in which the sampling frequency is monthly, or less frequently, the monthly average is the limiting standard. If a monthly average has not been established, then no sample shall exceed the daily maximum.

[4] The effluent limitation for pH will apply if the AKART system installed, as approved by the Department, requires or results in the modification of stormwater pH for the purposes of treatment.

[5] The Department will evaluate the AKART system's performance for the removal of TSS and may develop a technology-based limit specific to this facility's treatment process for use in the next permit cycle.

[6] All metals shall be analyzed as "total recoverable, also known as acid-extractable metals" as defined in Standard Methods (18th edition, 1992) under 3010A and as method 4.1.4 in Methods for Chemical Analysis of Water and Waste (EPA-600/4-79-020).

[7] The effluent limitations for these metals shall apply at the edge of the mixing zone authorized by Ecology following

implementation of AKART; if AKART is not implemented, the effluent limitations shall apply at the point of discharge. The mixing zone to be authorized following implementation of the AKART alternative contained in the Department-approved Engineering Report is further described in Special Condition S1.C. and S5. The Department may use the effluent mixing data gathered to modify this permit to include "end-of-pipe" effluent limitations which will result in compliance with water quality-based effluent limitations applied at the edge of the mixing zone. Alternatively, the Department may modify this permit to include technology-based effluent limitations based on AKART system performance where these limitations are more stringent than applicable water quality-based limits applied at the end-of-pipe.

C. Mixing Zone Description

After full implementation of "All Known, Available, and Reasonable Methods of Treatment (AKART as to be defined in the process under Special Condition S4.), the Permittee shall be granted a mixing zone. The maximum boundaries are defined as follows:

Acute water quality criteria shall not be exceeded as a result of the discharge beyond a sixteen foot radius from the point of discharge.

The determination of the degree of effluent mixing achieved within this zone shall be defined in accordance with Special Condition S5.

S2. TESTING SCHEDULE

The Permittee shall monitor stormwater discharges and receiving water in the marine ways according to the following schedule:

A. Stormwater discharges

Outfalls 001, 002, 003[1]

Parameter	Sample Frequency	Sample Type	Test Method
Oil and Grease	1 storm/month	grab[2]	413.1
pH	1 storm/month	grab[2]	150.1
Total Suspended Solids	1 storm/month	grab[2]	160.2
Copper[3]	1 storm/month	grab[2]	220.7[4]
Lead[3]	1 storm/month	grab[2]	200.7[4]
Zinc[3]	1 storm/month	grab[2]	200.7[4]

[1] The stormwater sample shall be collected in each system in the catch basin nearest the outfall terminus. Following implementation of AKART, stormwater samples shall be collected at the sampling point specified in the Department-approved Engineering Report. AKART system operational efficiency shall be assessed according to the operational monitoring schedule contained in the Department-approved Engineering Report.

[2] All reasonable efforts must be made to collect grab samples for each parameter during the first hour of a storm water discharge during operating hours.

[3] Copper, lead, and zinc shall be analyzed total recoverable metals for each sampling event.

[4] The method detection level (MDL) for copper is 1 μg/L using graphite furnace atomic absorption spectrometry and method number 220.2 from 40 CFR Part 136. The quantitation level (QL) for copper is 5 μg/L (5 x MDL).

The MDL for lead is 20 μg/L using inductively coupled plasma and method number 200.7 from 40 CFR Part 136. The quantitation level (QL) for lead is 100 μg/L (5 x MDL).

The MDL for zinc is 2 μg/L using inductively coupled plasma and method number 200.7 from 40 CFR Part 136. The quantitation level (QL) for zinc is 10 μg/L (5 x MDL).

Alternative analytical methods from 40 CFR Part 136 may be used provided the QLs of 15 μg/L for copper, 100 μg/L for lead and 50 μg/L for zinc can be achieved.

B. Receiving water in the marine ways

Receiving water in the marine ways shall be monitored to assess the effectiveness of Best Management Practices. The sample shall be collected in the receiving water from the central portion of the downstream end of the way during the high water slack tide. "Each use" refers to a frequency of one sample for each day the way is being used for sandblasting or painting of vessels.

Marine Ways 1 and 2

Parameter	Sample Frequency	Sample Type	Test Method
Oil and Grease	each use	grab	413.1
Total Suspended Solids	each use	grab	160.2

Copper[1]	each use	grab	220.2[2]
Lead[1]	each use	grab	200.7[2]
Zinc[1]	each use	grab	200.7[2]

[1] All metals shall be analyzed as "total recoverable" metals.

[2] The method detection level (MDL) for copper is 1 μg/L using graphite furnace atomic absorption spectrometry and method number 220.2 from 40 CFR Part 136. The quantitation level (QL) for copper is 5 μg/L (5 x MDL).

The MDL for lead is 20 μg/L using inductively coupled plasma and method number 200.7 from 40 CFR Part 136. The quantitation level (QL) for lead is 100 μg/L (5 x MDL). Alternative analytical methods from 40 CFR Part 136 may be used provided the specified QL can be achieved.

The MDL for zinc is 2 μg/L using inductively coupled plasma and method number 200.7 from 40 CFR Part 136. The quantitation level (QL) for zinc is 10 μg/L (5 x MDL). Alternative analytical methods from 40 CFR Part 136 may be used provided a QL of 50 μg/L can be achieved.

S3. MONITORING AND REPORTING

The Permittee shall monitor the operations and efficiency of all treatment and control facilities and the quantity and quality of the waste discharged. A record of all such data shall be maintained. The Permittee shall monitor the parameters as specified in Condition S2. of this permit.

A. Reporting Requirements

Monitoring shall be started on the effective date of the permit. Monitoring results obtained during the previous three (3) months shall be summarized and reported on the Discharge Monitoring Report (DMR) Form (EPA 3320-1) and submitted no later than the 15th day of the month following the completed reporting period. The report shall be sent to the Department of Ecology, Southwest Regional Office, P.O. Box 47775, Olympia, Washington, 98504-7775.

B. Records Retention

The Permittee shall retain for a minimum of three (3) years all records of monitoring activities and results, including all reports of recordings from continuous monitoring instrumentation. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by the Director of Ecology.

C. Recording of Results

For each measurement or sample taken, the Permittee shall record the following information: (1) the date, exact place and time of sampling; (2) the individual who performed the sampling or measurement; (3) the dates the analyses were performed; (4) who performed the analyses; (5) the analytical techniques or methods used; and (6) the results of all analyses.

D. Representative Sampling

Samples and measurements taken to meet the requirements of this condition shall be representative of the volume and nature of the monitored discharge, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets and maintenance-related conditions affecting effluent quality.

E. Test Procedures

All sampling and analytical methods used to meet the monitoring requirements specified in this permit shall, unless approved otherwise in writing by Ecology, conform to the Guidelines Establishing Test Procedures for the Analysis of Pollutants, contained in 40 CFR Part 136.

F. Flow Measurement

Appropriate flow measurement devices or estimation methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements are consistent with the accepted industry standard for that type of device. Frequency of calibration shall be in conformance with manufacturer's recommendations or at a minimum frequency of at least one calibration per year.

G. Laboratory Accreditation

All monitoring data, except for flow, temperature, pH, and internal process control parameters, shall be prepared by a laboratory

registered or accredited under the provisions of, Accreditation of Environmental Laboratories, Chapter 173-50 WAC. Soils and hazardous waste data are exempt from this requirement pending certification of laboratories for analysis of these media by the Department of Ecology (the Department).

H. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by this permit (S2.) the monitoring should be done using acceptable test procedures and the results of this monitoring shall be included in the Permittee's self-monitoring reports.

I. Signatory Requirements

All applications, reports, or information submitted to the Department shall be signed and certified.

1. All permit applications shall be signed by either a principal executive officer of at least the level of vice president of a corporation, a general partner of a partnership, or the proprietor of a sole proprietorship.

2. All reports required by this permit and other information requested by the Department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described above and submitted to the Department, and

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

(A duly authorized representative may thus be either a named individual or any individual occupying a named position.

3. Changes to authorization. If an authorization under paragraph I.2.b is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of I.2.b must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this section shall make the following certification: "I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting

false information, including the possibility of fine and imprisonment for willful violations."

S4. SCHEDULE OF COMPLIANCE

Compliance with surface water quality standards shall be achieved in a stepwise process. Below are listed the deliverables or tasks and their due dates that the Permittee shall complete to comply with this permit. Failure to complete adequate deliverables according to the schedule contained below or to make corrections necessary to obtain Ecology approval shall not be cause to extend deadlines contained in the Schedule of Compliance. If the Permittee fails to complete the deliverables/submittals outlined in this section, the effluent limitations contained in Section S1.B of this Permit shall be effective immediately upon written notification by the Department.

A. All Known, Available and Reasonable Treatment (AKART) Report

No later than June 30, 1996, the Permittee shall provide an AKART analysis to the Department. The AKART analysis shall be a Best Available Technology Economically Achievable (BAT) test of reasonability and shall include the review of available management practices and possible candidate treatment technologies for the reduction of metals (primarily copper and zinc) from the storm water discharge at the facility. The analysis shall include quantification of expected pollutant discharge and associated costs for each candidate technology. The Department will then define AKART for the facility.

If the Permittee disagrees with the Department's AKART determination, then a plant-level economic achievability test shall

be conducted. In order for the Department to perform this test the Permittee shall submit the cost, earnings and revenue data needed to perform the economic achievability test within thirty (30) days of the AKART determination.

B. No later than December 15, 1996, the Permittee shall submit both an Engineering Report for the Ecology-selected AKART alternative and an Effluent Mixing Study. Both of these documents are subject to approval by Ecology

The Engineering Report shall be prepared in accordance with WAC 173-240 and shall include the design plans for collection and treatment of all stormwater runoff including that from all sandblast storage and use areas at the facility.

The requirements for the Effluent Mixing Study are described in Special Condition S5.

C. No later than October 31, 1997, the Permittee shall complete installation of the AKART alternative and outfall/diffuser system as described in the Department-approved Engineering Report. Failure to submit a timely or complete application for all applicable permits, including the City of Tacoma Shoreline permit, shall not be cause for extension of this schedule.

D. Effluent limitations contained in Special Condition S1.B. are effective July 1, 1998.

The Best Management Practices (BMPs) as described in Special Condition S9 shall be fully implemented throughout the entire term of the Permit.

S5. EFFLUENT MIXING STUDY

A. Requirements

No later than December 15, 1996 the Permittee shall determine the degree of effluent and receiving water mixing which occurs at the boundaries of the mixing zone as defined in S1.C above using the proposed diffuser design contained in the Engineering Report. The degree of mixing shall be determined using the hourly peak and daily average flow velocities resulting from a 6-month/24-hour storm event; this analysis shall take into consideration flow attenuation equipment to be used in the AKART system.

The degree of effluent mixing shall also be determined using critical receiving water conditions or as close to predicted critical conditions as reasonably possible and approved by the Department. The critical period for estuaries and marine discharges is either the period of maximum stratification or period of minimum stratification and low tidal flux.

The critical period for estuaries is determined by methods given in Technical Support Document for Water Quality-based Toxics Control EPA/505/2-90-001. The dilution ratio shall be measured in the field with dye, or other tracers using study protocols specified in this section or others approved by the Department.

The use of models is an acceptable alternative or adjunct to a tracer study if the following conditions are met:

a. The diffuser is visually inspected for integrity or the diffuser has been recently tested for performance by the use of tracers.

b. The critical ambient conditions necessary for model input are known or will be established with field studies.

c. The recommended models PLUMES or CORMIX are used.

The mixing data will be applied to effluent data to quantify pollutant concentrations within and at the edges of the defined mixing zones.

The Permittee shall use some method of fixing and reporting the location of the outfall and dilution zone boundaries (i.e. triangulation off the shore, microwave navigation system, or using Loran or Global Positioning System (GPS) coordinates). The method of fixing station location and the actual station locations shall be identified in the report.

B. Protocols

The Permittee shall determine the dilution ratio using protocols outlined in the following references, approved modifications thereof, or by another method approved by the Department:

- USGS. 1985. Kilpatrick, F.A., and Cobb, E.D., Measurement of Discharge Using Tracers. Chapter A16. Techniques of Water-Resources

Investigations of the USGS. Book 3 Application of Hydraulics. U.S. Department of the Interior. Reston, VA.

- USGS. 1986. Wilson, J.F., Cobb, E.D., Kilpatrick, F.A. Fluorometric Procedures for Dye Tracing. Chapter A12. Techniques of Water Resources Investigations of the USGS. Book 3 Application of Hydraulics. U.S. Department of the Interior. Reston, VA.

- Doneker, R.L. and Jirka, G.H. 1990. Cormix1: An Expert System for Hydrodynamic Mixing Zone Analysis of Conventional and Toxic Submerged Single Port Discharges. USEPA, Environmental Research Laboratory, Athens, GA. EPA/600-3-90/012.

- Akar, P.J., and Jirka, G.H. 1990. Cormix2: An Expert System for Hydrodynamic Mixing Zone Analysis of Conventional and Toxic Multiport Diffuser Discharges. USEPA Environmental Research Laboratory, Athens, GA. Draft, July 1990.

- Yearsley, J. 1991. Diffusion in Near-shore and Riverine Environments. USEPA Region 10. EPA 910/9-87-168.

S6. ACUTE TOXICITY TESTING

Acute toxicity testing of stormwater discharge following implementation of the selected AKART treatment technology shall be conducted for screening purposes only. Based on the results of this testing, and overall permit compliance, the Department may decide to require an effluent characterization, as defined in Chapter 173-205 WAC.

A. Testing and Reporting

Acute toxicity testing of stormwater discharges shall be conducted biannually (spring, fall) of the first year following implementation of the selected AKART treatment technology, and shall be conducted once per year (fall) for the remainder of the permit duration. Samples for acute toxicity testing shall be taken at the same time as those for metal analysis. Acute toxicity testing shall be conducted in accordance with the Monitoring Requirements specified in this section.

The testing shall be conducted so as to determine an LC_{50} (lethal concentration for 50% of the test organisms) and an acute No Observable Effect Concentration (NOEC). The percent survival in 100% effluent shall also be reported.

Testing shall be conducted using two species:

1) daphnia pulex
2) Fathead Minnow, pimephales promelas

Testing shall be conducted using the above protocols or approved modifications thereof.

The testing shall begin within six (6) months of the implementation of the selected AKART treatment technology. A written report of the toxicity test results shall be submitted to the Department within 60 days after each sampling interval. A final report shall be submitted to the Department within 90 days after the last sample. This final report shall list the LC_{50}, acute NOEC, and percent survival in 100% effluent for all species, and submit any information on toxicity source control and treatability developed

during the year. All acute toxicity testing reports shall contain the bench sheets and latest reference toxicant results for the test methods. Two copies of these reports shall be sent to the Southwest Regional Office.

B. Monitoring Requirements

1. Testing shall be conducted on grab samples of the effluent. Water from the same source (natural or synthetic) as the water used for culturing the test organisms should be used as dilution water. Samples taken for toxicity testing should be cooled to 4 degrees Celsius and sent to the lab immediately. The lab should begin the toxicity testing as soon as possible but no later than 36 hours after the time that sampling was begun.

2. All toxicity tests shall measure the response of the organisms in 0 percent effluent (control), 100% effluent, and a sufficient number of effluent dilutions to accurately determine an LC_{50} and an acute NOEC.

3. Each written report shall include all relevant information outlined in Section 12, Report Preparation, of Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, EPA/600/4-90/027 or approved modifications thereof. In addition, each report shall contain the bench sheets and the latest reference toxicant results for the test method.

4. The acute toxicity tests shall be conducted in accordance with the following protocol or approved modifications thereof:

Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, EPA/600/4-90/027.

5. All quality assurance criteria used (including the LC_{50} calculation method) shall be in accordance with Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, EPA/600/4-90/027 or approved modifications thereof. Test results which are not valid (e.g., control mortality exceeds acceptable level) will not be accepted and testing must be repeated.

S7. SOLID WASTE DISPOSAL

A. Solid Waste Handling

The Permittee shall handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground or surface water.

B. Leachate

The Permittee shall not allow leachate from its solid waste material to enter state waters without providing all known, available and reasonable methods of treatment, nor allow such leachate to cause violations of the State Surface Water Quality Standards, Chapter 173-201A WAC, or the State Ground Water Quality Standards, Chapter 173-200 WAC. The Permittee shall apply for a permit or permit

modification as may be required for such discharges to state ground or surface waters.

C. Solid Waste Control Plan

The Permittee shall submit to the Department all proposed revisions or modifications to the solid waste control plan. The Permittee shall comply with any plan modifications.

S8. SPILL PLAN

No later than six (6) months prior to the permit expiration date, the Permittee shall submit to the Department an update to the existing Spill Control Plan.

For the prevention, containment, and control of spills or unplanned discharges of: 1) oil and petroleum products, 2) materials, which when spilled, or otherwise released into the environment, are designated Dangerous (DW) or Extremely Hazardous Waste (EHW) by the procedures set forth in WAC 173-303-070, or 3) other materials which may become pollutants or cause pollution upon reaching state's waters. The Permittee shall review and update the Spill Plan, as needed, at least annually. Changes to the plan shall be sent to the Department. The plan and any supplements shall be followed throughout the term of the permit.

The updated spill control plan shall include the following:

A description of the reporting system which will be used to alert responsible managers and legal authorities in the event of a spill.

A description of preventive measures and facilities (including an overall facility plot showing drainage patterns) which prevent, contain, or treat spills of these materials.

A list of all oil and chemicals used, processed, or stored at the facility which may be spilled into state waters.

For the purpose of meeting this requirement, plans and manuals required by 40 CFR Part 112, and contingency plans required by Chapter 173-303 WAC may be submitted.

S9. BEST MANAGEMENT PRACTICES FOR MARINE WAYS, VESSEL, AND YARD OPERATIONS AND MAINTENANCE

An updated BMP plan shall be submitted within three months of permit issuance to the Department for review and approval.

A. Control of Large Solid Materials

Floatable and low density waste such as wood, plastic, as well as miscellaneous trash (e.g., paper, insulation, and packaging) shall be removed from the dry dock floor prior to flooding or sinking, and from the marine way before launching.

B. Control and Cleanup of Paint Dust and Abrasive Blasting Debris, Paint, and Dust

Dust and overspray shall be prevented from falling into the water to the maximum extent feasible during abrasive blasting and spray painting of vessels and modules. Feasible methods of control

include plastic barriers beneath the hull, between the hull and the wing walls of the dry dock; plastic barriers hung from the flying bridge of the dry dock, from the bow or stern of the vessel or from temporary structures erected for that purpose.

The bottom edge of tarpaulins and plastic sheeting shall be weighted to remain in place during a light breeze. When sandblasting vessel superstructures, plywood, and/or plastic sheeting shall be used to cover openings and open areas between decks, including, but not limited to, scuppers, railings, freeing ports, ladders, and doorways.

Consideration shall also be given to other feasible innovative procedures as appropriate to improve the effectiveness of controls.

No blasting or painting shall be performed while vessels are docked pier-side such that material is discharged to the receiving water.

Cleanup of spent paint, paint chips, protective coating materials, and abrasives shall be undertaken as part of the repair or production activities, to the extent technically feasible, to prevent their entry into state waters.

Mechanical cleanup may be accomplished by mechanical sweepers, front end loaders, vacuum cleaners, or other innovative equipment. Manual methods include the use of shovels and brooms. Those portions of the way floor which are reasonably accessible shall be "scraped or broomed clean" to remove spent abrasive. The yard shall be cleaned on a regular basis to minimize the possibility that runoff will carry sandblasting material or other debris into the receiving

water. There shall be no visible sheen created by any floating detritus resulting from abrasive blasting. Collected sandblasting debris shall be stored with the spent grit. The spent sandblasting grit, dust, and other debris shall not accumulate to an extent that could be judged to be more than a minor deposition by vehicular or pedestrian traffic between regular cleanup efforts.

Innovations and procedures which improve the effectiveness of cleanup operations shall be adopted where they are feasible, appropriate, and can be demonstrated as preventing the discharge of solids to the water.

C. Oil, Grease, and Fuel Spills

Oil, grease, or fuel spills shall be prevented from reaching drainage systems or surface waters. Cleanup shall be carried out promptly after an oil, grease, or fuel spill is detected. Oil containment booms and absorbents shall be conveniently stored so as to be immediately deployable in the event of a spill.

D. Accidental Oil Discharge Response

No discharge of oil or hazardous material to state waters is permitted, except as specifically authorized in this permit. In the event of an accidental discharge of oil or hazardous material into waters of the state or onto land with a potential for entry into state waters, representatives of this Department and the United State Coast Guard shall be notified immediately.

1. Cleanup efforts shall commence immediately and be completed as soon as possible, taking precedence over normal work, and shall include proper disposal of any spilled material and used cleanup materials.

2. Cleanup of oil/hazardous material spills shall be in accordance with an approved Spill Prevention and Countermeasure Plan.

3. No emulsifiers or dispersants are to be used in waters of the state without approval from the Director of the Department of Ecology.

E. Paint and Solvent Spills

Paint and solvent spills shall be treated as oil spills and segregated from discharge water. Spills shall be contained until cleanup is complete. Mixing of paint shall be carried out in locations and under conditions such that no spill shall enter state waters. The use of drip plans shall be required whenever paints and solvents are mixed on the dry dock.

The amount of paint stored on the dry dock floor shall be kept to a minimum not exceeding the usage of one work shift by utilizing a timely delivery schedule and minimizing paint storage time on the dry dock.

F. Contact Between Water and Debris

Shipboard cooling and process water shall be directed so as to minimize contact with spent abrasive, paint, and other debris. Contact of spent abrasive and paint with water will be reduced by proper segregation and control of wastewater streams. Appropriate methods shall be incorporated to prevent accumulation of debris in drainage systems and debris shall be promptly removed to prevent its discharge with stormwater.

G. Maintenance of Hoses, Soil Chutes, and Piping

Leaking connections, valves, pipes, hoses, and soil chutes carrying either water or wastewater shall be replaced or repaired immediately. Soil chute and hose connections to vessels and to receiving lines or containers shall be tightly connected and as leak free as practicable.

H. Bilge and Ballast Water

Bilge and ballast water discharges shall not exceed an oil and grease concentration of ten (10) milligrams per liter and shall not cause any visible oil sheen in the receiving waters.

Bilge and ballast water shall not be discharged to state waters if solvents, detergents, or other known or suspected additives or contaminants have been added, unless a state water quality variance has been granted specific to that instance.

I. Chemical Storage

Solid chemicals, chemical solutions, paints, oils, solvents, acids, caustic solutions, and waste materials, including used batteries, shall be stored in a manner which will prevent the inadvertent entry of these materials into waters of the state, including ground waters. Storage shall be in a manner that will prevent spillage by overfilling, tipping, or rupture. In addition, the following practices shall be used:

1. All liquid products shall be stored on durable impervious surfaces and behind berms.

2. Waste liquids shall be stored under cover, such as tarpaulins or roofed structures or in a closed vessel.

3. Incompatible or reactive materials shall be segregated and securely stored in separate containment areas that prevent mixing of chemicals.

4. Concentrated waste or spilled chemicals shall be transported off-site for disposal at a facility approved by the Department of Ecology or appropriate county health department in accordance with the solid waste disposal plan requirements of Special Condition S4. These materials shall not be discharged to any sewer or state waters.

J. Recycling of Spilled Chemicals and Rinse Water

All metal finishing chemical solution, caustic wash, and rinse water tanks shall be stored in diked areas with drains to intercept overflows and spills. Any intercepted chemical spill shall be

recycled back to the appropriate chemical solution tank or disposed of. The spilled material must be handled, recycled, or disposed of in such manner as to prevent its discharge into state waters.

K. Drip Pans

Drip pans or other protective devices shall be required for all oil transfer operations to catch incidental spillage and drips from hose nozzles, hose racks, drums, or barrels.

L. Paint and Solvent Mixing

The mixing of paints and solvents shall be carried out in locations and under conditions such that no spill shall enter state waters.

1. Drip pans or other protective devices shall be required for all paint mixing and solvent transfer operations, unless the mixing operation is carried out in controlled areas away from storm drains, surface waters, shorelines, and piers. Drip pans, drop cloths, or tarpaulins shall be used wherever paints and solvents are mixed on wood docks. Paints and solvents shall not be mixed on floats.

2. When painting from floats, paint shall be in cans of five gallons or less and the amount of paint in the container shall be limited to two gallons or less. The paint containers shall be kept in drip pans with drop cloths or tarpaulins underneath the drip pans.

3. Paint and solvent spills shall be treated as oil spills and shall be prevented from reaching storm drains or deck drains and subsequent discharge into the water.

S10. OTHER REQUIREMENTS

A. Sanitary Sewage and Steamcleaning Wastewater

Sanitary sewage and wastewater from steamcleaning operations are to be discharged into the sanitary sewers.

B. Sewage, Gray Water, and Other Specific Discharges Prohibited

Owners of vessels in ways or under repair dockside shall be notified in writing by the Permittee that federal and state regulations prohibit the discharge of sewage (including discharges from the ship's galley while at dockside) into the waterways. If untreated sanitary wastes from vessels are to be discharged, the discharge shall be to either the sanitary sewer or into holding tanks that are periodically emptied into a sanitary sewer system. The Permittee will make available at all times a list of contractors providing disposal services and any other alternatives available for complying with these regulations such as holding tanks and pump-out facilities.

C. Storm Drain Sediment and Grit Removal

This permit requires the inspection of storm drain lines at a minimum of once per month, and solids must be removed as necessary to ensure the interception and retention of solids entering the

drainage system. A storm drain log book must be maintained to record all information pertaining to the storm drain inspection program and sediment removal efforts.

D. Reopener

Ecology may reopen this permit on the basis of monitoring results or other causes consistent with state and federal regulations, to modify or establish specific monitoring requirements, effluent limitations, or other conditions in the permit.

GENERAL CONDITIONS

G1. DISCHARGE VIOLATIONS

All discharges and activities authorized by this permit shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than, or at a concentration in excess of, that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

G2. PROPER OPERATION AND MAINTENANCE

The Permittee shall at all times properly operate and maintain all facilities and systems of collection, treatment, and control (and related appurtenances) which are installed or used by the Permittee for pollution control.

G3. REDUCED PRODUCTION FOR COMPLIANCE

The Permittee, in order to maintain compliance with its permit, shall control production and/or all discharges upon reduction, loss, failure, or bypass of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

G4. NONCOMPLIANCE NOTIFICATION

If for any reason, the Permittee does not comply with, or will be unable to comply with, any of the discharge limitations or other conditions specified in the permit, the Permittee shall, at a minimum, provide the Department with the following information:

A. A description of the nature and cause of noncompliance, including the quantity and quality of any unauthorized waste discharges;

B. The period of noncompliance, including exact dates and times and/or the anticipated time when the Permittee will return to compliance; and

C. The steps taken, or to be taken, to reduce, eliminate, and prevent recurrence of the noncompliance.

In addition, the Permittee shall take immediate action to stop, contain, and clean up any unauthorized discharges and take all reasonable steps to minimize any adverse impacts to waters of the state and correct the problem. The Permittee shall notify the Department by telephone so that an investigation can be made to evaluate any resulting impacts and the corrective actions taken to determine if additional action should be taken.

In the case of any discharge subject to any applicable toxic pollutant effluent standard under Section 307(a) of the Clean Water Act, or which could constitute a threat to human health, welfare, or the environment, 40 CFR Part 122 requires that the information specified in Sections G4.A., G4.B., and G4.C., above, shall be provided not later than 24 hours from the time the Permittee becomes aware of the circumstances. If this information is provided orally, a written submission covering these points shall be provided within five days of the time the Permittee becomes aware of the circumstances, unless the Department waives or extends this requirement on a case-by-case basis.

Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the conditions of this permit or the resulting liability for failure to comply.

G5. BYPASS PROHIBITED

The intentional bypass of wastes from all or any portion of a treatment works is prohibited unless the following four conditions are met:

A. Bypass is: (1) unavoidable to prevent loss of life, personal injury, or severe property damage; or (2) necessary to perform construction or maintenance-related activities essential to meet the requirements of the Clean Water Act and authorized by administrative order;

B. There are no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, maintenance during normal periods of equipment down time, or temporary reduction or termination of production;

C. The Permittee submits notice of an unanticipated bypass to the Department in accordance with Condition G4. Where the Permittee knows or should have known in advance of the need for a bypass, this prior notification shall be submitted for approval to the Department, if possible, at least 30 days before the date of bypass (or longer if specified in the special conditions);

D. The bypass is allowed under conditions determined to be necessary by the Department to minimize any adverse effects. The public shall be notified and given an opportunity to comment on bypass incidents of significant duration, to the extent feasible.

"Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

After consideration of the factors above and the adverse effects of the proposed bypass, the Department will approve or deny the request. Approval of a request to bypass will be by administrative order under RCW 90.48.120.

G6. RIGHT OF ENTRY

The Permittee shall allow an authorized representative of the Department, upon the presentation of credentials and such other documents as may be required by law:

A. To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this permit;

B. To have access to and copy at reasonable times any records that must be kept under the terms of the permit;

C. To inspect at reasonable times any monitoring equipment or method of monitoring required in the permit;

D. To inspect at reasonable times any collection, treatment, pollution management, or discharge facilities; and

E. To sample at reasonable times any discharge of pollutants.

G7. PERMIT MODIFICATIONS

The Permittee shall submit a new application or supplement to the previous application where facility expansions, production increases, or process modifications will (1) result in new or substantially increased discharges of pollutants or a change in the nature of the discharge of pollutants, or (2) violate the terms and conditions of this permit.

G8. PERMIT MODIFIED OR REVOKED

After notice and opportunity for public hearing, this permit may be modified, terminated, or revoked during its term for cause including, but not limited to, the following:

A. Violation of any terms or conditions of the permit;

B. Failure of the Permittee to disclose fully all relevant facts or misrepresentations of any relevant facts by the Permittee during the permit issuance process;

C. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit;

D. Information indicating that the permitted discharge poses a threat to human health or welfare;

E. A change in ownership or control of the source; or

F. Other causes listed in 40 CFR 122.62 and 122.64.

Permit modification, revocation and reissuance, or termination may be initiated by the Department or requested by any interested person.

G9. REPORTING A CAUSE FOR MODIFICATION

A Permittee who knows or has reason to believe that any activity has occurred or will occur which would constitute cause for modification or revocation and reissuance under Condition G8. or 40 CFR 122.62 must report such plans, or such information, to the Department so that a decision can be made on whether action to modify or revoke and reissue a permit will be required. The Department may then require submission of a new application. Submission of such application does not relieve the Permittee of the duty to comply with the existing permit until it is modified or reissued.

G10. TOXIC POLLUTANTS

If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant and that standard or prohibition is more stringent than any limitation upon such pollutant in the permit, the Department shall institute proceedings to modify or revoke and reissue the permit to conform to the new toxic effluent standard or prohibition.

G11. PLAN REVIEW REQUIRED

Prior to constructing or modifying any wastewater control facilities, detailed plans shall be submitted to the Department for approval in accordance with Chapter 173-240 WAC. Facilities shall be constructed and operated in accordance with the approved plan.

G12. OTHER REQUIREMENTS OF 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G13. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in the permit shall be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G14. ADDITIONAL MONITORING

The Department may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G15. REVOCATION FOR NONPAYMENT OF FEES

The Department may revoke this permit if the permit fees established under Chapter 173-224 WAC are not paid.

G16. REMOVED SUBSTANCES

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall not be resuspended or reintroduced to the final effluent stream for discharge to state waters.

G17. DUTY TO REAPPLY

The Permittee must reapply, for permit renewal, at least 180 days prior to the specified expiration date of this permit.

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed above. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

The Department published a Public Notice of Draft (PNOD) on ____, 199_ in the Tacoma News Tribune to inform the public that a draft permit and fact sheet were available for review. Interested persons were invited to submit written comments regarding the permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Garin Schrieve
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, 407-6300, or by writing to the address listed above.

APPENDIX B--DEFINITIONS

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART - "All Known Available and Reasonable Methods of Treatment" defined in RCW 90.48, Chapters 173-201A and 173-220 WAC as a technology-based approach to limiting pollutants from waste water discharges involving engineering and economic evaluations and determinations.

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Best Management Practices (BMPs)--means schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

Capital Improvements--Any of the following improvements that will require capital expenditures:

a. Treatment BMPs, including but not limited to: biofiltration systems including constructed wetlands; settling basins, oil separation equipment, and detention and retention basins.

b. Manufacturing modifications, including process changes for source reduction, if capital expenditures for such modifications are incurred.

c. Concrete pads and dikes and appropriate pumping for collection of storm water and transfer to control systems, from manufacturing areas such as loading, unloading, outside processing, fueling, and storage of chemicals, equipment and wastes.

d. Roofs and appropriate covers for manufacturing areas.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by public laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Composite Sample--A combination of a minimum of three sample aliquots of wastewater or storm water taken from the same waste stream at selected time intervals. The composite sample shall be representative of the quality of the waste stream for the entire compositing period.

Construction Activity--Clearing, grading, excavating, and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings and demolition activity.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

End-of-pipe--A point along a hydraulic conveyance prior to discharge or mixing of stormwater or wastewater into the receiving environment representing undiluted effluent from a treatment system or storm water collection system.

Effluent Limitations--Any restriction established on quantities, rates, and/or concentrations of chemical, physical, biological and other constituents which are discharged from point sources into navigable waters, waters of the contiguous zone, or the ocean, including schedules of compliance.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Erosion--The wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as geological creep.

Erosion and Sediment Control BMPs--BMPs that are intended to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and

matting, plastic covering, filter fences, and sediment traps and ponds. Erosion and sediment control BMPs are synonymous with stabilization and structural BMPS.

First Flush--the first 30 minutes of a storm water discharge following a minimum period of 72 hours without a measurable storm event.

40 CFR--Title 40 of the Code of Federal Regulations, which is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal government.

Grab Sample--a single sample or measurement taken at a specific time or over as short a period of time as feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and also leachate from solid waste facilities.

Industrial Wastewater Facility--All structures, equipment, or processes required to collect, carry away, treat, reclaim or dispose of industrial wastewater.

Leachate--Water or other liquid that has been contaminated by dissolved or suspended materials due to contact with solid waste or gases therefrom.

Maximum Daily Discharge Limitation--The greatest allowable daily discharge.

Measurable Storm Event--A rainfall with accumulation of at least 0.1 inch from an individual storm event that occurs at least 72 hours after the previously measurable (greater than 0.1 inch) storm event.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

NTU (Nephelometric Turbidity Units)--The unit of measure for turbidity. A nephelometer is a tool used for determining turbidity in a water sample.

Operational BMPs-- The schedule of activities, prohibition of practices, maintenance procedures, employee training, good housekeeping, and other managerial practices to prevent or reduce the pollution of waters of the State. Not included are BMPs that require the construction of pollution control devices.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Pressure Washing--The use of highly pressurized water to remove paints and primers, rust and marine organisms from a ship's hull. Pressure wash wastewater is a process wastewater.

Putrescible Wastes--Solid waste that contains materials capable of being decomposed by microorganisms.

Severe Property Damage--Substantial physical damage to property, damage to the treatment facilities which cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonable be expected to occur in the absence of bypass. Severe property damage does not mean economic loss caused by delays in production.

Site--The land or water area where any "facility or activity" is located or conducted.

Solid Waste--All putrescible and non-putrescible solid and semi-solid wastes including but not limited to garbage, rubbish, ashes, industrial wastes, swill, demolition and construction waste, abandoned vehicles or parts thereof, and discarded commodities. This includes all liquid, solid and semisolid materials which are not the product of private, public, industrial, commercial, mining and agriculture operations. Solid waste includes but is not limited to sludge from wastewater treatment plants and septage, from septic tanks, woodwaste, dangerous waste and problem wastes.

Source Control BMPs--Physical or mechanical devices or facilities that are intended to prevent pollutants from entering storm water. A few examples of source control BMPs are erosion control practices, maintenance of storm water facilities, constructing roofs over storage and working areas, and directing washwater and similar discharges to the sanitary sewer or a dead end sump.

State Waters--All lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Storm Water--Storm water refers to storm water runoff, snow melt runoff, surface runoff, road wash water related to road cleaning or maintenance, infiltration (other than infiltration contaminated by seepage from sanitary sewers or other discharge) and drainage.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Treatment BMPs--BMPs that are intended to remove pollutants from water. A few examples of treatment BMPs are detention ponds, oil-water separators, biofiltration and constructed wetlands.

Turbidity--The optical property that causes light to be scattered and absorbed rather than transmitted in a straight line through a water sample. Turbidity in water is caused by suspended matter, such as clay, silt, finely divided organic and inorganic matter, soluble colored compounds, plankton and other microscopic organisms.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

Christina

From: AMBER WONG (AWONG)
To: anishiok
Date: Tuesday, February 6, 1996 9:44 am
Subject: agenda for unit meeting 2/7

Alice, here is a tentative agenda for our unit meeting. Please circulate today (with any additions from folks in the unit) with reminder of meeting. Please include Greg Thomas and Rene Fuentes in the distribution. Thanks!

Agenda items for 2/7

9-10am

- Randy's meeting notes, yes/no to Jane
- administrative meeting results - Alice's duties
- performance agreements, develop critical job elements
- capacity workgroup status and next meeting, 2/13
- SAM pipeline project update (Mark, Joanne)
- Docket review information
- Resource list
- Pat Cirone's unit meetings

at 10, we switch to RPM meeting (Peter)

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (206) 407-6300

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OCT 04 1995
SUPERFUND branch

October 2, 1995

Mr. Joe Martinac, Jr., President
J.M. Martinac Shipbuilding Corporation
401 East 15th Street
Tacoma, WA 98421

Dear Mr. Martinac:

Re: Ecology response to plan for cleanup of contamination from beach area

The purpose of this letter is to provide the Department of Ecology's (Ecology's) response to J.M. Martinac Shipbuilding Corporation's (Martinac's) "Revised Plan for Removal of Sandblast Grit from Beach Area".

For the last two years Ecology and Martinac have discussed beach cleanup alternatives. Martinac has, in the past and as part of this latest plan, attempted to combine the cleanup of metals contamination on the beach area with an intertidal fill project intended to create enough upland area on which to construct a larger blasting shed. This blast shed would allow the use of recyclable steel grit instead of disposable grit, reducing the use of disposable grit and therefore potential for future metals contamination.

Martinac has now presented several very similar plans to Ecology describing the project to be constructed. Each plan, including the latest, has run into a roadblock due to the proposed intertidal fill.

At issue is the policy of "no net loss" of intertidal habitat maintained by the Washington State Department of Fisheries and Wildlife (Fish and Wildlife) and supported by other local, state, and federal agencies. Ecology has urged Martinac during several on-site meetings over the past several months to contact Fish and Wildlife to determine the necessary steps for fulfilling the permit requirements for the combined beach cleanup/tidelands fill project. Yet this latest plan submitted by Martinac clearly shows that Martinac has failed to address the habitat loss/mitigation sequencing issue that has been raised time and time again.

Martinac's continued failure to address the habitat concerns in this latest plan, indicates to Ecology their unwillingness to go through the necessary steps to fulfill the requirements mandated by Fish and Wildlife. Meanwhile the beach has remained contaminated with metals, posing an on-going threat to the health of the Thea Foss Waterway. If cleanup of the beach area is not conducted in a timely manner it could hamper the EPA's waterway-wide cleanup effort.

Ecology has discussed this issue with Fish and Wildlife and has determined that this project consists of two distinct components which are not intrinsically linked: the cleanup of metals contamination on the beach, and the filling of intertidal area to make room for a sand-blasting

shed. The inability of Martinac to meet the appropriate requirements for the tideland fill portion of the project should not impede the progress of the remediation of metals contamination on the beach. While Ecology recognizes the benefits of the construction of a blast shed to minimize the use of disposable grit, the fact remains that, as presented yet again in this latest plan, Martinac's tideland fill does not meet the requirements set out by Fish and Wildlife. Regardless of the positive intentions of the fill project, based on the information provided, it would still result in loss of intertidal habitat; an unallowable consequence per the policy of the State of Washington.

It is therefore Ecology's position that the beach cleanup should proceed independently, regardless of the inability of the tideland fill project to meet the applicable requirements. If Martinac wishes to continue their effort to complete the tidelands fill/blast shed project, it may proceed through the normal permitting channels, separately from the beach cleanup.

Ecology hopes to work with Martinac to accomplish the beach cleanup by negotiating an agreed order to cover this action. This process would allow Martinac to have a great deal of input on the cleanup design for the site and to have assurances that the cleanup performed would meet EPA requirements for the portion of the beach addressed.

However, in the event that progress cannot be made in a timely manner, Ecology will be forced to issue an enforcement order for the removal of metals contamination on the beach area. If Ecology is forced to issue this order, the cleanup conducted will be designed by Ecology in consultation with Fish and Wildlife.

I would appreciate hearing from you on this matter and would like to schedule a date to begin discussions regarding the agreed order. I may be reached at (360) 407-6253.

Sincerely,

Garin Schrieve
Site/Permit Manager
Toxics Cleanup Program
Southwest Regional Office

GS:jr

cc: Randy Carmen, Fish and Wildlife
Lori Cohen, EPA
Peter Katich, City of Tacoma
Christina Ngo, EPA

DEPARTMENT OF ECOLOGY

VIA FAX

September 18, 1995

TO: Lori Cohen, EPA
Christina Ngo, EPA
Jeff Krausman, USFWS
Randy Carmen, WA Fish & Wildlife

FROM: Garin Schrieve, Dept. of Ecology, Toxics Cleanup Program

SUBJECT: Martinac beach cleanup plan

Attached you will find the beach clean-up plan submitted to Ecology. It does not differ substantially from those previously proposed. Martinac does claim that they will commit to building a blast shed if allowed to fill in a portion of the contaminated beach area. The plan contains very little detail. Martinac has not contacted the state Department of Fish and Wildlife to determine the necessary requirements.

Ecology has been willing to allow Martinac to work with the appropriate agencies to arrive at a plan that addresses the beach clean-up as well as the on-going generation of blasting grit. However, it is clear that Martinac has made no significant effort to work with the appropriate resource agencies to devise a plan or even discuss the necessary components/justifications required by these agencies for an action involving net loss of habitat. The plan submitted ignores the issue of mitigation sequencing discussed in the meeting held on August 28 at the Martinac facility.

Ecology no longer considers the beach cleanup to be administratively linked to the construction of the blast shed. In the event that Martinac does still wish to construct the blast shed, they may pursue it under the normal permitting process.

Please provide any comments you have regarding this site to me as soon as possible; I would like to respond to this plan quickly. You may contact me at (360) 407-6253 by telephone or at (360) 407-6305 by fax.

Garin:
- Garin asked Randy whether Martinac has contacted him.
  ↳ Not since our site visit
- will contact Martinac early next week.

09/18/95 13:16 DEPT OF ECOLOGY - SWRO 002

- Martinac did not want to deal w/ mitigation (no room, no money, etc.)
- Will proceed w/ ordering Martinac to do cleanup work of beach area.
  (Randy has agreed to help Ecol.)
- provide threat of order first.

Martinac

I. M. MARTINAC SHIPBUILDING CORPORATION 401 EAST 15TH STREET, TACOMA, WASHINGTON 98421 206-572-4000 FAX: 206-627-2810

RECEIVED
95 SEP 13 P4:21
S.W. REGIONAL OFFICE

September 12, 1995

Mr. Dave Smith
Department of Ecology
P. O. Box 47775
Olympia, WA 98504-7775

SUBJECT: Revised Plan for Removal of Sandblast Grit from Beach Area

Dear Dave:

Subsequent to our recent meetings and discussions regarding the dilemma of how to remove the old sandblasting grit from our beach area, we hereby submit the following revised plan to resolve this situation.

First of all, I think it is important to remind everyone concerned that the sandblast grit in question has been on the beach area for twenty (20) years and that no additional grit has been deposited there for at least fifteen (15) years. The deposits took place during the first few years when we switched from sand to copper slag as a sandblasting medium. This change was a requirement directed by the Puget Sound Air Pollution Control Agency in 1974 and at that time the copper slag was not considered a hazardous substance. If we all had the wisdom of hindsight I'm sure we would have treated it differently and not allowed the slag to accumulate on the beach area for those few years. We now regret that it is there as much as you and, as always, are prepared to remove it to correct the situation.

Our latest revised plan to remediate the beach area is substantially the same as our prior plan with one significant change. That change is our offer of a firm commitment to construct a fully enclosed blasting facility on the site at the conclusion of the clean-up activities. While we do not feel any more comfortable making this commitment today than we did previously due to the precarious economics of the shipbuilding industry, we recognize that the heretofore uncertainty of this long-term solution to the problem was a source of suspicion and concern to your agency and others involved.

- continued -

09/18/95 13:16 DEPT OF ECOLOGY - SWRO 003

As we have discussed during several meetings over the past few years with most of the government agencies involved, our plan would necessitate encroaching on a small portion of the existing beach area (approximately 30' x 90'). This is necessary to allow the building to be large enough to accommodate the maximum number of parts and sub-assemblies to be blasted within the enclosure. The building would also allow us to utilize recyclable steel grit rather than disposable copper slag as the blasting medium, thereby minimizing the use of disposable slag at our site.

As we have tried to explain before, many of the sub-assemblies and sections we deal with are quite large and require a substantial building to enclose them as well as a staging area to move them in and out. The larger the building is, the more parts it can accommodate and the greater the reduction of slag used. It would seem that this would be a desirable goal to achieve for virtually everyone concerned.

The Department of Fisheries, however, has expressed concern regarding the loss of beach habitat.

In an ideal world we would certainly like to be able to satisfy the concerns of every agency and individual involved. Within the constraints of our property boundaries and general economic concerns, however, we do not have an ideal solution to the problems voiced by the Department of Fisheries. At your request we have looked at the whole problem again in search of an alternate method to resolve the problem without encroaching on the beach area. Unfortunately we are very limited for alternatives and have been unable to devise a better solution.

It is our hope that in the interest of the beach cleanup and the ongoing, long-term benefit of reducing the slag used at our facility, all of the agencies involved can finally approve this latest proposal.

Our revised proposal includes the following elements:

1. Install a sheet pile bulkhead to stabilize the bank and provide a solid barrier to prevent any future migration of material onto the beach area. This bulkhead would be located approximately 30 feet from the edge of the existing bank and in line with the existing rock bulkheading on the North edge of our facility. This 30-foot encroachment corresponds to about the +8 foot tide line, leaving exposed beach at lower tide levels as they are now.

- continued -

To satisfy Fisheries, Martinac needs to provide
- assurance / justification w/ maps that there is no other location for the blasting shed.
- assurance of minimum bank encroachment [on site visit Bill Lang said they may be able to push back from the 30' proposal]
- assurance of mitigation

would Martinac propose removing all slag? A map is needed to show areas

2. Remove the existing black slag blasting grit from the exposed beach area. This material would be disposed of in the same manner as approved for our present blasting grit disposal. Our earlier plan had considered using this material for back-fill behind the bulkhead. Based on our discussions, however, we will agree to dispose of it permanently in order to alleviate concerns.

There were questions/concerns re: depth of the slag, how far out it goes at the "toe" of the bank, some may be covered by newer sediment and areas under the bank.

would new/clean substrate be put on the beach? What material? What slope?

3. Back-fill the area behind the bulkhead with clean fill material.

4. Compact the area behind the bulkhead and pour a 6" concrete slab to permanently cap the area, preventing possible leaching and providing a foundation for an enclosed blast facility.

5. Construct an enclosed blasting facility approximately 90 ft. x 100 ft. to allow the use of recyclable steel blasting grit instead of disposable copper slag grit.

As previously expressed, we continue to have some concerns regarding the compatibility of the proposed beach clean-up with the overall Thea Foss Waterway Superfund remedial action plan which is not yet determined. Prior to final approval of the plan for the J. M. Martinac Shipbuilding Corporation beach area we would expect some assurances that we will not be required to undertake any additional remediation activities.

We hope this proposal is responsive to your recent request and we look forward to your comments.

Sincerely,

Joe Martinac, Jr.
President

JSMjr/slh
cc: Garin Shrieve

Additional language:

- EPA supports cleanup of the slag.
- EPA will be involved in all agency review & approvals of the project.
- Further remediation of the slag area will not be required although there may be add'l sediment cleanup in adjacent areas & potential liability for overall waterway cleanup will not be addressed by this action.

09/18/95 13:18 DEPT OF ECOLOGY - SWRO 005

RECEIVED
JUL 3 1 1995
SUPERFUND REMEDIAL BRANCH

DEPARTMENT OF ECOLOGY

June 21, 1995

To: Dom Reale, Southwest Regional Office

From: Dale Norton, Toxics Investigations Section DN.

Subject: Results of Intertidal Sediment Sampling at the J.M. Martinac Facility on Thea Foss Waterway.

This memorandum reports the results of our February 21 intertidal sediment sampling effort at the J.M. Martinac Shipbuilding facility on Thea Foss Waterway. The following items are attached for your information:

- Figure 1: Locations of samples collected during the survey
- Table 1: Summary of samples collected and analytical methods
- Table 2: Summary of conventionals, metals, butyltins analysis of intertidal sediments (blasting grit) from the facility
- Table 3: Summary of metals analysis of elutriate samples using blasting grit and water from Thea Foss Waterway
- Original Field Notes
- Tidal Information for the day of sample collection
- Sample tracking sheet
- Case Narratives and quality assurance reviews for all analyses
- Raw data for conventionals, metals, and butyltin analyses

To summarize the effort, shallow cores were collected at three locations to a depth of 3' from the intertidal area adjacent to the facility. This area is covered with a black sand blasting grit and is commonly referred to as the black sand beach. All of the cores were collected using a stainless steel bucket auger. Each of the cores where divided into two intervals for analysis. The surface interval consisted of material collected between 0-1', and the bottom section was a composite of material collected from 1'-3'. In addition to the sediment cores, four gallons of seawater was also collected from Foss Waterway for use in the standard elutriate test. Water samples were collected directly into priority pollutant cleaned one-gallon glass jars with teflon-septa. The water samples were collected from a point located approximately 6" below the surface. Sample locations and analytical methods are detailed in Figure 1, and Table 1, respectively.

The results of conventionals, metals, and butyltins analyses of sand blasting grit covering a portion of the intertidal area at the facility is summarized in Table 2. Blasting material was

present in a fairly homogeneous layer from the surface to the limit of sampling (3"). Native sediments were not reached at the lower limit of sampling (3"). The blasting material sampled can be characterized as a fairly homogeneous course angular sand with a very low total organic carbon (TOC) content. Grain size analysis indicated that >95% of the material was retained in the 2mm to 62um size range. TOC values were extremely low ranging from 0.047% to 0.087% on a dry weight basis. Metals analysis indicated that fairly high concentrations of copper (1700 to 2000 mg/kg, dry weight) and zinc (420 to 770, mg/kg, dry) are present in the material. Substantially lower concentrations of arsenic (8.3 to 190 mg/kg, dry weight) and lead (22 to 150 mg/kg, dry weight) were present in the grit. Copper concentrations were fairly consistent both horizontally and vertically within the area sampled. The lowest concentrations for the other metals typically occurred in the lower interval (1'-3'). Copper and zinc concentrations in all samples exceeded the Commencement Bay sediment quality objectives (SQOs). Sixty-seven percent of the values for arsenic also exceeded the SQOs. No exceedances were observed for lead.

Concentrations of butyltins in the 0-1' interval were fairly low in all samples. Tributyltin (TBT), the most toxic of butyltins, ranged from 11 to 24 ug/kg, dry weight. No SQO has been established for TBT. The Puget Sound Dredge Disposal Analysis (PSDDA) has adopted a interim screening level of 30 ug/kg, dry weight for TBT (PSDDA, 1989). Sediments with TBT concentrations above this level are required to undergo biological testing. None of the concentrations found in the blasting grit exceeded the interim screening level.

Table 3 summarizes the results of metals analysis of elutriates prepared from the sand blasting grit collected from the 0-1' interval of the cores with seawater collected from Thea Foss Waterway. Briefly, the elutriate procedure involves agitating the blasting grit with seawater in a ratio of 1:4 for a period of 30 minutes. The samples are then allowed to settle and the resulting supernatant is filtered through a 0.4um filter. The filtrate is then analyzed for metals. The elutriate procedure is designed to simulate what might be released to the water column from a solid material during a dredging operation. It should be noted that some analytical problems were initially encountered with the metals analysis of the filtrates due to seawater interferences. The filtrates were re-analyzed using more appropriate methods after the initial run. The results of the second run are considered acceptable for use with the qualifiers noted in Table 3. A more detailed explanation of the analytical problems is included in the case narrative for the metals data set dated May 4.

Examination of the data in Table 3 indicates very little availability of arsenic and lead from the blasting grit to the water column. In contrast, copper and zinc concentrations increased by greater than an order of magnitude in the post-elutriate samples. In addition, concentrations of copper and zinc in all post-elutriate samples were in excess of marine water quality criteria.

In summary this preliminary investigation suggests that relatively high concentrations of copper and zinc are present in the blasting grit we sampled. Results of the standard elutriate test also indicate that copper and zinc are also leachable from this material.

I hope this information is helpful in evaluating options for dealing with this material. Please do not hesitate to call me if you have any questions.

DN:jl
Attachments

References Cited

Ecology, 1991. Sediment Management Standards. WAC 173-204. Washington State Department of Ecology, Olympia, WA.

EPA, 1986. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. 3rd ed. Office of Solid Waste and Emergency Response, Washington, DC.

EPA, 1989a. Commencement Bay Nearshore/Tideflats: Record of Decision. U.S. Environmental Protection Agency Region 10, Seattle, WA.

Plumb, 1981. Procedures for Handling and Chemical Analysis of Sediment and Water Samples. Technical Report EPA/CE-81-1. Prepared for the EPA/ACOE by the USACOE Waterways Experiment Station, Vicksbury, Mississippi.

PSDDA, 1989. PSDDA Management Plan Report: Unconfined Open Water Disposal of Dredged Material, Phase II. Joint Report by the ACOE, EPA, Wash. St. Dept. of Natural Resources, and Wash. St. Dept. of Ecology.

PSEP, 1986. Recommended Protocols for Measuring Selected Environmental Variables in Puget Sound. Prepared for the Puget Sound Estuary Program by Tetra Tech, Inc. Final Report No. TC-3991-04.

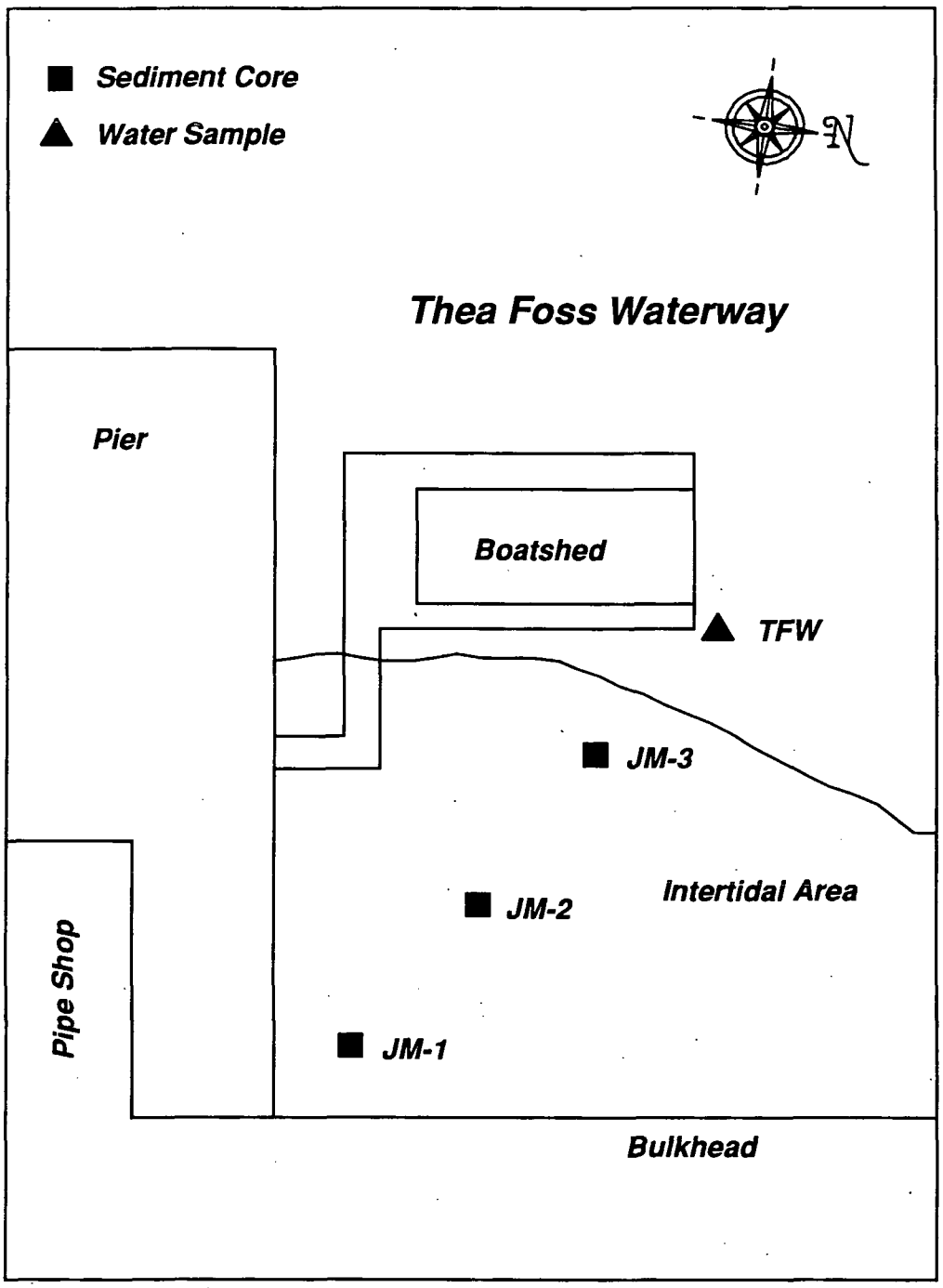


Figure 1: Sample locations for the J.M. Martinac intertidal sediment survey, February 21, 1995.

Table 1: Summary of sampling and analysis for intertidal sediment survey at the J.M. Martinac Facility on Thea Foss Waterway.

I. Samples Collected

Analyte	0-1'	1-3'
Sediment		
%solids	X	X
Grain Size	X	X
Total Organic Carbon	X	X
Total Metals*	X	X
Butyltins	X	
Water	Pre-Elutriate	Post-Elutriate
Salinity	X	
Dissolved Metals*	X	X

*=Metals As, Cu, Pb, and Zn

II. Analytical Methods

Analyte	Method	Reference
Sediment		
%solids	Dry 104°C	PSEP, 1986
Grain Size	Seive and Pipet	PSEP, 1986
Total Organic Carbon	Combustion/CO2 Measurement	PSDDA, 1993
Metals*		
As	GFAA	EPA, 1986
Cu, Pb, Zn	ICP	EPA, 1986
Butyltins	GC/MS-SIM	PSEP, 1986
Water		
Salinity	Refractometer	Field
Elutriate	1/4 ratio	Plumb, 1981
Metals*		
As, Cu, Pb	GFAA	EPA, 1986
Zn	ICP	EPA, 1986

*=Metals As, Cu, Pb, and Zn

Table 2: Results of conventionals, metals, and butyltins analyses of intertidal sand blasting material from the J.M. Martinac Facility on Thea Foss Waterway.

Location	Upper Beach		Middle Beach		Lower Beach					
Station	JM-1		JM-2		JM-3					
Interval (ft)	0-1	1-3	0-1	1-3	0-1	1-3	Sediment Quality Values			
Sample No. 08-	8105	8106	8107	8108	8109	8110	SQO	SQS	CSL	ISL
Conventionals										
Solids (%)	87	86	86	87	86	87	-	-	-	-
TOC (%)	0.058	0.064	0.087	0.041	0.052	0.047	-	-	-	-
Grain Size										
Gravel (>2mm)	0	1	1	0	0	2	-	-	-	-
Sand (2mm-62um)	96	95	95	97	98	95	-	-	-	-
Silt (62-4um)	3	4	4	2	1	2	-	-	-	-
Clay (<4um)	1	0	0	1	1	1	-	-	-	-
Total Metals (mg/kg, dry)										
Arsenic	38	8.3	190	81	130	94	57	57	93	-
Copper	1800	1700	1900	1700	2000	2000	390	390	390	-
Lead	22 j	39 j	150 j	49 j	100 j	55 j	450	450	530	-
Zinc	420	430	770	450	1100	620	410	410	960	-
Butyltins (ug/kg, dry)										
Monobutyltin Chloride	12 j	-	8.3 j	-	18 j	-	-	-	-	-
Dibutyltin Chloride	10 uj	-	17 j	-	31 j	-	-	-	-	-
Tributyltin Chloride	14	-	24	-	11	-	-	-	-	30

j=Estimated value

uj=Estimated detection limit

SQO=Sediment Quality Objectives (EPA, 1989)

SQS=Sediment Quality Standards (Ecology, 1991)

CSL=Cleanup Screening Levels (Ecology, 1991)

ISL=Interim Screening Level (PSDDA, 1989)

=Exceeds Commencement Bay Sediment Quality Objective, based on Environmental Risks (EPA, 1989).

Table 3: Results of metals* analysis of blasting material elutriates from J.M. Martinac Facility (ug/l)

Location	Thea Foss Waterway	Upper Beach	Middle Beach	Lower Beach	Marine Water Quality Criteria	
Station	TFW	JM-1	JM-2	JM-3		
Interval (ft)	-	0-1	0-1	0-1		
Sample No. 08-	8113	8105	8107	8109	Acute	Chronic
Salinity (o/oo)	23	-	-	-	-	-
Arsenic						
Pre-elutriate	3 u	3 u	3 u	3 u	69	36
Post-elutriate	-	3 u	3 u	3 u		
Copper						
Pre-elutriate	2.9 j	3.4 j	3.3 j	3.4 j	2.5	-
Post-elutriate	-	72 j	63 j	41 j		
Lead						
Pre-elutriate	5 uj	7 uj	10 uj	13 uj	151.1	5.8
Post-elutriate	-	5 uj	4 uj	4 uj		
Zinc						
Pre-elutriate	27 j	20 u	20 u	20 j	84.6	76.6
Post-elutriate	-	280	210	150 j		

*=Dissolved metals

u= Not detected at detection limit shown

uj= Estimated detection limit

j= Estimated concentration

=Exceeds WQ Criteria: "Quality Criteria for Water", EPA, 1986.

J.M. Martinac Beach Sampling
February 21st, 1995

	Tides (Tacoma Corrected)		
Dom Reale (Ecology)	3:38	0.6'	Low
Dale Norton (Ecology) (Martinac)	10:25	10.0'	High

Sample #s 08-8105 to 8129
Project Code J1H01-PP004
(Sediments)
Site JM1-A (Top of Beach)
Interval = 0-1' @ 1315
Description: 10' from top of bulkhead
Black Sand Homogeneous
Sample # 088105
Equipment: Bucket Auger
No. 5
✓ Grain Size
✓ TOC
✓ Total Metals (As, Cu, Pb, Zn)
✓ TBT
✓ Elutriate Test: 1 gal grab of water Collected

Site # JM1-B (Top of Beach)
Interval = 1-3' Time = 1330
Description: Black Sand
Homogeneous some wetting
Sample # 088106
Equipment: Bucket Auger
% S
Grain Size
TOC
Total metals (As, Cu, Pb, Zn)

No. 352

Site # JM2-A (30' Below JM-1)

Interval = 0-1' Time = 1400

Description: Black Sand - Homogeneous

Sample # 088107

Equipment: Bucket Auger

✓ % S

✓ Grain Size

✓ TOC

✓ Total Metals (As, Cu, Pb, Zn)

✓ TBT

✓ Elutriate Test - 1 gal grab of water collected

Site # JM2-B (30' Below JM-1)
Interval: 1-3'
Description: Black Sand
Wet to 3'
Sample # 088108
% S
Grain Size
TOC
Total Metals (As, Cu, Pb, Zn)

Equipment: Bucket Auger

No. 35.

Site # JM3-A (60' Below JM-1)

Interval = 0-1' Time = 1430

Description: Black Sand Homogeneous

Sample # 088109

✓% S

✓Grain Size

✓TOC

✓Total Metals (As, Cu, Pb, Zn)

✓TBT

✓Elutriate Test - 1 gal grab of water Collected

Site # JM3-B (60' Below JM-1)

Interval = 1-25'

Description: Black Sand Some Iron Deposits at 3'

Sample # 088110

% S

Grain Size

TOC

Total Metals (As, Cu, Pb, Zn)

Equipment: Bucket Auger

No. 352

(Water)

Site # TFW (Collected off Float)

Interval: Surface

Description: Collected from end of Boat house Float

Sample # 088113

Salinity = 23 °/oo

TR Diss. Metals (As, Cu, Pb, Zn)

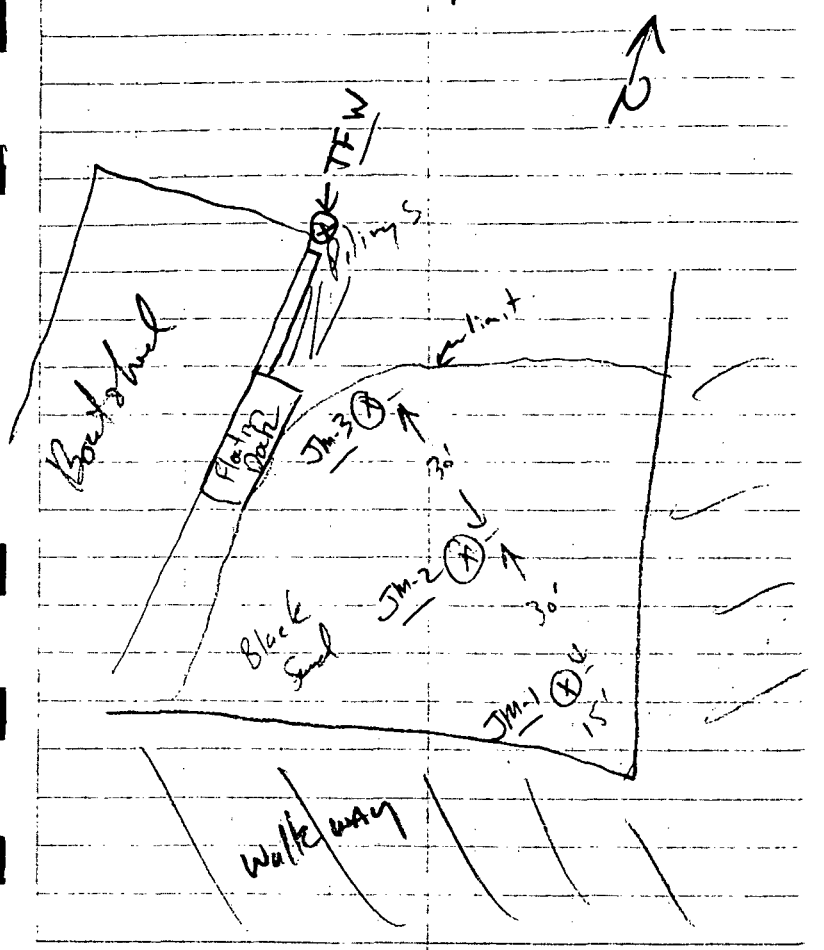
Time of all Water Samples
1500 = Time
2/21/95

In addition to Diss Metals Sample Collect 4 - 1 gal Water Samples For Elutriate test

Jar	For Each Station
1 gal glass	1 jar (metals, w
8oz glass	1 jar (Nutrients
4oz glass w/QA	Metals / TBT
4oz glass w/o QA	TOC
1 liter poly	Metals water
Whirlpac	Grain Size

J. M. Martinez
Thea Foss Waterway

Site Diagram



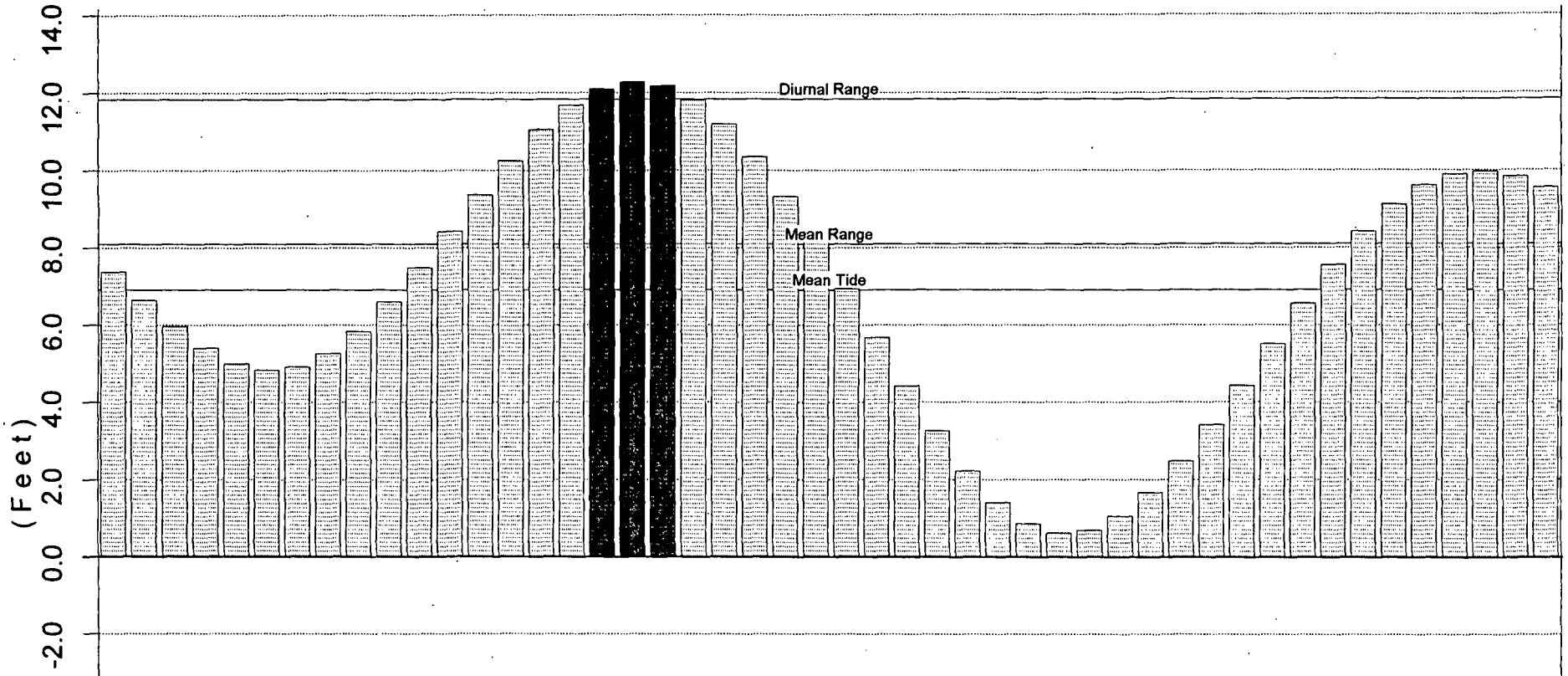
Tides - Tacoma, Commencement Bay

Average Tides
Mean Range: 8.1 ft
Diurnal Range: 11.8 ft
Mean Tide: 6.9 ft

47° 15.3' N 122° 25.9' W

Tuesday, February 21, 1995

Daily Highs & Lows
2:35 am 4.8 ft Low
8:35 am 12.3 ft High
3:38 pm 0.6 ft Low
10:25 pm 10.0 ft High



(PST)	Tide
12:00 am	7.4 ft
12:30 am	6.7 ft
1:00 am	6.0 ft
1:30 am	5.4 ft
2:00 am	5.0 ft
2:30 am	4.8 ft
3:00 am	4.9 ft
3:30 am	5.3 ft
4:00 am	5.8 ft
4:30 am	6.6 ft
5:00 am	7.5 ft
5:30 am	8.4 ft
6:00 am	9.4 ft
6:30 am	10.3 ft
7:00 am	11.1 ft
7:30 am	11.7 ft
8:00 am	12.1 ft
8:30 am	12.3 ft
9:00 am	12.2 ft
9:30 am	11.8 ft
10:00 am	11.2 ft
10:30 am	10.4 ft
11:00 am	9.3 ft
11:30 am	8.2 ft
12:00 pm	6.9 ft
12:30 pm	5.7 ft
1:00 pm	4.4 ft
1:30 pm	3.3 ft
2:00 pm	2.2 ft
2:30 pm	1.4 ft
3:00 pm	0.9 ft
3:30 pm	0.6 ft
4:00 pm	0.7 ft
4:30 pm	1.1 ft
5:00 pm	1.7 ft
5:30 pm	2.5 ft
6:00 pm	3.4 ft
6:30 pm	4.4 ft
7:00 pm	5.5 ft
7:30 pm	6.6 ft
8:00 pm	7.6 ft
8:30 pm	8.4 ft
9:00 pm	9.1 ft
9:30 pm	9.6 ft
10:00 pm	9.9 ft
10:30 pm	10.0 ft
11:00 pm	9.8 ft
11:30 pm	9.6 ft

Nautical Software (503) 579-1414

Project Name: J.M. Martinez Sampling

LABORATORY ANALYSES REQUIRED

$5,186

PIC: J1H01

Send Results to: DN Mail Stop: 7710

☒ Preliminary Investigation ☐ For HW Designation Results needed by _____
☐ Monitoring ☐ For NPDES

Sampling: Date (Year: 95) Mo	Da	Time Hr	Mn	Field Station Identification	Lab Sample Number	Matrix Code	Source Code	No. of Containers	General Chemistry: Grain Size	Micro	Biology	Metals: Diss. Metals As, Cu, Pb, Zn (Total)	Diss. Metals Filtered Metals	Organic Chemistry: Bulk Fibers
02	21	13	30	JM-1A	088105	46	42		✓			✓	✓	✓
		13	30	-1B	8106				✓			✓		
		14	00	JM-2A	8107				✓			✓	✓	✓
		14	00	-2B	8108				✓			✓		
		14	30	JM-3A	8109				✓			✓	✓	✓
		14	30	-3B	8110				✓			✓		
		15	00	TFW	811310	14							✓	
				~~JM-1W~~										
				~~JM-2W~~										
				~~JM-3W~~										

Project Officer: Dale Norton
Scan number: 407-6765
Samplers: Dale Norton, Dom Reale

Recorder: Dale Norton
Date: 2/21/95

Chain of Custody Record

Relinquished By:	Received By:	Yr	Mo	Da	Hr	Mn	Seal I.D.	Condition of Seals	Comments
Dale Norton		95	02	21	16	40			metals need filtering
	Dom Cerey	95	02	22	10	00			

Comments: Bulk fiber metals = As, Cu, Pb and Zn (total)
Diss. metals = As, Cu, Pb, Zn.
* (Metals samples for water have not been filtered or acidified)

ECY 040-115 Rev. 12/93

★ Source Codes and Descriptions ★

Code	Description
00	Unspecified Source
01	Unknown Liquid Media (Drum/Tank)
02	Unknown Liquid Media (Spill Area)
03	Unknown Liquid Media (Waste Pond)
10	Water (General)
12	Ambient Stream/River
13	Lake/Reservoir
14	Estuary/Ocean
15	Spring/Seepage
16	Rain
17	Surface Runoff/Pond (General)
18	Irrigation Canal/Return Flow
20	Well (General)
21	Well (Industrial/Agricultural)
22	Well (Drinking Water Supply)
23	Well (Test/Observation)
24	Drinking Water Intake
25	Drinking Water (At Tap)
30	Effluent Wastewater (General)
31	Municipal Effluent
32	Municipal Inplant Waters
33	Sewage Runoff/Leachate
34	Industrial Effluent
35	Industrial Inplant Waters
36	Industrial Surface Runoff/Pond
37	Industrial Waste Pond
38	Landfill Runoff/Pond/Leachate
40	Sediment (General)
42	Bottom Sediment or Deposit
44	Sludge (General)
45	Sludge (Waste Pond)
46	Sludge (Drum/Tank)
48	Soil (General)
49	Soil (Spill/Contaminated Area)
50	Bore Hole Material

Code	Description
60	Air (General)
61	Ambient Air
62	Source or Effluent Air
63	Industrial or Workroom Air
64	Hi-Vol Filter
70	Tissue (General)
71	Fish Tissue
72	Shellfish Tissue
73	Bird Tissue
74	Mammal Tissue
75	Macroinvertebrate
76	Algae
77	Periphyton
78	Plant/Vegetation
80	Oil/Solvent (General)
81	Oil (Transformer/Capacitor)
82	Oil/Solvent (Drum/Tank)
83	Oil/Solvent (Spill Area)
84	Oil/Solvent (Waste Pond)
90	Commercial Product Formulation
95	Well Drill Water
96	Well Drill Mud
97	Well Sealing Material
98	Gravel Pack Material

Matrix Codes

10	Water-Total
11	Water-Dissolved
40	Sediment/Soil
45	Semi-Solid/Sludge
46	Sediment for EP Toxicity
70	Tissue
80	Oil/Solvent
00	Other

State of Washington Department of Ecology
Manchester Environmental Laboratory
7411 Beach Dr. East Port Orchard WA. 98366
April 4, 1995

Project: **J. M. Martinac**

Samples: 088105 through 088110

Laboratory: Sound Analytical Services, Inc. 46834

By: Karin Feddersen KF

These samples were received at the Manchester Environmental Laboratory (MEL) on February 22,1995, and were sent to Sound Analytical Services, Inc. on March 6, 1995 for TOC analysis using the following method: Puget Sound Estuary Program.

HOLDING TIMES
The PSEP TOC holding time for frozen sediments is six (6) months. It is unknown how holding time affects samples that have not been stored frozen prior to analysis. No studies to my knowledge have been performed to indicate whether there is any effect. Therefore, an evaluation of the results with regard to holding time is not feasible. The samples were stored in the proper containers at 4 degrees C until analysis.

PROCEDURAL BLANKS
The procedural blanks associated with these samples have demonstrated that the process is free from contamination.

CHECK STANDARDS
All recoveries were within QC limits of +/- 20% of the expected values.

TRIPLICATE
Sample 088105 was analyzed in triplicate. The Relative Standard Deviation (RSD) was within 20%.

SUMMARY
For consistency with MEL reporting protocol, all non-detect values have been qualified with a "U" (the analyte was not detected at or above the reported result). This data is acceptable for use as amended.

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: WA Department of Ecology Date: March 29, 1995

Report On: Analysis of Sediment Lab No.: 46834

IDENTIFICATION:
Samples received on 03-06-95
Project: J.M. Martinac

ANALYSIS:

Total Organic Carbon PSEP
Date Analyzed: 3-28-95
Units: mg/kg

Lab Sample No.	Client ID	Total Organic Carbon	PQL	
46834-1	088105	580	100	.058%
46834-2	088106	640	100	.064%
46834-3	088107	860	100	.086%
46834-4	088108	410	100	.041%
46834-5	088109	520	100	.052%
46834-6	088110	470	100	.047%

PQL - Practical Quantitation Limit

· report is issued solely for the use of the person or company to whom it is addressed. This laboratory accepts responsibility only for the due performance of analysis in accordance with
istry acceptable practice. In no event shall Sound Analytical Services, Inc. or its employees be responsible for consequential or special damages in any kind or in any amount.

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

QUALITY CONTROL REPORT

General Chemistry

Client: WA State Ecology Department
Lab No: 46834qc
Units: mg/kg
Date Analyzed: 3-28-95

METHOD BLANKS

Parameter	Result	PQL
Total Organic Carbon	100 U ~~ND~~ KF	100

ND = Not Detected
PQL = Practical Quantitation Limit

TRIPLICATE

Parameter	Lab Sample No.	Sample Result	Duplicate Result	Triplicate Result	%RSD
Total Organic Carbon	46834-1	580	580	570	1.0

%RSD = Percent Relative Standard Deviation

CERTIFIED CHECK STANDARDS

Parameter	Result	True Value	%D
Total Organic Carbon	10,140	10,000	1.4
Total Organic Carbon	102,900	100,000	2.9
Total Organic Carbon	498.6	500	0.3

%D = Percent Difference

report is issued solely for the use of the person or company to whom it is addressed. This laboratory accepts responsibility only for the due performance of analysis in accordance with stry acceptable practice. In no event shall Sound Analytical Services, Inc. or its employees be responsible for consequential or special damages in any kind or in any amount.

State of Washington Department of Ecology
Manchester Environmental Laboratory
7411 Beach Dr. East Port Orchard WA. 98366

March 13, 1995

Project: J.M. Martinac

Samples: 08-8105-8110

Laboratory: Soil Technology

By: Pam Covey

Case Summary

The J.M. Martinac samples required six (6) Grain Size analyses on sediment using Puget Sound Estuary Protocol with wet preparation.

These samples were received at the Manchester Environmental Laboratory on February 22, 1995 and transported to Soil Technology on February 27, 1995 for Grain Size analyses. These analyses were reviewed for qualitative and quantitative accuracy, validity and usefullness.

The results are acceptable for use as reported.

J. M. Martinae Project

Apparent Sediment Grain Size Distribution [1]

JM-1A (0-1')

Sample ID: 08-8105 — 87 % SOLIDS

Sieve Size -->	No. 4:	No. 10:	No. 18:	No. 35:	No. 60:	No. 120:	No. 230:									Totals			
Finer than Phi Size -->								4	5	6	7	8	9	10	Balance	G	Sa	Si	C
Grain Size -->	> 4750 microns	4750-2000 microns	2000-1000 microns	1000-500 microns	500-250 microns	250-125 microns	125-62.4 microns	62.5-31.2 microns	31.2-15.6 microns	15.6-7.8 microns	7.8-3.9 microns	3.9-1.9 microns	1.9-0.9 microns	<0.9 microns					
Percent Passing (%) -->	100	100	96	69	35	13	4	1	1	1	1	1	1	0					
Fractional Percent (%) -->	0	0	4	27	34	22	9	3	0	0	0	0	0	1	0	0	96	3	1

JM-1B (1-3')

Sample ID: 08-8106 — 86 % SOLIDS

Sieve Size -->	No. 4:	No. 10:	No. 18:	No. 35:	No. 60:	No. 120:	No. 230:								
Finer than Phi Size -->								4	5	6	7	8	9	10	Balance
Grain Size -->	> 4750 microns	4750-2000 microns	2000-1000 microns	1000-500 microns	500-250 microns	250-125 microns	125-62.4 microns	62.5-31.2 microns	31.2-15.6 microns	15.6-7.8 microns	7.8-3.9 microns	3.9-1.9 microns	1.9-0.9 microns	<0.9 microns	
Percent Passing (%) -->	99	99	96	74	40	15	4	1	0	0	0	0	0	0	
Fractional Percent (%) -->	1	0	3	22	34	25	11	3	1	0	0	0	0	0	0

G	Sa	Si	C
1	95	4	0

JM-2A (0-1)

Sample ID: 08-8107 — 86 % SOLIDS

Sieve Size -->	No. 4:	No. 10:	No. 18:	No. 35:	No. 60:	No. 120:	No. 230:								
Finer than Phi Size -->								4	5	6	7	8	9	10	Balance
Grain Size -->	> 4750 microns	4750-2000 microns	2000-1000 microns	1000-500 microns	500-250 microns	250-125 microns	125-62.4 microns	62.5-31.2 microns	31.2-15.6 microns	15.6-7.8 microns	7.8-3.9 microns	3.9-1.9 microns	1.9-0.9 microns	<0.9 microns	
Percent Passing (%) -->	100	99	96	73	38	14	4	1	1	0	0	0	0	0	
Fractional Percent (%) -->	0	1	3	23	35	24	10	3	0	1	0	0	0	0	0

G	Sa	Si	C
1	95	4	0

JM-2B (1-3)

Sample ID: 08-8108 — 87 % SOLIDS

Sieve Size -->	No. 4:	No. 10:	No. 18:	No. 35:	No. 60:	No. 120:	No. 230:								
Finer than Phi Size -->								4	5	6	7	8	9	10	Balance
Grain Size -->	> 4750 microns	4750-2000 microns	2000-1000 microns	1000-500 microns	500-250 microns	250-125 microns	125-62.4 microns	62.5-31.2 microns	31.2-15.6 microns	15.6-7.8 microns	7.8-3.9 microns	3.9-1.9 microns	1.9-0.9 microns	<0.9 microns	
Percent Passing (%) -->	100	100	95	66	33	13	3	1	1	1	1	1	1	0	
Fractional Percent (%) -->	0	0	5	29	33	20	10	2	0	0	0	0	0	1	0

G	Sa	Si	C
0	97	2	1

[1] Organics included.

J. M. Martinez Project
Apparent Sediment Grain Size Distribution [1]

JM-3A (0-1')

Sample ID: 08-8109 — 86 % SOLIDS

Sieve Size -->	No. 4:	No. 10:	No. 18:	No. 35:	No. 60:	No. 120:	No. 230:									Totals
Finer than Phi Size -->								4	5	6	7	8	9	10	Balance	G Sa Si C
Grain Size -->	> 4750 microns	4750-2000 microns	2000-1000 microns	1000-500 microns	500-250 microns	250-125 microns	125-62.4 microns	62.5-31.2 microns	31.2-15.6 microns	15.6-7.8 microns	7.8-3.9 microns	3.9-1.9 microns	1.9-0.9 microns	<0.9 microns		
Percent Passing (%) -->	100	100	95	70	34	11	2	1	1	1	1	1	1	0		
Fractional Percent (%) -->	0	0	5	25	36	23	9	1	0	0	0	0	0	1	0	0 98 1 1

JM-3B (1-3')

Sample ID: 08-8110 — 87 % SOLIDS
Duplicate 1

Sieve Size -->	No. 4:	No. 10:	No. 18:	No. 35:	No. 60:	No. 120:	No. 230:									
Finer than Phi Size -->								4	5	6	7	8	9	10	Balance	
Grain Size -->	> 4750 microns	4750-2000 microns	2000-1000 microns	1000-500 microns	500-250 microns	250-125 microns	125-62.4 microns	62.5-31.2 microns	31.2-15.6 microns	15.6-7.8 microns	7.8-3.9 microns	3.9-1.9 microns	1.9-0.9 microns	<0.9 microns		
Percent Passing (%) -->	96	96	85	54	26	9	2	1	1	1	0	0	0	0		
Fractional Percent (%) -->	4	0	11	31	28	17	7	1	0	0	1	0	0	0	0	4 94 2 0

Sample ID: 08-8110 — 87 % SOLIDS
Duplicate 2

Sieve Size -->	No. 4:	No. 10:	No. 18:	No. 35:	No. 60:	No. 120:	No. 230:									
Finer than Phi Size -->								4	5	6	7	8	9	10	Balance	
Grain Size -->	> 4750 microns	4750-2000 microns	2000-1000 microns	1000-500 microns	500-250 microns	250-125 microns	125-62.4 microns	62.5-31.2 microns	31.2-15.6 microns	15.6-7.8 microns	7.8-3.9 microns	3.9-1.9 microns	1.9-0.9 microns	<0.9 microns		
Percent Passing (%) -->	99	98	87	56	27	9	2	1	1	1	1	1	1	0		
Fractional Percent (%) -->	1	1	11	31	29	18	7	1	0	0	0	0	0	1	0	2 96 1 1

$\bar{x}$ 2 95 2 1

[1] Organics included.

J.M. Martinae Project

Case Narrative

Sample numbers **08-8105, 08-8106, 08-8109 and 08-8110** contained a substance, that when dissolved in water and placed in contact with the aluminum dishes used in the pipet portion of this analysis, ate pinpoint holes in the bottom of several of the dishes. In some cases a very small amount of material was lost. After taking into account that the pipet portion (minus No. 230 sieve) was only 2-4 percent of the total weight of these samples, it was determined that the amount of fines lost would not alter any of the reported percent passings at the phi intervals involved.

File Name: 08-8105.XLS

Tested By NP/JG
Computer Entry By NP
Checked By PL

SUMMARY OF ENTRY AND VALUES

Job Number J-698
Sample Id = 08-8105
Exploration Number

Calgon Concentration 0.0079 grams per 20 ml
Total Dissolved Solid: 0.0079 grams per 20 ml
Temp 19 degrees celcius

Water Content

Tare Id	Y354	
Weight of Tare:	1.4890	grams
Wet Weight + Tare:	48.2073	grams
Dry Weight + Tare:	41.9833	grams
% W.C.	15.37	

Test Sample

Tare Id	A143	
Weight of Tare:	15.8163	grams
Wet Weight +Tare:	119.6214	grams

Percent Solids:	87		
Weight of Solids:	89.9758	grams	by water Content
Weight of Solids:	89.7838	grams	by Folk
Wt Solids (pipet only):	3.4420	grams	5-25 grams
QaQc(%):	0.0911	<5%	

MA Portion

	Accume Wt Retain Plus Tare	Percent Passing	Reported
Plus No. 4	15.8180	100	100
No. 4:	15.8180	100	100
No. 10:	15.9818	100	100
No. 18:	19.4034	96	96
No. 35:	43.9136	69	69
No. 60:	74.6654	35	35
No. 120:	94.3121	13	13
No. 230:	102.3501	4	4

Pipette Portion

Diameter (phi)	Container Number	Tare Weight (grams)	Dry Weight plus Tare (grams)	Actual Percent Passing	Reported
4.00	Y367	1.4903	1.5632	1	1
5.00	Y368	1.4874	1.5149	1	1
6.00	Y369	1.4869	1.5072	1	1
7.00	Y370	1.4883	1.5046	1	1
8.00	Y371	1.4845	1.5005	1	1
9.00	Y372	1.4877	1.5020	1	1
10.00	Y373	1.4857	1.5011	0	0

ARMY CORP SIZE FRACTIONS %

>2mm	2-.063mm	.063-.004mm	<.004mm
0	96	3	1

Comments:

Material Excluded: _____yes X no

Type : Shells___ Gravel___ Foreign Debris____

Approximate Size_____ inches

Organics Subs._____ Moderate_____ Trace____

Other_____

_____

_____

_____

Soil Technology, Inc.

File Name: 08-8106.XLS

Tested By NP JG
Computer Entry By NP
Checked By PC

SUMMARY OF ENTRY AND VALUES

Job Number J-698
Sample Id = 08-8106
Exploration Number

Calgon Concentration 0.0079 grams per 20 ml
Total Dissolved Solid: 0.0079 grams per 20 ml
Temp 19 degrees celcius

Water Content

Tare Id	Y355	
Weight of Tare:	1.4851	grams
Wet Weight + Tare:	43.7749	grams
Dry Weight + Tare:	37.8994	grams
% W.C.	16.14	

Test Sample

Tare Id	A144	
Weight of Tare:	16.7585	grams
Wet Weight +Tare:	119.9993	grams

Percent Solids:	86		
Weight of Solids:	88.8971	grams	by water Content
Weight of Solids:	88.8701	grams	by Folk
Wt Solids (pipet only):	3.1370	grams	5-25 grams
QaQc(%):	-0.1608	<5%	

MA Portion

	Accume Wt Retain Plus Tare	Percent Passing	Reported
Plus No. 4	16.7575	100	100
No. 4:	17.2717	99	99
No. 10:	17.8116	99	99
No. 18:	20.7175	96	96
No. 35:	39.9886	74	74
No. 60:	69.7895	40	40
No. 120:	92.2062	15	15
No. 230:	102.5186	4	4

Pipette Portion

Diameter (phi)	Container Number	Tare Weight (grams)	Dry Weight plus Tare (grams)	Actual Percent Passing	Reported
4.00	Y374	1.4828	1.5529	1	1
5.00	Y375	1.4894	1.5151	0	0
6.00	Y376	1.4948	1.5097	0	0
7.00	Y377	1.4857	1.5023	0	0
8.00	Y378	1.4888	1.5032	0	0
9.00	Y379	1.5008	1.5143	0	0
10.00	Y380	1.4851	1.4985	0	0

ARMY CORP SIZE FRACTIONS %

>2mm	2-.063mm	.063-.004mm	<.004mm
1	95	4	0

Comments:

Material Excluded: _____yes X no

Type : Shells___ Gravel___ Foreign Debris____

Approximate Size_____ inches

Organics Subs._____ Moderate_____ Trace____

Other_____

_____

_____

_____

Soil Technology, Inc.

File Name: 08-8107.XLS

Tested By NPG
Computer Entry By NC
Checked By DX

SUMMARY OF ENTRY AND VALUES

Job Number J-698
Sample Id = 08-8107
Exploration Number

Calgon Concentration 0.0079 grams per 20 ml
Total Dissolved Solid: 0.0079 grams per 20 ml
Temp 19 degrees celcius

Water Content

Tare Id	Y356	
Weight of Tare:	1.4841	grams
Wet Weight + Tare:	45.7560	grams
Dry Weight + Tare:	39.4754	grams
% W.C.	16.53	

Test Sample

Tare Id	A145	
Weight of Tare:	16.4492	grams
Wet Weight +Tare:	116.9242	grams

Percent Solids:	86		
Weight of Solids:	86.2212	grams	by water Content
Weight of Solids:	86.0747	grams	by Folk
Wt Solids (pipet only):	3.0565	grams	5-25 grams
QaQc(%):	0.1583	<5%	

MA Portion

	Accume Wt Retain Plus Tare	Percent Passing	Reported
Plus No. 4	16.4475	100	100
No. 4:	16.8436	100	100
No. 10:	17.1949	99	99
No. 18:	19.4941	96	96
No. 35:	39.5046	73	73
No. 60:	69.6682	38	38
No. 120:	90.3882	14	14
No. 230:	99.6139	4	4

Pipette Portion

Diameter (phi)	Container Number	Tare Weight (grams)	Dry Weight plus Tare (grams)	Actual Percent Passing	Reported
4.00	Y381	1.4744	1.5405	1	1
5.00	Y382	1.4776	1.4997	1	1
6.00	Y383	1.4810	1.4952	0	0
7.00	Y384	1.4682	1.4812	0	0
8.00	Y385	1.4787	1.4903	0	0
9.00	Y386	1.4764	1.4874	0	0
10.00	Y387	1.4708	1.4819	0	0

ARMY CORP SIZE FRACTIONS %

>2mm	2-.063mm	.063-.004mm	<.004mm
1	95	4	0

Comments:

Material Excluded: _____yes ___X___no

Type : Shells___ Gravel___ Foreign Debris____

Approximate Size_____ inches

Organics Subs.____ Moderate_____ Trace____

Other_____

_____

_____

_____

Soil Technology, Inc.

File Name: 08-8108.XLS

Tested By NPK 5/61
Computer Entry By NC
Checked By PK

SUMMARY OF ENTRY AND VALUES

Job Number J-698
Sample Id = 08-8108
Exploration Number

Calgon Concentration 0.0079 grams per 20 ml
Total Dissolved Solid: 0.0079 grams per 20 ml
Temp 19 degrees celcius

Water Content

Tare Id	Y357	
Weight of Tare:	1.4702	grams
Wet Weight + Tare:	43.2701	grams
Dry Weight + Tare:	37.7412	grams
% W.C.	15.24	

Test Sample

Tare Id	A146	
Weight of Tare:	17.0503	grams
Wet Weight +Tare:	115.4493	grams

Percent Solids:	87		
Weight of Solids:	85.3837	grams	by water Content
Weight of Solids:	85.0840	grams	by Folk
Wt Solids (pipet only):	2.6797	grams	5-25 grams
QaQc(%):	0.3510	<5%	

MA Portion

	Accume Wt Retain Plus Tare	Percent Passing	Reported
Plus No. 4	17.0499	100	100
No. 4:	17.0499	100	100
No. 10:	17.4528	100	100
No. 18:	21.0517	95	95
No. 35:	46.0089	66	66
No. 60:	74.0030	33	33
No. 120:	91.4500	13	13
No. 230:	99.7543	3	3

Pipette Portion

Diameter (phi)	Container Number	Tare Weight (grams)	Dry Weight plus Tare (grams)	Actual Percent Passing	Reported
4.00	Y388	1.4531	1.5086	1	1
5.00	Y389	1.4549	1.4727	1	1
6.00	Y390	1.4546	1.4678	1	1
7.00	Y391	1.4592	1.4716	1	1
8.00	Y392	1.4844	1.4967	1	1
9.00	Y393	1.4684	1.4799	1	1
10.00	Y394	1.4730	1.4844	0	0

ARMY CORP SIZE FRACTIONS %

>2mm	2-.063mm	.063-.004mm	<.004mm
0	97	2	1

Comments:

Material Excluded: _____yes ___X___no

Type : Shells___ Gravel___ Foreign Debris____

Approximate Size_____ inches

Organics Subs._____ Moderate_____ Trace____

Other_____

_____

_____

_____

Soil Technology, Inc.

File Name: 08-8109.XLS

Tested By NPJG
Computer Entry By NP
Checked By PK

SUMMARY OF ENTRY AND VALUES

Job Number J-698
Sample Id = 08-8109
Exploration Number

Calgon Concentration 0.0079 grams per 20 ml
Total Dissolved Solid: 0.0079 grams per 20 ml
Temp 19 degrees celcius

Water Content

Tare Id	Y358	
Weight of Tare:	1.4740	grams
Wet Weight + Tare:	36.2983	grams
Dry Weight + Tare:	31.5015	grams
% W.C.	15.97	

Test Sample

Tare Id	A148	
Weight of Tare:	16.8873	grams
Wet Weight +Tare:	114.9195	grams

Percent Solids:	86		
Weight of Solids:	84.5290	grams	by water Content
Weight of Solids:	84.1624	grams	by Folk
Wt Solids (pipet only):	1.7816	grams	5-25 grams
QaQc(%):	0.4337	<5%	

MA Portion

	Accume Wt Retain Plus Tare	Percent Passing	Reported
Plus No. 4	16.8873	100	100
No. 4:	16.8873	100	100
No. 10:	17.2701	100	100
No. 18:	20.8067	95	95
No. 35:	42.5034	70	70
No. 60:	72.2706	34	34
No. 120:	92.4984	11	11
No. 230:	99.6347	2	2

Pipette Portion

Diameter (phi)	Container Number	Tare Weight (grams)	Dry Weight plus Tare (grams)	Actual Percent Passing	Reported
4.00	Y395	1.4672	1.5034	1	1
5.00	Y396	1.4680	1.4870	1	1
6.00	Y397	1.4739	1.4910	1	1
7.00	Y398	1.4802	1.4962	1	1
8.00	Y399	1.4589	1.4744	1	1
9.00	Y400	1.4772	1.4917	1	1
10.00	Y401	1.4706	1.4845	0	0

ARMY CORP SIZE FRACTIONS %

>2mm	2-.063mm	.063-.004mm	<.004mm
0	98	1	1

Comments:

Material Excluded: _____yes X no

Type : Shells___ Gravel___ Foreign Debris____

Approximate Size_____ inches

Organics Subs.____ Moderate_____ Trace____

Other_____

Soil Technology, Inc.

File Name: 088110D1.XLS

Tested By NAJG
Computer Entry By NP
Checked By PK

SUMMARY OF ENTRY AND VALUES

Job Number J-698
Sample Id = 08-8110
Exploration Number Duplicate 1

Calgon Concentration 0.0079 grams per 20 ml
Total Dissolved Solid: 0.0079 grams per 20 ml
Temp 19 degrees celcius

Water Content

Tare Id	Y359	
Weight of Tare:	1.4760	grams
Wet Weight + Tare:	44.9315	grams
Dry Weight + Tare:	39.4370	grams
% W.C.	14.47	

Test Sample

Tare Id	A150	
Weight of Tare:	16.9406	grams
Wet Weight +Tare:	117.8777	grams

Percent Solids:	87		
Weight of Solids:	88.1746	grams	by water Content
Weight of Solids:	88.0924	grams	by Folk
Wt Solids (pipet only):	1.5422	grams	5-25 grams
QaQc(%):	0.0025	<5%	

MA Portion

	Accume Wt Retain Plus Tare	Percent Passing	Reported
Plus No. 4:	17.8528	99	99
No. 4:	20.2308	96	96
No. 10:	20.6636	96	96
No. 18:	30.4246	85	85
No. 35:	57.3265	54	54
No. 60:	82.5265	26	26
No. 120:	97.3978	9	9
No. 230:	103.5730	2	2

Pipette Portion

Diameter (phi)	Container Number	Tare Weight (grams)	Dry Weight plus Tare (grams)	Actual Percent Passing	Reported
4.00	Y409	1.4486	1.4857	1	1
5.00	Y410	1.4518	1.4707	1	1
6.00	Y411	1.4521	1.4680	1	1
7.00	Y412	1.4532	1.4699	0	0
8.00	Y413	1.4706	1.4856	0	0
9.00	Y414	1.4513	1.4657	0	0
10.00	Y415	1.4869	1.5011	0	0

ARMY CORP SIZE FRACTIONS %

>2mm	2-.063mm	.063-.004mm	<.004mm
4	94	2	0

Comments:

Material Excluded: _____yes ___X___no

Type : Shells___ Gravel___ Foreign Debris____

Approximate Size_____ inches

Organics Subs._____ Moderate_____ Trace____

Other_____

_____

_____

_____

Soil Technology, Inc.

File Name: 088110D2.XLS

Tested By NPG
Computer Entry By MZ
Checked By PE

SUMMARY OF ENTRY AND VALUES

Job Number J-698
Sample Id = 08-8110
Exploration Number Duplicate 2

Calgon Concentration 0.0079 grams per 20 ml
Total Dissolved Solid: 0.0079 grams per 20 ml
Temp 19 degrees celcius

Water Content

Tare Id	Y359	
Weight of Tare:	1.4760	grams
Wet Weight + Tare:	44.9315	grams
Dry Weight + Tare:	39.4370	grams
% W.C.	14.47	

Test Sample

Tare Id	A149	
Weight of Tare:	16.9153	grams
Wet Weight +Tare:	115.8691	grams

Percent Solids:	87		
Weight of Solids:	86.4421	grams	by water Content
Weight of Solids:	86.2498	grams	by Folk
Wt Solids (pipet only):	1.7473	grams	5-25 grams
QaQc(%):	0.1299	<5%	

MA Portion

	Accume Wt Retain Plus Tare	Percent Passing	Reported
Plus No. 4	16.9165	100	100
No. 4:	17.9945	99	99
No. 10:	18.2774	98	98
No. 18:	27.7579	87	87
No. 35:	54.9750	56	56
No. 60:	80.2873	27	27
No. 120:	95.4781	9	9
No. 230:	101.6101	2	2

Pipette Portion

Diameter (phi)	Container Number	Tare Weight (grams)	Dry Weight plus Tare (grams)	Actual Percent Passing	Reported
4.00	Y402	1.4812	1.5202	1	1
5.00	Y403	1.4785	1.4972	1	1
6.00	Y404	1.4780	1.4954	1	1
7.00	Y405	1.4780	1.4929	1	1
8.00	Y406	1.4672	1.4825	1	1
9.00	Y407	1.4655	1.4796	1	1
10.00	Y408	1.4468	1.4613	0	0

ARMY CORP SIZE FRACTIONS %

>2mm	2-.063mm	.063-.004mm	<.004mm
2	96	1	1

Comments:

Material Excluded: _____yes X no

Type : Shells___ Gravel___ Foreign Debris____

Approximate Size_____ inches

Organics Subs._____ Moderate_____ Trace____

Other_____

Soil Technology, Inc.

Blasting material

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
MANCHESTER ENVIRONMENTAL LABORATORY
7411 Beach Drive East • Port Orchard, Washington 98366-8204 • (360) 871-8860 • FAX (360) 871-8850

May 11, 1995

TO: Dale Norton, Project Officer

FROM: Myrna McIntosh, Metals Chemist

SUBJECT: Metals Quality Assurance memo for the J.M. Martinac Sediments
Sample Numbers: 95088105 - 95088110

QUALITY ASSURANCE SUMMARY

Data quality for this project was generally good. The lead results are qualified with "J" because of low spike recoveries. All samples for ICP analysis (lead, copper and zinc) were diluted 1/10 to reduce interferences. Samples for arsenic analysis (on the GFAA) were diluted to bring the arsenic levels within the calibration range.

SAMPLE INFORMATION

The J.M. Martinac sediments were received by the Manchester Laboratory on 2/22/95 in good condition.

HOLDING TIMES

All analyses were performed within the USEPA Contract Laboratory Program (CLP) holding times for metals analysis (28 days for mercury, 180 days for all other metals).

INSTRUMENT CALIBRATION

Instrument calibration was performed before each analytical run and checked by initial calibration verification standards and blanks. Continuing calibration standards and blanks were analyzed at a frequency of 10% during the run and again at the end of the analytical run. All initial and continuing calibration verification standards were within the relevant USEPA (CLP) control limits. AA calibration gave a correlation coefficient (r) of 0.995 or greater, also meeting CLP calibration requirements.

PROCEDURAL BLANKS

The procedural blanks associated with these samples show no analytically significant levels of analytes.

SPIKED SAMPLE ANALYSES

Spiked and duplicate spiked sample analyses were performed on this data set. The levels of analytes in the samples was very high. Only the lead results were low enough to be in the calculation range of the spike. The lead recovery was low, and the results are qualified with "J" as estimates.

PRECISION DATA

The results of the spiked and duplicate spiked samples are used to evaluate precision on this sample set. The Relative Percent Difference (RPD) for all analytes is within the 20% CLP acceptance window for duplicate analysis.

LABORATORY CONTROL SAMPLE (LCS) ANALYSES

LCS analyses are within the windows established for each parameter.

Please call Bill Kammin at SCAN 206-871-8801 to further discuss this project.

MMM:mmm

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Arsenic

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Project Officer: Dale Norton **Method:** EPA206.2
Date Reported: 06-MAR-95 **Matrix:** Sediment/Soil
Units: mg/Kg **Analyte:** Arsenic

Sample	QC	Field ID	Result	Qualifier	Received	Analyzed
95088105		JM-1A	38.0		02/22/95	03/02/95
95088106		JM-1B	8.31		02/22/95	03/02/95
95088107		JM-2A	190		02/22/95	03/02/95
95088108		JM-2B	80.7		02/22/95	03/02/95
95088109		JM-3A	129		02/22/95	03/02/95
95088110		JM-3B	94.1		02/22/95	03/02/95
95088110	Matrix Spike			NC	02/22/95	03/02/95
95088110	Matrix Spike			NC	02/22/95	03/02/95
BLNK5619		ESPB09.96	0.3	U		03/02/95
ERAS5618		LCS09.96	79.6			03/02/95

Authorized By: M. McCloskey Release Date: 3/15/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac

LIMS Project ID: 1192-95

Sample: BLNK5726
Blank ID: ESPB0996
Project Officer: Dale Norton

Date Prepared: 02/28/95
Date Analyzed: 03/10/95

Method: EPA200.7
Matrix: Sediment/Soil
Units: mg/Kg

Analyte	Result	Qualifier
Copper	1.3	P
Lead	2	U
Zinc	0.42	P

Authorized By: _____ Release Date: 3/20/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac

LIMS Project ID: 1192-95

Sample: ERAS5727
Blank ID: LCSS0996
Project Officer: Dale Norton

Date Prepared: 02/28/95
Date Analyzed: 03/10/95

Method: EPA200.7
Matrix: Sediment/Soil
Units: mg/Kg

Analyte	Result	Qualifier
Copper	91	%
Lead	92	%
Zinc	96	%

Authorized By: [illegible] Release Date: 3/29/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088105 **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: JM-1A **Date Prepared:** 02/28/95 **Matrix:** Sediment/Soil
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** mg/Kg Dry Wt.

Analyte	Result	Qualifier
Copper	1830	
Lead	22	J
Zinc	419	

Authorized By: M. Miller Release Date: 3/29/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088106 **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: JM-1B **Date Prepared:** 02/28/95 **Matrix:** Sediment/Soil
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** mg/Kg Dry Wt.

Analyte	Result	Qualifier
Copper	1710	
Lead	39	J
Zinc	434	

Authorized By: _____ Release Date: 3/29/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088107 **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: JM-2A **Date Prepared:** 02/28/95 **Matrix:** Sediment/Soil
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** mg/Kg Dry Wt.

Analyte	Result	Qualifier
Copper	1850	
Lead	150	J
Zinc	766	

Authorized By: _____ Release Date: 3/29/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088108 **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: JM-2B **Date Prepared:** 02/28/95 **Matrix:** Sediment/Soil
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** mg/Kg Dry Wt.

Analyte	Result	Qualifier
Copper	1670	
Lead	49	J
Zinc	450	

Authorized By: _____ Release Date: 3/29/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088109 **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: JM-3A **Date Prepared:** 02/28/95 **Matrix:** Sediment/Soil
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** mg/Kg Dry Wt.

Analyte	Result	Qualifier
Copper	2040	
Lead	100	J
Zinc	1060	

Authorized By: _____ Release Date: 3/29/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088110 **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: JM-3B **Date Prepared:** 02/28/95 **Matrix:** Sediment/Soil
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** mg/Kg Dry Wt.

Analyte	Result	Qualifier
Copper	2030	
Lead	55	J
Zinc	623	

Authorized By: _____ Release Date: 3/29/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088110 (Matrix Spike - LMX1) **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: JM-3B **Date Prepared:** 02/28/95 **Matrix:** Sediment/Soil
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** % Recovery

Analyte	Result	Qualifier
Copper		NC
Lead	64	
Zinc		NC

Authorized By: M. M. [illegible] Release Date: 3/29/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088110 (Matrix Spike - LMX2) **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: JM-3B **Date Prepared:** 02/28/95 **Matrix:** Sediment/Soil
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** % Recovery

Analyte	Result	Qualifier
Copper		NC
Lead	44	
Zinc		NC

Authorized By: [signature] Release Date: 3/29/95

Reanalysis of Elutriates

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
MANCHESTER ENVIRONMENTAL LABORATORY
7411 Beach Drive East • Port Orchard, Washington 98366-8204 • (360) 871-8860 • FAX (360) 871-8850

May 4, 1995

TO: Dale Norton, Project Officer

FROM: Myrna McIntosh, Metals Chemist

SUBJECT: Metals Quality Assurance memo for the J.M. Martinac Project
Sample Numbers: 95088113 - 95088119

QUALITY ASSURANCE SUMMARY

This is the summary of the rework of the J.M. Martinac Elutriate project. Zinc was analyzed by ICP at a 1:5 dilution. A special dilution blank was prepared and showed no contamination present. Lead and copper were analyzed by graphite furnace atomic absorption (GFAA) at 1:2 dilutions.

The copper analysis of the samples showed a definite difference between the elutriate and the pre-elutriate. The seawater blank results are consistent with the pre-elutriate copper levels. It appears that copper does leach out of the samples during elutriation. The data is qualified with "N" and "J" due to one high spike recovery. Read below for further discussion.

The lead data is inconclusive. The re-analysis did not significantly improve the results. Lead analysis by GFAA is severely affected by a high sodium matrix. The instrument has a difficult time correcting for the background.

The results of the pre-elutriate show much more overcorrection of the background signal than the elutriate, indicating that there is some other type of interference contributing to the problem that seemed to be filtered out during elutriation. Perhaps something related to the suspended solids. The detection limit was adjusted for dilution and the background overcorrection. All the lead results were qualified with "J". The spiking level was at 25 ppb and did recover at approximately 40%

SAMPLE INFORMATION

The samples from the J.M. Martinac project were received by the Manchester Laboratory on 2/22/95 in good condition.

HOLDING TIMES

All analyses were performed within the USEPA Contract Laboratory Program (CLP) holding times for metals analysis (28 days for mercury, 180 days for all other metals).

INSTRUMENT CALIBRATION

Instrument calibration was performed before each analytical run and checked by initial calibration verification standards and blanks. Continuing calibration standards and blanks were analyzed at a frequency of 10% during the run and again at the end of the analytical run. All initial and continuing calibration verification standards were within the relevant USEPA (CLP) control limits. AA calibration gave a correlation coefficient (r) of 0.995 or greater, also meeting CLP calibration requirements.

PROCEDURAL BLANKS

The procedural blanks associated with these samples show no analytically significant levels of analytes.

SPIKED SAMPLE ANALYSES

Zinc spike recoveries were acceptable at approximately 80%.

One copper spike recovered high. Significant copper values (ten times the detection limit) are qualified with "N" and low values are qualified "J" as estimates. Although one spike appears incredibly high, the relative percent difference between the absolute values of the spikes is less than 20%. This means that in relation to the sample levels, this recovery does not significantly reduce the quality of the data.

Lead spikes were low, approximately 40%. This is due to matrix interference. All lead results are qualified with "J", as estimates.

PRECISION DATA

The results of the spiked and duplicate spiked samples are used to evaluate precision on this sample set. The Relative Percent Difference (RPD) for all analytes is within the 20% CLP acceptance window for duplicate analysis.

Please call Bill Kammin at SCAN 206-871-8801 to further discuss this project.

MMM:mmm

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Copper, Dissolved

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Project Officer: Dale Norton **Method:** EPA220.2
Date Reported: 27-APR-95 **Matrix:** Water
Analyte: Copper

Sample	QC	Field ID	Result	Qualifier	Units	Received	Analyzed
95088113		TFW	2.9	J	ug/L	02/22/95	04/27/95
95088114		8105ELUTRIAT	71.8	N	ug/L	02/22/95	04/27/95
95088115		8107ELUTRIAT	63.4	N	ug/L	02/22/95	04/27/95
95088116		8109ELUTRIAT	41.3	N	ug/L	02/22/95	04/27/95
95088116	Matrix Spike		173 %			02/22/95	04/27/95
95088116	Matrix Spike		112 %			02/22/95	04/27/95
95088117		8105PRE-ELUT	3.4	J	ug/L	02/22/95	04/27/95
95088118		8107PRE-ELUT	3.3	J	ug/L	02/22/95	04/27/95
95088119		8109PRE-ELUT	3.4	J	ug/L	02/22/95	04/27/95
BLN51227		ELUT BLANK	2.0	U	ug/L		

Authorized By: _____ Release Date: 4/28/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Lead, Dissolved

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Project Officer: Dale Norton **Method:** EPA239.2
Date Reported: 26-APR-95 **Matrix:** Water
Analyte: Lead

Sample	QC	Field ID	Result	Qualifier	Units	Received	Analyzed
95088113		TFW	5	UJ	ug/L	02/22/95	04/25/95
95088114		8105ELUTRIAT	5	UJ	ug/L	02/22/95	04/25/95
95088115		8107ELUTRIAT	4	UJ	ug/L	02/22/95	04/25/95
95088116		8109ELUTRIAT	4	UJ	ug/L	02/22/95	04/26/95
95088116	Matrix Spike		39 %			02/22/95	04/26/95
95088116	Matrix Spike		37 %			02/22/95	04/26/95
95088117		8105PRE-ELUT	7	UJ	ug/L	02/22/95	04/26/95
95088118		8107PRE-ELUT	10	UJ	ug/L	02/22/95	04/26/95
95088119		8109PRE-ELUT	13	UJ	ug/L	02/22/95	04/26/95
BLN51226		ELUT BLNK	2.0	U	ug/L		

Authorized By: _____ Release Date: 4/28/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma, Dissolved

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Project Officer: Dale Norton **Method:** EPA200.7
Date Reported: 02-MAY-95 **Matrix:** Water
Analyte: Zinc

Sample	QC	Field ID	Result	Qualifier	Units	Received	Analyzed
95088113		TFW	**27**	**P**	ug/L	02/22/95	04/21/95
95088114		8105ELUTRIAT	**279**		ug/L	02/22/95	04/21/95
95088115		8107ELUTRIAT	**214**		ug/L	02/22/95	04/21/95
95088115	Matrix Spike		**84 %**			02/22/95	04/21/95
95088115	Matrix Spike		**82 %**			02/22/95	04/21/95
95088116		8109ELUTRIAT	**151**	**P**	ug/L	02/22/95	04/21/95
95088117		8105PRE-ELUT	20	U	ug/L	02/22/95	04/21/95
95088118		8107PRE-ELUT	20	U	ug/L	02/22/95	04/21/95
95088119		8109PRE-ELUT	**20**	**P**	ug/L	02/22/95	04/21/95
BLN51217		DILUTION BNK	**20**	**U**	ug/L		04/21/95
BLN51218		ELUTRIAT BNK	**20**	**U**	ug/L		04/21/95

Authorized By: R S Kmy Release Date: 5-3-95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Arsenic, Dissolved

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Project Officer: Dale Norton **Method:** EPA206.2
Date Reported: 26-APR-95 **Matrix:** Water
Analyte: Arsenic

Sample	QC	Field ID	Result	Qualifier	Units	Received	Analyzed
95088113		TFW	3	U	ug/L	02/22/95	03/02/95
95088114		8105ELUTRIAT	3	U	ug/L	02/22/95	03/02/95
95088115		8107ELUTRIAT	3	U	ug/L	02/22/95	03/02/95
95088115	Matrix Spike		84 %			02/22/95	03/02/95
95088115	Matrix Spike		86 %			02/22/95	03/02/95
95088116		8109ELUTRIAT	3	U	ug/L	02/22/95	03/02/95
95088117		8105PRE-ELUT	3	U	ug/L	02/22/95	03/02/95
95088118		8107PRE-ELUT	3	U	ug/L	02/22/95	03/02/95
95088119		8109PRE-ELUT	3	U	ug/L	02/22/95	03/02/95
BLNK5623		ELUT BLNK	3	U	ug/L		

Authorized By: [signature] Release Date: 4/27/95

Original Analysis of Entrrates

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
MANCHESTER ENVIRONMENTAL LABORATORY
7411 Beach Drive East • Port Orchard, Washington 98366-8204 • (360) 871-8860 • FAX (360) 871-8850

August 3, 1995

TO: Dale Norton, Project Officer

FROM: Myrna McIntosh, Metals Chemist

SUBJECT: Metals Quality Assurance memo for the J.M. Martinac Project
Sample Numbers: 95088113 - 95088119

QUALITY ASSURANCE SUMMARY

Data quality for this project is generally good. Lead, copper and zinc were diluted 1/10 and analyzed by ICP. Arsenic was diluted 1/2 and analyzed by GFAA. The reported detection limits are elevated to reflect these dilutions.

SAMPLE INFORMATION

The samples from the J.M. Martinac project were received by the Manchester Laboratory on 2/21/95 in good condition.

HOLDING TIMES

All analyses were performed within the USEPA Contract Laboratory Program (CLP) holding times for metals analysis (28 days for mercury, 180 days for all other metals).

INSTRUMENT CALIBRATION

Instrument calibration was performed before each analytical run and checked by initial calibration verification standards and blanks. Continuing calibration standards and blanks were analyzed at a frequency of 10% during the run and again at the end of the analytical run. All initial and continuing calibration verification standards were within the relevant USEPA (CLP) control limits. AA calibration gave a correlation coefficient (r) of 0.995 or greater, also meeting CLP calibration requirements.

PROCEDURAL BLANKS

The procedural blanks associated with these samples show no analytically significant levels of analytes.

SPIKED SAMPLE ANALYSES

Spiked and duplicate spiked sample analyses were performed on this data set. All spike recoveries are within the CLP acceptance limits of +/- 25%.

PRECISION DATA

The results of the spiked and duplicate spiked samples are used to evaluate precision on this sample set. The Relative Percent Difference (RPD) for all analytes is within the 20% CLP acceptance window for duplicate analysis.

Please call Bill Kammin at SCAN 206-871-8801 to further discuss this project.

MMM:mmm

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma, Dissolved

Project Name: J.M. Martinac

LIMS Project ID: 1192-95

Sample: BLNK5725
Blank ID: ELPB1200
Project Officer: Dale Norton

Date Analyzed: 03/10/95

Method: EPA200.7
Matrix: Water
Units: ug/L

Analyte	Result	Qualifier
Copper	30	U
Lead	200	U
Zinc	40	U

Authorized By: _____ Release Date: 4/3/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma, Dissolved

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088113 **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: TFW **Matrix:** Water
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** ug/L

Analyte	Result	Qualifier
Copper	260	P
Lead	200	U
Zinc	72	P

Authorized By: _____ Release Date: 4/3/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088114 **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: 8105ELUTRIAT **Date Prepared:** 02/21/95 **Matrix:** Water
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** ug/L

Analyte	Result	Qualifier
Copper	**366**	
Lead	200	U
Zinc	**340**	**P**

Authorized By: [illegible] Release Date: 4/3/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088115 **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: 8107ELUTRIAT **Date Prepared:** 02/21/95 **Matrix:** Water
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** ug/L

Analyte	Result	Qualifier
Copper	**329**	
Lead	200	U
Zinc	**270**	**P**

Authorized By: _____ Release Date: 4/3/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088115 (Matrix Spike - LMX1) **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: 8107ELUTRIAT **Date Prepared:** 02/21/95 **Matrix:** Water
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** % Recovery

Analyte	Result	Qualifier
Copper	80	
Lead	86	
Zinc	84	

Authorized By: _____ Release Date: 4/5/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088115 (Matrix Spike - LMX2) **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: 8107ELUTRIAT **Date Prepared:** 02/21/95 **Matrix:** Water
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** % Recovery

Analyte	Result	Qualifier
Copper	113	
Lead	102	
Zinc	111	

Authorized By: M. Michael Rand Release Date: 4/3/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088116 **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: 8109ELUTRIAT **Date Prepared:** 02/21/95 **Matrix:** Water
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** ug/L

Analyte	Result	Qualifier
Copper	305	
Lead	200	U
Zinc	210	P

Authorized By: _____ Release Date: 4/3/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088117 **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: 8105PRE-ELUT **Date Prepared:** 02/21/95 **Matrix:** Water
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** ug/L

Analyte	Result	Qualifier
Copper	**408**	
Lead	200	U
Zinc	**96**	**P**

Authorized By: _____ Release Date: 4/3/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088118 **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: 8107PRE-ELUT **Date Prepared:** 02/21/95 **Matrix:** Water
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** ug/L

Analyte	Result	Qualifier
Copper	**348**	
Lead	200	U
Zinc	**94**	**P**

Authorized By: [illegible] Release Date: 4/3/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088119 **Date Received:** 02/22/95 **Method:** EPA200.7
Field ID: 8109PRE-ELUT **Date Prepared:** 02/21/95 **Matrix:** Water
Project Officer: Dale Norton **Date Analyzed:** 03/10/95 **Units:** ug/L

Analyte	Result	Qualifier
Copper	325	
Lead	200	U
Zinc	91	P

Authorized By: _____ Release Date: 4/3/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Arsenic

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Project Officer: Dale Norton **Method:** EPA206.2
Date Reported: 06-MAR-95 **Matrix:** Water
Units: ug/L **Analyte:** Arsenic

Sample	QC	Field ID	Result	Qualifier	Received	Analyzed
95088113		TFW	3	U	02/22/95	03/02/95
95088114		8105ELUTRIAT	3	U	02/22/95	03/02/95
95088115		8107ELUTRIAT	3	U	02/22/95	03/02/95
95088116		8109ELUTRIAT	3	U	02/22/95	03/02/95
95088116	Matrix Spike		84 %		02/22/95	03/02/95
95088116	Matrix Spike		86 %		02/22/95	03/02/95
95088117		8105PRE-ELUT	3	U	02/22/95	03/02/95
95088118		8107PRE-ELUT	3	U	02/22/95	03/02/95
95088119		8109PRE-ELUT	3	U	02/22/95	03/02/95
BLNK5623		ELUT BLNK	3	U		03/02/95

Authorized By: M. [illegible] Release Date: 3/15/95

MANCHESTER ENVIRONMENTAL LABORATORY

7411 Beach Drive E , Port Orchard Washington 98366

CASE NARRATIVE

June 8, 1995

Subject: J. M. Martinac

Samples: 95 - 088105 , -088107 and -088109

Case No. 1192 - 94

Officer: Dale Norton

By: Dickey D. Huntamer
Organics Analysis Unit

TRIBUTYL TINS

ANALYTICAL METHODS:

The samples were extracted following the methods given in Puget Sound Estuary Program (PSEP) "Recommended Guidelines for Measuring Organic Compounds in Puget Sound Sediment and Tissue Samples" Recommended Methods for Organotin Compounds. The samples were Soxhlet extracted using acetone and tropolone, 0.2% by weight, solvent exchanged to hexane and dried using sodium sulfate. The organotin compounds were hexylated using the Grignard reaction given in Krone et al (1989) including the silica gel/alumina cleanup. Analysis was done by capillary Gas Chromatography using Single Ion Monitoring (SIM) mode GC/MS. All samples are reported on a dry weight basis.

HOLDING TIMES:

The samples were extracted within the recommended fourteen day holding time. After extraction all samples were analyzed within the recommended 40 day extract holding time.

BLANKS:

No tributyltin was detected in the laboratory blanks.

SURROGATES:

Recovery of the surrogate spike, Tripropyltin, ranged from 51% to 80% except for the two Sequim Bay reference samples, SQ5066 and SQ5066D which had 47% and 12% recovery respectively. Data for both these samples was "J" qualified due to the low surrogate recoveries. No surrogate recovery QC limits have been established for this method.

MATRIX SPIKE AND MATRIX SPIKE :

Recoveries ranged from 43% to 109% except for high recoveries >200% of dibutyltin chloride. The Relative Percent Differences (RPD) ranged from 4.4% to 52%. No percent recovery or RPD limits have been established for this method.

ANALYTICAL COMMENTS:

The concentrations in the samples were relatively low. This may be due to the coarseness o f the sample matrix. Examination under the microscope revealed a relatively course grained angular black sand like material. Most of the fines had been washed out. Occasional particles of rust or paint flakes were also seen.

Two additional samples were analyzed with the sediment samples. These were Sequim Bay Reference Sediments which presumably were spiked with 100 ng/gm (100 ug/Kg) wet weight of tributyltin. No value for tributyltin has been established for the Sequim Bay Reference Sediment so the accuracy of the analysis cannot be determined. These samples are identified as SQ5066 and SQ5066D

SQ50066	74.5	ug/Kg (wet weight)	Tributyltin
SQ5066D	75.1	ug/Kg (wet weight)	Tributyltin

Note that the data sheets report these values as dry weight. The percent solids is 59.6% for these samples.

DATA QUALIFIER CODES:

U	-	The analyte was not detected at or above the reported value.
J	-	The analyte was positively identified. The associated numerical value is an estimate.
UJ	-	The analyte was not detected at or above the reported estimated result.
REJ	-	The data are unusable for all purposes.
EXP	-	The result is equal to the number before EXP times 10 to the power of the number after EXP. As an example 3EXP6 equals 3×10^6.
NAF	-	Not analyzed for.
N	-	For organic analytes there is evidence the analyte is present in this sample.
NJ	-	There is evidence that the analyte is present. The associated numerical result is an estimate.
E	-	This qualifier is used when the concentration of the associated value exceeds the known calibration range.
bold	-	The analyte was present in the sample. (Visual Aid to locate detected compound on report sheet.)

CN_JMART.DOC

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088105 **Date Received:** 02/22/95 **Method:** NOAA_TBT
Field ID: JM-1A **Date Prepared:** 03/07/95 **Matrix:** Sediment/Soil
Project Officer: Dale Norton **Date Analyzed:** 04/13/95 **Units:** ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	10	U
Tributyltin Chloride	**13.8**	
Dibutyltin Chloride	10	UJ
Monobutyltin Chloride	**12.3**	**J**

Surrogate Recoveries

Tripropyltin Chloride	**77**	**%**

Authorized By: _____ Release Date: 6/8/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088107 **Date Received:** 02/22/95 **Method:** NOAA_TBT
Field ID: JM-2A **Date Prepared:** 03/07/95 **Matrix:** Sediment/Soil
Project Officer: Dale Norton **Date Analyzed:** 04/13/95 **Units:** ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	10	U
Tributyltin Chloride	**24.3**	
Dibutyltin Chloride	**17.4**	**J**
Monobutyltin Chloride	**8.3**	**J**

Surrogate Recoveries

Tripropyltin Chloride	**69**	**%**

Authorized By: _____ Release Date: 4/8/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088109 **Date Received:** 02/22/95 **Method:** NOAA_TBT
Field ID: JM-3A **Date Prepared:** 03/07/95 **Matrix:** Sediment/Soil
Project Officer: Dale Norton **Date Analyzed:** 04/13/95 **Units:** ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	10	U
Tributyltin Chloride	**11.4**	
Dibutyltin Chloride	**31.3**	**J**
Monobutyltin Chloride	**18.0**	**J**

Surrogate Recoveries

Tripropyltin Chloride	**68**	**%**

Authorized By: _____ Release Date: 6/8/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088109 (Matrix Spike - LMX1) **Date Received:** 02/22/95 **Method:** NOAA_TBT
Field ID: JM-3A **Date Prepared:** 03/07/95 **Matrix:** Sediment/Soil
Project Officer: Dale Norton **Date Analyzed:** 04/13/95 **Units:** % Recovery

Analyte	Result	Qualifier
Tetrabutyltin Chloride	71	
Tributyltin Chloride	81	
Dibutyltin Chloride	271	J
Monobutyltin Chloride	43	J

Surrogate Recoveries

Tripropyltin Chloride	51	%

Authorized By: E. Y. [illegible] Release Date: 6/15/95 Page: 2

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: J.M. Martinac **LIMS Project ID:** 1192-95

Sample: 95088109 (Matrix Spike - LMX2) **Date Received:** 02/22/95 **Method:** NOAA_TBT
Field ID: JM-3A **Date Prepared:** 03/07/95 **Matrix:** Sediment/Soil
Project Officer: Dale Norton **Date Analyzed:** 04/13/95 **Units:** % Recovery

Analyte	Result	Qualifier
Tetrabutyltin Chloride	74	
Tributyltin Chloride	109	
Dibutyltin Chloride	293	
Monobutyltin Chloride	73	

Surrogate Recoveries

Tripropyltin Chloride	73	%

Authorized By: _____ Release Date: 6/9/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: J.M. Martinac

LIMS Project ID: 1192-95

Sample: BLN51382
Blank ID: BS5066
Project Officer: Dale Norton

Date Prepared: 03/07/95
Date Analyzed: 04/13/95

Method: NOAA_TBT
Matrix: Sediment/Soil
Units: ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	10.8	U
Tributyltin Chloride	11.0	U
Dibutyltin Chloride	10.3	U
Monobutyltin Chloride	10.2	U

Surrogate Recoveries

Tripropyltin Chloride	**72**	**%**

Authorized By: _____ Release Date: 7/15/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: J.M. Martinac

LIMS Project ID: 1192-95

Sample: BLN51383
Blank ID: BS5066D
Project Officer: Dale Norton

Date Prepared: 03/07/95
Date Analyzed: 04/13/95

Method: NOAA_TBT
Matrix: Sediment/Soil
Units: ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	10.8	U
Tributyltin Chloride	11.0	U
Dibutyltin Chloride	10.3	U
Monobutyltin Chloride	10.2	U

Surrogate Recoveries

Tripropyltin Chloride	**80**	**%**

Authorized By: D. Norton Release Date: 6/8/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: J.M. Martinac

LIMS Project ID: 1192-95

Sample: SBR51384
Blank ID: SQ5066
Project Officer: Dale Norton

Date Prepared: 03/07/95
Date Analyzed: 04/13/95

Method: NOAA_TBT
Matrix: Sediment/Soil
Units: ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	**8.5**	**J**
Tributyltin Chloride	**125**	**J**
Dibutyltin Chloride	**12.6**	**J**
Monobutyltin Chloride	8.0	UJ

Surrogate Recoveries

Tripropyltin Chloride	**47**	**%**

Authorized By: _____ Release Date: 6/8/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: J.M. Martinac

LIMS Project ID: 1192-95

Sample: SBR51385
Blank ID: SQ5066D
Project Officer: Dale Norton

Date Prepared: 03/07/95
Date Analyzed: 04/13/95

Method: NOAA_TBT
Matrix: Sediment/Soil
Units: ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	8.7	UJ
Tributyltin Chloride	**126**	**J**
Dibutyltin Chloride	**16.6**	**J**
Monobutyltin Chloride	**11.4**	**J**

Surrogate Recoveries

Tripropyltin Chloride	**12**	**%**

Authorized By: D. Norton Release Date: 6/8/95 Page: 1

RECEIVED
JUL 24 1995
SUPERFUND BRANCH

Martinac

MARTINAC SHIPBUILDING CORPORATION 401 EAST 15TH STREET, TACOMA, WASHINGTON 98421 206-572-4005 FAX: 206-627-

93 JUN 16

June 14, 1993

Ms Sandra Stephens
Department of Ecology
7272 Cleanwater Lane LU-11
Olympia, Washington 98504-6811

Re: NPDES Permit No. WA-004028-2
Sandblast Grit Removal Plan - 510.D

Dear Sandra:

Here are the results of the samples of material taken from "the beach". As you can see from the site map enclosed, the samples were taken from three points along the beach from the North Dock to the railroad grade rip-rap. The samples were collected just prior to low tide on a day when the tide was to be .2 low water. The entire beach was exposed so I was able to go quite far out to sample.

We are still leaning to the plan concept of sinking a metal bulkhead from the North Dock to the railroad grade rip-rap, removing the beach material and using it to backfill the bulkhead. Once the removal was complete, clean fill would be brought in to "cap" the beach. Behind the bulkhead would be capped with asphalt.

I look forward to seeing you - hopefully on the 30th as discussed.

Best regards,

F. William Lang
Director, Safety/Personnel

FWL/slh
Encl.

SPECTRA Laboratories, Inc.

2221 Ross Way • Tacoma, WA 98421 • (206) 272-4850

June 8, 1993

Martinac Shipbuilding
401 East 15th St.
Tacoma, WA 98421

Attn: Bill Lang

Sample ID: #1
Project: NPDES
Sample Matrix: Soil
Date Sampled: 5-27-93
Date Received: 5-27-93
Spectra Project: S305-189
Spectra #3039

TCLP Metals, mg/l

Arsenic	(As)	<0.05
Barium	(Ba)	0.254
Cadmium	(Cd)	<0.003
Chromium	(Cr)	<0.007
Lead	(Pb)	<0.04
Mercury	(Hg)	<0.03
Selenium	(Se)	<0.08
Silver	(Ag)	<0.007
Copper	(Cu)	1.55
Nickel	(Ni)	<0.015
Zinc	(Zn)	2.50

TCLP by EPA Method 1311
Metals performed by EPA Method 6010

SPECTRA LABORATORIES, INC.

Steven G. Hibbs, Chemist

SPECTRA Laboratories, Inc.

2221 Ross Way • Tacoma, WA 98421 • (206) 272-4850

June 8, 1993

Martinac Shipbuilding
401 East 15th St.
Tacoma, WA 98421

Attn: Bill Lang

Sample ID: #2
Project: NPDES
Sample Matrix: Soil
Date Sampled: 5-27-93
Date Received: 5-27-93
Spectra Project: S305-189
Spectra #3040

TCLP Metals, mg/l

Arsenic	(As)	<0.05
Barium	(Ba)	0.182
Cadmium	(Cd)	<0.003
Chromium	(Cr)	<0.007
Lead	(Pb)	<0.04
Mercury	(Hg)	<0.03
Selenium	(Se)	<0.08
Silver	(Ag)	<0.007
Copper	(Cu)	2.84
Nickel	(Ni)	<0.015
Zinc	(Zn)	1.60

TCLP by EPA Method 1311
Metals performed by EPA Method 6010

SPECTRA LABORATORIES, INC.

Steven G. Hibbs, Chemist

SPECTRA Laboratories, Inc.

2221 Ross Way • Tacoma, WA 98421 • (206) 272-4850

June 8, 1993

Martinac Shipbuilding
401 East 15th St.
Tacoma, WA 98421

Attn: Bill Lang

Sample ID: #3
Project: NPDES
Sample Matrix: Soil
Date Sampled: 5-27-93
Date Received: 5-27-93
Spectra Project: S305-189
Spectra #3041

TCLP Metals, mg/l

Arsenic	(As)	<0.05
Barium	(Ba)	0.191
Cadmium	(Cd)	<0.003
Chromium	(Cr)	<0.007
Lead	(Pb)	<0.04
Mercury	(Hg)	<0.03
Selenium	(Se)	<0.08
Silver	(Ag)	<0.007
Copper	(Cu)	1.87
Nickel	(Ni)	<0.015
Zinc	(Zn)	2.09

TCLP by EPA Method 1311
Metals performed by EPA Method 6010

SPECTRA LABORATORIES, INC.

Steven G. Hibbs, Chemist

SPECTRA Laboratories, Inc.

2221 Ross Way • Tacoma, WA 98421 • (206) 272-4850

June 8, 1993

Martinac Shipbuilding
401 East 15th St.
Tacoma, WA 98421

Attn: Bill Lang

METHOD BLANK
Date Analyzed: 5-28-93
Spectra Project: S305-189
Applies to Spectra #'s
3039 through 3041

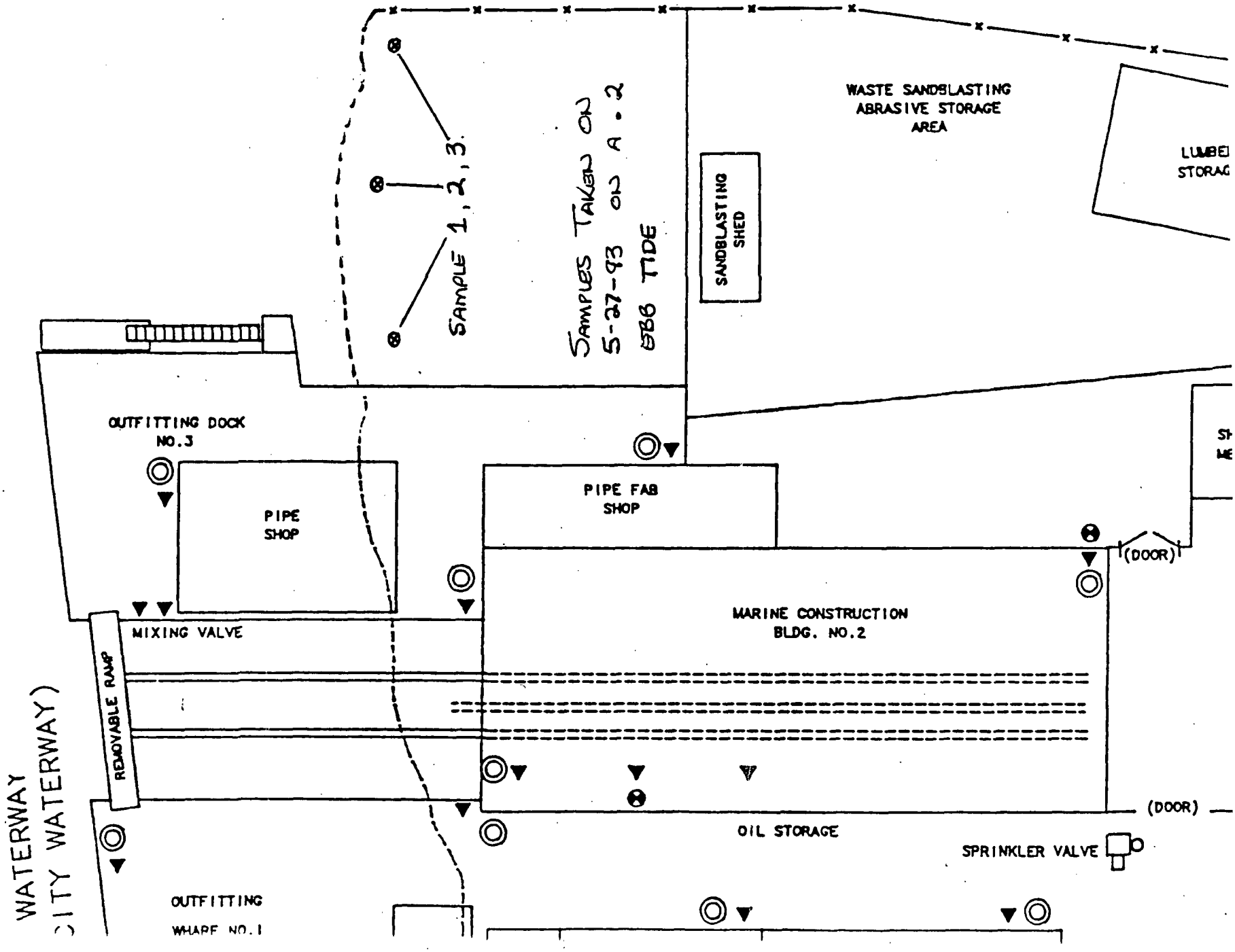
TCLP Metals, mg/l

Arsenic	(As)	<0.05
Barium	(Ba)	0.069
Cadmium	(Cd)	<0.003
Chromium	(Cr)	<0.007
Lead	(Pb)	<0.04
Mercury	(Hg)	<0.03
Selenium	(Se)	<0.08
Silver	(Ag)	<0.007
Copper	(Cu)	<0.002
Nickel	(Ni)	<0.015
Zinc	(Zn)	0.031

TCLP by EPA Method 1311
Metals performed by EPA Method 6010

SPECTRA LABORATORIES, INC.

Steven G. Hibbs, Chemist


WASTE SANDBLASTING
ABRASIVE STORAGE
AREA
SANDBLASTING
SHED
SAMPLE 1, 2, 3
SAMPLES TAKEN ON
5-27-93 ON A • 2
EBB TIDE
OUTFITTING DOCK
NO.3
PIPE
SHOP
PIPE FAB
SHOP
(DOOR)
MIXING VALVE
MARINE CONSTRUCTION
BLDG. NO.2
REMOVABLE RAMP
WATERWAY
CITY WATERWAY)
(DOOR)
OIL STORAGE
SPRINKLER VALVE
OUTFITTING
WHARF NO.1

Martinac

5.2.13 Parcel 8

This site contains the parking lot for Martinac Shipbuilding on the east side of the Waterway (Figure 1-2). The site was the eastern terminus of the former 15th Street bridge. Two soil samples were collected during the Bison investigation from a depth of three feet and composited into one sample. This sample was analyzed for metals, TPH and SVOCs. Metals were not detected at levels greater than MTCA Method B standards. However, the PAHs benzo(a)anthracene (13.0 ppm), chrysene (8.45 ppm), benzo(b)fluoranthene (5.22 ppm) and benzo(a)pyrene (2.09 ppm) were all detected at levels greater than the Method B standard of 0.14 ppm. The composited sample contained a TPH concentration of 1,130 ppm which is greater than the standard of 200 ppm. Groundwater samples have not been collected from this parcel.

5.2.14 11th Street Right of Way

This site contains a City of Tacoma fire boat station which is located under the 11th Street Bridge on the east side of the Waterway. Soil and groundwater samples have not been collected at the site.

5.3 Summary of Environmental Sampling Results

The upland soil organic detections on all of the publicly owned properties along the Waterway can be generalized as weathered petroleum hydrocarbons resulting from past industrial practices. Nine of the thirteen publicly owned sites along the Waterway contained petroleum products or PAH detections greater than cleanup standards. A majority of this soil has not been remediated to date. However, there are also several sites where leaking underground storage tanks (LUSTs) have been removed and contaminated soils were remediated to the satisfaction of the TPCHD.

Four of the thirteen sites along the Waterway contained metals concentrations greater than MTCA Method B cleanup standards. One of these sites, the former Atlas Foundry site contains antimony, arsenic, chromium, copper and lead, all detected in a single slag sample from the Waterway bank at concentrations greater than the Method B soil cleanup standards. Much of the slag on the site may be able to be separated from the soil and removed from the site. The potential for metals contamination from leaching of this slag is unknown on this site. The former Steam Plant site contained one sample with mercury concentrations greater than the MTCA B soil cleanup standard. The other two sites (Parcels 3A and 7) each contained lead detected at concentrations greater than the cleanup standards. For Parcel 3A this

THEA FOSS WATERWAY REDEVELOPMENT PROPERTIES

WASHINGTON STATE DEPARTMENT OF ECOLOGY

First Parcel Cleanup Proposed

The Washington Department of Ecology has proposed, under terms of the Model Toxics Control Act (Chapter 70.105D RCW), a consent decree amendment with the City of Tacoma and the Tacoma Metropolitan Park District. The amendment is to include a site-specific cleanup action plan for Parcel 7 (also known as the Morris property) and the 18th Street right-of-way. A consent decree is a legal document, approved and issued by a court, formalizing the agreement between Ecology and the City of Tacoma/Tacoma Metropolitan Park District. This agreement ensures that proposed activities are conducted in a timely fashion, in accordance with the Model Toxics Control Act (Chapter 70.105D RCW) and other applicable laws and regulations.

Ecology invites the public to review and comment on the proposed consent decree amendment through **March 20, 1995.** The public is also invited to a meeting on **March 7, 1995** to discuss the proposed consent decree amendment, ask questions, and offer comments/concerns. The meeting will be limited to the issues of this amendment only. The box at the right provides information about where to review the proposed amendment, where to submit comments, and details about the public meeting.

Site Background

The area bordering the Thea Foss Waterway (previously called the "City" Waterway) is currently underdeveloped because of historical contamination and current sources of contamination to Thea Foss Waterway. In 1982, the Commencement Bay Nearshore/Tideflats was added to the National Priorities List (NPL) under the Comprehensive Environmental Response Compensation and Liabilities Act of 1980 (CERCLA). The NPL site includes Thea Foss Waterway and those upland sites which are believed to contribute contamination to the Waterway. The Thea Foss Waterway is identified in the September 1989 EPA Record of Decision for the Commencement Bay Nearshore/Tideflats Superfund site as a problem area with contaminated sediments. EPA is responsible for the cleanup of waterway sediments, while Ecology is overseeing cleanup of the upland areas that are continuing sources of contamination to the waterway. The area-wide consent decree is part of the overall source control measures to eliminate or reduce hazardous substance releases into the marine environment.

In October 1994, Ecology entered into an innovative area-wide consent decree with the City of Tacoma and the Tacoma Metropolitan Park District to clean up soil

Continued on Page 2

February 1995

FACT SHEET

Ecology Southwest Regional Office
Toxics Cleanup Program
510 Desmond Drive SE
P.O. Box 47775
Olympia, WA 98504-7775
(360) 407-6300

PUBLIC COMMENT PERIOD ON CONSENT DECREE AMENDMENT:

February 17, 1995 to
March 20, 1995

Written comments and requests for updates should be directed to Marv Coleman, Site Manager, at the Ecology address listed above.

PUBLIC HEARING:

March 7, 1995, 7 - 9 p.m.
Tacoma Public Library-Main Branch
Olympic Room
1102 Tacoma Avenue South
(206) 591-5666

INFORMATION REPOSITORIES

The consent decree amendment can be reviewed at the following locations:

Ecology Southwest Regional Office address listed above

Citizens for a Healthy Bay
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Continued from Page 1

contamination on separate publicly-owned properties along the Thea Foss Waterway. The City of Tacoma and the Tacoma Metropolitan Park District now own various parcels of property, approximately 27 acres, along the Thea Foss Waterway. The City acquired the properties to drive waterfront cleanup, and redevelop abandoned industrial and commercial land for commercial, residential, and recreational use. The City's efforts have included the Park District (which owns some of the properties), so that public access, parks, and open space will be included in the ultimate redevelopment. The City and Park District may buy additional parcels along the waterway, for the same purpose.

As the first of the site-specific cleanups, Parcel 7 (also known as the Morris property and the Pacific Coast Oil property) sits on 1.9 acres of reclaimed tidelands and is located at 1801, 1811, and 1813 Dock Street, on the west side of the Thea Foss Waterway. Parcel 7 is bordered on the north by the 18th Street right-of-way and Parcel 3 (the former Scofield Concrete operation which is now City-owned), and bordered to the south by Parcel 9 (the former Albers Mill/Leonard parcel). This area has served as an industrial center since the late 1800's, but now consists mainly of vacant lots.

Parcel 7 includes the City Waterway Marina, Magnussen Marina Brokerage, and the former offices of Pacific Coast Oil. The entire parcel is surrounded by a chain-link fence. Until recently, each business maintained an office on a portion of the parcel. In addition to an office, Pacific Coast Oil used a maintenance building on the north side of the property. Most of the inside surface of the building is asphalt-paved, but is extensively stained by oil and fuel. An aboveground fuel storage tank, once containing waste oil, is south of the facility entrance. There are no current bulk storage or fuel handling facilities on the parcel.

Parcel 7 was originally used as a coal storage and distribution site. Later, heating fuel storage and distribution operations were conducted on-site. These operations consisted of transferring fuel oil from two aboveground storage tanks to distribution trucks. In 1967, Unocal leased the northwest corner of the property from the then current owners, Jack Morris and his partners. Pacific Coast Oil, a subsidiary of Unocal, had a fuel storage and distribution business on the property. Fuel for Pacific Coast Oil distribution, with one exception during the early 1970's, was acquired from the Unocal "D" Street tank farm. The aboveground fueling facility operated by Mr. Morris was removed between 1976 and 1977. Pacific Coast Oil, until 1993, continued to use the parcel for offices and vehicle storage.

An underground gasoline storage tank was removed in 1988 from the vicinity of the 18th Street right-of-way. This tank removal was conducted with Tacoma-Pierce County Health Department's oversight. An unknown volume of soil was also removed when petroleum-contaminated soil was found around the underground tank.

The remedial investigation of Parcel 7 and the 18th Street right-of-way originally began before the area-wide consent decree negotiations. Ecology had agreed to oversee the development and implementation of a site-specific remedial investigation as an independent action.

What Is Being Done?

The Parcel 7 cleanup action plan lists cleanup goals for petroleum-contaminated soil. It also presents Ecology's proposed remedial action for site cleanup. The cleanup standards for soil and ground water are included in the area-wide consent decree cleanup action plan. The principal elements of the proposed remedial action are:

- abandon existing affected monitoring wells;
- remove structures (including two buildings, fence, asphalt, and concrete) and dispose of debris in a permitted landfill;
- excavate contaminated soil above ground water level;
- thermally desorb ("bake") contaminated soils which are not accepted at the Tacoma Landfill;
- use as daily cover at the Tacoma Landfill contaminated soils which are accepted;
- dispose of drummed wastes from earlier remedial investigation;
- backfill areas five feet below ground surface;
- monitor ground water to ensure compliance;
- place deed restrictions on the property to maintain monitoring well integrity for at least three years.

Excavated soil will be field screened, sorted, and then either thermally desorbed or landfilled. Field screening of soils will determine the levels of contaminants or the relative age of contaminants. Soil with older contaminants (less mobile because the mobile hydrocarbons have mostly left the soil through biodegradation) will be landfilled. Soils tested to be acceptable by the Tacoma Refuse Utility may be transported to the Tacoma Landfill for use as daily cover. Other contaminated soil will be thermally desorbed. Field screening criteria will be presented in the Ecology-approved engineering design report.

As part of the Parcel 7 cleanup, portions of the 18th Street right-of-way will be

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Continued from Page 2

cleaned up to remove contaminant sources associated with past releases of petroleum products in the right-of-way. Final cleanup of the 18th Street right-of-way will be necessary after a remedial investigation in the future. Ecology will oversee the project to ensure that all facets of the consent decree amendment are fulfilled.

What Happens Next?

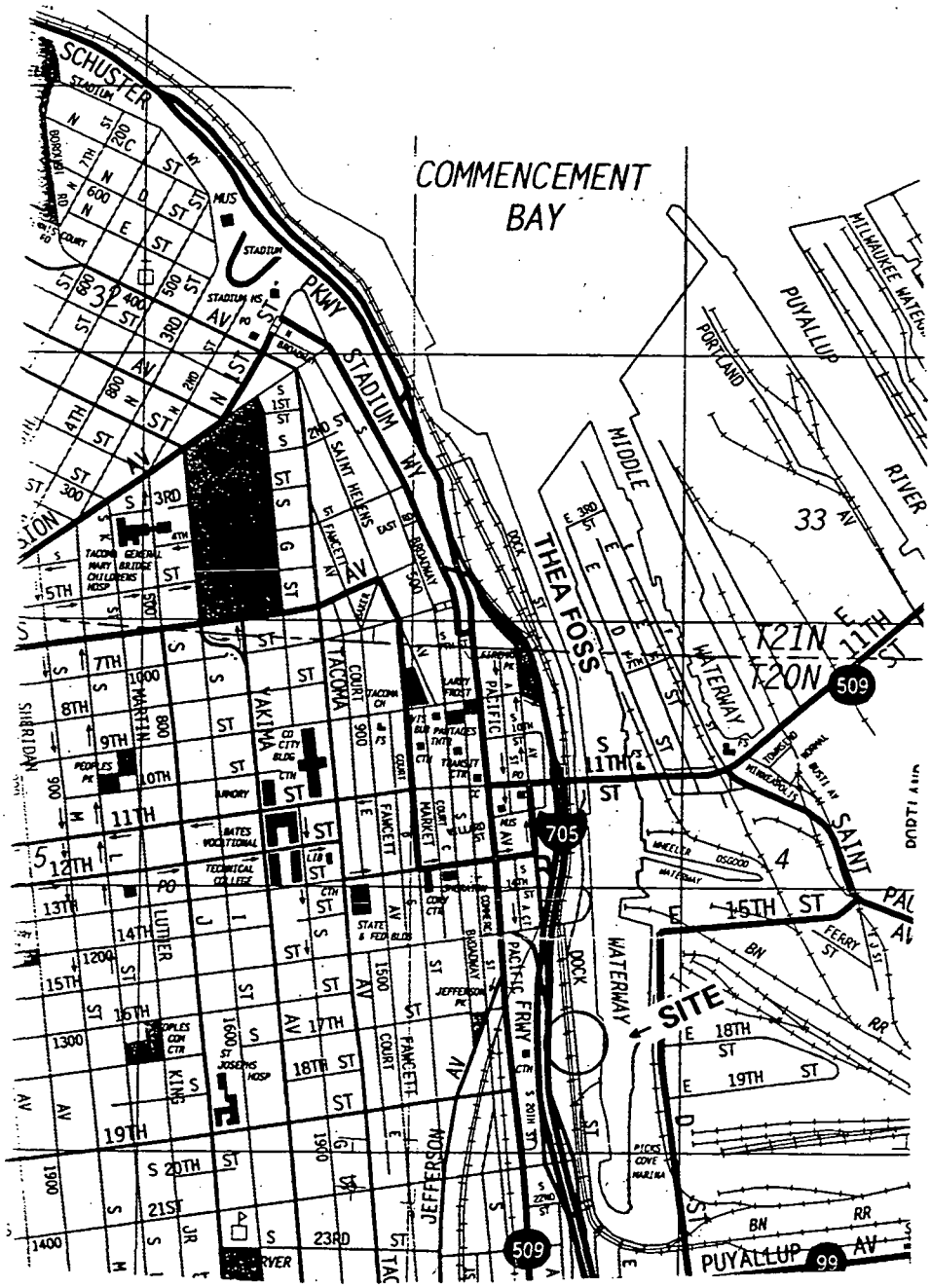
Public comment on the proposed consent decree amendment will be considered and the amendment will be modified, if necessary. The amendment will be finalized by being entered in Pierce County Superior Court, and work to clean up Parcel 7 will begin. Formal public comment periods will also be held on the other individual cleanups which are part of the area-wide Thea Foss Waterway cleanup.

Ecology Wants Your Comments!

You may review and comment on the proposed consent decree amendment through **March 20, 1995**. The public comment period presents an opportunity to have your ideas and comments heard by Ecology. The box on page one provides details about where the proposed consent decree amendment can be found and how to submit comments. To review more detailed site documents than those in the information repositories, call Ecology's Cathy Downs at (360) 407-6365 to schedule an appointment.

A public meeting is also being held at the Tacoma Public Library main branch Olympic Room (1102 Tacoma Avenue South) on **March 7, 1995** beginning at 7 p.m. This will be an opportunity to learn about the site and proposed consent decree concerns.

Please submit your written comments by **March 20, 1995** to Marv Coleman, Site Manager, at the Ecology address listed in the box on page one. Ecology will review and respond to all written comments received and revise the consent decree amendment, if necessary. Updates of site activities will be provided to those who submit comments or request to be placed on the site mailing list.



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Toxics Cleanup Program
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KAREN KEELEY

DEPARTMENT OF ECOLOGY

June 29, 1993

TO: Dave Smith

FROM: Marv Coleman

RE: Status of Pacific Coast Oil/Morris Properties on Thea Foss Waterway, Based On Available Data.

Based on sampling data generated by Black & Veatch Waste Science & Technology (B & V) and site inspections, conclusions regarding the source control status of the properties is as follows:

The original work done by B & V in 1991 did not include sampling of the Morris/Pacific Coast Oil properties, themselves. However, sampling of the Albers Mill properties directly to the south indicated that petroleum hydrocarbon and PAH contamination could be fairly wide-spread in the vicinity's site soils. That study did not address either groundwater chemistry or hydrogeology.

The work done by B & V in March, 1993 has included both groundwater chemistry and hydrogeology, as well as soils chemistry for all three sites. The chemical results of the work have been reviewed; the hydrogeological data is still being processed by B & V. The following is based on the soils and groundwater chemistry data. The hydrogeological data is unlikely to change the assessment of the sites as far as its source control status.

PAH values exceeding both MTCA standards and CBN/T Sediment Cleanup Objectives occur in the central and northern parts of the site. Only one sample (MW5-MP) exceeded these values in the near surface soils, that being near the northeast corner of the site at 0 - 2 ft. depth. Both LPAH and HPAH CBN/T SCOs were exceeded. Other hits were found at deeper intervals, from 4 - 12 ft. deep. The soil around sample MW5-MP does not show visible signs of petroleum contamination on the surface. Given the highly compacted gravel and partially paved surface of the site soils, it is unlikely that even near-surface PAH contaminants would enter the waterway via surface stormwater runoff. **No** carcinogenic PAH or LPAH was found in any of the groundwater samples taken; the highest LPAH value in the groundwater was 29.9 ug/L. Although soil PAH values are fairly high in some cases, the contamination appears to be quite localized and not partitioning into the site groundwater to problem levels.

Metals that occur at elevated levels in the site soils include lead and mercury, although no samples exceeded either MTCA standards or CBN/T SCOs, except for samples that were taken from borings in the west side of Dock Street, well to the west of and isolated from the nearshore area. No threat of waterway contamination by problem metals via stormwater surface runoff is indicated.

In same documents, the City of Tacoma refers to the "Morris Property", which is Albers Mill (1801 Dock) plus Pacific Oil (1801 Dock St.).
= J.H. Galbraith

Groundwater samples analysed for metals showed values well above MTCA groundwater standards throughout the site, when run for total metals. Groundwater samples were also run for dissolved metals, and these fractions had **no** exceedances of groundwater standards. B & V ran total dissolved solids and total suspended solids on the groundwater samples. Virtually all were quite high in TSS. Given the differential values for total and dissolved metals, plus the high TSS values, it would appear that the metals in the groundwater on-site are tied up in the particulates in the groundwater. Total metals hits that occur in the groundwater include arsenic, chromium, and lead.

Barring free-flowing seeps that contain high total suspended solids, it would appear that the metals contamination on-site is unlikely to impact the waterway. No seeps from this property are known to exist at this time; additional inspection of the banks and intertidal zone during the low tides occuring the week of 7/1/93 will be performed for confirmation.

Unless the latter is found to exist, the site would appear not to be a current threat to the waterway, for the applicable chemicals of concern. In addition, it is expected that some, perhaps extensive, upland remediation will have to be performed in the near future as part of the Thea Foss Redevelopment effort. This will reduce any potential, long-term threat even further.

File: PCOIL/M1.rec

5.2.8 Parcel 7 (Morris Property)

Parcel 7 is located immediately south of the 18th Street ROW on the west side of the Waterway and has also been known as the Morris Property. Parcel 7 contains two office buildings and one storage building that are used by the City Waterway Marina and Magnusen Marine Brokerage.

The 1990 Phase I Environmental Assessment determined this parcel and the 18th Street ROW to have a low potential for soil and groundwater contamination (Parametrix, Inc. 1990).

The Bison Engineering investigation of Parcel 7 conducted in 1990 divided the site into two areas based on past uses. Two composite and nine discrete samples were collected from the south and west portions of the site. The two composite samples were analyzed for TPH, SVOCs, and metals. Of the nine discrete samples collected, one sample was analyzed for TPH, SVOCs, and metals, and the remaining eight samples were analyzed for TPH only.

TPH contamination in the form of diesel was reported to be present at the six foot depth across approximately 40% of the site. Concentrations ranged from 1,350 to 3,610 ppm TPH in the area of the composited samples, and as high as 11,724 ppm in the discrete samples. Carcinogenic PAHs were detected at 1 ppm at one sample location. Metals were detected below levels of concern across the site.

One six foot boring was completed in the northwest corner of the site. Subsurface soil from this location was sampled for TPH, SVOCs, and metals. The sample collected from this boring contained lower TPH concentrations and higher levels of carcinogenic PAHs (1.6 to 3.2 ppm) than other samples from the site. Metals were also detected below levels of concern at this sample location (Bison 1990).

The City of Tacoma contracted with Kennedy/Jenks Consultants (KJ) to provide additional information on the potential contamination associated with the Morris Property. This investigation consisted of drilling 22 soil borings. Subsurface soil and grab groundwater samples were collected at locations across the site and analyzed for parameters specific to each area based on Bison documentation and historical use.

A floating hydrocarbon product was detected in a perched groundwater horizon in the northeast corner of the site adjacent to the 18th Street ROW and Parcel 3C. Two groundwater samples collected in this vicinity had TPH concentrations of 42 and 420 mg/L. Volatile organic compounds (VOCs) and SVOCs were not detected in either sample.

Reported TPH concentrations in subsurface soil ranged from 15 to 12,550 ppm and were detected at a wide range of depths. Carcinogenic PAHs were detected at levels of potential concern in a number of the borings, with the highest levels identified in the northwest corner of the site. Soil samples from one boring yielded a viscous, pitch-like substance unlike any other samples collected at the site. The subsurface staining and pitch-like material is thought to be a result of the presence of coal (Kennedy/Jenks 1991).

In 1993, B&V Waste Science and Technology Corp. (BVWST) conducted an investigation of Parcel 7. During the investigation, soil samples were collected from 11 monitoring wells or soil borings. Subsurface soil samples were analyzed for PAHs, TPH, metals, volatile compounds and soil parameters.

Detectable concentrations of PAHs were identified in samples collected from all but one location at concentrations ranging from 0.33 ppm to 30.83 ppm. Forty-four of the soil samples contained detectable levels of TPH compounds. The highest detection of TPH was 11,780 ppm.

Ten groundwater samples were collected from five monitoring wells installed at Parcel 7. Samples were collected at high and low tide and analyzed for the same constituents as soils. PAHs were detected in the groundwater in one well at levels less than the Method B standard. Groundwater gasoline TPH detections ranged from 120 to 150 μg/L in the same well. The groundwater samples collected were very turbid because the formation that the wells were screened in has a high percentage of silts. This turbidity caused high concentrations for the total metals analyses. If these total metal concentrations are used, then arsenic, chromium, lead and mercury exceed the cleanup criteria in all wells. If dissolved metal concentrations are used, then only lead exceeds the cleanup criteria in two wells.

A treatability study was conducted during the Fall of 1993 to evaluate bioremediation as a process option for the contaminated soils on Parcel 7. During excavation of site soils for this study, masses of heavy petroleum were discovered. These masses have a tar-like consistency which binds soil and rock particles, and are most likely a source for TPH and PAH contamination.

5.2.9 Parcel 4A

This currently vacant site is located immediately south of the Harmon Cabinets property at the southwest end of the Waterway (Figure 1-2). The 1990 Phase I Environmental Assessment determined this site to have a moderately high potential for soil and groundwater contamination due to proximity to the former coal

UBAT INSPECTION SUMMARY

ENTITY: Municipal Dock Building INSPECTOR: Coleman, Neumiller

OWNER: City of Tacoma INSPECTION DATE: 11/13/92

LOCATION: 1025 Dock Street
Tacoma, WA

CONTACT: Ken Fuller, Tacoma Public Works Dept.

TYPE OF FACILITY: Warehouse

PERMIT(S): none

DRAINS TO: Thea Foss

PATHWAY/QUANTITY:

Process Water - none

Groundwater - no data

Storm Water - Parking lot and street catchbasins to waterway

Spill - none

SUSPECTED CONTAMINANTS: none known

SAMPLING: none

FACILITY DESCRIPTION: Inspection was started at 13:00 hrs. with a walkthrough conducted by Ken Fuller. The warehouse is currently empty. It was historically part of the grain warehouse facilities that ran along the waterway. The city is hoping to upgrade it eventually for use as a carousel museum.

The structure has a concrete floor that showed no evidence of floor drains. A boat way coming from the water into the building is not used, but could be a pathway to the water in the future.

The building is assumed to contain copious amounts of leaded paint, that will have to be properly managed upon demolition or upgrading of the building. Totem Marina extends across the face of the property, in the water, but is not physically connected to the property.

The South end of the exterior portion of the property contains foundry slag and wastes, down to and into the water. These are presumably from the old Atlas and/or Coast Iron Foundries. Ken noted that when the walkway was constructed along the intertidal zone beside the Sea Scouts building, that the city ran into similar wastes all along the waterway, below the riprap. It can probably be concluded that the intertidal zone from the municipal dock building South to the old City Steam Plant is filled with this waste.

Pending a report confirming the actual property boundries, it is unclear whether the foundry wastes actually extend onto the Municipal Dock Building property, or if they are only on those parcels lying to the south. It is likely that this question will be answered in the process of the investigations that the City of Tacoma will be conducting on the various City owned redevelopment properties.

Inspection was concluded at 13:26 hrs.

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WASHINGTON STATE DEPARTMENT OF ECOLOGY
UBAT INSPECTION SUMMARY

ENTITY: Nichols Trucking **INSPECTOR:** Mercuri/Coleman

OWNER: Nichols Family **INSPECTION DATE:** 10/21/92

LOCATION: East 19th Street, Tacoma

CONTACT: Doug Nichols

TYPE OF FACILITY: Trucking and transloading.

PERMITS: None

DRAINS TO: Foss

PATHWAY/QUANTITY:

Process Water: Truck wash water.
Ground Water: Yard is paved.
Stormwater: Storm drains flow to outfall # 245.
Spills: None apparent.

SUSPECTED CONTAMINANTS:

SAMPLING: Closest sample location is manhole in Johnny's Restaurant Parking Lot. Street catch basins were recently cleaned by the City of Tacoma.

FACILITY DESCRIPTION: Ecology inspectors arrived at the site approximately 2:45 p.m. and spoke with Doug Nichols. The facility has been on this site for 20 years and consists of a building divided into a warehouse/loading area, office area, and vehicle maintenance shop. The warehouse had items in it which were to be shipped out. These included some insulating foam material, fertilizer, barrels of cleaning liquid, and miscellaneous other items. A part of the warehouse was filled with 55 gallon drums of some type of tar. We did not pursue the tar further because we were aware that Ecology's Solid and Hazardous Waste staff were involved with this aspect of the site. Nichols owns 14 tractors and 35 trailers. Some of the trailers are stored down the street at the parking area of Coastal Wheel Division. There is railroad access behind the building but it has not been used in years, according to Mr. Nichols.

Maintenance on the trucks and trailers takes place at the facility. Used oil is disposed of to an underground tank that is accessed just outside the truck bay door. They have a solvent tank in the shop, which is disposed of on an "as-needed" basis through Safety-Kleen. There are no floor drains in the shop. There is a fuel island in yard area. This is not covered or bermed. Mr. Nichols informed us that they are working on getting their underground tanks into full compliance.

When asked about vehicle washing, Mr. Nichols said that individual drivers wash their trucks, with soap, out in the paved yard. Trucks are washed on an as-needed basis. I informed Mr. Nichols that washing vehicles into storm drain systems is not allowed. However, I used a "soft" approach and encouraged him to stop washing trucks on the site (instead of requiring him to stop the practice). I informed him that truck washing would probably not be allowed at all under the stormwater NPDES permit.

-end of report-

Final

~~DRAFT~~

DEPARTMENT OF ECOLOGY

MEMORANDUM

December 1, 1993

TO: Dave Smith

FROM: Marv Coleman

RE: Status of Scofield, North Pacific Plywood (NPP), and Investco Parcels on Thea Foss Waterway.

Please note comments and recommendations from memorandum regarding the Scofield and NPP properties, dated June 28, 1993. Pursuant to those recommendations, the properties were reinspected on July 2, 1993. Results of that inspection are as follows:

The black stained area on the South Scofield (1715 Dock Street) parcel was inspected more closely. The waterway bank on the property revealed several deposits of asphalt buried within the bank soils, several inches below grade and above the high water zone. Dumping of waste asphalt is likely the source of the blackened area noted in the 7/28/93 report. The material that was once on the surface has apparently been covered by several inches of soil since the aerial photo was taken. Because of the obviously solid nature of this material, its appearance as paving material, and the lack of other evidence of hydrocarbon staining, the area was not sampled for petroleum hydrocarbons or PAHs.

The NPP parcel (1549 Dock Street) is mostly paved. One area that is not paved is in the approximate center of the property, abutting the waterway. In this area there was observed large amounts of burned and unburned sawdust that extends from the upland soils down into the water to an unknown depth. Both of these materials are well weathered and partially degraded. Samples were taken of each and submitted for analysis of Phenols, to determine if there is evidence that glue dumping or disposal could be affecting adjacent waterway sediments. Sample results were as follows:

Sample ID	Phenols - ug/kg	CBN/T SCO for Phenol - ug/kg
TFNPP1SS	300	420
TFNPP2SS	280	420

Sample TFNPP1SS was representative of burned sawdust mixed with adjacent sediment. Sample TFNPP2SS was representative of unburned sawdust mixed with adjacent sediment. Analytical reports and sample location map are attached.

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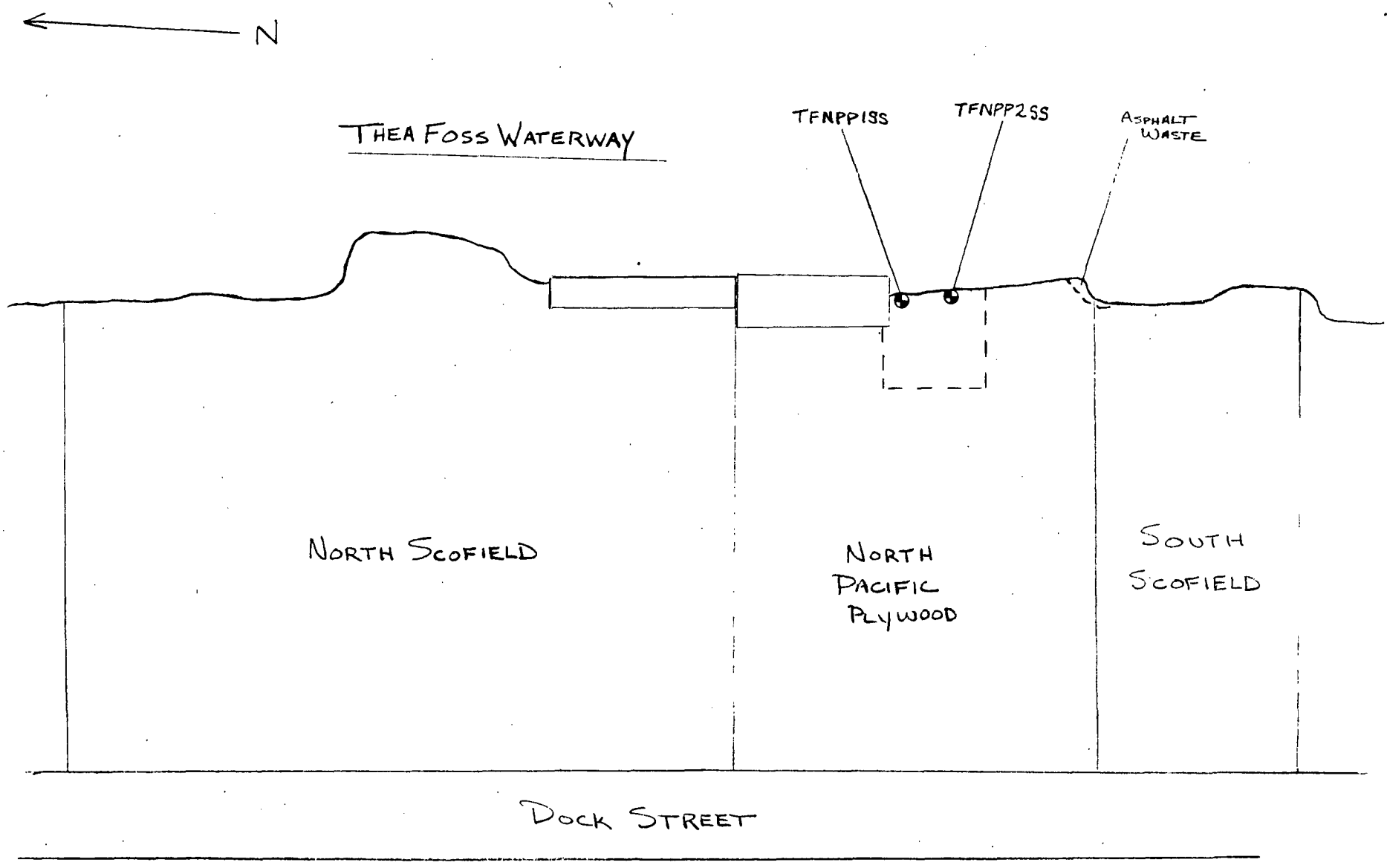
Based on this inspection and information noted in the earlier report, the North and South Scofield parcels and the NPP parcel do not appear to present direct ongoing threats to the waterway sediments. However, as noted earlier, the properties do have documented elevated levels of metals, TPH, and PAHs in the upland portions of the property. These documented occurances are from the middle part of the properties west, to the edge of the properties abutting Dock Street. The threat of this limited upland contamination reaching the waterway via surface runoff has been largely eliminated by the City grading and grass planting on the property.

A review of the UST Section records indicates that there is a possibility that some underground tanks may remain on the upland portion these properties; their status is unconfirmed. We can assume that what remedial work that would be expected to take place on these parcels prior to development, including removal of USTs, will address the limited contamination that does exist. I would recommend that these two parcels be placed on List2~~3~~, rather than List 3, for the Milestone Report.

[Recommendation to come for Investco, once LUST report is received.]



JULY 2, 1993
INSPECTION / SAMPLING

WLC

Washington State Department of Ecology
Sample/Project Analysis Results

Project: DOE-805Y THEA FOSS

Officer: MLC Account: J1J1K

Laboratory: Ecology, Manchester

Sample No: 93 278061 Description: TFNPP1SS

Source: Sediment (General)

Begin Date: 93/07/02 :

Organics - General	Sediment Result	Units
Phenols Sedmt	0.30J*	mg/kg-dr

(Sample Complete)

Washington State Department of Ecology
Sample/Project Analysis Results

Project: DOE-805Y THEA FOSS

Officer: MLC Account: J1J1K

Laboratory: Ecology, Manchester

Sample No: 93 278062 Description: T7NPP2SS

Source: Sediment (General)

Begin Date: 93/07/02 :

Organics - General	Other Result	Units
Phenols Sedmt	0.28 *	mg/kg-dr

(Sample Complete)

DEPARTMENT OF ECOLOGY

June 28, 1993

TO: Dave Smith

FROM: Marv Coleman

RE: Status of Scofield (1543 & 1715 Dock St.) and North Pacific Plywood (NPP)(1549 Dock St.) Properties Based On Available Data

Based on sampling data, site inspections and City of Tacoma activities on these sites, conclusions regarding the source control status of the properties are as follows:

Work performed in 1990 by Bison Environmental documented a 60 ft. X 60 ft. area at the southeast corner of the 1543 Dock St. Scofield property and a 35 ft. X 35 ft. area near Dock Street on the NPP property that exhibited levels of petroleum hydrocarbon contamination above MTCA cleanup levels. The 1715 Dock St. Scofield property did not exhibit petroleum hydrocarbon levels above MTCA cleanup levels. The NPP property had elevated PAH levels in the area noted above, but levels noted in the Bison report are not exceptionally high (in the range of 9.6 mg/kg of carcinogenic PAH) and were located near Dock Street, rather than near the waterway. Composited samples for metals analyses showed no hits higher than CBN/T sediment cleanup objectives (SCOs), with the exception of the southerly Scofield parcel, which had mercury present at 0.9 mg/kg.

Work performed during April 1993 by the City of Tacoma, prior to the application of Tagro, regrading and planting with grass seed showed no metals hits above the CBN/T SCOs. A composite sample from the 1543 Dock St. Scofield parcel did exhibit Lead levels at 333 mg/kg. The subsequent regrading and planting of the Scofield parcels provided a layer of the Tagro over the site soils, a 50 ft. buffer zone between the improved area and the waterway and will presumably result in less chance of surface runoff of stormwater once the grass is up.

Most of the unpaved property upland of the waterway bank is difficult to assess visually due to the grading, filling, and other alterations done to the surface over the years since demolition of the buildings that were once there. On-site inspections of the properties prior to the recent City of Tacoma improvements revealed several areas of surface petroleum hydrocarbon staining in localized areas, most of which were on the concrete pads that still remain on the NPP portion of the site. Close examination of the 1983 EMSL aerial photo of the site indicates an area that is on the northeast corner of the 1715 Dock St. Scofield parcel that appears to be stained dark black.

An on-site inspection done 6/29/93 revealed that this area has some petroleum hydrocarbon stained soils near the waterway bank, and what appear to be heavy petroleum or asphaltic residues in the bank/intertidal zone. These areas will be sampled for the presence of TPH and PAHs.

The 6/29/93 inspection also revealed that a limited area on the NPP parcel is not paved. This area corresponds with the area in the 1983 EMSL photo that shows piles of sawdust stored on the site. During the 6/29/93 inspection, it was noted that this area does, indeed, still contain considerable amounts of sawdust and wood chips (some of which is burnt), extending from about 20 ft. upland, down the bank into the intertidal zone. Given anecdotal information that indicates that NPP dumped glue wastes on the site and mixed glue wastes with woodwaste that was to be burnt, this area will be sampled for the presence of phenols.

Based on results of earlier testing and inspections, along with the recent soil amendment work done by the City, the three parcels do not appear to present an ongoing threat of waterway contamination via surface water runoff from upland portions of the site. However, assessing the nearshore areas as noted above will be done before assigning the site a final status. Pending status would still be appropriate until this task is finished.

File: SCONPP1.rec

5.2.6 Johnny's Seafood including the 15th Street ROW

Soil and groundwater samples have not been collected from this parcel. Ecology records indicate that there is one unleaded gasoline UST which was closed in place on this parcel.

5.2.7 Parcel 3

Parcel 3 is a vacant parcel located between 15th and 18th Streets adjacent to the west side of the Waterway, and is the former site of Scofield Concrete, Lone Star Concrete Co. and North Pacific Plywood Co. There are several sources of environmental data for Parcel 3. Bison Engineering collected 7 composite samples for analysis. Three composite samples were collected on both Parcel 3A and 3B and one composite sample was collected on Parcel 3C. TPCHD supervised UST removals from Parcel 3A and Parcel 3C. The City, in conjunction with Ecology and

TPCHD, conducted limited soil sampling for metals on Parcel 3A and 3C as a part of a interim beautification project in April 1993. Ecology and Environment, Inc. collected one groundwater grab sample on Parcel 3A, two groundwater grab samples on Parcel 3B and two groundwater grab samples on Parcel 3C. The results of this sampling is contained in a report to EPA in May 1990.

On Parcel 3A, twelve soil samples were collected from a depth of six feet, composited into three samples, and analyzed for metals, TPH and SVOCs during the Bison investigation. Metals and SVOCs were not detected at levels greater than cleanup standards. The TPH concentrations in the three composited samples were greater than the cleanup standard of 200 ppm. Consequently, each of the 12 individual samples were analyzed for TPH. Results identified one sample from the southeast corner of the parcel which contained 4,450 ppm TPH. Four additional samples were collected in the vicinity of the high concentration. One of these samples had a concentration or 1,330 ppm TPH.

Two soil samples collected during the TPCHD supervised removal of the UST contained 36 ppm and 137 ppm TPH concentrations. The tank was located north of the former office building on Parcel 3A. Ecology records indicate that an operational leaded gasoline UST still remains onsite.

Metals concentrations of the existing soil of Parcel 3A were determined as a part of a interim beautification project. Two composite samples were collected and analyzed for cadmium, chromium, lead, mercury, copper and zinc. Results of the soil analysis indicated metals concentrations less than Method B standards for all metals except lead. The lead concentration of 333 ppm in one of the composite samples of soil exceeded the residential standard of 250 ppm but was less than the industrial soil standard of 1,000 ppm.

The groundwater grab sample collected by Ecology and Environment, Inc., on Parcel 3A was analyzed for PAHs and total halogenated hydrocarbons (TOX). PAHs were not detected in this sample. The sample contained a TOX concentration of 30 μg/L. There is no standard for TOX which detects all organic compounds containing chlorine, bromine, and iodine.

On Parcel 3B, twelve soil samples were collected from a depth of six feet, composited into three samples and analyzed for metals, TPH and SVOCs during the Bison investigation. Metals were not detected at levels greater than Method B standards. Two carcinogenic PAHs, chrysene and benzo(k)fluoranthene, were detected at 1.0 ppm and 1.2 ppm, respectively, which are greater than the Method B standard of 0.14 ppm. These detections were in a composited sample collected

from the west side of the property near Dock Street. The TPH concentration of 555 ppm in the one composite sample exceeded the Method B standard of 200 ppm. Consequently, each of the 4 individual samples were analyzed for TPH. Results of this analysis identified one sample, collected near Dock Street which contained 2,430 ppm. Ecology records indicate two leaded gasoline USTs have been closed in place on Parcel 3B.

Two groundwater grab samples were analyzed for PAHs and TOX by Ecology and Environment, Inc. on Parcel 3B. The concentrations of the PAHs were significantly lower than the lowest observed effect level (LOEL) of the acute marine surface water standard of 300 μg/L, but several PAHs, with concentrations ranging from 0.1 to 0.93 μg/L, were an order of magnitude greater than the standard for the protection of human health through the consumption of fish, which is 0.031 μg/L. The TOX samples contained sodium interference and therefore TOX results could not be obtained.

On Parcel 3C, five soil samples were collected from a depth of 6 feet, composited into one sample and analyzed for metals, TPH and SVOCs during the Bison investigation. Metals, TPH and SVOCs were not detected at levels greater than Method B standards.

Three soil samples collected from the excavation during the TPCHD supervised removal of a 2,000 gallon gasoline UST, had TPH levels which were below the standard of 100 ppm (47, 10 and 56 ppm). The tank was located south of the former building on Parcel 3C.

Metals concentrations of the soil were determined at Parcel 3C as a part of the interim beautification project. One sample was collected and analyzed for cadmium, chromium, lead, mercury, copper and zinc. Results of the soil analysis identified metals concentrations less than Method B standards for all metals.

Two groundwater grab samples were analyzed for PAHs and TOX by Ecology and Environment, Inc. on Parcel 3C. Five carcinogenic PAHs were detected in one sample collected near the Waterway. All PAH concentrations were significantly below the LOEL of the acute marine surface water standards of 300 μg/L, but several concentrations ranging from 0.10 to 0.28 μg/L were an order of magnitude greater than the standard for the protection of human health through the consumption of fish of 0.031 μg/L. The TOX samples contained sodium interference and therefore TOX results could not be obtained.

M

URBAN BAY ACTION PROGRAM INSPECTION REPORT

ENTITY:	Olympic Chemical Corp.	**INSPECTOR:**	D. Reale M. Coleman
LOCATION:	D Street-N. of 11th St. adjacent to Foss Waterway	**DATE:**	10/28/92

OWNER: Alvin Ash, President
CONTACT: Richard Orth, Plant Manager
TYPE OF FACILITY: Manufacturer of Sodium Bisulfite
Chemical Tank Storage Facility
PERMITS: NPDES permit for stormwater only

DRAINS TO: Mouth of Thea Foss

PATHWAY/QUANTITY

NPDES permit for stormwater discharge via o/w separator in area of former bulk petroleum storage.

PROCESS WATER: None. Closed loop system. Zero process discharge.

GROUND WATER: No monitoring wells on-site.

STORMWATER: Routed through an oil/water separator, which appeared clean. Oil/water separator discharge must comply with general stormwater permit when issued.

I have NPDES permit

SPILLS:

SUSPECTED CONTAMINANTS: None.

SAMPLING:

FACILITY DESCRIPTION: Present tank farm had previously stored liquid products and waste for Pacific Northern Oil Company, Lilyblad Petroleum, Chemical Processors, etc. Tanks are currently empty. Concrete diking surrounds the tank farm and Bisulfite process. All appear clean and leak tight. The site has historically been used for petroleum storage.

(dr1f/4)

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (206) 407-6300

RECEIVED
JUN 26 1995
SUPERFUND BRANCH

June 21, 1995

Ms. Carol Heidenson
City of Tacoma, Public Works Department
2201 Portland Avenue
Tacoma, WA 98421-2711

Dear Ms Heidenson:

In accordance with the Thea Foss Redevelopment Properties Consent Decree, Ecology has reviewed available information for Parcel 1A and has concluded that the property does not appear to be a potential cleanup site under the Model Toxics Control Act (MTCA). Under the provisions of Section II.A and Section VII.B of the Decree, the property is not within the scope of the Decree.

Available historical information indicates that the property has been used for warehousing and, at the north end of the parcel, coal bunkering prior to 1925, according to the Phase I, City Waterway Environmental Review (Parametrix, Inc., June 1989). Limited site sampling by Bison Environmental, Inc., and Hart Crowser, Inc., indicates that the site soils are generally free of contaminants of concern according to both Commencement Bay Nearshore / Tideflats (CBN/T) SQOs and MTCA Method B cleanup standards with one exception.

Several of the carcinogenic polynuclear aromatic hydrocarbon (CPAH) compounds are above the 0.137 mg/kg MTCA Method B cleanup standard on the northern end of the parcel. However, the ratios of these compounds with other PAHs are consistent with coal derived remnants, as opposed to petroleum type sources, particularly given the absence of elevated petroleum hydrocarbons. Additionally, the upland site development plans call for clean fill to be placed over the soils in this area, further isolating these soils from human contact. Typically, this type of contamination is not mobile in groundwater. The high molecular weight PAHs (HPAH) compounds do not exceed the CBN/T SQOs, so the planned reconfiguration of beach (boat launch) area should not present a problem in that regard. Based on this, it is Ecology's judgement that the site does not pose a threat to human health or the environment, per WAC 173-340-310(4)(d)(ii).

As with any property, should site development reveal unexpected deposits of contaminants, Ecology shall be notified per WAC 173-240-300 and Ecology will re-evaluate the site's status.

Please let me know if you have any questions or concerns.

Sincerely,

Marv Coleman
Site Manager/Urban Bay Action Team
Toxics Cleanup Program
Southwest Regional Office

MC:jr

cc: Lori Flemm, Metropolitan Park District
Dave Smith, Ecology, UBAT Supervisor
Kathy Gerla, Attorney General's Office
Karen Keeley, EPA Region X

File: TFAWCD3.amd/P1A/6-20-95/aa5

RECEIVED
JUN 22 1994
SUPERFUND REMEDIAL BRANCH

PETRICH MARINE DOCK

June 10, 1994

Ms. Karen Keeley
EPA, Region 10
1200 Sixth Avenue
Seattle, WA 98101

RE: Source Control

Dear Ms. Keeley:

In January of 1994, Petrich Marine Dock shared a preliminary environmental assessment report with DOE. The assessment revealed contaminants on the property, attributable to activities conducted by Marine Iron Works (MIW), also doing business as MIW Aerospace and Puget Sound Heat Treating.

Of major concern to DOE were source control issues relating to storm drain lines that traversed the property, draining into the Thea Foss. The catch basins on lines that originated in MIW Buildings contained significant contamination.

DOE requested that MIW clean out its lines and catch basins.

Although, MIW initially indicated a willingness to cooperate, it insisted on performing tests and cleaning up the contaminants itself on its own time schedule. Petrich Marine Dock made no objection, but became progressively more dismayed as MIW failed to act.

After five (5) months, Petrich Marine Dock informed MIW that it would tolerate no further delays. Petrich Marine Dock hired someone to clean out the catch basins, to place impermeable surfaces (cement) at the bottom of french drains and to take away the dirt. After much strum and drang, MIW finally flushed "its" lines on June 3.

MIW took a bizarre view of what constituted "its" drain lines, refusing to flush one that ran from inside its building.

1118 East D Street • Tacoma, WA 98421 • 206-272-1005

STATUS 4/4/95

- Cleanout of drains completed.
- Hart Crowser report was never sent to Ecology or EPA.
- Request to be dropped from List 3 dealt w/ verbally by Ecology. * per Joyce Mercuri

As to the drain lines running from the Puget Sound Heat Treat Plant, MIW ignored DOE's recommendation and refused to flush to the outfall, flushing only one segment down gradient of "its" contaminated catch basins.

Petrich Marine Dock (through CECon) completed the balance of the work for MIW and Dutch Harbor Seafoods on June 6, 1994, capturing water for appropriate disposal.

Dutch Harbor Seafoods operates on the Waterway section of the property. They immediately agreed to cooperate. We tested their catch basins and found only typical parking lot runoff.

* * * * * * * * * * * *

It is my understanding that you have requested a copy of Hart Crowser's final report on the site when it becomes available. MIW has once again blocked release of the Final Report by requesting a further delay.. We are now negotiating a separate agreement with Hart Crowser to procure the release of the report. If this alternative is successful, we should have the report before the second week in July.

* * * * * * * * * * * *

Recently, it has come to our attention that Petrich Marine Dock was placed on a list of sources to the Thea Foss. We request removal of our name from this list.

Tenants on the property are and have been required to take responsibility for storm drains, procuring either permission to operate without a storm drain permit or to procure permits in their own names. The generators on this property were MIW and Dutch Harbor Seafoods. DOE forced MIW to maintain its storm water permit until the drain and catch basin work was completed.

To tag Petrich Marine Dock, an entity that conducts no operations on the property, for a Source Control list, when the source of the contaminants had been identified as MIW, seems excessive. This is particularly true when these lists are being used for other purposes, e.g. by the City in determining participation requirements, lender financing, etc.

Joyce Mecuri informed us that you have never taken anyone off a list before. I would appreciate it if this could be a first.

I will appreciate if you could contact my assistant, Carol Murray, at your convenience to resolve the matter.

Yours sincerely,

Clare Petrich

CLARE PETRICH

cc: Charles Douthwaite

Site was paved, and SD were cleaned - still some high zinc, As, and TPH so Ecology requested one more cleaning; 5/19/94 Ecology (Mercuri) memo regarding "Burlington Northern Railroad File: Summary of drainage and contaminants at old car wash pond", suggests that site does not drain to Thea Foss Waterway, but to Puyallup River; 5/19/94 West Coast Grocery Stormwater Collection System, Sediment Sampling Investigation, Draft Report, prepared for Gordon, Thomas, Honeywell, prepared by EcoChem, May 19, 1994, 8 sediment samples (catch basin, oil/w separator) with Cd, Pb, and Zn above SQS, includes TCLP for sediment samples (not TCLP)- Joyce said drains would be cleaned out by June 30; 5/26/94 Ecology Inspection Report documenting removal of 10 cy of soil containing sand blast grit from upland beach area, and removal of metallic debris under the main building (100 55-gal drums) at Foss Maritime Site; 5/19/94 USG (U.S. Gypsum) Interiors Phase I - RI by AGI Technologies - gave to Allison;

6/94. 6/94 SAIC RCRA Facility Assessment, Preliminary Assessment Report, American Plating, Inc., Tacoma, prepared for EPA Region 10, lots of great info on SWMUs, etc. (copy to Peter C. for PRP but not kept in my file); 6/29/94 **Enforcement Confidential** writeup by SAIC (Lynn Brimmer) to Tom Post (EPA RCRA) re: Corrective Actions Alternatives for American Plating, Inc. (Thea Foss) - includes a summary of 1989 soils data and surface soil data (cadmium) contouring; 6/94 Ecology Fact Sheet for Agreed Order for RI/FS and Interim Action at 250 East D Street for Superior Oil (and Phillips/Texaco); 6/10/94 Petrich Marine Dock (Carol Murray) letter to Ecology re: completion of all cleaning and flushing of all drains at 1118-1120 East D Street (both Petrich and Marine Iron Works), Petrich still doesn't have the Hart Crowser report (MIW won't release it), but joyce sent me the data from the "draft" Hart Crowser report - Petrich did not do totals as Ecology required - they only did TCLP, but the TPH alone dings them as a PRP!; 6/15/94 Ecology (Mercuri) Class I Compliance Inspection for Modutech Marine, including copy of Inspection Report dated 5/25/94; 6/30/94 Ecology (Mercuri) memorandum to Richlite (aka Rainier Plywood) Site File re: sediment sampling for phenol in catch basins, includes results of new 1994 sample of 4,300 ppb phenol (vs. SQO of 420 ppb) - Ecology will deal with this in summer or fall - on 1/95 Ecology (Smith) added a note that the trench drains were cleaned out - cleanout verified by Chris Neumiller; 6/30/94 City of Tacoma Public Works Department (David Hufford, Sewer U) letter to Powder Coating Systems at 109 South 25th Street re: notification to cease discharge of process wastewater into Tacoma's storm drain system (Mike Kennedy told me the SD discharged to via the Twin 96ers to Head of Thea Foss) and 6/29/94 City of Tacoma letter re: process wastewaters are regulated under federal effluent guidelines for Metal Finishing - memo from me to Contreras re: usefulness for PRP Search; 6/29/94 Ecology (Coleman) letter to Rick Ohlson of F Street Partners re: Coast Craft facility, re: clean out CB and sample for disposal and for mercury, to be done by July 30 (of course, it wasn't); 6/14/94 Mercuri memo with data results for Investco 4/28/94 samples (2.21 hg highest).

URBAN BAY ACTION PROGRAM INSPECTION REPORT

ENTITY: Petrich Marine Dock

INSPECTOR: Mercuri, Schrieve

LOCATION: 1118 East D St., Tacoma

Date: 8/4/92

OWNER: Privately held corporation

CONTACT: Clare Petrich

TYPE OF FACILITY: Marine Dock (Principal), Aerospace Manufacturing (Tenant)

PERMITS: None

DRAINS TO: Thea Foss Waterway

PATHWAY/QUANTITY:

Process water: Water from cooling tanks in metal tempering process discharged to Foss Waterway by tenant Marine Iron Works (MIW)-See MIW inspection report.

Ground water:

Stormwater: Entire site drains to Foss. Potential for oil and other surface spill contaminant transport.

Spills: Oil on ground on North side of Bldg #2. Storm drain on Northwest side of Bldg #2 showed oil stain on cover indicating dumping of oil to this drain had occurred. Potential for spill of materials used on dock directly to waterway.

small

some

Note: it is unlikely that much oil was released to the drain due to the small circumference of oil stain. UBAT will return to facility to ensure that management practices noted in this report are being followed.

Joyce Mercuri

SUSPECTED CONTAMINANTS:
Waste oil

SAMPLING: None.

FACILITY DESCRIPTION:
Inspectors Joyce Mercuri and Garin Schrieve arrived at the site at 11:00 a.m. We were shown around the site by Ms. Clare Petrich. The main business of Petrich Marine Dock is the leasing of dock space to marine vessels for loading and unloading, maintenance, and conversion. Some painting of marine vessels also occurred on site. The vessel Galaxy which ties up at the dock 4 months/year had been painted while at the dock, however hull preparation work was done at AK-WA. Other areas and building space on the site are leased to Marine Iron Works (Aerospace & Heat Treating--see previous inspection on MIW) and to two marine electricians (office space).

The inspection concentrated on areas of the site not covered by the earlier MIW inspection. We began the inspection in the main building which houses the office of Petrich Marine Dock as well as machining operations and offices for MIW. Ms. Petrich informed us that the area had been used for marine repairs and docking since the early 1940s, and that the area had been a marble importing and cutting facility in the 1920s. Six boats had been tied up at the dock over the past year.

Next we inspected the area inside and around building #1. This building appears to be used for miscellaneous parts storage. It was apparent that oil had been dumped to the storm drain in front of building #1. Uwe Cook, Plant Manager for the vessel Galaxy, stated that the crew of the Galaxy was aware that the dumping of oil to storm drains was illegal and that his crew was not responsible. We told Ms. Petrich that it would be advisable to remind tenants of this, and that the posting of "no dumping" signs near the drains might help in this effort. We also informed her that the material in the catch basin associated with this drain should be characterized, cleaned out, and disposed of properly in accordance with the Dangerous Waste Regs.

A sizable quantity (at least 3 barrels) of material labelled "hazardous waste-paint thinner" was observed in building #1. In addition there were approximately 3 barrels of material labelled "water contaminated gas", one barrel of material labelled "caustic", and at least 5 barrels of waste oil. There was no berming or spill containment system in place. We discussed the implications of the generation of this amount of hazardous waste with the building lessee, Uwe Cooke. He assured us that this was an unusual amount of waste, that most of this was from Dutch Harbor, AK, and their sister ship. He further stated that typically and in the future only waste oil of non-hazardous nature would be stored there. He stated that Enviroservices of Redmond, WA, had analyzed and labelled the waste, and was preparing for its removal. He said it would be gone by the end of August, 1992. We again expressed our concern that the Dangerous Waste regulations as pertaining to generation and storage be followed if this quantity and type of material was to be generated and/or stored in the facility.

We then inspected building #2 which is used primarily for parts storage. A storm drain on the northeast wall of the building was located such that approximately half of the grating area was inside the building. We advised Ms. Petrich that the interior portion of the drain should be covered to prevent spills from reaching the drain.

Buildings #3 and 4 are used for storage of MIW aerospace parts and no problems were apparent. Building #4 also houses the office of two marine electricians.

The other three catch basins on-site appeared normal.

Several drums of unused oil and waste oil, as well as an open 5 gallon bucket containing waste oil were sitting on the dock adjacent to the Galaxy. We advised Ms. Petrich that when chemicals and oil are to be used on the dock (over the waterway) that some sort of containment system should be in place. We also informed Uwe Cooke of this.

The inspection ended and we left the site at 12:30 p.m..

ACTION TAKEN:
Advised owner and lessee on the implications of non-small quantity hazardous waste generation and storage. Also advised on dumping of oil to drains.

PHOTO LOG:

1. Oil stain on access cover on west end of building #1

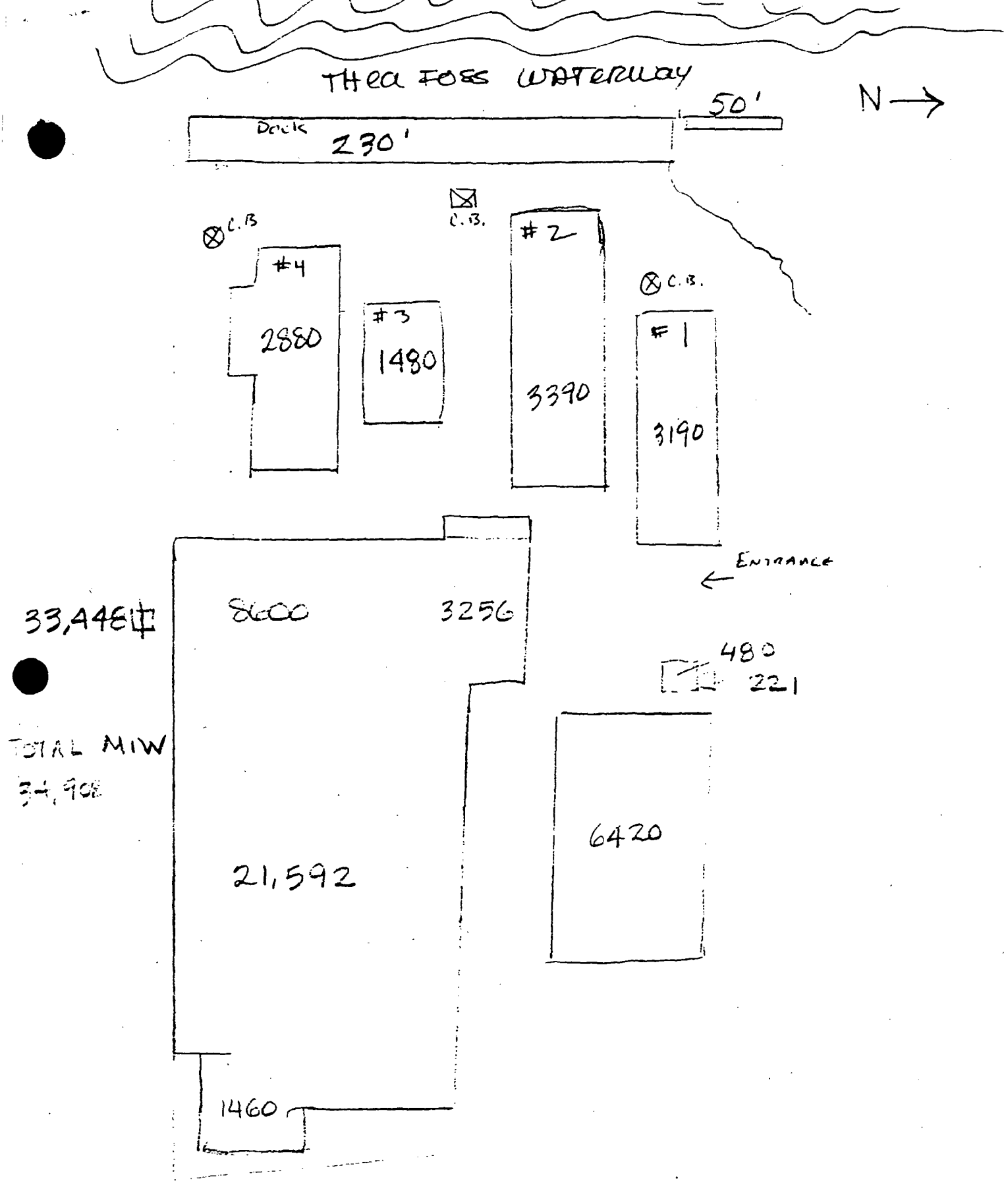
2. Waste drums stored in building #1

3. Waste drums-building #1

4. Hazardous waste label on drum in building #1

5. Drums of Paint and open 5 gal. bucket of oil on dock

FILE NAME: WP5.1 Petrich.fos



PETRICH
MARINE DOCK
1118 EAST D
Tacoma

Karen Keeley

RECEIVED
FEB 11 1994
SUPERFUND REMEDIAL BRANCH

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
7272 Cleanwater Lane • PO Box 47775 • Olympia, Washington 98504-7775 • (206) 753-2353

February 9, 1994

Claire Petrich
Petrich Marine Dock
1118 East D Street
Tacoma, Washington 98421

Dear Ms. Petrich:

As you know, I have recently reviewed some data from catch basin samples at the Petrich Marine Dock/Marine Iron Works site. Although I did not receive a full report, it appears that three catch basins were sampled. All three basins contained levels of copper, lead, and zinc above the sediment quality objectives for Commencement Bay.

As I discussed with Carol Murray on January 27, 1994, I have requested Marine Iron Works (MIW) to develop a work plan for having the catch basins and storm drain lines cleaned on the portion of the property that was leased by them until recently. Specifically, I have requested MIW to clean the catch basin labeled as "SED-2" on the December 1993 Hart Crowser Map, and all drain lines and catch basins upstream from that basin. This includes SED-3, the drain discovered when the coolant shed was removed, and any other drains or sumps leading to SED-2. I have also requested MIW to clean out SED-1. Since MIW will be cleaning out SED-3, it is probably best to wait to permanently block off that drain with concrete. A metal plate or temporary cap over the drain would be adequate for now. Or, if the proposed tenant does not have a potential for spills, it is not absolutely necessary to block off the drain until after the cleaning is done.

Also as I discussed with Carol Murray on January 27, 1994, I am requesting Petrich Marine Dock to investigate the drains on the west part of the property and to clean them out, if needed. Please provide me with a letter by March 4, 1994, describing what actions will be taken to investigate and clean out the drains. The letter should include:

- A sketch of the storm drain system on the west part of the property.

- Plans for sampling drains. To determine if the drains need to be cleaned, Ecology will compare the sediments in the drains to the sediment cleanup objectives for Commencement Bay. Therefore, I recommend taking a sediment sample from one catch basin closest to the outlets for each of the three outfalls. Each sample should consist of a composite of several spoonsful of sediment from the catch basin, and should be analyzed for (at least) total metals: cadmium, copper, lead, mercury, zinc. If the drains do need to be cleaned out, you may need

called Joyce re: no requested total metals and PAHs be analyzed to support PRP search

to run further tests to determine what the disposal options for the sediments are. Therefore, it may be worthwhile to contact some landfills to determine what the further testing requirements are before you take any samples (most landfills require at least a Toxicity Characteristic Leaching Procedure [TCLP] test and a test for total petroleum hydrocarbons). If you plan to have the drain lines cleaned out even if the sediments do not exceed the sediment cleanup objectives, it is not necessary to have the total metals test done.

- Procedure to be used for cleaning of the catch basins and drain lines (normally this involves use of high pressure water) and name of company to perform service. Cleaning companies are listed under industrial vacuuming or industrial cleaning in the telephone book.
- Plans for storage and disposal of solid wastes that are generated from the cleaning.
- Plans for disposal of water generated from the cleaning process. Any water generated during the cleaning should not be disposed of to the storm drain system. You may be able to dispose of the water at the Tacoma sewage treatment plant after receiving permission from the Tacoma Sewer Utility. Mike Kennedy at the Tacoma Sewer Utility (591-5588) can provide you with information about discharge of waste water to the plant. Any discharge to the sewer utility will be required to meet local water quality pretreatment standards, which may entail holding the water on site for some time for it to settle. It may be more cost and time efficient to have the water disposed of through a waste treatment facility.

Thank you for your cooperation in this matter. As is obvious from the list above, this is not an easy process. I would like to meet with you to go over these guidelines and to answer any questions you have. I will help in any way I can to make this process go smoothly and cost efficiently for you. Please call me at (206) 586-4692 if you would like to arrange a meeting.

Sincerely,

Joyce Mercuri

Joyce Mercuri
Urban Bay Inspector
Southwest Regional Office
Toxics Cleanup Program

JM:ak

This applies to both Petrich Marine Dock and Marine Iron Works.

filed ✓

PETRICH MARINE DOCK

'94 JUN 22 A10:24

DEPARTMENT OF ECOLOGY
S.W. REGIONAL OFFICE

June 10, 1994

Ms. Joyce Mecuri
Urban Bay Inspector
Department of Ecology
Southwest Regional Office
P.O.Box 47775
Olympia, WA 98504-7775

RE: Source Control

Dear Joyce:

Please excuse the delay in responding to your request for notification as to the cleaning and flushing of all drains at 1118-1120 East "D" Street, Tacoma, Washington 98421.

The final flushing was completed on June 6, 1994 by CECon.

To reiterate, the drain sediments were removed, impermeable caps (cement) were placed in the bottom of the catch basins and each drain was flushed to the outfall with water being captured for appropriate disposal.

The catch basin in the former heat treat building has been capped at the surface, as DOE requested. Before the end of the month, when our handyman returns from Alaska and gets back to work, the catch basins inside the MIW building will be permanently capped at the surface, as will that portion of a catch basin that is inside Warehouse #2.

Petrich Marine Dock in the end had to make arrangements for most of the work. MIW failed to make arrangements for disposal of the drain sediments, failed to cap the bottom of the catch basins and performed the flushing only after much delay and confusion.

Further, MIW refused to flush the lines running out of SED-1, refused to flush drains to the outfall and refused to take responsibility for the drain line on the southern boundary of the property. This drain originates on property MIW has leased for 51 years. As you may recall, the south drain line, though originally a part of a driveway, currently originates inside of a wing of the MIW Building that was constructed in the mid-1960s.

1118 East D Street • Tacoma, WA 98421 • 206-272-1005

MIW has once again blocked the release of the final Hart Crowser Report, this time requesting a reorganization of the material that will take months. We may attempt to work out a separate contract with Hart Crowser so we can obtain the report in a final form. As I indicated to you previously, Petrich Marine Dock is happy to make this report available as soon as we can review it.

Yours sincerely,

CAROL A MURRAY
for Petrich Marine Dock

cc: Charlie Douthwaite

This applies to both Petrich Marine Dock and Marine Ironworks.

filed

PETRICH MARINE DOCK

'94 JUN 22 A10:24

DEPARTMENT OF ECOLOGY
S.W. REGIONAL OFFICE

June 10, 1994

Ms. Joyce Mecuri
Urban Bay Inspector
Department of Ecology
Southwest Regional Office
P.O.Box 47775
Olympia, WA 98504-7775

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1118 East D Street • Tacoma, WA 98421 • 206-272-1005

1118-1120 East D St.
MARINE IRON WORKS/PETRICH MARINE DOCK PROPERTY

TCLP METALS/TOX: No TCLP failures for metals. COMP 1,2,3 Fails TCLP for TOX	As	Ba	Cd	Cr	Cu	Pb	Ni	Hg	Se	Ag	Zn	TOX (mg/kg)	TPH (mg/kg)
1,2,3 Comp (Drains SED 1, 2, & 3 from Hart Crowser Report (BLUE)	<.05	2.46	0.088	0.188		1.32		<.03	<.08	<.007		261	11,000
#1 (SW corner of Warehouse 1 and easterly drain between Warehouse 2 & 3. YELLOW)	<.05	0.632	0.05	0.014		0.73		<.03	<.08	<.007		<1	8,200
#2 (Westerly drain, center of property next to dock. RED)	<.05	0.686	<.003	<.007		<.04		<.03	<.08	<.007		<1	4,700
#3 (Southernmost drain system. PINK)	<.05	0.712	0.06	0.079		0.98		<.03	<.08	<.007		<1	9,000
TOTAL METALS: Several exceedances of the CBNT SCO's.													
SED-1 ("Blind" drain adjacent to west end of MIW building. (BLUE)	89		3.6	310	510	1,200	370	0.3	1.4U	1U	1,300		1,100
SED-2 (1st drain downstream of Heat Treat Bldg & Solvent Shed. BLUE).	52		21	810	1,700	540	420	0.4	.7U	10	3,400		28,000
SED-3 (Drain inside of Heat Treat Building. BLUE).	22		6.7	330	2,000	680	420	1.1	.6U	36	3,200		2,800

From 5/6/94 Letter from Petrich Marine Dock

From Draft Hart Crowser Report 6/10/94

Draft Hart Crowser Rept.

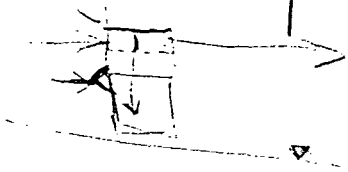


Table 3 – Compounds Detected in Catch Basins and Surface Soils

Sample ID:	SED-1 S-1	SED-1 S-2	SED-2 S-1	SED-3 S-1	SED-3 S-2	SS-1	SS-2
	Concentration in mg/kg (ppm)						
Sample Depth in Feet:(1)	4.0 – 4.5	5.5 – 6.5	3.0 – 3.5	2.0 – 2.5	3.5 – 4.0	0.0 – 0.5	0.0 – 0.5
Metals							
Antimony	22	NA	10	9.1	NA	7.9	0.3 U
Arsenic	89	NA	52	22	NA	21	2.8
Beryllium	0.7 U	NA	0.9	0.6 U	NA	0.6	0.5 U
Cadmium	3.6	NA	21	6.7	NA	0.5 U	0.5 U
Chromium	310	NA	810	330	NA	230	17
Copper	510	NA	1,700	2,000	NA	510	8
Lead	1,200	NA	540	680	NA	830	10 U
Mercury	0.3	NA	0.4	1.1	NA	1.5	0.1 U
Nickel	370	NA	420	420	NA	580	24
Selenium	1.4 U	NA	0.7 U	0.6 U	NA	1.1	0.5 U
Silver	1 U	NA	10	36	NA	1 U	1 U
Zinc	1,300	NA	3,400	3,200	NA	740	22
Total Petroleum Hydrocarbons							
418.1	1,100	NA	28,000	2,800	2,800	NA	NA
Diesel Range	ND	NA	ND	ND	ND	>50	ND
Oil Range	>100	NA	>100	>100	>100	>100	ND
WTPH – Diesel	NA	NA	NA	NA	NA	730	NA
Volatile Organic Compounds							
Vinyl Chloride	NA	0.01	0.001 U	NA	0.001 U	NA	NA
Acetone	NA	0.057	0.013 U	NA	0.001 U	NA	NA
cis-1,2-Dichloroethene	NA	0.001 U	0.002	NA	0.001 U	NA	NA
Total 1,2-Dichloroethene	NA	0.001 U	0.002	NA	0.001 U	NA	NA
Chloroform	NA	0.001 U	0.006	NA	0.005	NA	NA
1,1,1-Trichloroethane	NA	0.001 U	0.003	NA	0.001 U	NA	NA
Carbon Tetrachloride	NA	0.001 U	0.32	NA	0.001 U	NA	NA
Trichloroethene	NA	0.004	0.001 U	NA	0.46	NA	NA
Tetrachloroethene	NA	0.001 U	0.003	NA	0.008	NA	NA
Semivolatile Organic Compounds							
Naphthalene	NA	0.037 J	NA	NA	0.38 U	NA	0.35 U
Acenaphthylene	NA	0.008 J	NA	NA	0.38 U	NA	0.35 U
Phenanthrene	NA	0.036 J	NA	NA	0.38 U	NA	0.35 U
Di-n-butyl phthalate	NA	0.018 J	NA	NA	0.38 U	NA	0.35 U
Fluroanthene	NA	0.038 J	NA	NA	0.38 U	NA	0.35 U
Pyrene	NA	0.039 J	NA	NA	0.38 U	NA	0.35 U
Chrysene	NA	0.022 J	NA	NA	0.38 U	NA	0.35 U
bis(2-ethylhexyl)phthalate	NA	0.087 U	NA	NA	2.1	NA	0.35 U
Benzo(b)fluoranthene	NA	0.022 JT	NA	NA	0.38 U	NA	0.35 U
Benzo(k)fluoranthene	NA	0.022 JT	NA	NA	0.38 U	NA	0.35 U
Indeno(1,2,3-cd)pyrene	NA	0.012 J	NA	NA	0.38 U	NA	0.35 U
Benzo(g,h,i)perylene	NA	0.012 J	NA	NA	0.38 U	NA	0.35 U
2-Methylnaphthalene	NA	0.01 J	NA	NA	0.38 U	NA	0.35 U

Table 3 – Compounds Detected in Catch Basins and Surface Soils

	Concentration in mg/kg (ppm)						
Sample ID:	SED-1		SED-2	SED-3		SS-1	SS-2
	S-1	S-2	S-1	S-1	S-2		
Sample Depth in Feet:(1)	4.0 - 4.5	5.5 - 6.5	3.0 - 3.5	2.0 - 2.5	3.5 - 4.0	0.0 - 0.5	0.0 - 0.5
PCBs							
Aroclor 1254	1.1	NA	NA	0.27	NA	1.3	NA

U Not detected at indicated detection limit.
J Estimated value.
T The sum of two coeluting compounds.
NA Not analyzed or not applicable.
ND Not detected.
SED Catch basin samples.
SS Surface soil samples.
(1) Catch basin sediment samples S-1 collected from sediment surface.
Sample depth refers to distance below asphalt surface.

JOBS\3968\Table3.wk1

DEPARTMENT OF ECOLOGY
URBAN BAY ACTION PROGRAM INSPECTION REPORT

ENTITY: Pickering Industries

INSPECTOR: Mercuri, Coleman

LOCATION: 2102 East "D" Street and 1930 East "D" Street

DATE: 12/16/92

OWNER: Gordon Pickering

CONTACT: Bob Ellis, Maintenance

TYPE OF FACILITY: Manufacture laminates for tabletops, counters, etc.

PERMITS: no TSU permit

DRAINS TO: Head of Foss Waterway

PATHWAY/QUANTITY:

Process water: Glue wastes periodically poured down sewer cleanout. Drain below gluing machine may go to sanitary (TSU does not know of it). Possible boiler blowdown to catch basins (from Mike Kennedy, TSU). does go to sanitary. (JM)

Ground water: Site is paved.

Stormwater: Stormwater flows to waterway via drain 243.

Spills: Used oil area is messy.

SUSPECTED CONTAMINANTS:
Phenol

SAMPLING: TPCHD has sampled. High pH in past, possibly from boiler blowdown.

FACILITY DESCRIPTION:
Inspectors Coleman and Mercuri arrived on site at about 11:20 a.m. and talked with Bob Ellis, maintenance staff. The facility consists of a large manufacturing building/warehouse and a building which includes the office, the maintenance shop, and a large covered area for warehousing goods. The plant will be moving in the near future, as the proposed highway 509 is slated to come through here.

Pickering manufactures laminates for tabletops, counters, etc. The manufacturing building contains several (5 or 6?) presses where resin impregnated papers are laminated under heat and presssure. Only one of the processes involves glue. This is an operation where glue is pumped from a cardboard "tank" to a spreader for applying laminates to a substrate. There is a drain under the spreader to collect excess glues. Mr. Ellis informed us this drain flows to the sanitary sewer. The gluing machine is cleaned every 3-4 months. Mr. Ellis also said that glue waste is sometimes poured down a sewer cleanout access which is located behind the maintenance shop, and before the drain in the building was installed, all glue waste was poured in the cleanout. There were several pails of contact cement stored in this area also. The finished products are stored in the manufacturing building and under the covered area in the other building. The presses are run by three gas-fired boilers. We did not inspect the boiler room. A file review showed that the Tacoma Pierce County Health Department identified high pH boiler flushing waters as discharging to Foss Waterway in the past. I do not know if this still occurs.

-Pickering Industries UBAT inspection-
12/16/93

The paved yard between the two buildings appeared to be used mainly for parking and loading of trucks. There are four catch basins in this area. There was water on the ground in this area, probably from a hose near the maintenance shop. Mr. Ellis said that trucks are not washed on this site, but are washed at the JAG facility on 15th Street. He said that when the adjacent marina has its closed loop wash system up and running, they will wash trucks there. Pickering has 7 trucks and 5 forklifts. Maintenance on trucks and forklifts is done on site. Mr. Ellis showed us the a port near the maintenance shop where glue wastes are poured. This appears to be a sewer access, but it is possible that it discharges to the waterway. There is a sink in the maintenance shop which discharges directly to the pavement outside - there was soapy water flowing from this.

Used oils are collected near the southwest corner of the manufacturing building. The waterway is approximately 50 feet from this area, and there is a catch basin about 25 feet away. There is a small, open shed with a messy oil tank inside of it. This tank is in a small metal containment pan, but there is quite a bit of oil on the pavement in this whole area. There were also several dums and pails of oil outside of the shed. One drum was 1/2 full of antifreeze. Mr. Ellis said that they usually do not have waste antifreeze. We advised Mr. Ellis to get rid of several old cans of paint stored in this area, and to provide containment for all the oil barrels.

There are two gas pumps adjacent to the maintenance shop. These are no longer in use, and the associated underground storage tank still exists. It is not known if this tank has been formally closed.

FILE REVIEW/SITE HISTORY:
1988 and 1989 letters in file from TPCHD requesting Pickering to cease glue discharge and boiler flush discharge to waterway.

TSU called - Drain in bldg goes to sanitary. (JM)

RECOMMENDATION:
Coordinate with TSU to determine discharge of drains. Letter to Pickering requesting clean up of oil area and cease discharge of shop sink.

PHOTO LOG:
1. Gluing operation. Cardboard tank contains glue.

2. Floor drain under gluing machine.

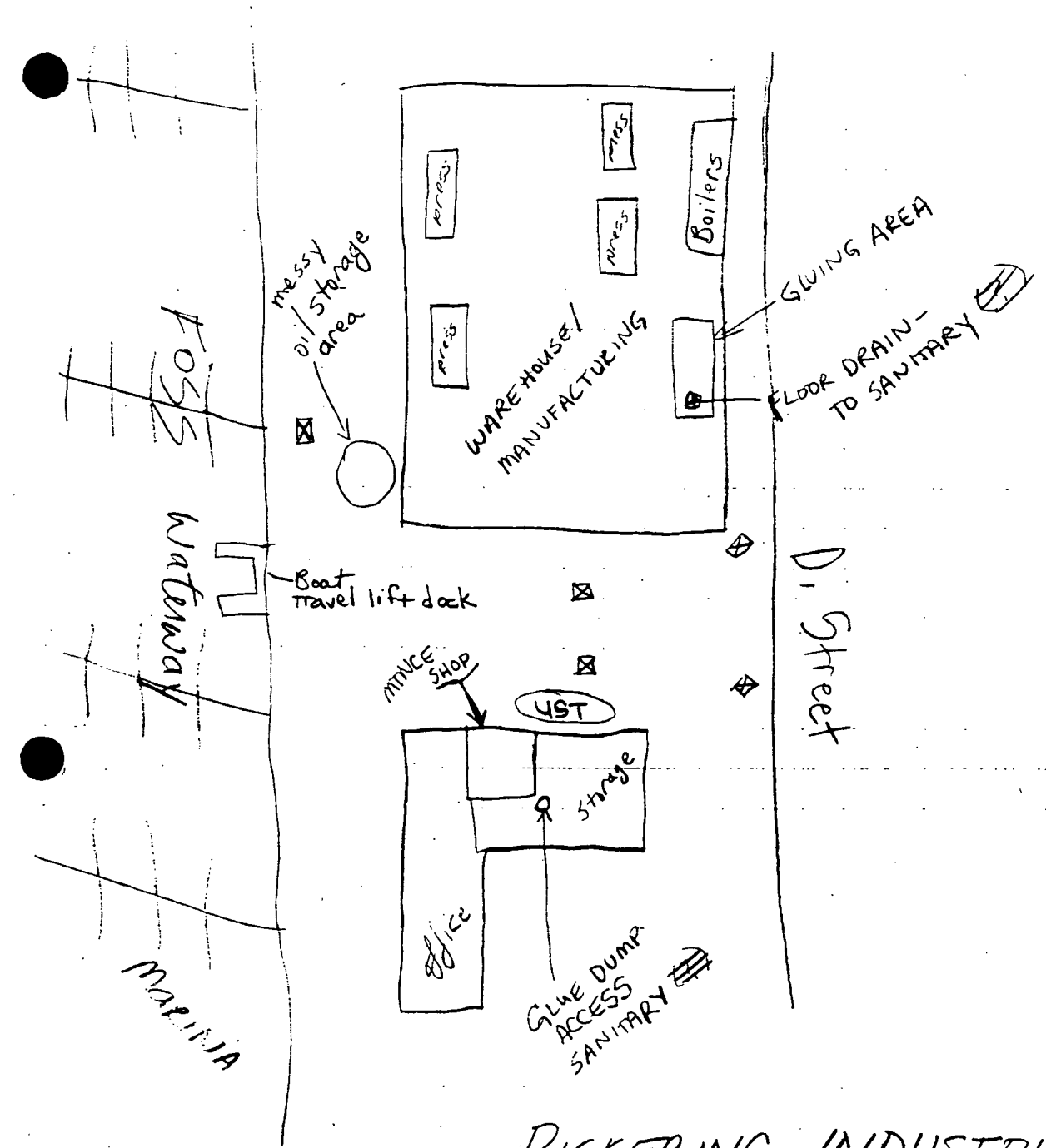
3. Port where glues have been dumped.

4. Used oil storage area.

5. Old gas pumps and discharge from shop sink.

6. Parking lot/UST.

Note: Attempted to sample catch basins. Nothing in basins to sample (highly influenced by tide). (MC)



PICKERING INDUSTRIES
EAST D STREET

North

PJ _____
Return to CN.
RE[illegible]
FEB 2 9 1996

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

REGISTERED MAIL

February 26, 1996

Mr. Richard Hamstreet
Pick's Cove Marina, Inc.
1940 East D Street
Tacoma, WA 98421

Dear Mr. Hamstreet:

Based on a request for extension of the deadline for compliance with a Notice of Correction (NOC) dated January 19, 1996, Ecology will agree to a 30 day extension. The request was sent to Ecology by James A. Cathcart of Bonneville, Viert, Morton, and McGoldrick, P.S.

Ecology is aware of the complications resulting from the recent flooding in the area of your business. We are hopeful that actions performed by WSDOT will help to alleviate ongoing flooding conditions. However, please be advised that compliance with the NOC and your NPDES Permit No. WAG-03-1021 is not conditioned or expected to be delayed based on anticipated negotiations or litigation that you may be considering with WSDOT due to the flooding.

Please also note that the statement that Pick's Cove will not perform maintenance on boats with TBT paints in its boatyard will have to be supported by documented procedures describing how the boatyard will determine whether boats have TBT paints applied to them. This is to be included in the Best Management Practices (BMP) documentation that is required by the NOC.

Please direct any questions you may have regarding this correspondence to me at the Southwest Regional Office.

Sincerely,

Marv Coleman
UBAT Inspector/Site Manager
Toxics Cleanup Program
Southwest Regional Office

MC:jr

cc: Central Programs Enforcement Unit
Greg Cloud, Water Quality Program
Troy Naccarato, Tacoma Sewer Utilities
Christina Ngo, USEPA Region X
Marc Pacifico, Water Quality Program
Dave Smith, UBAT Supervisor

File: PICKSCV2.noc/2-26-96/aa6

Peggy - FYI
Pls. return
dc

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

RECEIVED
JAN 24 1996
SUPERFUND REMEDIAL BRANCH

REGISTERED MAIL

January 19, 1995

Mr. Richard Hamstreet
Pick's Cove Marina, Inc.
1940 East D Street
Tacoma, WA 98421

Dear Mr. Hamstreet:

Enclosed is a Notice of Correction requiring you to comply with the request for information contained in the November 27, 1995, letter from Joyce Mercuri and to attain compliance with your NPDES Permit No. WAG-03-1021. All correspondence relating to this document should be directed to Marv Coleman, Department of Ecology, Southwest Regional Office, P.O. Box 47775, Olympia, WA 98504-7775. If you have any questions concerning the content of the document, please call Marv Coleman at telephone (360) 407-6259.

Sincerely,

David B. Jansen, P.E.
Section Manager
Toxics Cleanup Program
Southwest Regional Office

DBJ:jr
Enclosure

cc: Central Programs Enforcement Unit
Greg Cloud, Water Quality Program
Marc Pacifico, Water Quality Program
Christina Ngo, USEPA Region X
Dave Smith, UBAT Supervisor
Troy Naccarato, Tacoma Sewer Utilities
Marv Coleman, TCP/UBAT Inspector/Site Manager

File: PICKSCV1.noc/1-19-96/aa6

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

DEPARTMENT OF ECOLOGY

NOTICE OF CORRECTION

To: Mr. Richard Hamstreet
Pick's Cove Marina, Inc.
1940 East D Street
Tacoma, WA 98421

This Notice of Correction (NOC) is issued under the authority of Chapter 403 of the Public Laws of 1995 (Engrossed Substitute House Bill 1010), Implementing Regulatory Reform. This NOC requires Pick's Cove Marina, Inc., to provide information as requesting in the November 27, 1995, letter from Joyce Mercuri and to attain compliance with the NPDES General Boatyard Permit No. WAG-03-1021 (Permit). Pick's Cove Marina, Inc. is required to submit the required information and reports to the Department of Ecology (Ecology) within thirty (30) days of receipt of this NOC, pursuant to RCW 90.48.120.

The condition of non-compliance is due to the following:

1. Repeated inspections of the facility have revealed hull paint removal has been performed without full skirting and ground tarping, as required by facility BMPs, per Conditions S6.C and S6.E of the Permit. Non-compliance with the conditions of the Permit is a violation of RCW 90.48.190.

2. Repeated inspections of the facility have revealed the presence of copious quantities of paint chips and dust on the paved surface of the facility, particularly in low areas that direct surface water runoff to facility catchbasins. Catchbasins are full of sediments that include a high percentage of paint chips and dust. The facility has failed to sweep, vacuum or otherwise remove such waste materials from the pavement and catchbasins, as required by facility BMPs, per Conditions S6.C and S6.D of the Permit. Non-compliance with the conditions of the Permit is a violation of RCW 90.48.190.

3. Ecology sampling of sediments from facility catchbasins has revealed exceedances of Sediment Management Standards, per WAC 173-204-320. These exceedances were documented in the November 27, 1995, letter from Ms. Mercuri. The catchbasins on the facility discharge to Thea Foss Waterway. Failure to prevent entry of these contaminants is a requirement of Condition S6.K of the Permit. The discharge of polluting matter into waters of the state is a violation of RCW 90.48.080.

To achieve compliance with the above, Pick's Cove Marina, Inc., must, within thirty (30) days of receipt of this NOC, submit the following information:

A. The information requested in the November 27, 1995, letter from Joyce Mercuri, SWRO Toxics Cleanup Program/UBAT.

B. Evidence of the proper cleaning of catchbasins and drain system, in the form of copies of service invoices for cleaning and bills of lading/manifests for disposal of facility drain system wastes.

Follow-up inspections by Ecology will determine if facility BMPs are being followed according to the requirements of the Permit.

Failure to submit this information could result in Ecology taking a formal enforcement action which could include a penalty of up to $10,000.00 per day, per violation. Failure to achieve compliance with the requirements of the Permit could entail termination of the Permit, in accordance with RCW 90.48.190.

Technical assistance is available from a number of private consulting firms for preparing engineering reports, sampling and analysis of wastes, discharges or receiving water, and conducting cleaning services. Technical Assistance with the applicable rule and regulations and for completing the required tasks is available from Ecology by contacting Marv Coleman at (360) 407-6259, or Marc Pacifico at (360) 407-6282. Submittals should be sent Attn: Marv Coleman.

You may request an extension of the 30 day deadline by contacting Marv Coleman in writing and providing the reasons why you are requesting the extension. Your request must be received no later than fifteen (15) days after you receive this NOC. All Ecology staff identified in this NOC may be contacted by writing to them at Department of Ecology, Southwest Regional Office, P.O. Box 47775, Olympia, WA 98504-7775.

DATED this 19th day of January 1996, at Olympia, Washington.

For

David B. Jansen, P.E.
Section Manager
Toxics Cleanup Program
Southwest Regional Office

EPA - Christina Ngo

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

PO Box 47775 • Olympia, Washington 98504-7775 • (206) 407-6300

November 27, 1995

Mr. Richard Hamstreet
Pick's Cove Marina
1940 East D Street
Tacoma, WA 98421

RECEIVED
DEC - 1 1995
SUPERFUND BRANCH

Dear Mr. Hamstreet:

Re: NPDES Permit No. WAG-03-1021

This letter is to formally request you to have the parking lot and storm drainage system at Picks Cove Marina professionally cleaned, and to provide information to Ecology about the use of tributyltin bottom paints at Picks Cove Marina. This request stems from a site inspection conducted May 23, 1995, and samples obtained from a catch basin at the site on July 20, 1995.

During the May 23 site inspection, I observed paint chips mixed with dust throughout the paved yard. At that time, proper best management practices (BMPs) which are required under your NPDES permit were not being implemented. This resulted in paint chips and dust being released into the air and onto the pavement. Discharge of paint chips from the pavement to the storm drain and thence to Thea Foss Waterway is a violation of Chapter 90.48 RCW, section .080 (discharge of polluting matter into waters of the state prohibited). A letter and inspection report from me to Dale Calkins dated July 11 (see enclosure 1) provided guidance for implementing site BMPs and requested Picks Cove to submit a letter to Ecology describing a plan for cleaning the storm drain system. Recommendation number six from the inspection report stated that the yard should be thoroughly cleaned up and swept.

On July 20, I obtained samples from a catch basin in the boat yard. A report describing the results of those samples is attached (enclosure 2). The catch basin sediments contained very high levels of heavy metals and butyltins (from tributyltin 'TBT' bottom paint). This confirmed the need to have the storm drain system and yard cleaned in order to prevent contaminated sediments from reaching the Thea Foss Waterway. As you know, the Thea Foss Waterway is a federally designated Superfund site which is currently in the planning stages for cleanup. It is Ecology's role to ensure that all sources of contamination to the waterway are stopped before the waterway sediments are cleaned up. If contaminated sediments from Picks Cove continue to discharge to the waterway after it is cleaned up, Picks Cove could be held responsible for additional cleanup measures. Further, discharge of contaminated sediments to the waterway may cause exceedence of the State Sediment Management Standards listed in Chapter 173-204 WAC.

I conducted a follow-up inspection of the site on October 4 to determine if the recommendation from the inspection report had been carried out. At that time, Mr. Calkins informed me that the yard had been swept by hand and that the catch basins had been cleaned out by hand. Best management practices had improved. However, paint chips and dust were still present on the pavement. At that time, I requested Mr. Calkins to arrange to have the yard professionally swept or cleaned (see enclosure 3).

I visited the site again on November 9, to assess the effectiveness of the manual cleaning of the catch basins and to check on progress for having the yard swept. I probed each catch basin and a sump on the site to determine if sediments remained in the system. I observed several inches of sediments in the catch basins. In addition, the outfall from one of the catch basins was mostly blocked with sediment, which indicates that the storm drain lines between catch basins also contain sediments. I also observed blue paint chips from bottom paint scattered around the pavement near this catch basin. There are also copious paint ships visible within sediments in the catch basins. Mr. Calkins informed me that the yard had not been swept. I reminded Mr. Calkins of the need to have the yard cleaned, and stated that the storm drain system needs to be cleaned professionally. He then requested that I provide another letter describing what needs to be done.

Ecology requests Picks Cove to do the following:

1) Clean all of the catch basins and storm drain lines on the site, and the catch basin in D Street where the drains discharge to the City of Tacoma storm drain system. The central sump where the storm drain lines converge in the center of the site shall also be cleaned. Any water generated from the pressure cleaning of the lines must be captured and properly disposed of. Wastes from the catch basins must be characterized and properly disposed of. A cleaning contractor should be able to give you advice about how to do this.

2) Thoroughly clean the surface of the boatyard.

3) Provide information to Ecology about the application of TBT paints and maintenance of vessels with TBT paints at Picks Cove and measures that are taken to prevent their entry to the storm drain system.

By December 20, 1995, provide a letter to me describing the following elements.

- Procedures to be used for cleaning of the drain system and name of company to perform service.
- Plans for disposal of water generated from the cleaning process.
- Plans for sampling and disposal of waste sediments obtained from the system.
- Name of company to clean the pavement and type of cleaning mechanism proposed.
- Schedule for the drain line and parking lot cleaning.
- Information about use of TBT paints and maintenance of boats with TBT paints at Picks Cove. Include a proposed policy to screen boats for TBT paints before beginning maintenance on them, and extra precautions which will be taken to prevent discharge of paint dust to the parking lot and storm drain system.

Finally, this letter will serve to remind you that your NPDES permit requires one stormwater sample per year. Please refer to section S2.D of your permit. I recommend that this sample be obtained at the outfall from Picks Cove into the catch basin on D Street. You will need to coordinate with the City of Tacoma to gain access to their catch basin. A contact person at Tacoma for this purpose is Troy Naccarato who can be reached at the Tacoma Sewer Utility, at (206) 591-5588.

If you need further information, clarification, or assistance with any of the above items, please call me between 8:30 a.m. and 5:00 p.m. at (360) 407-6260. If it is necessary for you to request an extension of the December 20 deadline, for good cause, please contact me immediately.

Sincerely,

Joyce Mercuri

Joyce Mercuri
Urban Bay Inspector/Site Manager
Toxics Cleanup Program
Southwest Regional Office

JM:jr
Enclosures

Attachment 1

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (206) 407-6300

July 11, 1995

Mr. Dale Calkins, Yard Manager
Picks Cove Marina
1940 East D Street
Tacoma, WA 98421-1503

Dear Mr. Calkins:

Re: General NPDES Permit No. WAG-03-1021 Class 1 Compliance Inspection

Thank you for the time you spent with Greg Cloud and myself during our inspection on May 23, 1995. A copy of the inspection report is enclosed for your information.

As we discussed with you during the inspection, major improvements are needed in implementing Best Management Practices (BMPs) at Picks Cove. Not only are BMPs required under your permit for the purpose of protecting water quality, but uncontrolled painting and sanding residue could contribute to recontamination of sediments in Thea Foss Waterway after they are remediated through the EPA Superfund process. If this occurred, Picks Cove could be liable for clean up of the re-contaminated sediments.

Please review and implement the recommendations included in the inspection report. Most of these recommendations are for BMPs that are required under your permit. Recommendation number 11 requests Picks Cove to develop a plan to clean out potentially contaminated sediments in site catch basins and storm drain lines. This plan should be in the form of a letter and should include the following elements:

- Results of representative sampling of catch basin sediments to determine if they contain contaminants at levels of concern for Commencement Bay sediments. Samples should be analyzed for 1) total metals: mercury, lead, zinc, copper 2) semi-volatile organic compounds including PAH and phthalates.

- Procedures to be used for cleaning of catch basins and drain lines and name of company to perform service. Procedure for cleaning the system shall not allow discharge of cleaning water to the storm drain system.

- Plans for storage and disposal of water generated from the cleaning process.

- Plans for storage and disposal of waste sediments obtained from the system.

EPA

filed ✓
COPLCS ✓

- Schedule for storm drain cleaning.

I plan to re-inspect the site within the next several weeks to observe progress on cleaning up the yard and implementing BMPs. Please call me at (360) 407-6260 to discuss the storm drain cleaning project, and if you have any questions or need assistance in carrying out the other recommendations.

Sincerely,

Joyce Mercuri

Joyce Mercuri
Urban Bay Inspector
Toxics Cleanup Program

JM:jr
Enclosure

WASHINGTON STATE DEPARTMENT OF ECOLOGY

CLASS 1 NPDES COMPLIANCE INSPECTION REPORT
GENERAL PERMIT FOR SMALL BOATYARDS
COMMENCEMENT BAY URBAN BAY ACTION TEAM

ENTITY: Pick's Cove Marina
1940 East D Street
Tacoma, WA 98421

Date of Inspection: 5/23/95

Permit Number: WAG-03-1021
Contact: Dale Calkins, Yard Manager

Inspectors: Mercuri, Cloud
Waterbody: Thea Foss Waterway

Inspectors arrived on site at 9:40 a.m. to conduct a Class I Compliance Inspection of the boatyard. The boatyard manager and the owner were in a meeting, so we agreed to return later that morning. We returned to the site at 11:00 a.m. and met with Dale Calkins, yard manager.

Pick's Cove is in the process of expanding its operation into the Pickering Industries building to the South of the boatyard. A new travel-lift haul-out has recently been constructed, as the original haul out was demolished for construction of the SR 509 bridge. The existing shop building in the middle of the boatyard is slated to be demolished in the near future.

Boatwash System:
Total recycle system. Ecology did not receive a letter from Pick's Cove adopting Metro engineering report, but the new system appears to be designed appropriately and is consistent with Metro report. The boatwash system was in the process of being moved from the old location in the middle of the boatyard to a new site adjacent to the Pickering building. The new site will have the re-circulating treatment system inside of the building, with the wash pad outside adjacent to the building. The new wash pad is sloped toward the building and is bordered on either side by curbs. Rainwater falling into the wash pad will overflow the pad and discharge through catch basins in the paved parking area. Water remaining in the sloped pad will be circulated through the treatment system.

We observed the old wash pad at the May 23, 1995, inspection, and found quite a bit of paint residue on it. There was also water and sludges in the corner of the old pad where the sump to the treatment system is located. We informed Mr. Calkins that the wash pad and sump should be thoroughly pressure washed after each boat, to prevent build up of paint residues on the pad. We also observed some overflow of water into a nearby catch basin from a breach in the old wash pad containment area. From the design, it appears that the new wash pad will not leak in this way.

Control of Residues From Bottom Sanding/Painting:
Work in the boatyard is performed by private owners or by Pick's Cove personnel. The majority of work is done by Pick's Cove employees. Contractors are not allowed. Boat owners are required to sign a terms and conditions statement that includes some environmental guidelines. A list of environmental BMPs is also provided to owners. Best Management Practices were not

being implemented appropriately during our inspection. There were a substantial amount of paint chips, drips and sanding residue throughout the paved yard. The yard is crowned such that rainwater flows toward the edges where catch basins are located. We observed a mark on the pavement with a light blue color where water mixed with bottom paint had discharged toward the storm drain. One tenant was wet-sanding even though the BMPs specifically state that wet-sanding is prohibited. Pick's Cove supplies tarps for under the boats, but these do not reach to the drip-line at the boat's gunwales and are far to narrow to capture paint chips and drift. Tarps were often bunched up under the boats where they had been blown by the wind, because they are not weighted down. There were substantial amounts of paint chips and dust under several of the boats, on the tarps and on the surrounding pavement. Mr. Calkins informed us that the tarps are supposed to be swept up at the end of each day, but this does not appear to be adhered to. The Pick's Cove BMPs state that boats must be skirted with visqueen to contain all loose particulates. However, we observed a tenant using a grinder on bottom paint on a boat without any visqueen shrouds. Dust from the grinder was visible blowing through the air. Another boat (unattended), without visqueen shrouds, had copious amounts of blue dust and chips where sanding had taken place, but had not been swept up.

In a later telephone conversation with Mr. Calkins, I asked about the use of Tributyltin bottom paints in the yard. He informed me that TBT paints are not applied to boats in the yard. These paints are banned for most boats, and require a pesticide applicators license to apply, so the situation where TBT would be used is very rare. However, Picks Cove has no stated policy about not accepting TBT-painted boats for maintenance.

Yard Maintenance/Cleaning:
The paved yard is not regularly swept. Mr. Calkins said that in the past the yard was swept from time to time with the sweeper from Pickering Industries. The sweeper is no longer available as Pickering has moved. The area around the shop building and old wash pad was temporarily in a somewhat chaotic state as the operation was in the process of being moved to the new building. We observed two large boat batteries on the pavement. Mr. Calkins requested that an employee move the batteries inside of the new building. We also observed a plywood "tent" structure for storage/disposal(?) of paint. There were a number of partially full paint cans within and on the ground around this structure. There were several oily 55 gallon drums on the asphalt behind the old Pickering Industries warehouse. Some of these drums appeared to be full of oil.

Monitoring:
Effluent monitoring is not required as the boat wash system does not discharge to marine or fresh waters of the state. Annual monitoring of stormwater is required for all permittees. I discussed the need for the water sample with Mr. Calkins. I suggested that the sample be obtained from the catch basin in the northeast corner of the yard, which is just upstream of the storm system junction with the D Street storm drain.

CONCLUSIONS/RECOMMENDATIONS

1. The pressure wash water treatment system appears to be working. However, the old wash pad should be cleaned. The cleaning water shall not be discharged to the storm drain. The new wash pad and sump should be washed after each boat. Organic debris from boat bottoms should be removed and disposed of before becoming mixed with the bottom wash water.

2. Larger tarps should be used under the boats. Tarps should be large enough to reach past the drip-line of the boat's gunwales.

3. Tarps should be weighted down, and measures taken to prevent paint chips and dust from blowing or running off the tarps in rain.

4. Shrouds made of plastic sheeting should be used around all boats where sanding takes place. The shrouds should be anchored to the bottom tarp with tape or weights to prevent leakage under them.

5. All tarps under boats should be swept or vacuumed at a minimum of at the end of each day. Preferably, sanding or scraping residue should be swept or vacuumed periodically throughout the day.

6. The yard should be thoroughly cleaned up and swept as a starting point for better implementation of BMPs. Ongoing sweeping should be considered.

7. Sanding should be prohibited when wind could carry dust or chips away from the tarped area.

8. Batteries should be stored inside a building.

9. Employees and tenants should be better informed of best management practices. Best management practices should be posted in a conspicuous location. Do-it-yourselfers should be required to sign a statement agreeing to implement BMPs.

10. A stormwater sample should be obtained and analyzed as specified in the NPDES permit.

11. Storm drain catch basins and storm drain lines should be cleaned out to remove sediments containing contamination that have accumulated over time. A plan for the catch basin cleaning should be submitted to Ecology before sediments are removed. All sediments should be disposed of properly.

12. Picks Cove should not accept TBT-painted boats for maintenance at the yard.

13. As a part of ongoing site improvements, Picks Cove should consider re-grading the yard and rerouting storm water to provide better control of stormwater discharging from the yard.

14. Oily barrels and used oil behind old Pickering Industries Building should be properly disposed. Future oil storage should be inside the building, or in a properly covered and bermed area.

EPA

Attachment 2

WASHINGTON STATE DEPARTMENT OF ECOLOGY COMMENCEMENT BAY URBAN BAY ACTION TEAM

November 28, 1995

TO: Picks Cove Marina File
FROM: Joyce Mercuri
RE: **CATCH BASIN SAMPLE RESULTS**

Ecology inspectors Joyce Mercuri and Marv Coleman obtained samples from a catch basin at Picks Cove Marina on July 20, 1995. The purpose of the sampling was to determine if sediments discharged from the boat yard are a source of heavy metals or tributyltin to the Thea Foss Waterway.

Samples were obtained from a catch basin on the eastern portion of the yard, approximately in line with the north edge of the shop building and close to D Street (see map). The catch basin was approximately 18" deep, with a concrete bottom and an outflow pipe located close to the top. This pipe flows to a sump close to the center of the yard. The catch basin sediments were approximately 10-12 inches deep in the basin. Samples were obtained using a precleaned stainless steel spoon and were deposited into certified jars provided by Manchester Laboratory. Sample Picks A was obtained from the top 2" of sediments, in an effort to obtain a sample that is representative of recent conditions at the site. Sample Picks B was obtained from the bottom 2" of the catch basin, in an effort to obtain a sample that represents past conditions at the site, to observe if changes have occurred over time. In general, the deeper sediments contained higher levels of constituents. Cadmium, copper, lead, mercury, and zinc were elevated above the Commencement Bay sediment quality objectives.

No sediment quality objective has been set for tributyltins. However, as a comparison, two additional samples were analyzed with the Picks Cove samples. These were a Sequim Bay reference sediment which was spiked with 100 ug/kg (wet weight) of tributyltin. No value for tributyltin has been established for the Sequim Bay Reference Sediment, so the accurace of the analysis can not be determined. However, the spiked sample results for the two samples were 170 ug/kg and 120 ug/kg (dry weight), comparatively. This is substantially below the levels of TBT which were found in the catch basin.

The sample results are presented below:

Metals Results from Picks Cove Catch Basin

METAL	Picks A Sample # 95298010 (0-2 inches from top of catch basin sediments)	Picks B Sample # 95298011 (0-2 inches from bottom of catch basin)	Commencement Bay Sediment Quality Objective[1]
Cadmium	**6 mg/kg J**	**11 mg/kg J**	5.1 mg/kg
Chromium	92 mg/kg J	119 mg/kg J	--
Copper	**60500 mg/kg**	**71400 mg/kg**	390 mg/kg
Lead	**2370 mg/kg J**	**2670 mg/kg J**	450 mg/kg
Mercury	**2.85 mg/kg**	**6.72 mg/kg**	.59 mg/kg
Nickel	88 mg/kg P	89 mg/kg P	>140 mg/kg
Zinc	**6720 mg/kg**	**10300 mg/kg**	410 mg/kg

bold = exceeds Sediment Quality Objective

1. Commencement Bay Nearshore/Tideflats Record of Decision, US EPA, September, 1989

J = Estimated value

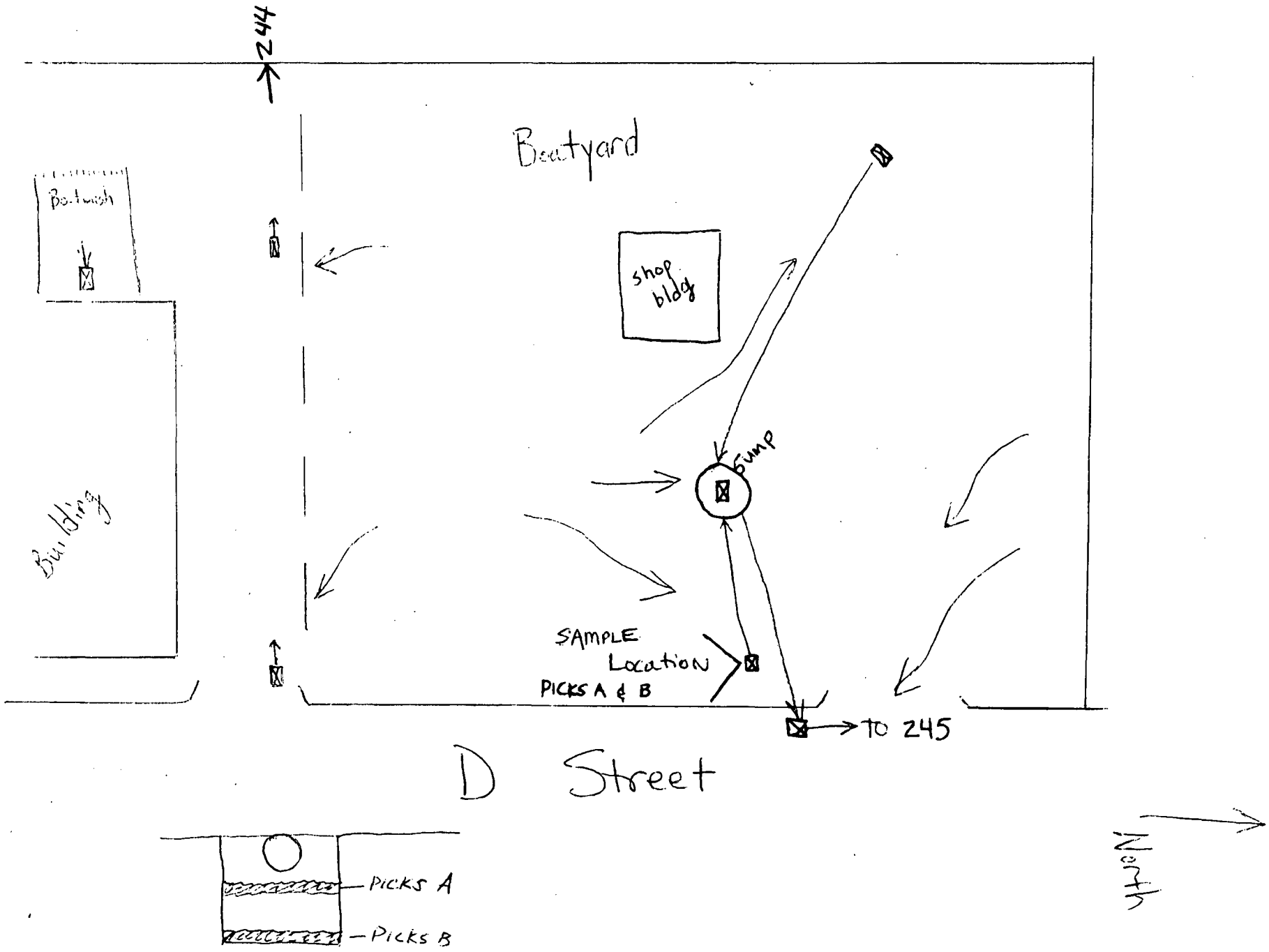
P = The metal was detected above the instrument detection limit but below the established minimum quantitation limit.

Tin Results from Picks Cove Catch Basin

Tins[2]	Picks A Sample # 95298010 (0-2 inches from top of catch basin sediments)	Picks B Sample # 95298011 (0-2 inches from bottom of catch basin)
Tetrabutyltin Chloride	510 ug/kg J	2700 ug/kg J
Tributyltin Chloride	309000 ug/kg E	1420000 ug/kg E
Dibutyltin Chloride	267000 ug/kg E	464000 ug/kg E
Monobutyltin Chloride	54700 ug/kg J	103000 ug/kg E

2. In addition to the results presented here, two replicate samples and one diluted sample were analyzed for Picks A. One additional diluted sample was analyzed for Picks B. Refer to sample data sheets for results of those samples.
J = Estimated value
E = Concentration of the chemical exceeds the known calibration range

FOSS WATERWAY



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
MANCHESTER ENVIRONMENTAL LABORATORY
7411 Beach Drive East • Port Orchard, Washington 98366-8204 • (360) 871-8860 • FAX (360) 871-8850

RECEIVED
'95 AUG 10 P1:35

August 7, 1995

To: Joyce Mercuri, Project Officer

From: Myrna McIntosh, Metals Chemist

Subject: Metals Quality Assurance Memo for the Picks Cove Catch Basin Project
Sample Numbers: 95298010 - 95298011

QUALITY ASSURANCE SUMMARY

Data quality for this project is generally good. It was difficult to get good subsampling from these samples since they were not homogeneous. Because of this the recoveries were poor and imprecise. Results for cadmium, chromium and lead were qualified as estimates "J".

SAMPLE INFORMATION

The samples from the Picks Cove Catch Basins were received by the Manchester Laboratory on 7/21/95 in good condition.

HOLDING TIMES

All analysis were performed within the USEPA Contract Laboratory Program (CLP) holding times for metals analysis (28 days for mercury, 180 days for all other metals).

INSTRUMENT CALIBRATION

Instrument calibration was performed before each analytical run and checked by initial calibration verification standards and blanks. Continuing calibration standards and blanks were analyzed at a frequency of 10% during the run and again at the end of the analytical run. All initial and continuing calibration verification standards are within the relevant USEPA (CLP) control limits. AA calibration gave a correlation coefficient (r) of 0.995 or greater, also meeting CLP calibration requirements.

PROCEDURAL BLANKS

The procedural blanks associated with these samples show no significant levels of analytes.

SPIKED SAMPLE ANALYSIS

Spiked and duplicate spiked sample analysis were performed on this data set. The spike recoveries of cadmium and chromium are outside of the CLP acceptance limits of +/- 25 %.

PRECISION DATA

The results of the spiked and duplicated spiked samples are used to evaluated precision on this sample set. The Relative Percent Difference (RPD) for all analytes, except cadmium, chromium and lead is within the 20 % CLP acceptance window for duplicate analysis. These results are qualified with "J" as estimates.

LABORATORY CONTROL SAMPLE (LCS) ANALYSIS

LCS analysis are within the windows established for each parameter.

Please call Bill Kammin at SCAN 360-871-8801 to further discuss this project.

MMM:mmm

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: **Picks Cove Catch Basins** **LIMS Project ID:** 2035-95

Sample: **BLN52601** **Method:** EPA200.7
Blank ID: SPB3033 **Date Prepared:** 07/26/95 **Matrix:** Sediment/Soil
Project Officer: Mercuri **Date Analyzed:** **Units:** mg/Kg Dry Wt.

Analyte	Result	Qualifier
Cadmium	0.3	U
Chromium	0.5	U
Copper	**7.9**	**P**
Lead	2	U
Nickel	1	U
Zinc	**4.26**	

Authorized By: _____ Release Date: 8/8/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: Picks Cove Catch Basins

LIMS Project ID: 2035-95

Sample: ERA52602
Blank ID: SLC3033
Project Officer: Mercuri

Date Prepared: 07/26/95
Date Analyzed:

Method: EPA200.7
Matrix: Sediment/Soil
Units: mg/Kg Dry Wt.

Analyte	Result	Qualifier
Cadmium	98	
Chromium	94	
Copper	92	
Lead	89	
Nickel	94	
Zinc	91	

Authorized By: M. McMahon Release Date: 8/8/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: Picks Cove Catch Basins **LIMS Project ID:** 2035-95

Sample: 95298010
Field ID: PICKSA
Project Officer: Mercuri

Date Received: 07/21/95
Date Prepared: 07/26/95
Date Analyzed: 08/04/95

Method: EPA200.7
Matrix: Sediment/Soil
Units: mg/Kg Dry Wt.

Analyte	Result	Qualifier
Cadmium	6	J
Chromium	92	J
Copper	60500	
Lead	2370	J
Nickel	88	P
Zinc	6720	

Authorized By: _____ Release Date: 9/8/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: **Picks Cove Catch Basins** **LIMS Project ID:** 2035-95

Sample: **95298011**
Field ID: PICKSB
Project Officer: Mercuri

Date Received: 07/21/95
Date Prepared: 07/26/95
Date Analyzed: 08/04/95

Method: EPA200.7
Matrix: Sediment/Soil
Units: mg/Kg Dry Wt.

Analyte	Result	Qualifier
Cadmium	11	J
Chromium	119	J
Copper	71400	
Lead	2670	J
Nickel	89	P
Zinc	10300	

Authorized By: _____ Release Date: 8/3/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: Picks Cove Catch Basins **LIMS Project ID:** 2035-95

Sample: 95298010 (Matrix Spike - LMX1) **Date Received:** 07/21/95 **Method:** EPA200.7
Field ID: PICKSA **Date Prepared:** 07/26/95 **Matrix:** Sediment/Soil
Project Officer: Mercuri **Date Analyzed:** 08/04/95 **Units:** % Recovery

Analyte	Result	Qualifier
Cadmium	127	N
Chromium	186	N
Copper		NC
Lead		NC
Nickel	115	
Zinc		NC

Authorized By: M. Mercuri Release Date: 8/8/95 Page: 2

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Inductively Coupled Plasma

Project Name: Picks Cove Catch Basins **LIMS Project ID:** 2035-95

Sample: 95298010 (Matrix Spike - LMX2) **Date Received:** 07/21/95 **Method:** EPA200.7
Field ID: PICKSA **Date Prepared:** 07/26/95 **Matrix:** Sediment/Soil
Project Officer: Mercuri **Date Analyzed:** 08/04/95 **Units:** % Recovery

Analyte	Result	Qualifier
Cadmium	75	
Chromium	70	N
Copper		NC
Lead		NC
Nickel	89	
Zinc		NC

Authorized By: [signature] Release Date: 8/8/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Mercury

Project Name: Picks Cove Catch Basins **LIMS Project ID:** 2035-95

Project Officer: Mercuri **Method:** EPA245.5
Date Reported: 31-JUL-95 **Matrix:** Sediment/Soil
Analyte: Mercury

Sample	QC	Field ID	Result	Qualifier	Units	Received	Analyzed
95298010		PICKSA	2.85		mg/Kg	07/21/95	07/28/95
95298010	Matrix Spike			NC		07/21/95	07/28/95
95298010	Matrix Spike			NC		07/21/95	07/28/95
95298011		PICKSB	6.72		mg/Kg	07/21/95	07/28/95
27052623		SHGLC3007	91		mg/Kg		07/28/95
BLN52622		SHGPB3007	0.005	U	mg/Kg		07/28/95

Authorized By: Randy S Knox Release Date: 7-31-95

MANCHESTER ENVIRONMENTAL LABORATORY
7411 Beach Drive E , Port Orchard Washington 98366

RECEIVED
'95 NOV -7 P1:16

CASE NARRATIVE

November 3, 1995

Subject: Picks Cove Catch Basins

Samples: 95 - 298010 and -298011

Case No. 2035 -95

Officer: Joyce Mercuri

By: Dickey D. Huntamer
Organics Analysis Unit

TRIBUTYL TINS

ANALYTICAL METHODS:

The samples were extracted following the methods given in Puget Sound Estuary Program (PSEP) "Recommended Guidelines for Measuring Organic Compounds in Puget Sound Sediment and Tissue Samples" Recommended Methods for Organotin Compounds. The samples were tumbler extracted with methylene chloride and tropolone, 0.1% by weight, solvent exchanged to hexane and dried using sodium sulfate. The organotin compounds were hexylated using the Grignard reaction given in Krone et al (1989) including the silica gel/alumina cleanup. Analysis was done by capillary Gas Chromatography using Single Ion Monitoring (SIM) mode GC/MS. All samples are reported on a dry weight basis.

HOLDING TIMES:

The samples were stored frozen following PSEP Guidelines until extraction. After extraction all samples were analyzed within the recommended 40 day extract time.

BLANKS:

Low levels of tributyltin were detected in the laboratory blank. The levels were insignificant when compared to the levels found in the samples.

SURROGATES:

Recovery of the surrogate spike, Tripropyltin, ranged from 50% to 145%. Some of the recoveries were greater than 100% due to chromatographic interference with the quantitation ion. No surrogate recovery QC limits have been established for this method.

MATRIX SPIKE AND MATRIX SPIKE :

The levels of organotins in the samples was very high compared tot he amount of spike added to the samples. Consequently recoveries could not be determined. The matrix spike sample data is reported as a replicate sample analyses.

ANALYTICAL COMMENTS:

The samples contained very high concentrations of organotins. Microscopic observations made on the samples indicated that along with the dirt and detritus from a storm drain significant amounts of glass fibers, fiberglass, wood and charcoal were present along with numerous red, blue and white paint chips. Measurements performed on the red, white and blue paint chips indicated that the red and blue paint chips were high in organotins.

Two additional samples were analyzed with the sediment samples. This was a Sequim Bay Reference Sediment which presumably was spiked with 100 ng/gm (100 ug/Kg) wet weight of tributyltin. No value for tributyltin has been established for the Sequim Bay Reference Sediment so the accuracy of the analysis cannot be determined. These samples are identified as SBR53768 and SBR53769.

SBR53768	102	ug/Kg (wet weight)	Tributyltin	170.28 dry wt.
SBR53769	72	ug/Kg (wet weight)	Tributyltin	120.20 dry wt.

Note that the data sheets report these values as dry weight. The percent solids is 59.9% for these samples.

DATA QUALIFIER CODES:

U	-	The analyte was not detected at or above the reported value.
J	-	The analyte was positively identified. The associated numerical value is an estimate.
UJ	-	The analyte was not detected at or above the reported estimated result.
REJ	-	The data are unusable for all purposes.
EXP	-	The result is equal to the number before EXP times 10 to the power of the number after EXP. As an example 3EXP6 equals 3×10^6.
NAF	-	Not analyzed for.
N	-	For organic analytes there is evidence the analyte is present in this sample.
NJ	-	There is evidence that the analyte is present. The associated numerical result is an estimate.
E	-	This qualifier is used when the concentration of the associated value exceeds the known calibration range.
bold	-	The analyte was present in the sample. (Visual Aid to locate detected compound on report sheet.)

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: Picks Cove Catch Basins **LIMS Project ID:** 2035-95

Sample: 95298010 **Date Received:** 07/21/95 **Method:** NOAA_TBT
Field ID: PICKSA **Date Prepared:** 08/29/95 **Matrix:** Sediment/Soil
Project Officer: Mercuri **Date Analyzed:** 10/01/95 **Units:** ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	510	J
Tributyltin Chloride	309000	E
Dibutyltin Chloride	267000	E
Monobutyltin Chloride	54700	J

Surrogate Recoveries

Tripropyltin Chloride	109	%

Authorized By: [signature] Release Date: 11/2/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: Picks Cove Catch Basins **LIMS Project ID:** 2035-95

Sample: 95298010 (Replicate - REP1) **Date Received:** 07/21/95 **Method:** NOAA_TBT
Field ID: PICKSA **Date Prepared:** 08/29/95 **Matrix:** Sediment/Soil
Project Officer: Mercuri **Date Analyzed:** 10/01/95 **Units:** ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	1380	J
Tributyltin Chloride	233000	
Dibutyltin Chloride	188000	
Monobutyltin Chloride	62800	

Surrogate Recoveries

Tripropyltin Chloride	145	%

Authorized By: D. Hunter Release Date: 11/2/95 Page: 2

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: Picks Cove Catch Basins **LIMS Project ID:** 2035-95

Sample: 95298010 (Replicate - REP2) **Date Received:** 07/21/95 **Method:** NOAA_TBT
Field ID: PICKSA **Date Prepared:** 08/29/95 **Matrix:** Sediment/Soil
Project Officer: Mercuri **Date Analyzed:** 10/01/95 **Units:** ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	1260	J
Tributyltin Chloride	318000	
Dibutyltin Chloride	263000	
Monobutyltin Chloride	81500	

Surrogate Recoveries

Tripropyltin Chloride	130	%

Authorized By: D. Hunter Release Date: 11/2/95 Page: 3

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: **Picks Cove Catch Basins** **LIMS Project ID:** 2035-95

Sample: **95298010 (Dilution - DIL1)** **Date Received:** 07/21/95 **Method:** NOAA_TBT
Field ID: PICKSA **Date Prepared:** 08/29/95 **Matrix:** Sediment/Soil
Project Officer: Mercuri **Date Analyzed:** 10/01/95 **Units:** ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	89500	U
Tributyltin Chloride	**238000**	
Dibutyltin Chloride	**190000**	
Monobutyltin Chloride	**30400**	**J**

Surrogate Recoveries

Tripropyltin Chloride	**NAF**

Authorized By: D. [illegible] Release Date: 10/10/95 Page: 4

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: Picks Cove Catch Basins **LIMS Project ID:** 2035-95

Sample: 95298011
Field ID: PICKSB
Project Officer: Mercuri

Date Received: 07/21/95
Date Prepared: 08/29/95
Date Analyzed: 10/01/95

Method: NOAA_TBT
Matrix: Sediment/Soil
Units: ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	2700	J
Tributyltin Chloride	1420000	E
Dibutyltin Chloride	464000	E
Monobutyltin Chloride	103000	E

Surrogate Recoveries

Tripropyltin Chloride	119	%

Authorized By: D. Newton Release Date: 11/2/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: Picks Cove Catch Basins **LIMS Project ID:** 2035-95

Sample: 95298011 (Dilution - DIL1) **Date Received:** 07/21/95 **Method:** NOAA_TBT
Field ID: PICKSB **Date Prepared:** 08/29/95 **Matrix:** Sediment/Soil
Project Officer: Mercuri **Date Analyzed:** 10/01/95 **Units:** ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	6000	J
Tributyltin Chloride	1260000	
Dibutyltin Chloride	384000	
Monobutyltin Chloride	70600	J

Surrogate Recoveries

Tripropyltin Chloride	NAF

Authorized By: D. Norton Release Date: 11/2/95 Page: 2

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: Picks Cove Catch Basins

LIMS Project ID: 2035-95

Sample: BLN53766
Blank ID: BW5241
Project Officer: Mercuri

Date Analyzed:

Method: NOAA_TBT
Matrix: Sediment/Soil
Units: ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	120	U
Tributyltin Chloride	**40**	**J**
Dibutyltin Chloride	120	U
Monobutyltin Chloride	120	U

Surrogate Recoveries

Tripropyltin Chloride	**85**	**%**

Authorized By: [signature] Release Date: 11/2/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: **Picks Cove Catch Basins** **LIMS Project ID:** 2035-95

Sample: **BLN53767** **Method:** NOAA_TBT
Blank ID: BW5241D **Matrix:** Sediment/Soil
Project Officer: Mercuri **Date Analyzed:** **Units:** ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	120	U
Tributyltin Chloride	**26**	**J**
Dibutyltin Chloride	120	U
Monobutyltin Chloride	120	U

Surrogate Recoveries

Tripropyltin Chloride	**65**	**%**

Authorized By: D. Hu[illegible] Release Date: 11/2/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: **Picks Cove Catch Basins** **LIMS Project ID:** 2035-95

Sample: **SBR53768** **Method:** NOAA_TBT
Blank ID: SQ5241 **Matrix:** Sediment/Soil
Project Officer: Mercuri **Date Analyzed:** **Units:** ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	140	U
Tributyltin Chloride	**170**	
Dibutyltin Chloride	**42**	**J**
Monobutyltin Chloride	140	U

Surrogate Recoveries

Tripropyltin Chloride	**56**	**%**

Authorized By: D. X. [illegible] Release Date: 11/8/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Tri-butyl Tin

Project Name: Picks Cove Catch Basins

LIMS Project ID: 2035-95

Sample: SBR53769
Blank ID: SQ5241D
Project Officer: Mercuri

Date Analyzed:

Method: NOAA_TBT
Matrix: Sediment/Soil
Units: ug/Kg

Analyte	Result	Qualifier
Tetrabutyltin Chloride	140	U
Tributyltin Chloride	**120**	**J**
Dibutyltin Chloride	**17**	**J**
Monobutyltin Chloride	140	U

Surrogate Recoveries

Tripropyltin Chloride	**50**	**%**

Authorized By: D. Hamilton

Release Date: 11/12/95

Attachment 3

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (206) 407-6300

October 5, 1995

Mr. Dale Calkins, Yard Manager
Picks Cove Marina
1940 East D Street
Tacoma, WA 98421-1503

Dear Mr. Calkins:

Re: General NPDES Permit No. WAG-03-1021 Follow-Up Inspection

Enclosed is the report from the follow-up inspection which I conducted at your facility on October 4, 1995. Please review and implement the recommendations at the end of the report. I will call you in two weeks to find out how you plan to have the yard cleaned. From conversations I have had with a parking lot cleaning company, it seems that various types of vacuum services are available, at reasonable costs. Another option would be to have the yard pressure washed, capturing the water in a blocked off catch basin and pumping it to the boat wash treatment system. You can find listings for these companies under "vacuum-industrial" in the telephone book.

Also, please provide me with a written account of the catch basin cleaning activities.

Please contact me at (360) 407-6260, if you have questions about this letter or the report. I will send you the sampling results as soon as the final results are available.

Sincerely,

Joyce Mercuri

Joyce Mercuri
Urban Bay Inspector/Site Manager
Toxics Cleanup Program
Southwest Regional Office

JM:jr
Enclosure

WASHINGTON STATE DEPARTMENT OF ECOLOGY

COMMENCEMENT BAY URBAN BAY ACTION TEAM

FOLLOW-UP INSPECTION

ENTITY: Pick's Cove Marina
1940 East D Street
Tacoma, WA 98421

Date of Inspection: 10/4/95

Permit Number: WAG-03-1021
Contact: Dale Calkins, Yard Manager

Inspectors: Mercuri
Waterbody: Thea Foss Waterway

The yard has shown some improvements since our initial inspection. Larger tarps are being used under the boats, and boats which are being sanded are adequately shrouded with plastic. Mr. Calkins informed me that Picks Cove employees sweep or vacuum the tarps at the end of each work day. Private owners who use the yard are required to clean up after themselves each day, or pay a $40 fee to Picks Cove to do it for them. I did observe a small pile of paint chips and dust on one tarp. I advised Mr. Calkins to be more vigilant with the tarp cleaning. Most of the tarps under the boats were somewhat bunched up and folded. Mr. Calkins said that it is difficult to keep them stretched out, especially after a very windy day like the day before the inspection. I advised him to obtain some railroad ties or other weights and make a better effort to keep the tarps stretched out. Mr. Calkins informed me that the yard has been hand-swept since the last inspection. The yard did appear to be cleaner, but I observed several areas where paint chips and debris were still present on the pavement. The pavement on this site is not smooth, and paint chips are difficult to remove from the rough surface. I advised Mr. Calkins to have the yard swept by a mechanical/vacuum sweeper. He said that he would borrow one from their parent company. He expressed concern that a mechanical sweeper would only move dust around, and not pick up the paint chips. I advised him to contact a professional parking lot sweeping company to assess the yard and determine the best strategy for cleaning the yard. He informed me that he would let me know within two weeks how he intends to have the yard cleaned.

The new wash pad appears to be working well. Mr. Calkins said that the pad is washed at the end of each day. I observed a pool of paint/water on the pad from a boat which had just been washed. I will advise Mr. Calkins that washing the pad after each boat is preferable, to prevent build up of paint residues which make it difficult to tell if the pad is clean. The old wash pad area has been cleaned and is now used for storage and other yard work. Picks plans to fill in the old sump with concrete.

The old paint cans observed around the small plywood "tent" on our last inspection had been removed. The tent is used for drying empty paint cans. I asked Mr. Calkins to add a lip around the openings to the structure to prevent chips from straying out and rainwater from coming in.

Mr. Calkins informed me that the catch basins had been cleaned out by hand. I asked him to provide me with a written account of how they were cleaned. I told him that we would re-sample the catch basins within a few months to see if they are becoming recontaminated by material in the pipes or from the yard.

I reviewed the preliminary results from the catch basin samples with Mr. Calkins. I will send him a summary of the samples when the final results are available.

Conclusions:
Although progress has been made, the site still needs improvement. The following actions are necessary:

1. Obtain better and more weights to keep tarps stretched out under boats.

2. Yard should be professionally vacuumed, washed, or swept to remove residual paint chips and dust. If yard is to be washed, water should be captured and disposed of through the boatwash treatment system.

3. Boat wash pad should be pressure washed at the end of each job to prevent paint buildup.

4. Improve consistency of sweeping/vacuuming tarps at the end of each day.

5. Add lips to paint can drying tent.

From: ALISON OLSON (AOLSON)
To: CNGO
Date: Friday, September 29, 1995 2:03 pm
Subject: from Joyce Mercuri

Microsoft Mail v3.0 IPM.Microsoft Mail.Note
From: Mercuri, Joyce
To: EPA - WA Operations Office
Subject: please forward to Christina Ngo
Date: 1995-09-29 09:36
Priority:
Message ID: C362DA49
Conversation ID: C362DA49

Hi Christina. Just wanted to let you know, so far I have visited the Navy/Marine Corps training center dock area and the "vacant Port property".
We saw nothing suspicious on the Navy site, although they do have a large tank on the edge of the waterway that is used as an oily water separator.
It has a containment wall around it but shows a small amount of overspill.
I am going to call the commander in charge of the area next week to see if he knows anything. The Port property did have some anthropogenic material.
Mostly, it was rip-rapped with large rock and small concrete blocks. There was a small (about 5 feet high) pile of a grey and black aggregate on the lower bank. We took a sample of that for lead, arsenic, copper, zinc. As usual with manchester, the results won't be back for at least a month.
Also, the TBT samples from Picks cove have been started and the first run came out at >100 ppm. He is planning to run the samples with two other methods as well, just for comparison. He also told me that he is working on some City of Tacoma/EPA splits for TBT and has found paint chips in those samples too. Do you know which ones those are?

I am going to write up results of all my bank visits in one memo, when they are done. In the meantime, I'll keep you posted as I go. Let me know if that's not ok. Joyce

==========

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (206) 407-6300

RECEIVED
JUL 24 1995
SUPERFUND BRANCH

July 11, 1995

Mr. Dale Calkins, Yard Manager
Picks Cove Marina
1940 East D Street
Tacoma, WA 98421-1503

Dear Mr. Calkins:

Re: General NPDES Permit No. WAG-03-1021 Class 1 Compliance Inspection

Thank you for the time you spent with Greg Cloud and myself during our inspection on May 23, 1995. A copy of the inspection report is enclosed for your information.

As we discussed with you during the inspection, major improvements are needed in implementing Best Management Practices (BMPs) at Picks Cove. Not only are BMPs required under your permit for the purpose of protecting water quality, but uncontrolled painting and sanding residue could contribute to recontamination of sediments in Thea Foss Waterway after they are remediated through the EPA Superfund process. If this occurred, Picks Cove could be liable for clean up of the re-contaminated sediments.

Please review and implement the recommendations included in the inspection report. Most of these recommendations are for BMPs that are required under your permit. Recommendation number 11 requests Picks Cove to develop a plan to clean out potentially contaminated sediments in site catch basins and storm drain lines. This plan should be in the form of a letter and should include the following elements:

- Results of representative sampling of catch basin sediments to determine if they contain contaminants at levels of concern for Commencement Bay sediments. Samples should be analyzed for 1) total metals: mercury, lead, zinc, copper 2) semi-volatile organic compounds including PAH and phthalates.

- Procedures to be used for cleaning of catch basins and drain lines and name of company to perform service. Procedure for cleaning the system shall not allow discharge of cleaning water to the storm drain system.

- Plans for storage and disposal of water generated from the cleaning process.

- Plans for storage and disposal of waste sediments obtained from the system.

filed ✓
COPLCS ✓
EPA ✓

- Schedule for storm drain cleaning.

I plan to re-inspect the site within the next several weeks to observe progress on cleaning up the yard and implementing BMPs. Please call me at (360) 407-6260 to discuss the storm drain cleaning project, and if you have any questions or need assistance in carrying out the other recommendations.

Sincerely,

Joyce Mercuri

Joyce Mercuri
Urban Bay Inspector
Toxics Cleanup Program

JM:jr
Enclosure

WASHINGTON STATE DEPARTMENT OF ECOLOGY

CLASS 1 NPDES COMPLIANCE INSPECTION REPORT
GENERAL PERMIT FOR SMALL BOATYARDS
COMMENCEMENT BAY URBAN BAY ACTION TEAM

ENTITY: Pick's Cove Marina
1940 East D Street
Tacoma, WA 98421

Date of Inspection: 5/23/95

Permit Number: WAG-03-1021
Contact: Dale Calkins, Yard Manager

Inspectors: Mercuri, Cloud
Waterbody: Thea Foss Waterway

Inspectors arrived on site at 9:40 a.m. to conduct a Class I Compliance Inspection of the boatyard. The boatyard manager and the owner were in a meeting, so we agreed to return later that morning. We returned to the site at 11:00 a.m. and met with Dale Calkins, yard manager.

Pick's Cove is in the process of expanding its operation into the Pickering Industries building to the South of the boatyard. A new travel-lift haul-out has recently been constructed, as the original haul out was demolished for construction of the SR 509 bridge. The existing shop building in the middle of the boatyard is slated to be demolished in the near future.

Boatwash System:
Total recycle system. Ecology did not receive a letter from Pick's Cove adopting Metro engineering report, but the new system appears to be designed appropriately and is consistent with Metro report. The boatwash system was in the process of being moved from the old location in the middle of the boatyard to a new site adjacent to the Pickering building. The new site will have the re-circulating treatment system inside of the building, with the wash pad outside adjacent to the building. The new wash pad is sloped toward the building and is bordered on either side by curbs. Rainwater falling into the wash pad will overflow the pad and discharge through catch basins in the paved parking area. Water remaining in the sloped pad will be circulated through the treatment system.

We observed the old wash pad at the May 23, 1995, inspection, and found quite a bit of paint residue on it. There was also water and sludges in the corner of the old pad where the sump to the treatment system is located. We informed Mr. Calkins that the wash pad and sump should be thoroughly pressure washed after each boat, to prevent build up of paint residues on the pad. We also observed some overflow of water into a nearby catch basin from a breach in the old wash pad containment area. From the design, it appears that the new wash pad will not leak in this way.

Control of Residues From Bottom Sanding/Painting:
Work in the boatyard is performed by private owners or by Pick's Cove personnel. The majority of work is done by Pick's Cove employees. Contractors are not allowed. Boat owners are required to sign a terms and conditions statement that includes some environmental guidelines. A list of environmental BMPs is also provided to owners. Best Management Practices were not

being implemented appropriately during our inspection. There were a substantial amount of paint chips, drips and sanding residue throughout the paved yard. The yard is crowned such that rainwater flows toward the edges where catch basins are located. We observed a mark on the pavement with a light blue color where water mixed with bottom paint had discharged toward the storm drain. One tenant was wet-sanding even though the BMPs specifically state that wet-sanding is prohibited. Pick's Cove supplies tarps for under the boats, but these do not reach to the drip-line at the boat's gunwales and are far to narrow to capture paint chips and drift. Tarps were often bunched up under the boats where they had been blown by the wind, because they are not weighted down. There were substantial amounts of paint chips and dust under several of the boats, on the tarps and on the surrounding pavement. Mr. Calkins informed us that the tarps are supposed to be swept up at the end of each day, but this does not appear to be adhered to. The Pick's Cove BMPs state that boats must be skirted with visqueen to contain all loose particulates. However, we observed a tenant using a grinder on bottom paint on a boat without any visqueen shrouds. Dust from the grinder was visible blowing through the air. Another boat (unattended), without visqueen shrouds, had copious amounts of blue dust and chips where sanding had taken place, but had not been swept up.

In a later telephone conversation with Mr. Calkins, I asked about the use of Tributyltin bottom paints in the yard. He informed me that TBT paints are not applied to boats in the yard. These paints are banned for most boats, and require a pesticide applicators license to apply, so the situation where TBT would be used is very rare. However, Picks Cove has no stated policy about not accepting TBT-painted boats for maintenance.

Yard Maintenance/Cleaning:
The paved yard is not regularly swept. Mr. Calkins said that in the past the yard was swept from time to time with the sweeper from Pickering Industries. The sweeper is no longer available as Pickering has moved. The area around the shop building and old wash pad was temporarily in a somewhat chaotic state as the operation was in the process of being moved to the new building. We observed two large boat batteries on the pavement. Mr. Calkins requested that an employee move the batteries inside of the new building. We also observed a plywood "tent" structure for storage/disposal(?) of paint. There were a number of partially full paint cans within and on the ground around this structure. There were several oily 55 gallon drums on the asphalt behind the old Pickering Industries warehouse. Some of these drums appeared to be full of oil.

Monitoring:
Effluent monitoring is not required as the boat wash system does not discharge to marine or fresh waters of the state. Annual monitoring of stormwater is required for all permittees. I discussed the need for the water sample with Mr. Calkins. I suggested that the sample be obtained from the catch basin in the northeast corner of the yard, which is just upstream of the storm system junction with the D Street storm drain.

CONCLUSIONS/RECOMMENDATIONS

1. The pressure wash water treatment system appears to be working. However, the old wash pad should be cleaned. The cleaning water shall not be discharged to the storm drain. The new wash pad and sump should be washed after each boat. Organic debris from boat bottoms should be removed and disposed of before becoming mixed with the bottom wash water.

2. Larger tarps should be used under the boats. Tarps should be large enough to reach past the drip-line of the boat's gunwales.

3. Tarps should be weighted down, and measures taken to prevent paint chips and dust from blowing or running off the tarps in rain.

4. Shrouds made of plastic sheeting should be used around all boats where sanding takes place. The shrouds should be anchored to the bottom tarp with tape or weights to prevent leakage under them.

5. All tarps under boats should be swept or vacuumed at a minimum of at the end of each day. Preferably, sanding or scraping residue should be swept or vacuumed periodically throughout the day.

6. The yard should be thoroughly cleaned up and swept as a starting point for better implementation of BMPs. Ongoing sweeping should be considered.

7. Sanding should be prohibited when wind could carry dust or chips away from the tarped area.

8. Batteries should be stored inside a building.

9. Employees and tenants should be better informed of best management practices. Best management practices should be posted in a conspicuous location. Do-it-yourselfers should be required to sign a statement agreeing to implement BMPs.

10. A stormwater sample should be obtained and analyzed as specified in the NPDES permit.

11. Storm drain catch basins and storm drain lines should be cleaned out to remove sediments containing contamination that have accumulated over time. A plan for the catch basin cleaning should be submitted to Ecology before sediments are removed. All sediments should be disposed of properly.

12. Picks Cove should not accept TBT-painted boats for maintenance at the yard.

13. As a part of ongoing site improvements, Picks Cove should consider re-grading the yard and rerouting storm water to provide better control of stormwater discharging from the yard.

14. Oily barrels and used oil behind old Pickering Industries Building should be properly disposed. Future oil storage should be inside the building, or in a properly covered and bermed area.

Justine
x4974

Picks Cove File

Phone call: October 12, 1994

L. Cohen to Ray Johnson, Sitts & Hill Engineers, Inc
474-9449

He called to see whether they could reuse the pilings removed during the project.

Launchway - steel and concrete
Moorage - reuse existing pilings - 49 pilings

will agree to submit plan to minimize impacts.

October 17, 1994

Jim Hartoe - will send plan by fax for EPA review

Fletcher General, Inc.
2111 N. Northgate Way, Suite 305 (98133)
P.O. Box 24508, Seattle, Washington 98124-0508
Telephone 206-368-6300, Fax 206-368-6318

FLETCHER GENERAL CONSTRUCTION

Post-it® Fax Note 7671	Date 10-17	# of pages ▶ TWO
To MS LORI COHEN	From JIM HARTERY	
Co./Dept. US EPA DIST 10	Co. GENERAL CONST.	
Phone # 553 1200	Phone # 572-7432	
Fax # 553 0124	Fax # 627 4904	

October 13, 1994

U.S. Environmental Protection Agency
District 10
1200 6th Avenue
Seattle, WA. 98101

Attention: Ms. Lori Cohen

Reference: Reconfiguration of Pick's Cove Marina

Dear Ms. Cohen,

Please be advised that Fletcher General Construction has been selected by Mr. Gordon Pickering as his contractor of choice to accomplish the required construction work on the aforementioned project.

We spoke with Mr. Ray Johnson of Sitts & Hill Engineers today and he suggested we contact you regarding some concerns that need to be addressed prior to the City of Tacoma issuing the permit.
In the absence of having a conversation with you directly, we will address the concerns as we've been informed by Sitts & Hill.
They are as follows:

METHOD OF EXTRACTION

The method of extraction for the existing wood piling will be by what we term as a "dead line pull". In other words we will simply pull them out using the crane line on the driver. This is our preferred method for extraction as it does not require digging (dredging) or the use of a vibratory hammer extractor both of which may disturb natural sediments in the water way. In the cases where we come upon a stubborn pile we put the pile driving hammer on it and loosen or "wake up" the pile. Then it will be pulled out.

DISPOSAL OF DEMOLITION DEBRIS

The piling as well as any styrofoam floats that will not be reused in the newly configured marina will be staged and secured on site in the owners vacated boatyard. From there they will be either sold off or legally disposed of at the owners discretion. Any other demolition debris that may be generated by our activities, or that we are asked to dispose of by the owner, will be legally disposed of at a sanitary landfill and/or a site which receives creosoted or other "problem" wastes.

It appears that time is of the essence on the issuance of this permit as there are some milestone dates that must be met as dictated to Pickering by WSDOT. As we all know, we can not begin this work without the permit in place and for us it is becoming more difficult to schedule the work without a start date.

We hope we addressed the concerns of the City of Tacoma Building and Land Use Division, and the United States Environmental Protection Agency in regard to this particular project.

We thank you each of you for your time and consideration in this matter. If you require any additional information or have any questions, please feel free to contact myself or Alan Boyce at (206) 572-7432 fax (206) 627-4904.

Sincerely,

FLETCHER GENERAL CONSTRUCTION

Jim Harteau
Superintendent

cc: Ms. Julia Koster
City of Tacoma Building and Land Use
747 Market Street
Tacoma, WA. 98402-3769

SITTS & HILL ENGINEERS, INC.

Professional Engineers and Planners

2901 SOUTH 40TH ST., TACOMA, WA 98409-5697
TELEPHONE (206) 474-9449
FAX NO.: (206) 474-0153

THOMAS H. SEMON, P.E.
BRENT K. LESLIE, P.E.
ROBERT N. ERB, P.L.S.
ROBERT J. DAHMEN, P.E.

Site File

RECEIVED
AUG 19 1994
SUPERFUND REMEDIAL BRANCH

August 17, 1994

U.S. Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, WA 98101

ATTN: Ms. Lori Cohen

RE: Pick's Cove Marina - Shoreline Development Permit

Dear Lori:

Pursuant to our conversation this morning, it is my understanding that testing and monitoring of bottom sediments, in the vicinity of Pick's Cove Marina, is included in the sampling program to be soon undertaken by your agency. It will, therefore, not be necessary for the property owner to retain the services of an independent laboratory to perform an analysis of bottom materials.

I've taken an opportunity to speak with Justine Barton regarding specific measures to control sediment disruption during pile driving operations. We agreed that a construction note will be added to our plans directing the contractor to contact you prior to initiating work, and present the specific methodology to be used for removal and disposal of existing piles. Justine agreed that this was reasonable, because individual contractors may have different, but equally effective, approaches to minimize impacts.

If you have any questions or comments on this matter, or require additional information, please feel free to contact me at any time.

Sincerely,

Jonathon L. Brand, P.E. (now works for Kitsap County)
Project Engineer

cc: Gordon Pickering
Peter Kattich - City of Tacoma

- avoid grubbing / false starts
- just cut-off / contain no material
- condition of piling
board workers
- impacts
on the ground
logistics -
least disturbance

Samples
representative
wildlife-remove]

8/16 Cohen Notes

Spoke to Jon Brand 474-9449 last week (8/9)
He said project now involves removing 51 piles and installing 21 piles and moving the launchway - more moorage.

Project pinned for October

Rick Hamstreet 572-3625 / Pickering may call re: sampling

My conclusion:

No samples need.
Citgo RD - sampling includes 5 samples in the vicinity.
RD - B15 bank composites
RD - B16 bank composite
RD - S48 subtidal in marina
RD - S50 near outfall
RD - S49 outside of marina

Asked Jon Brand to send letter describing piling removal and to minimize impacts during piling removal - send letter w/ details - talk to Justine Burton 553-4974.

location of piling removal / methods logistics
any other impacts to sediments from the project - (or none)

8/17 Brand spoke to J. Burton
Construction plans to be submitted to EPA in 3 wks.

Tacoma City of Tacoma
Hearing Examiner

AUG 15 1994
SUPERVISOR

August 12, 1994

Mr. Gary Demich
Olympia Region Administrator
Washington State Department of Transportation
P. O. Box 47300
Olympia WA 98504-7300

RE: Shoreline Management Development Permit and
Shoreline Management Development/Conditional Use Permit
Pick's Cove Marine Center
File No.: 141.570

Dear Mr. Demich:

Thank you for your letter of July 21, 1994, regarding the above-referenced matter. Please be advised that the Hearing Examiner's Findings, Conclusions and Recommendations in the matter were entered on July 27, 1994, and consideration by the Tacoma City Council is scheduled for August 16, 1994. I am enclosing for your information a copy of the Hearing Examiner's Report entered in the matter. Should the City Council concur in the Examiner's recommendation, the permit documents will be sent to the State Department of Ecology for its review and action in accordance with RCW 90.58.

The Examiner understands WSDOT's desire to have the shoreline permits for relocation of the Pick's Cove Marine Center finalized in order that it may proceed with planned construction on SR-509. However, it should be noted that various aspects of the permits requested by Pick's Cove Marine Center were contested by Federal and State environmental resource agencies, the City of Tacoma, and an abutting property owner. As I am sure you can understand, it is incumbent upon the Examiner to give due consideration to the issues in dispute and to make every effort to ensure that state and local shoreline laws are properly applied.

Should you require any additional information in regard to this matter, please feel free to contact either this office at 206-591-5195 or the Shoreline Section of the Building and Land Use Services Division of the Department of Public Works at 206-591-5363.

Rodney M. Kerslake
Hearing Examiner

/ck

cc: Parties listed on Examiner's Report dated July 27, 1994
William Pugh, Director of Public Works
The Honorable Mayor Harold Moss

Jon Brand / Cohen
phone call 6/9/94
will send new plans 15-20
only pile driving &
building launchway
(no new building on banks)

Site File

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

May 9, 1994.

Reply To
Attn Of: HW-113

Ms. Kathlyn Henderson
Land Use Administrator
Building and Land Use Services Division
747 Market Street
Tacoma, Washington 98402-3769

Subject: Comments on Shoreline Development Permit Application File 141.570; Gordon Pickering, Pick's Cove Marina, Tacoma, WA

Dear Ms. Henderson;

The U.S. Environmental Protection Agency (EPA) recently received for review a copy of the Shoreline Development Permit Application File 141.570. In this permit application, Gordon Pickering proposes reconfiguration of an existing marina at 1940 D Street, Tacoma, Washington. This letter provides comments on this application from the EPA Superfund program.

As background, the proposed site is located in the Head of the Thea Foss Waterway Problem Area of the Commencement Bay Nearshore/Tideflats (CB/NT) Superfund Site. This problem area is one of eight problem areas that are identified in the CB/NT Record of Decision (September 1989) according to contaminated marine sediments and facilities or sites on land that are suspected sources of contaminants to the sediments.

The sediments in the Thea Foss Waterway that will require remediation and long-term monitoring under Superfund will be further defined based on sediment remedial design sampling results. At this time, sediment remedial design sampling in the Thea Foss Waterway is to begin in 1994 under the terms of an EPA Administrative Order on Consent with the City of Tacoma.

The Pick's Cove Marina proposal includes buidling of a pile-supported building on the northwest corner of the site, building of a new steel pile launchway and building of additional covered moorage slips in the Head of Thea Foss Waterway problem area, along the shoreline of the Thea Foss Waterway. From the application, the area and volume of sediments that may be disturbed or removed was not clear. Prior to conducting any in-

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water work in Thea Foss Waterway, the applicant should contact and coordinate such efforts with the EPA Superfund Program.

EPA Superfund suggests the following permit condition:

"The applicant shall conduct in-water work (in the intertidal or subtidal area) in accordance with federal environmental regulations, including the Comprehensive, Environmental, Response, Compensation, and Liability Act, commonly referred to as "Superfund". This may include requirements for sampling and analysis, and proper remediation and disposal of contaminated sediments. The applicant shall obtain approval from the U.S. Environmental Protection Agency Superfund Program for this in-water work."

We appreciate the opportunity to review this information. If you have any further questions, please contact me at (206) 553-6523.

Sincerely,

Lori Cohen

Lori Cohen
Superfund Site Manager

cc. Dave Smith, Ecology
Nancy Musgrove, Weston

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE
SEATTLE, WA 98101

TARGET SHEET

The document below is scanned IN PARTS.
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CD Rom

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Other:

**A copy of the document may be requested from the Superfund Records Center.

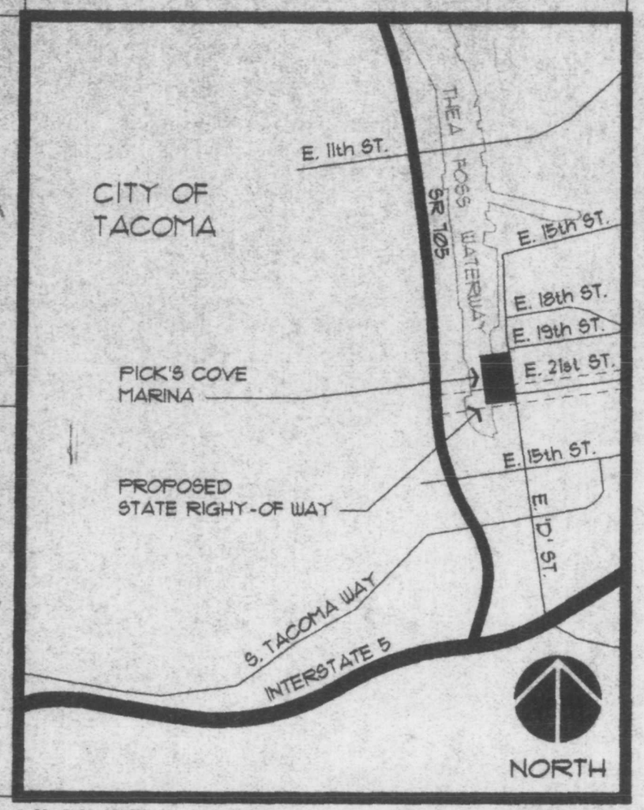
Document Information

Document ID #: 1310346

File #: 17.5.6.2 V2

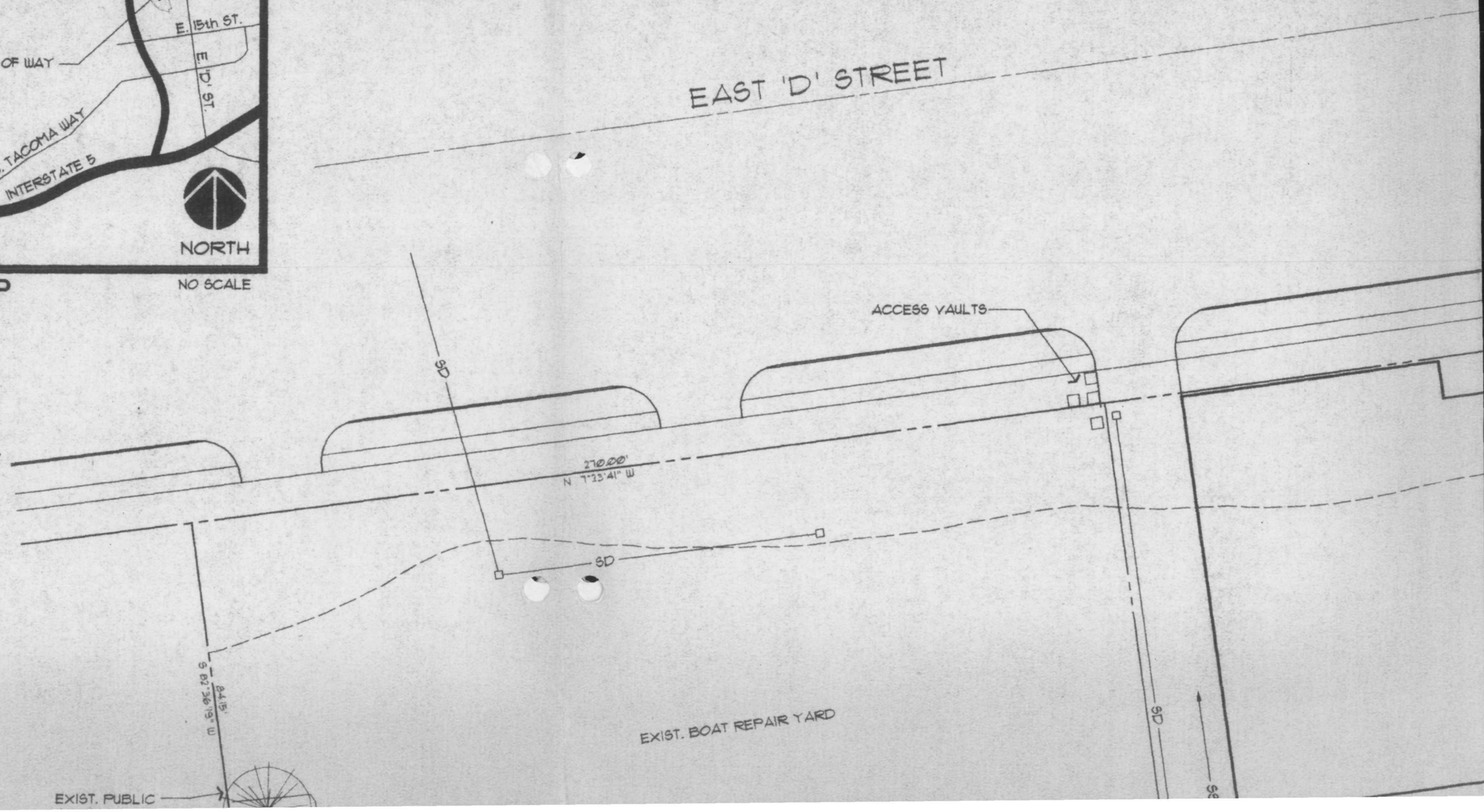
Site Name: CBNSF

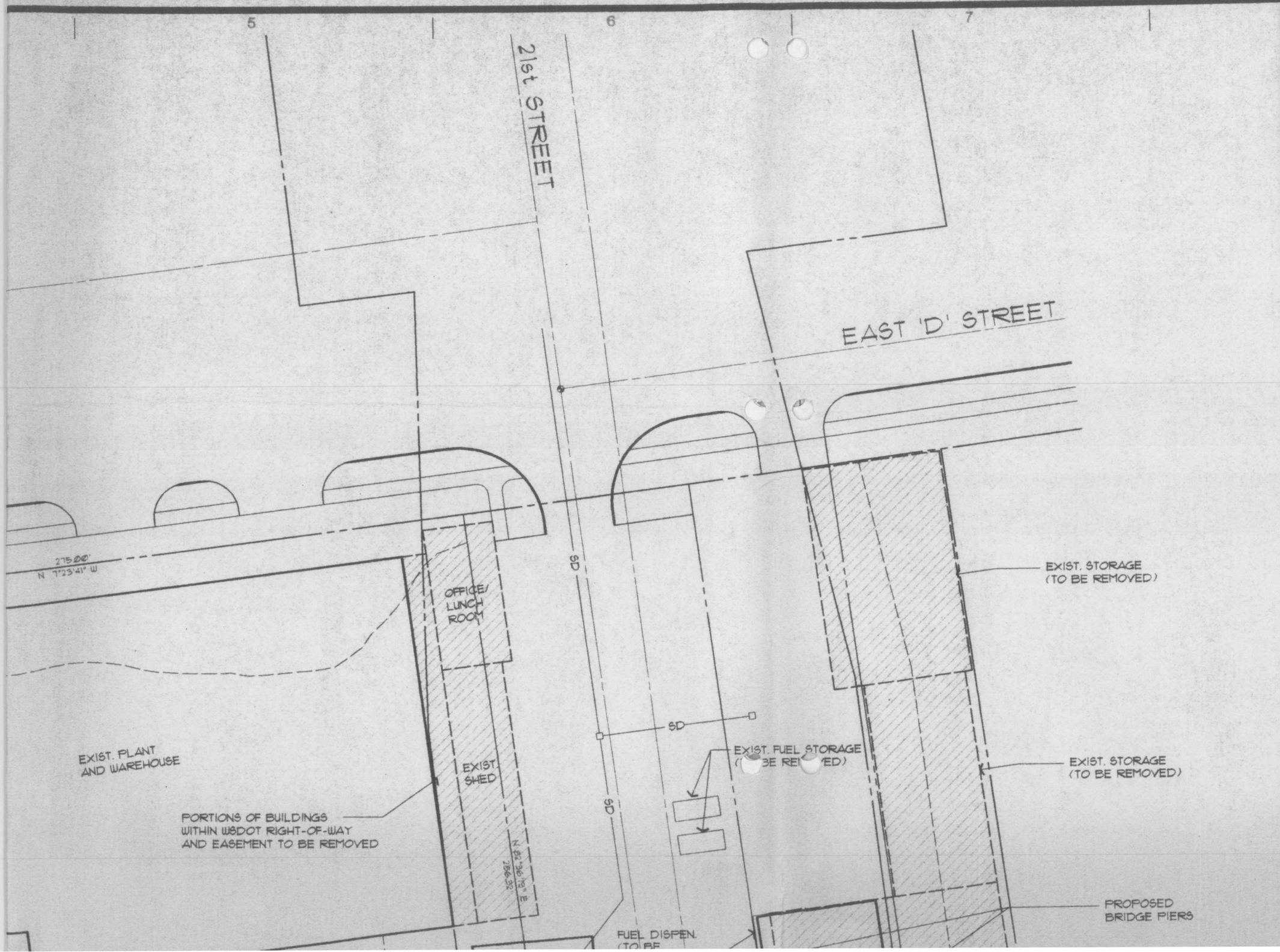
PICK'S COVE MARINA



VICINITY MAP

NO SCALE





REVISIONS

1 MISC. REVISIONS PER CITY OF TACOMA 4/25/94

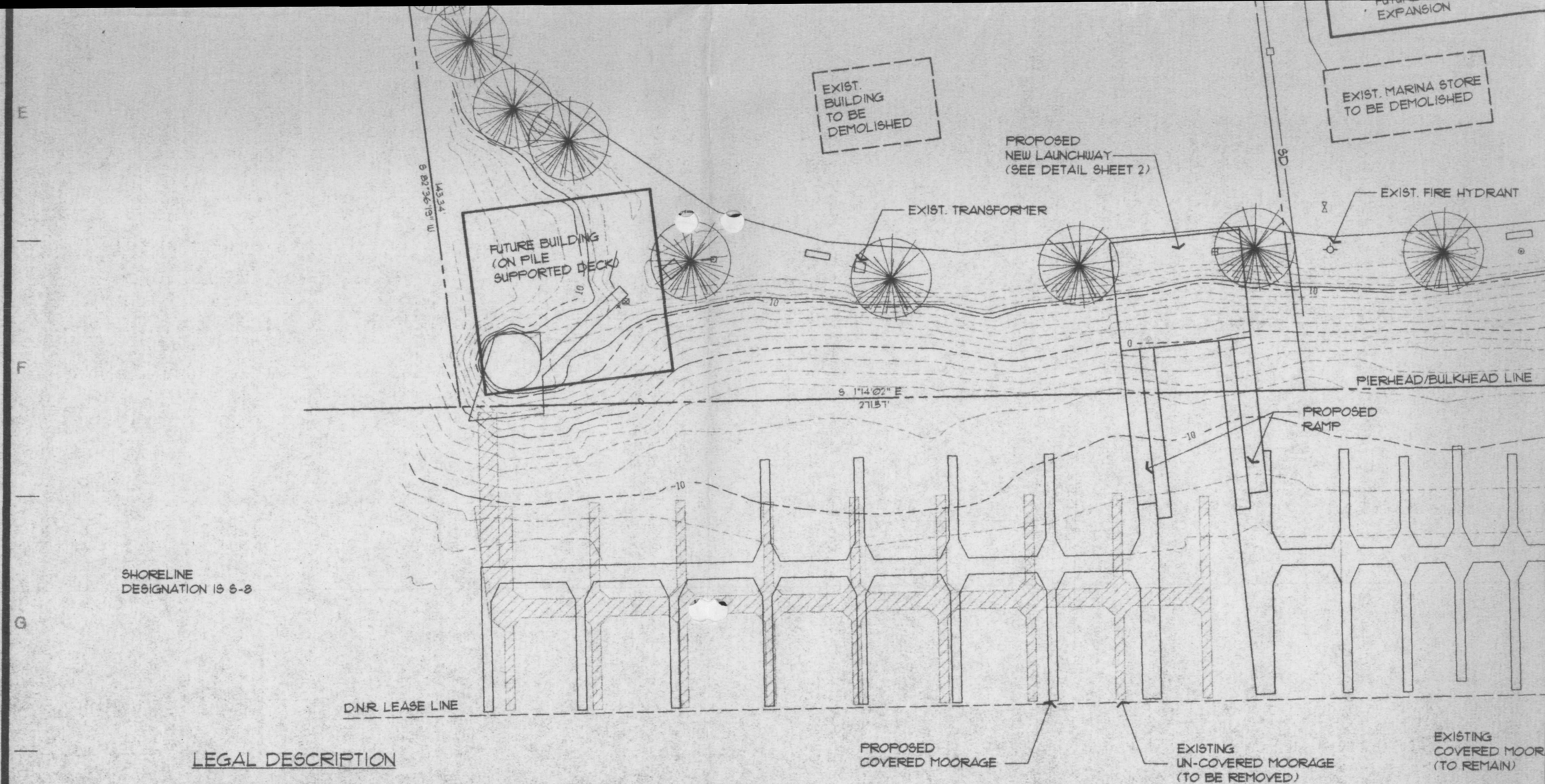
APPROVALS

DESIGNED J.L.B.
DRAWN D.A.T.
CHECKED J.L.B.
DATE 2/8/94
SCALE 1" = 30'

SEAL

JONATHON L. BRAND
STATE OF WASHINGTON
28997
REGISTERED PROFESSIONAL ENGINEER
EXPIRES JUNE 16, 1995

TTS & HILL
INEERS, INC.
STRUCTURAL • SURVEYING
ST. TACOMA, WA. 98409 (206) 474-9449



LEGAL DESCRIPTION

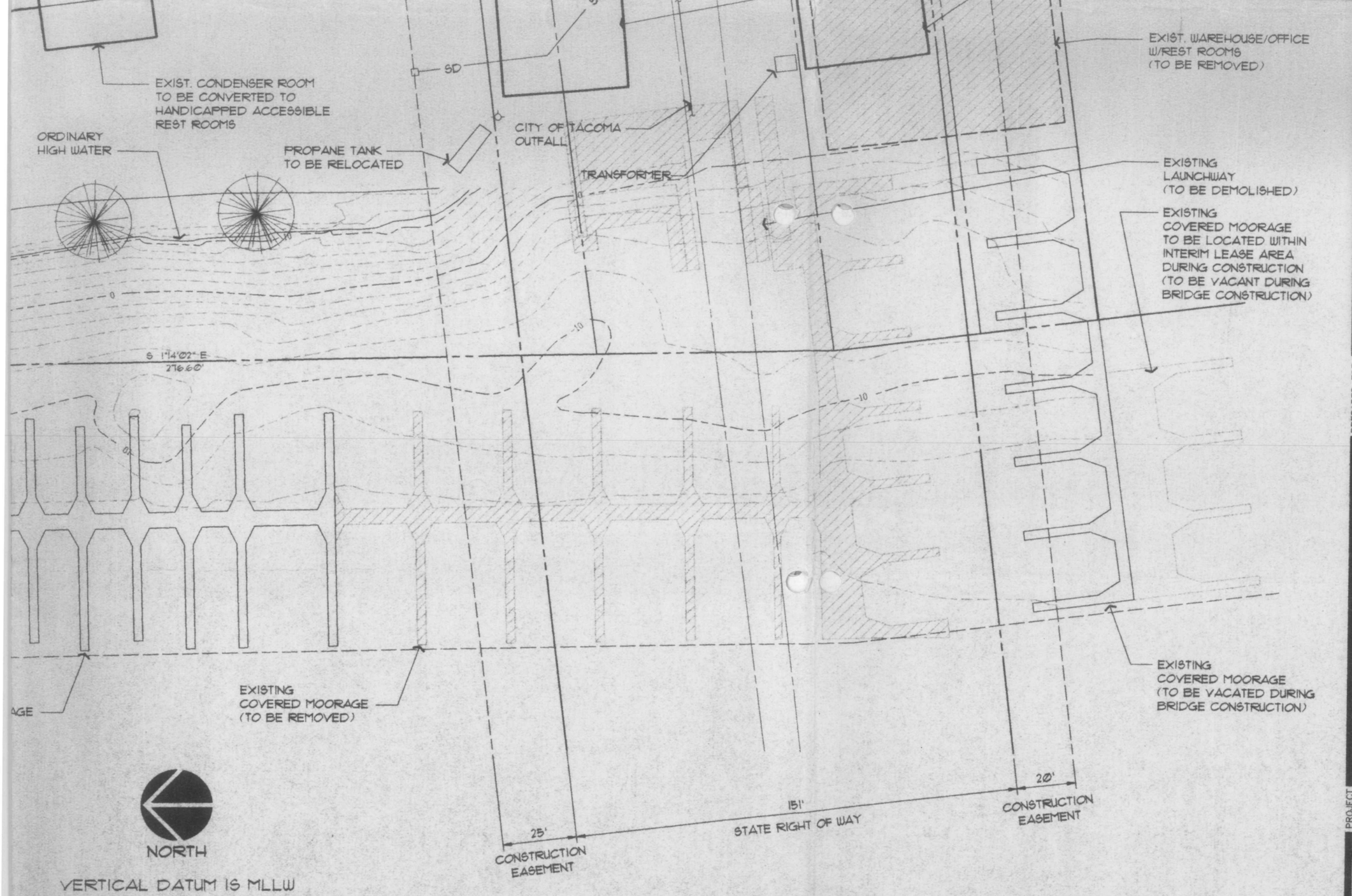
THAT PORTION OF BLOCK 52 AND 55, MAP OF TACOMA TIDELANDS AS SURVEYED AND PLATTED BY THE BOARD OF TIDELANDS APPRAISERS FOR PIERCE COUNTY, AS PER MAP THEREOF, FILED FOR RECORD SEPTEMBER 14, 1895, IN THE OFFICE OF THE COUNTY AUDITOR, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF SAID BLOCK 52; THENCE NORTH 01° 23' 41" WEST ALONG THE EAST LINE OF SAID BLOCK 52 A DISTANCE OF 545 FEET; THENCE SOUTH 82° 36' 19" WEST PARALLEL WITH THE SOUTH LINE OF SAID BLOCK 52 TO THE WEST LINE OF SAID BLOCK 52; THENCE SOUTH 1° 12' 50" EAST ALONG SAID WEST LINE AND EXTENSION TO THE NORTHEAST CORNER OF SAID BLOCK 55; THENCE CONTINUING SOUTHE ALONG THE WEST LINE OF SAID BLOCK 55 TO THE SOUTHWESTERLY CORNER OF LOT 2, SAID BLOCK 55; THENCE NORTH-EASTERLY ALONG THE SOUTHERLY LOT LINE OF SAID LOT 2 TO THE SOUTHEASTERLY CORNER; THENCE NORTH ALONG THE EASTERLY LINE OF SAID BLOCK 55 AND EXTENSION TO THE POINT OF BEGINNING, TOGETHER WITH THE EAST 100 FEET OF THE CITY WATERWAY AND INCLUDING EAST 21st STREET LYING BETWEEN THE CITY WATERWAY AND EAST 'D' STREET.

THEA FOSS WATERWAY

NO DREDGING PROPOSED

7747TOPO JMW 4/25/94



VERTICAL DATUM IS MLLW

PREPARED BY

SITE ENG

CIVIL

2901 S. 40th

PREPARED FOR

PICK'S COVE
MARINE CENTER
1940 EAST "D" STREET
TACOMA, WASHINGTON 98421
(206) 572-9212

PROJECT

PICK'S COVE
MARINA

SHEET TITLE

INTERIM
RE-CONFIGURATION
EXHIBIT

SHEET NO.

1 of 2

PROJECT NO.

7747

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE
SEATTLE, WA 98101

TARGET SHEET

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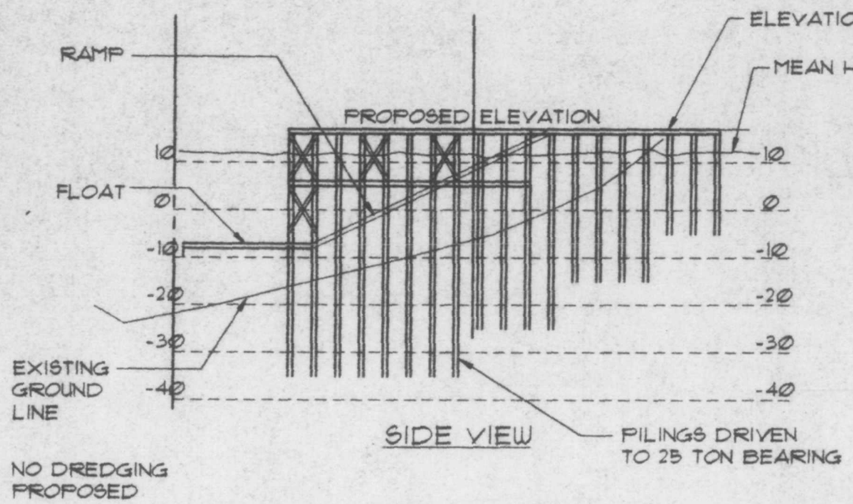
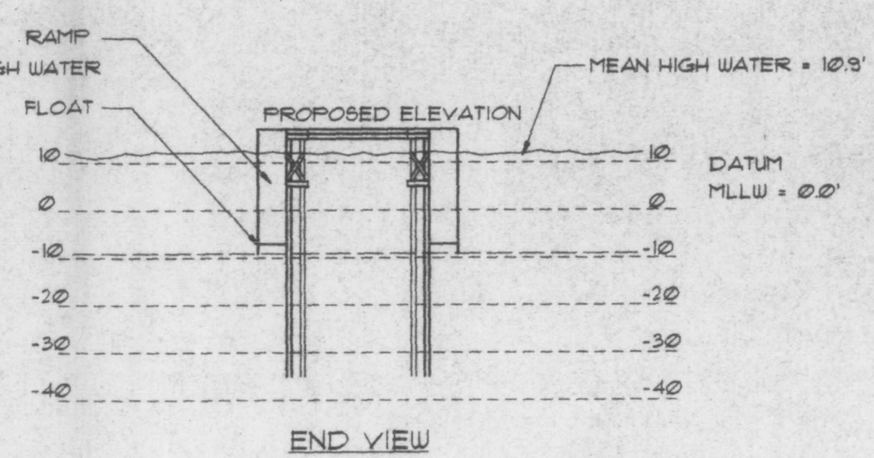
Site Name: CBNSF

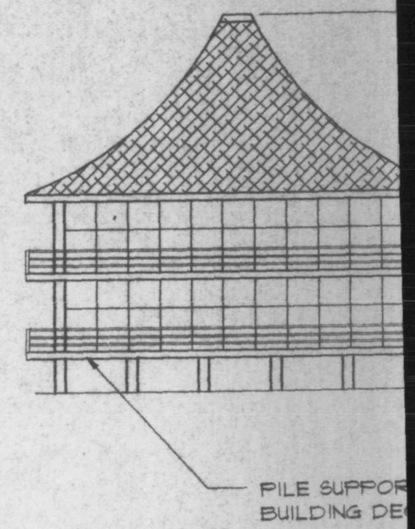
PICK'S COVE MARINA
2/2





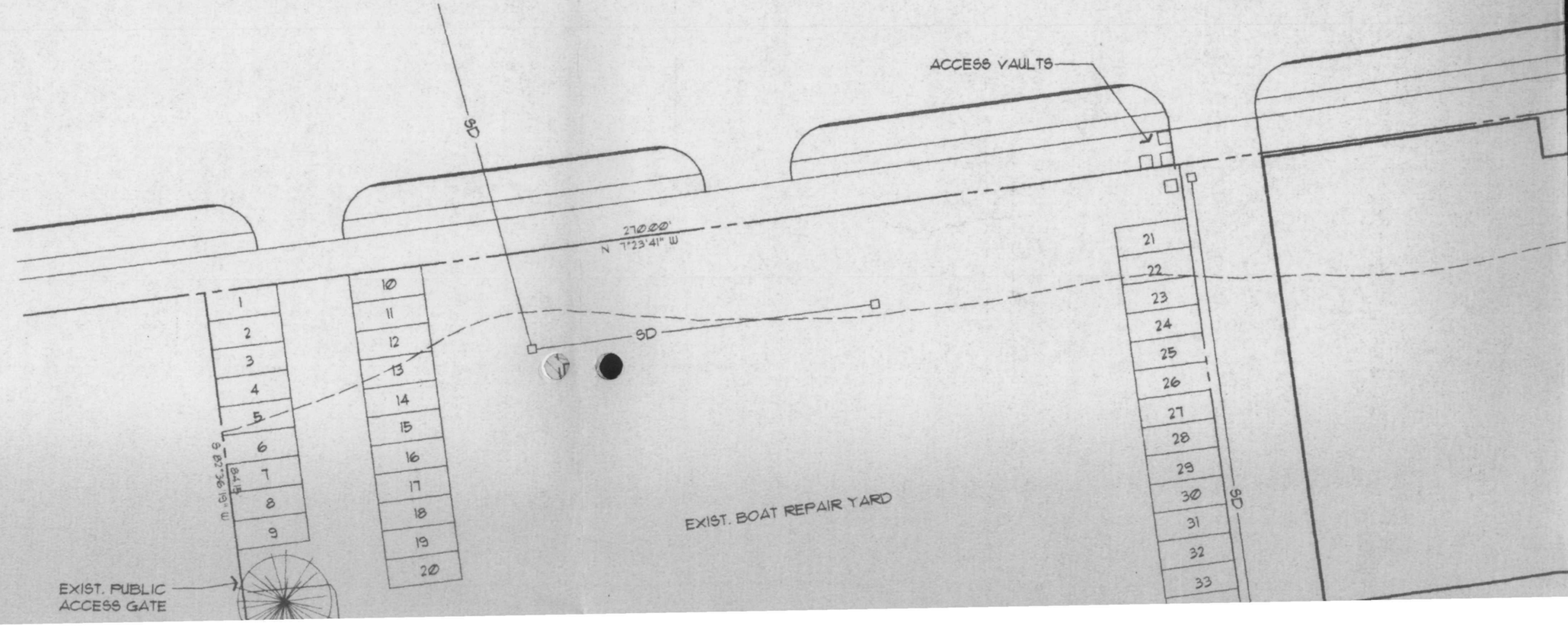
B1 LAUNCHWAY DETAIL

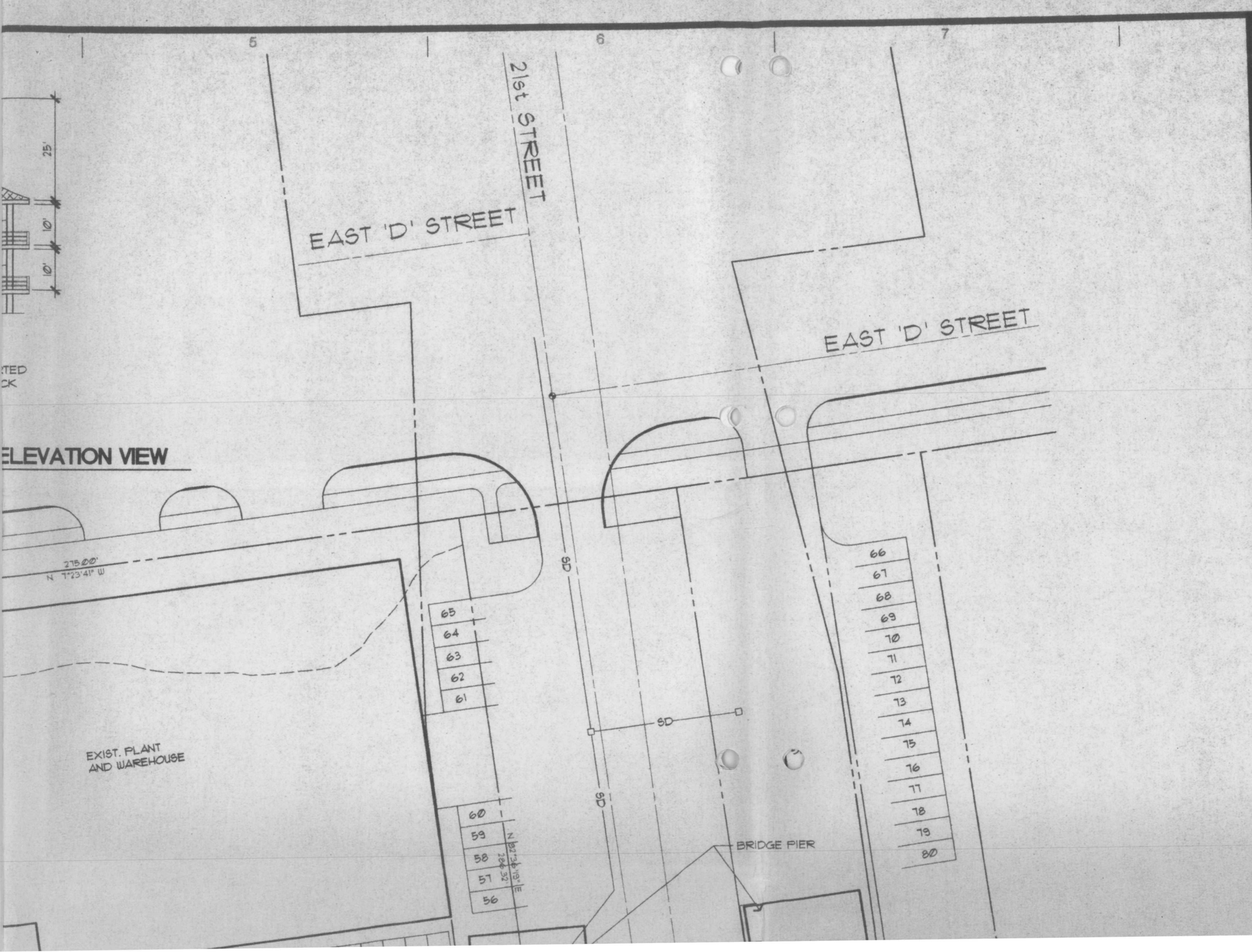
1" = 30'



B4 PROPOSED OFFICE B

1" = 20'





REVISIONS

1 MISC. REVISIONS PER CITY OF TACOMA 4/25/94

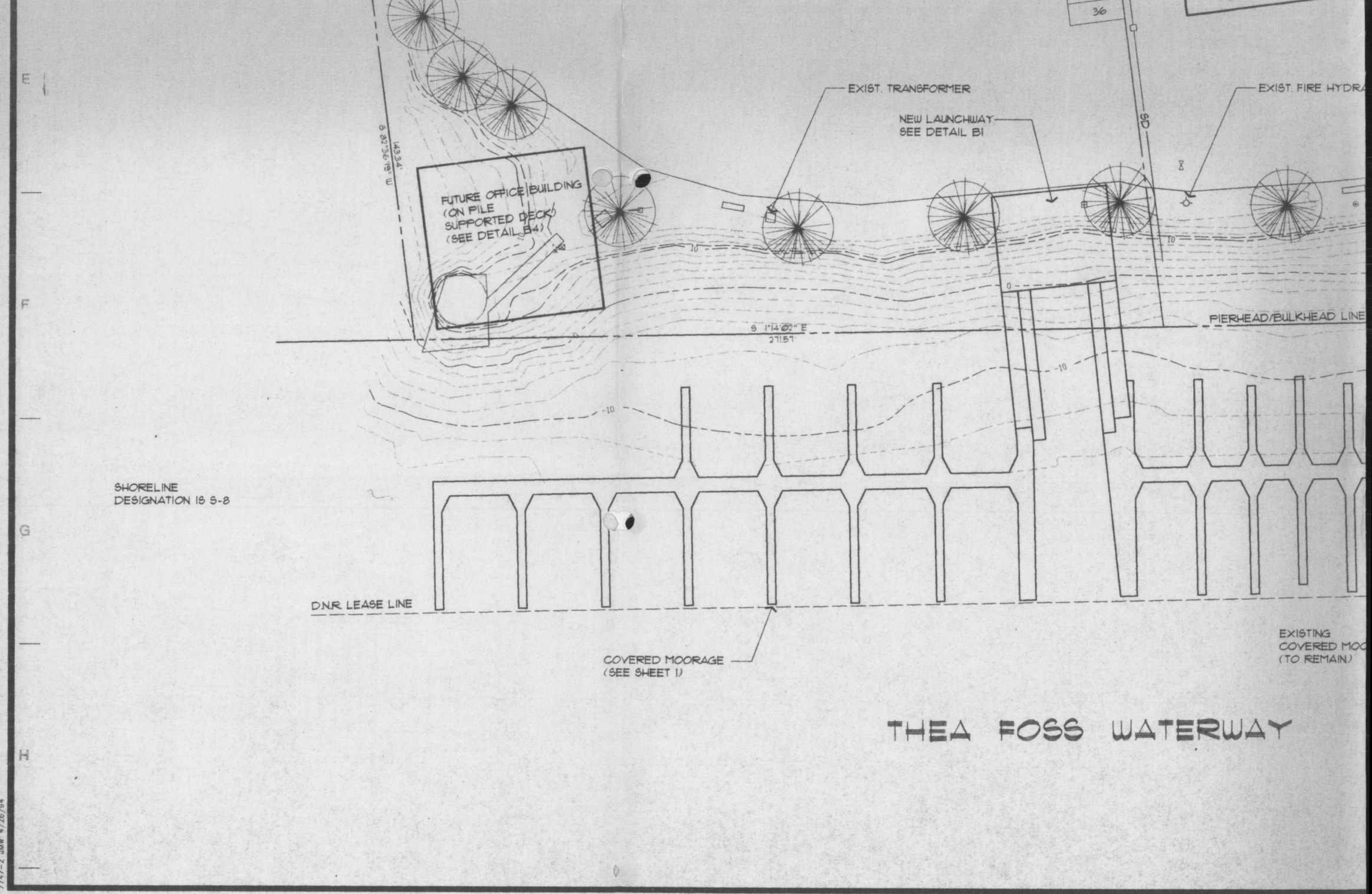
APPROVALS

DESIGNED	J.L.B.
DRAWN	D.A.T.
CHECKED	J.L.B.
DATE	2/8/94
SCALE	1" = 30'

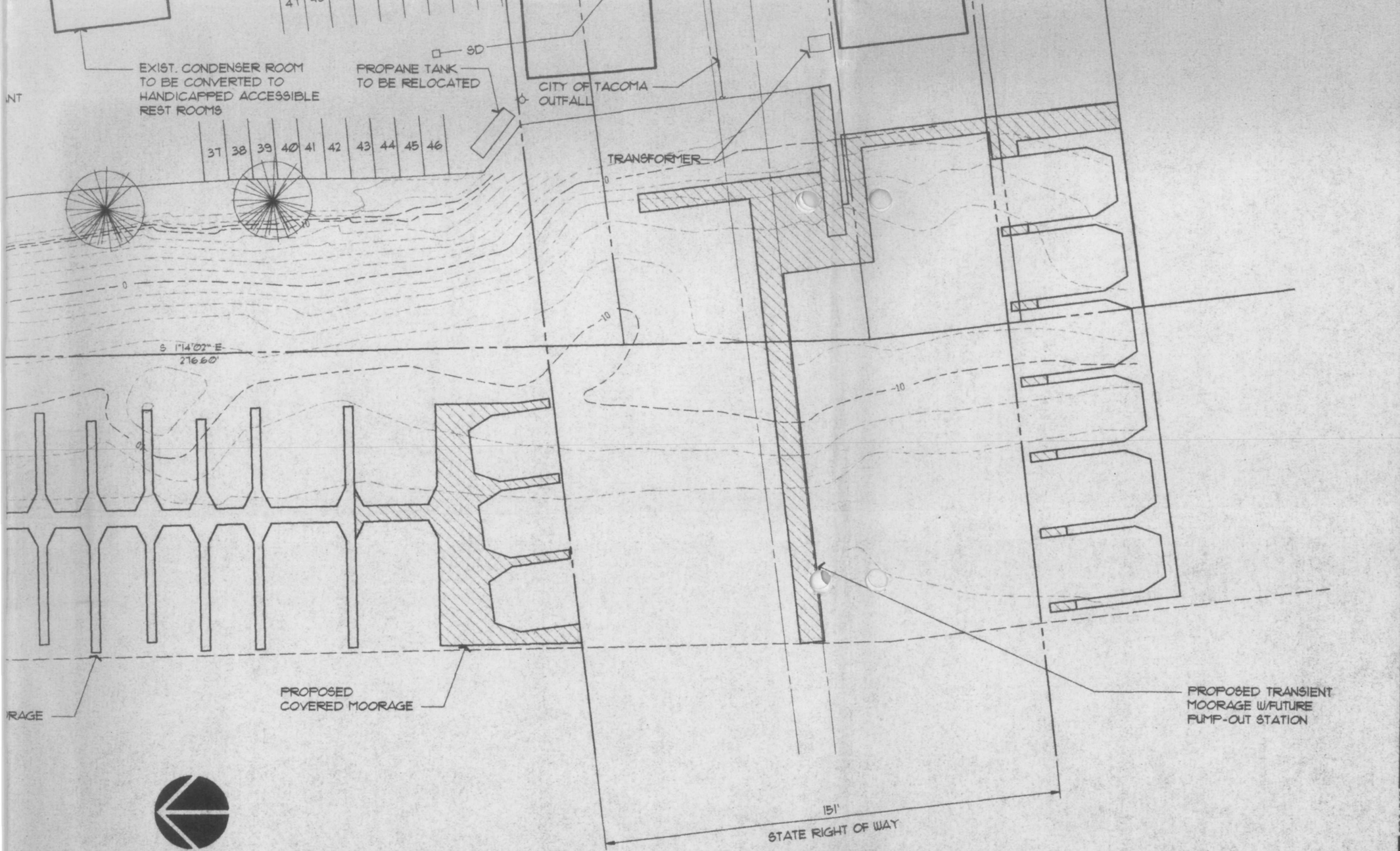
SEAL

JONATHON L. BRAND
STATE OF WASHINGTON
28967
REGISTERED PROFESSIONAL ENGINEER
EXPIRES JUNE 16, 1995

TTS & HILL
INEERS, INC.
STRUCTURAL ▪ SURVEYING
ST. TACOMA, WA. 98409 (206) 474-9449



7747-2 JWW 4/26/94



NOTE: ALLOWED USES WITHIN WSDOT RIGHT-OF-WAY
TO BE COORDINATED WITH WSDOT AND CITY OF TACOMA

VERTICAL DATUM IS MLLW

PREPARED BY
SE
EN
CIVIL
2901 S.

PREPARED FOR
PICK'S COVE
MARINE CENTER
1940 EAST "D" STREET
TACOMA, WASHINGTON 98421
(206) 572-9212

PROJECT
PICK'S COVE
MARINA

SHEET TITLE
POST BRIDGE
CONSTRUCTION
EXHIBIT

SHEET NO.
2 of 2

PROJECT NO.
7747

RECEIVED
JUL 28 1994
SUPERFUND REMEDIAL BRANCH

OFFICE OF THE HEARING EXAMINER

CITY OF TACOMA

REPORT AND RECOMMENDATION TO THE CITY COUNCIL

APPLICANT: Pick's Cove Marine Center **FILE NO.:** 141.570

SUMMARY OF REQUEST:

A Shoreline Substantial Development Permit to allow for the reconfiguration of an existing marina. Included in the proposal is the removal of open and covered moorage slips from the alignment of the proposed State Route 509 Freeway and the development of new covered moorage slips at the northern end of the site. Also proposed is the temporary relocation of three covered moorage slips to the southerly side of the freeway alignment and the development of parking areas within the freeway alignment after freeway construction is completed. The applicant proposes to build a new steel pile launchway at the north end of the site to serve its existing dry boat storage area. A Shoreline Management Development/Conditional Use Permit is requested for a 1,450 square-foot addition to the existing warehouse facility on the uplands and a two-story office building to be located on the northwest corner to the site.

LOCATION:

Eastern side of the Thea Foss Waterway at 1940 East "D" Street. The moorage slips will be developed on Department of Natural Resources (DNR) leased lands.

RECOMMENDATION OF THE HEARING EXAMINER:

Recommend approval, subject to conditions.

PUBLIC HEARING:

After reviewing the report of the Public Works Department, examining other available information on file with the application, and having visited the subject site and the surrounding area, the Hearing Examiner conducted a public hearing on the application on June 14, 1994.

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS:

FINDINGS:

1. Pick's Cove Marine Center (applicant) is seeking a Shoreline Substantial Development Permit (SDP) to allow the reconfiguration of an existing marina located on the eastern side of the Thea Foss Waterway at 1940 East "D" Street. Also requested is a Shoreline Substantial Development/ Conditional Use Permit (SD/CUP) to allow a 1,450 square foot addition to the existing warehouse facility on the uplands and a two-story office building to be located on the northwest corner to the aforedescribed site.

2. The applicant has operated a marina, boat yard, and laminate business on the site for a number of years.

3. The reconfiguration of the applicant's existing marina on the east shore of the Thea Foss Waterway and relocation of certain uses and developments on the uplands of the site are necessitated by the construction of State Route 509 (SR 509) Freeway, which will be elevated on a bridge structure as it crosses the Thea Foss Waterway. The alignment of the SR 509 Freeway, as it crosses the Waterway, encompasses the southerly portion of the applicant's site, which is currently occupied by a warehouse, the applicant's office, a launch way, and a number of covered moorage slips. The piers for the bridge will be located in relatively close proximity to the east shore of Thea Foss Waterway. In order to accommodate the SR 509 Freeway construction, 16,500 square feet of warehouse and office space will be demolished, as will a 40-ton launchway on creosote piling. Also, some existing creosote piling and existing fuel tanks within the SR 509 Freeway right-of-way are to be removed.

4. Currently, the applicant's marina contains 96 slips, 64 of which are covered and 32 of which are uncovered. The proposed marina reconfiguration would eliminate all of the existing 32 uncovered slips and replace them with covered moorage. A total of 64 covered moorage slips would be provided, including a row of covered slips immediately to the south of the SR 509/Thea Foss Waterway Bridge, after its construction. Several existing moorage slips are proposed to be temporarily relocated during construction of the Thea Foss Waterway Bridge and will not be occupied during bridge construction. These latter referred-to slips will, after completion of the bridge construction, be moved to a permanent location within the marina. All moorage slips would be located on state submerged lands managed by the Washington State Department of Natural Resources (DNR).

5. The applicant's existing marina has 46,610 square feet of overwater coverage, with 10,500 square feet of that overwater coverage being within the intertidal zone, i.e., between +10 to -10 Mean Lower Low Water (MLLW). The intertidal zone is a productive and important habitat which provides a source of food for a wide variety of

fish and water fowl species. *See* Exhibit 6 at 37. Intertidal areas within Commencement Bay are extremely limited. *Id.* Shading of intertidal areas results in a significant decrease in the productivity of such areas.

Under the marina reconfiguration being considered in this proceeding, total overwater coverage would be reduced to 41,224 square feet. and within the intertidal zone to 5,460 square feet. However, most of the reduction in over-water coverage would result from removal of existing covered moorage in the area over which the Thea Foss Waterway Bridge will be constructed. New intertidal zone coverage not located in the SR 509 corridor would total 1,450 square feet. Approximately 35 to 40 existing creosote pilings will be removed and replaced by 30 to 35 steel pilings.

6. The applicant, as of the time of hearing, had relocated or was in the process of reallocating its industrial laminating operations from the subject site to another site(s). The referred-to relocation of these operations will leave the marina and boat yard uses and an office use for the marina/boat yard and corporate function as the remaining uses of the site. The addition proposed to the existing warehouse building is for the purpose of replacing restroom facilities, which will be eliminated by the construction of the Thea Foss Waterway Bridge. Also being proposed is the construction of an 8,600 square-foot, two-story office building at the northwest corner of the upland portion of the site. The applicant initially proposed locating the office building overwater on a pile-supported platform, but, after receiving objections from reviewing agencies, repositioned the building so that it would be located entirely on uplands, except for an exterior walkway on the water side of the building which would be overwater. This walkway would be a part of the site's shoreline access and is proposed to be constructed with grated decking in order to minimize shading impacts on the intertidal zone.

7. The latest revised plan presented at hearing (Exhibit 2) shows a total of 80 off-street parking spaces, which is more parking than currently provided on the site. The plan initially presented to Building and Land Use Services (BLUS) did not conform to the landscaping requirements of the *Tacoma Shoreline Master Program* (*TSMP*) for off-street parking areas. The modified permit plan does depict landscaping which is consistent with the *TSMP* standards.

8. The site and, specifically, the applicant's boat yard operation are covered by current National Pollution Discharge and Elimination System (NPDES) permit for stormwater discharge. Boat refueling is not contemplated at the site.

9. Immediately north of the applicant's site is a restaurant and marina development. An expansion of the neighboring marina is the subject of a currently pending SDP application (*See* File No. 141.568). From photographic evidence presented at hearing, it appears that the referred-to restaurant is constructed to the shoreline edge and a portion may even be constructed overwater (*See* Exhibit 9b). The

restaurant portion of the building has large window areas facing to the Waterway and to the south toward the applicant's site. Likewise, the cocktail lounge portion of the building, which is located behind or landward of the restaurant seating area, has large windows facing south and west. *Id.*

The construction of the proposed covered moorage and two-story office building will interfere with views from the restaurant seating areas and cocktail lounge south along the Waterway and to the southwest towards McKinley Hill (*See* Exhibit 9c). The most significant view obstruction in these directions would be caused by the proposed covered moorages. Views will still be available from the restaurant seating area and cocktail lounge to the west of the Waterway and its western shore.

10. Apparently, the aforedescribed restaurant was constructed prior to the enactment of the City of Tacoma's (City) current *TSMP* regulations governing development within the Thea Foss Waterway area; thus, the development is considered pre-existing or nonconforming.

11. To the south and east of the applicant's site are industrial uses, and across Thea Foss Waterway to the west are marina and related uses and a site owned by the City in which the City is currently studying the feasibility of developing a cultural arts center.

12. The applicant's marina and marina-related uses, as well as its boat yard use, are consistent with *Shoreline Management Act* (*SMA*) policies giving preference to commercial-industrial uses which are particularly dependent on shoreline locations and which increase the public's views of the waters and shorelines of the state. *See* RCW 90.58.020. The City's *1993 Generalized Land Use Plan* (*1993 GLUP*) locates the subject site within an area designated for high-intensity development and, further, within a "mixed-use center". The Hearing Examiner (Examiner) takes notice that provisions of the *1993 GLUP* applicable to "mixed-use centers" are intended to accommodate development of compact centers, providing for a greater mix of development types, and to encourage walking and cycling as opposed to use of the automobile for transportation purposes. The proposed use is consistent with the "mixed-use center" provisions of the *1993 GLUP* to the extent that it provides for increased public pedestrian access and provides for more intensive marine recreational use of this reduced-in-size marine recreation site.

13. The *TSMP* designates the shoreline area, occupied by the applicant's site, as an "urban environment." It is the object of the "urban environment" designation to allow for high-intensity land uses, including residential, commercial, and industrial development with emphasis given to development with already developed areas, in particular, to water-dependent industrial and commercial uses requiring frontage on navigable waters (*See TSMP*, at 8). The marina and marina-related uses and the boat yard use clearly are consistent with the foregoing *TSMP* objection.

14. The *TSMP* further classifies the shorelines in question as the "S-8" City Waterway Shoreline District ("S-8" District). *See TSMP* 13.10.110. It is the intent of the "S-8" District to eliminate the general substandard conditions of City Waterway (now "Thea Foss Waterway") and encourage the reuse and redevelopment of the area for marina and related facilities. *See TMC* 13.10.110.A. Marinas and related facilities are permitted in the "S-8" District with the issuance of an SDP. The proposed marina reconfiguration and related development is consistent with both the intent of and uses allowed under the "S-8" District regulations.

15. To the extent that the proposed office building is not used for marina and marina-related activities, it is considered a "conditional use." This is so because "non-water dependent, non-water-related commercial uses on upland locations" are listed as a conditional use in the "S-8" District. *See TMC* 13.10.110.E.1.

It would seem that the addition proposed to the existing warehouse, which is intended to replace restroom facilities to be eliminated by the The Foss Waterway Bridge construction, is sufficiently related to the marina and boat yard use at the site in order for the same to be considered a permitted accessory use. Testimony presented by the applicant establishes that the new restroom facilities are intended for the use of marinas and their guests and boat yard employees and customers.

16. The "S-8" District regulations require developments to provide a minimum sideyard/view corridor of 30 percent of the width of the site. *See TMC* 13.10.110.H.1. Further, no structure may come closer than 5 feet to a side lot line. *Id.*

The development proposed conforms to side yard/view corridor requirements of the *TSMP*.

Also required is a rear yard of 20 feet as measured from the Ordinary High Water Mark (OHWM). *See TMC* 13.10.110.H.3. Here, the applicant is proposing to locate the two-story office building up to the shoreline edge with an exterior walkway on the water side of the building actually extending over the water.

17. The *TSMP*, at *TMC* 13.10.175.B.10.b, sets forth specific regulations governing the location and operation of marinas and boat launch facilities, including the following regulation relating to covered moorage:

> b. The following regulations additionally apply to the specific shoreline district indicated:
>
> * * *

(3) "S-1" Shoreline District - Western Slope South, "S-2" Shoreline District - Western Slope Central, "S-8" Shoreline District - City Waterway, "S-12" Shoreline District - Marine View Drive (North): Covered moorage are permitted, provided they are of uniform design and limited only to construction of a permanent roof. Walls and fences shall be prohibited above deck or float level; however, handrails which are open in nature and not higher than 42 inches above the deck or float may be permitted. Boat houses shall not be permitted. (Emphasis supplied.)

18. The Planning and Development Services Department (PDS) advises that the *Thea Foss Waterway Design and Development Plan* sets forth a recommendation that no new covered moorage be permitted in the Thea Foss Waterway in order to preserve views of the water from the shoreline and to maintain the picturesque quality of boats moored along the water. The referred-to plan goes on to recommend that the *TSMP* be amended to prohibit the construction of new covered moorages within the Thea Foss Waterway.

As of the time of hearing, the City had not amended its shoreline regulations in accordance with the recommendation of the *Thea Foss Waterway Design and Development Plan.*

19. Various reviewing City departments and other governmental agencies have presented comments and recommendations relative to the applicant's request for shoreline permits.

PDS, in addition to raising concerns with the covered moorages being proposed, raised objections to the original overwater office development (which was later revised) and points to inadequacies in the public access elements of the proposal. (*See* Exhibit 6, at 28 and 29.)

The Water Division of the Department of Public Utilities advises that it will evaluate the adequacy of water service at the subject site at the time of building permit application and that any additional water meters and services will be installed by the Water Division at the applicant's expense and, finally, that any new domestic water meters will be subject to a system development charge in addition to the service construction charge. (*See* Exhibit 6, at 30.)

The Refuse Utility Division of the Department of Public Works has presented comments relative to requirements for the handling of refuse. (*See* Exhibit 6, at 31.)

The Fire Protection Engineer notes various requirements of the City Waterfront Structure and Marina Code, the Uniform Building Code, and the Fire Code. (See Exhibit 6, at 32 and 33.)

The Washington State Department of Transportation (WSDOT), while indicating its support for the applicant's proposal, raises concerns with fire risks associated with a transient moorage dock and pump-out station proposed to be located beneath the Thea Foss Waterway Bridge.[1] (*See* Exhibit 6, at 34 and 35.)

United States Fish and Wildlife Service (USFWS) recommends denial of the application due to the unmitigated impacts associated with construction over the intertidal zone. The USFWS recommends that such impacts should be avoided where possible and if avoidance is not possible, mitigation should be provided at a one to one habitat replacement ratio. (*See* Exhibit 6 at 36 through 38.)

National Oceanic and Atmospheric Administration also objects to the unmitigated shading impacts resulting from the location of covered moorages over the intertidal zone and also recommends the use of grating for finger-pier decking and the use of nontreated piling and lumber. (*See* Exhibit 6, at 39 through 41.)

The United States Environmental Protection Agency (EPA) notes that the project site is located in the head of the Thea Foss Waterway problem area of the Commencement Bay Nearshore/Tideflats (CB/NT) Superfund site. The EPA recommends conditions relative to limitations on in-water work. (*See* Exhibit 6, at 42 and 43.)

Concern is expressed by the Washington State Department of Ecology (DOE) regarding the shading effects of the covered moorages and their impact on views. The DOE also raised concerns with over-water office development.[2]

The Washington State Department of Fish and Wildlife (WDF&W) notes that all work below the OHWM will require Hydraulic Project Approval pursuant to RCW 75.20.100 and WAC 220-110. The WDF&W also presents information relative to the adverse effects of shading of the intertidal zone, the use of treated piling, and stormwater discharge. (*See* Exhibit 6, at 46 through 50.)

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[1]This element of the applicant's initial submittal has been eliminated.

[2]The proposed office building has been relocated on the revised permit plans so that the office building is located on an upland portion of the site.

Finally, BLUS recommends permit plan revisions and conditions relative to: public access (including paved walkways), landscaping, removal of covered moorage in the intertidal zone, erosion control measures, asbestos investigation and removal, prevention of tracking of dirt and debris onto East "D" Street, proper disposal of demolition debris, revisions to parking, provision of a pump-out facility, compliance with conditions recommended by other agencies, and certain usual conditions. (*See* Exhibit 6, at 17 through 19.)

20. The applicant, as earlier found, has revised its permit plans. The modified plan relocates the proposed office building so that it is situated on uplands of the site and parking area landscaping conforms to *TSMP* requirements. Furthermore, the applicant agrees to conditions relative to public access, except that it wishes to utilize a gravel pathway rather than a paved one in order to provide better compatibility with its landscaping concept. On this latter point, BLUS disagrees and argues that a gravel pathway would not readily afford access to wheelchair bound persons and maintains its recommendation for a paved pathway.

In regard to shading impacts from covered moorage, the applicant argues that the reconfigured marina reduces the amount of intertidal shading and that the amount of new intertidal coverage not located within the SR 509 corridor of 1,450 square feet is de minimis. Moreover, the applicant contends that *TSMP* marina regulations applicable to "S-8" Districts expressly permit covered moorages. Other than the foregoing, the applicant concurs in the recommendation by reviewing agencies.

21. Appearing at hearing and testifying were the owners of Johnny's Dock Restaurant, located immediately north of the applicant's site. These owners raised objections to the proposed covered moorages and the placement of the two-story office building up to the shoreline edge. They contend that the covered moorages will obstruct views from their restaurant, particularly, from the cocktail lounge, to the south of the Thea Foss Waterway (the soon-to-be-constructed Thea Foss Waterway Bridge and McKinley Hill. Moreover, these parties argue that the applicant has failed to meet its burden of demonstrating that its request to waive the 20 foot rear yard requirement conforms to applicable criteria.

22. The applicant contends that it is impractical to relocate the office building to another location on the site, since it cannot be located in the middle of the boat yard, which it believes to be the only remaining portion of the site in which the office could be constructed.

23. Due to the number and complexity of the issues presented in this matter, the request for an SDP and SD/CUP could not be acted upon within the usual 30-day period following hearing.

24. Pursuant to the State's SEPA rules (WAC 197-11) and the City's Environmental Code, the Director of Public Works issued a Determination of Environmental Nonsignificance (DNS) for the proposed project. The determination was not appealed.

25. The Department of Public Works preliminary report and environmental evaluation, entered as Exhibit 6 in the record, accurately describes the project, general and specific facts about the area, applicable sections of the *TSMP*, and applicable regulatory codes and requirements. The report is incorporated herein by reference as though fully set forth.

26. Written notice of the public hearing has been sent to all owners of property within 400 feet of the site at least 30 days prior to the date of the public hearing. In addition, notice of application was published in *The News Tribune* on April 29, 1994, and May 12, 1994.

27. Any conclusion hereinafter stated which may be deemed to be a finding herein is hereby adopted as such.

CONCLUSIONS:

1. The Hearing Examiner has jurisdiction over the parties and subject matter of these proceedings. See TMC 1.23.070.35[3] and 13.10.180 and 13.10.040.H.3.

2. Applications for SDP's are reviewed for consistency with the *SMA, TSMP,* the goals and polices of the *LUMP,* and applicable ordinances of the City of Tacoma, and the intent of regulations, including standards of development and performance, and the specific shoreline district in which the proposed development is located. *See TMC* 13.10.180.A. Additionally, requests for listed SD/CUP's must also conform to criteria set forth in *TMC* 13.10.180.B.

Proposals to waive or vary the rear yard setback requirement must meet the criteria contained in *TMC* 13.10.040.H.3 A-J.

3. The principal areas of dispute in this proceeding are:

   a. Whether covered moorage should be permitted;

   b. If permitted, whether covered moorage over the intertidal area should be authorized;

[3]As amended by Ordinance 25517 adopted June 14, 1994.

c. Whether a gravel pathway instead of a paved pathway should be permitted as a part of the public access element of the proposal; and

d. Whether the 20-foot rear yard setback for the proposed office building should be waived

The issues are individually addressed below.

COVERED MOORAGE:

4. Under Washington shoreline law, the obligations and rights of one seeking a shoreline permit vest on the date the permit application is filed. *See Talbot v. Gray,* 11 Wn.App. 807, 811 525 P.2d 801 (1974). Thus, the applicant in this case is entitled to have its application for shoreline permits reviewed under the shoreline laws in effect at the time of the filing of its application. The current Master Program, which was in effect at the time of the filing of the subject application for SDP and SD/CUP, identifies marinas as a permitted use in the "S-8" District. Moreover, *TSMP* regulations governing marina development in the "S-8" District expressly authorize covered moorage: " . . . provided they are of uniform design and limited only to construction of a permanent roof . . ." Accordingly, the proposed covered moorages are allowable under applicable *TSMP* provisions and should be permitted.

SHADING OF INTERTIDAL ZONE

5. Policies of the *SMA* call for protection of the waters of the state and their aquatic life, and require uses permitted on the shorelines of the state to be designed and conducted in a manner to minimize any resulting damage to the ecology of the shoreline. *See* RCW 90.58.020. Similarly, policies and regulations of the *TSMP* governing marina development call for marinas to be designed in a manner which reduces damage to fish and shellfish resources. *See TSMP* at 53-55 and *TMC* 13.10.175.B.10. There is little dispute in this proceeding that the intertidal zone is a productive and important habitat and an important part of the food resource for many types of fish and waterfowl species. Further, within the Commencement Bay area, intertidal areas are extremely limited. Here, while the amount of shading of the intertidal zone, which would result from the covered moorages, is small and is reduced from the amount of shading currently created by the applicant's existing marina configuration, the shading impacts from the new marina configuration can reasonably be avoided, simply by relocating those moorage slips currently proposed to be placed over the intertidal zone outside that area or by leaving those slips uncovered and by employing the mitigation measures recommended by federal and state environmental resource agencies. The permit plan should be revised and conditioned in accordance with the foregoing.

GRAVEL PATHWAY VERSUS PAVED PATHWAY

6. The *TSMP* and *TMC* 13.10.175.4 sets forth various requirements for commercial development located within shoreline areas. From a reading of the aforecited regulations, it is clear that the primary thrust of these regulations is to increase public access to and along the shorelines of the City. While the Examiner can understand the applicant's desire to have the shoreline pathway designed and constructed in a manner which blends with the site's landscaping concept, the purpose of the public access requirements of the *TSMP* can best be achieved, in this instance, by providing a paved pathway which will better accommodate all persons desiring to use the public shoreline access at the site.

WAIVER OF THE REAR YARD REQUIREMENT

7. The *TSMP* requires buildings within the "S-8" District to maintain a 20-foot rear yard setback as measured from the OHWM. However, the Examiner and the City Council, under the following circumstances, may authorize the elimination of the referred-to setback or a lesser setback:

> 3. Rear Yard. A twenty (20) foot minimum rear yard setback shall be provided, except as set forth below. For the purpose of this chapter, when a lot is partially under water, the ordinary high water line shall be considered the rear yard.
>
> The Hearings Examiner and City Council, under the following circumstances, may authorize, in conjunction with issuance of a Shoreline Substantial Development Permit, elimination of or a lesser rear yard setback than set forth above.
>
> a. The adjacent land use is of such a character as to render a rear yard unreasonable or unnecessary (e.g., industrial development).
>
> b. The lesser setback will allow greater protection of or lessen impacts upon the unique natural characteristics of the site.
>
> c. Increased physical or visual access by the public to the shorelines and adjacent waters will be provided.
>
> d. Better and/or more environmentally sensitive site and structure design can be achieved with a lesser setback.
>
> e. Where a previously established setback line can be ascertained on adjacent properties, structures may be allowed to the same line.
>
> In authorizing a lesser rear yard setback, the Hearings Examiner and City Council shall find the following:
>
> f. That one or more of the circumstances set forth in paragraphs a through e above are present or will occur.

g. That the reduction or elimination of the setback will not adversely affect the intended character of the shoreline district and the rights of neighboring property owners and will secure for neighboring properties substantially the same protection that the regulation, if enforced literally, would have provided.

h. The reduction or elimination of the setback will not be contrary to or adversely affect the intent and purposes of the Shoreline Management Act.

i. Vehicular sight distance and pedestrian safety will not be adversely affected.

j. Undue view blockage or impairment of existing or proposed pedestrian access to the shorelines and adjacent waters will not result.

In authorizing elimination or reduction of a setback, the Examiner and City Council may impose conditions to the permit as are necessary to ensure compliance with the circumstances and findings required above.

For overwater construction, the above rear yard setbacks shall not apply. The Hearing Examiner and City Council, in conjunction with issuance of a Shoreline Substantial Development Permit, may authorize the extent of overwater construction based on the following findings:

a. That the development will not adversely affect the intended character of the shoreline district and the rights of neighboring property owners and will secure for neighboring properties substantially the same protection that the regulation, if enforced literally, would have provided.

b. The development will not be contrary to or adversely affect the intent and purposes of the Shoreline Master Program and the Shoreline Management Act.

c. Undue view blockage will not result.

d. The development will be located to minimize interference with normal public use of navigable waters.

In authorizing overwater construction, the Hearing Examiner and City Council may impose conditions to the permit as are necessary to ensure compliance with the findings above.

TMC 13.10.040.H.3

In this case, the applicant is seeking the elimination of the rear yard setback for the proposed office building to be located at the northwest corner of the site to allow the same to be constructed up to the shoreline edge. As previously found, the restaurant to the north of the applicant's site is built out to or over the shoreline edge and the east piers for the Foss Waterway bridge are to be located in close proximity to the east Foss Waterway shoreline edge. The location of these existing or authorized structures on

both sides of the applicant's site establish a setback line much less than the 20 feet required by the "S-8" District regulations and make unreasonable or unnecessary the 20-foot setback requirement. Criteria "a" and "e" for waiving the rear yard setback requirement have been met and only one of criteria "a" through "e" must be affirmatively met. *See TMC* 13.10.040.H.3.j. Turning to the remaining criteria, the Examiner concludes that the views to the south from Johnny's Dock Restaurant which would be obstructed by the proposed office building are predominantly secondary landward views and not the primary marine or scenic views which would remain available from the restaurant and cocktail lounge. Thus, the elimination of the rear yard setback will not adversely affect the intended character of the shoreline district and rights of neighboring property owners, and will secure for neighboring property owners substantially the same protection the regulation enforced literally would have provided, and further, will not be contrary to or adversely affect the intent and purposes of the *SMA*, and undue view blockage or impairment will not result. No party to this proceeding contends that vehicular site distance, impairment of pedestrian access, or compromising of pedestrian safety would result from elimination of the 20-foot rear yard setback for the proposed office building.

The waiver of the rear yard setback requested conforms to applicable criteria and should be authorized.

SUMMARY

8. Provided conditions are imposed as recommended herein and are complied with by the applicant, the SDP and SD/CUP requested are found to conform to requirements for the issuance of the same, and should be granted.

9. Conditions to be imposed are set forth below:

A. SPECIAL CONDITIONS:

1. The applicant shall avoid impacts to the intertidal area by avoiding intertidal impacts through the removal of covered moorage within the intertidal area, relocating the covered moorage outside the intertidal zone or providing a mitigation plan subject to the review and approval of the State Department of Fish and Wildlife and the US Fish and Wildlife Service prior to any building permit approval. No inwater work may occur from March 15 to June 15 of any calendar year.

2. The applicant shall provide an Erosion Control Plan prior to issuance of any demolition or construction

Waterway. Storm water collection, treatment and discharge shall be to City standards.

3. All buildings proposed for demolition should be inspected for asbestos containing materials, and if asbestos is identified, the applicant shall obtain all applicable permits from the Puget Sound Air Pollution Control Agency. Trackout of dirt and debris onto East "D" Street shall be cleaned promptly. All demolition material, including creosote pilings, shall be disposed of at an approved landfill facility or recycling center.

4. The applicant shall provide a landscaping plan consistent with the requirements of the shoreline code to the City's Land Use Administrator for review and approval prior to receiving building permit approval. Landscaping must be installed prior to receiving a Certificate of Occupancy. All signage proposed to identify the site, design of public amenities, lighting and landscaping plans shall be submitted to the Land Use Administrator for review of their consistency with the *Thea Foss Design and Development Plan* prior to installation at the site.

5. Revised plans must be provided to the Public Works Department showing parking designs consistent with the requirements of the shoreline codes, and, specifically, redesigning the parking provided in the northeast corner. Three of the parking stalls must be signed for public use. Handicapped stalls shall be provided in accordance with the requirements of the Americans with Disabilities Act.

6. Revised plans must be provided to the Public Works Department showing either a permanent or portable marine pumpout facility for the disposal of sanitary waste prior to receiving building permit approval.

7. The project proposal lies within the Washington State Department of Natural Resources Harbor Area (DNR), and lease agreements must be made with DNR for the proposed development activities in this area. Interim and long term uses in the state right of way are subject to approval and a lease agreement with the Washington State Department of Transportation. The applicant is responsible for obtaining all other applicable permits, including a State Department of Fish

and Wildlife Hydraulic Project Approval and Army Corps of Engineer approval.

8. The applicant shall comply with the requirements of the Tacoma Utilities Department as set forth in Attachment "A".

9. The applicant shall coordinate the location of refuse containers with the Refuse Utility Division, Public Works Department as identified in Attachment "B".

10. The applicant shall comply with the requirements of the Tacoma Fire Department as set forth in Attachment "C".

11. The applicant shall comply with the requirements of the U S Environmental Protection Agency and specifically the condition as set forth in Attachment "D".

12. The applicant shall comply with the condition of the Land Use Administrator dated June 14, 1994, as the same is set forth in Attachment E.

B. <u>USUAL CONDITIONS:</u>

1. The applicant shall comply with all other federal, state or local statutes, ordinances or regulations applicable to this project.

2. This permit may be rescinded pursuant to RCW 90.58.140(8) of the Shoreline Management Act of 1971 and Chapter 13.10.330 of the City of Tacoma's Land Use Regulatory Code in the event the permittee fails to comply with any condition thereof.

3. If no appeal is filed within fourteen (14) days of the issuance of the Hearing Examiner's decision and the City Council votes to summarily concur in the decisions of the Hearing Examiner, the matter will be transmitted to the State of Washington. However, if the City Council does not summarily concur with the Hearing Examiner's decision or an appeal is filed, the City Council will set a date for the determination of the matter. Subsequent to the determination of the City Council, the matter will be transmitted to the State. Construction pursuant to this permit will not begin or is not authorized until thirty (30) days from the date of filing the final order of the City of Tacoma with the Department of Ecology and Attorney General, or until all review proceedings initiated within thirty (30) days from the date of such filing have been terminated.

4. Construction or substantial progress toward construction of the authorized project must be undertaken within two (2) years after the approval of the permit by the City of Tacoma, or the permit shall terminate. If such progress has not been made, a new permit will be necessary. Local government may, however, at its discretion, extend the two-year time period for a reasonable time based on factors, including the inability to expeditiously obtain other governmental permits which are required prior to the commencement of construction.

5. If the authorized project has not been completed within five (5) years after the approval of the permit by the City of Tacoma, the City shall, at the expiration of the five-year period, review the permit, and upon showing of good cause, do either of the following:

a. Extend the permit for one (1) year; or

b. Terminate the permit.

PROVIDED that nothing herein shall preclude local government from issuing permits with a fixed termination date of less than five (5) years.

The applicant should also be reminded that this permit may be rescinded pursuant to Section 140(8) of the Shoreline Management Act of 1971 (RCW 90.58) in the event the permittee fails to comply with any condition hereof.

10. Any finding hereinbefore stated which may be deemed to be a conclusion herein is hereby adopted as such.

RECOMMENDATION:

It is hereby recommended that the requested SDP/SD/CUP and waiver of the required rear yard setback be approved, subject to the conditions set forth in Conclusion 9 herein.

DATED this 27th day of July, 1994.

RODNEY M. KERSLAKE, Hearing Examiner

TRANSMITTED this 27th day of July, 1994, via certified mail to the following:

Gary Kucinski, Sitts and Hill Engineering, Inc., 2901 S. 40th Street, Tacoma, WA 98409

TRANSMITTED this 27th day of July, 1994, to the following:

Gordon Pickering, Pick's Cove Marine Center, 2102 East "D" Street, Tacoma, WA 98421
David Bingham, Manager, Johnny's Dock Restaurant, 1900 East "D" Street, Tacoma, WA 98421
Lori Cohen, Superfund Site Manager, U.S. Environmental Protection Agency, Region 10, 1200 Sixth Avenue, Seattle, WA 98101
Kenneth Stone, District Environmental Manager, WSDOT, P.O. Box 47440, Olympia, WA 98504-7440
David Frederick, State Supervisor, U.S. Department of the Interior, Fish and Wildlife Service, 3704 Griffin Lane SE, Suite, 102, Olympia, WA 98501-2192
Brian Brown, Acting Division Chief, U.S. Department of Commerce, NOAA, 911 NE 11th Avenue, Room 620, Portland, OR 97232
Rebecca Inman, Enviropnmental Review Section, Department of Ecology, P. O. Box 47600, Olympia, WA 98504-7600
Kathy Marshall, Land Manager, Division of Aquatic Lands, Department of Natural Resources, P.O. Box 47027, Olympia, WA 98504-7027
Robert Burkle, Regional Habitat Manager, Habitat Program, Department of Fish and Wildlife, 600 Capitol Way N., Olympia, WA 98501-1091
City Clerk, City of Tacoma
Planning and Development Services Department, City of Tacoma (M. Smith)
Public Works Department, City of Tacoma (BLUS/K. Henderson, LUA)
Public Works Department, City of Tacoma (Refuse/D. Carlisle)
Fire Department, City of Tacoma (C. Anderson)

Tacoma Public Utilities

MEMORANDUM A

DATE: May 10, 1994

TO: Kathlyn C. Henderson, Land Use Administrator

FROM: Richard W. Curtice, Real Estate Management Supervisor RWCurtice

SUBJECT: SHORELINE MANAGEMENT DEVELOPMENT PERMIT NO. 141.570

Both Light and Water Divisions have reviewed the subject request.

The Light Division has no comments.

The Water Division states that evaluation of the adequacy of the existing service and meter will be done at the time of Building Plan submittal. Any new meters and services will be installed by the Water Division, at the expense of the developer. Any new domestic meters will be subject to a system development charge in addition to the service construction charge.

RWC/RVW/cjk

ATTACHMENT A

Tacoma City of Tacoma **Memorandum**

TO: Kathlyn C. Henderson, Land Use Administrator

FROM: David A. Carlisle, Services and Complaints Representative

SUBJECT: Shoreline Substantial Development Permit, File No. 141.570

DATE: May 24, 1994

Any change to existing service shall be coordinated through Dave Carlisle of the Refuse Utility Division at 591-5543.

If enclosures are to be built, coordinate prior to construction with Dave Carlisle of the Refuse Utility at 591-5543. They shall be constructed as shown on the plans to facilitate pickup by City Refuse vehicles. If gated, it shall be the customers responsibility to have gates in the opened and pinned position prior to City Refuse vehicle arrival. The gates shall have the ability to be pinned in the open position. NOTE: Gates in the open position shall not block or infringe on any traffic aisles. It shall be the responsibility of the customer to keep the enclosure in an acceptable sanitary condition including the area in the vicinity of the enclosure.

DAC:da (W0548DA)

'C'

TO: KATHLYN HENDERSON
FROM: CARL ANDERSON
SUBJECT: File No 141.570 (Pick's Cove Marine Center)

COMMENTS:

RECONFIGURATION OF MARINA MUST COMPLY WITH ALL FIRE PROTECTION PROVISIONS OF THE "WATERFRONT STRUCTURE AND MARINA CODE," ORDINANCE 25086 AS WELL AS UNIFORM BUILDING AND FIRE CODES, INCLUDING BUT NOT LIMITED TO:

1) AUTOMATIC FIRE SPRINKLER SYSTEMS FOR ANY COMBUSTIBLE SUBSTRUCTURE / SUPERSTRUCTURE, COVERED MOORAGE EXCEED AREA LIMITS NOTED IN THE MARINA CODE, AND DRY BOAT STORAGE AREAS (WAREHOUSE?) EXCEEDING AREA LIMITS NOTED IN THE MARINA CODE.

2) PROVISION OF HYDRANTS FOR FIRE FIGHTING, AND WET STANDPIPES WITH HOSE STATIONS ON FLOAT AREAS MORE THAN 250FT FROM FIRE DEPT. APPARATUS (VEHICLE ACCESS.

3) PROVISION OF WATER ACCESS AISLES, FIRE DEPT. ACCESS PASSAGES, AND FIRE FIGHTING MOORAGE POINTS IN ACCORDANCE WITH THE MARINA CODE.

4) PROVISION OF AN AUTOMATIC SPRINKLER SYSTEM FOR THE WAREHOUSE DUE TO THE 14,250 SQUARE FEET ADDITION IN ACCORDANCE WITH THE BUILDING CODE.

5) TANK PERMIT FROM FIRE DEPT. REQUIRED FOR RELOCATION OF PROPANE TANK.

CARL ANDERSON, FPE

ITY OF TACO
PUBLIC WORKS D
94 MAY 10 PM 4:03

D

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

May 9, 1994.

Reply To
Attn Of: HW-113

Ms. Kathlyn Henderson
Land Use Administrator
Building and Land Use Services Division
747 Market Street
Tacoma, Washington 98402-3769

Subject: Comments on Shoreline Development Permit Application File 141.570; Gordon Pickering, Pick's Cove Marina, Tacoma, WA

Dear Ms. Henderson;

The U.S. Environmental Protection Agency (EPA) recently received for review a copy of the Shoreline Development Permit Application File 141.570. In this permit application, Gordon Pickering proposes reconfiguration of an existing marina at 1940 D Street, Tacoma, Washington. This letter provides comments on this application from the EPA Superfund program.

As background, the proposed site is located in the Head of the Thea Foss Waterway Problem Area of the Commencement Bay Nearshore/Tideflats (CB/NT) Superfund Site. This problem area is one of eight problem areas that are identified in the CB/NT Record of Decision (September 1989) according to contaminated marine sediments and facilities or sites on land that are suspected sources of contaminants to the sediments.

The sediments in the Thea Foss Waterway that will require remediation and long-term monitoring under Superfund will be further defined based on sediment remedial design sampling results. At this time, sediment remedial design sampling in the Thea Foss Waterway is to begin in 1994 under the terms of an EPA Administrative Order on Consent with the City of Tacoma.

The Pick's Cove Marina proposal includes buidling of a pile-supported building on the northwest corner of the site, building of a new steel pile launchway and building of additional covered moorage slips in the Head of Thea Foss Waterway problem area, along the shoreline of the Thea Foss Waterway. From the application, the area and volume of sediments that may be disturbed or removed was not clear. Prior to conducting any in-

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water work in Thea Foss Waterway, the applicant should contact and coordinate such efforts with the EPA Superfund Program.

EPA Superfund suggests the following permit condition:

"The applicant shall conduct in-water work (in the intertidal or subtidal area) in accordance with federal environmental regulations, including the Comprehensive, Environmental, Response, Compensation, and Liability Act, commonly referred to as "Superfund". This may include requirements for sampling and analysis, and proper remediation and disposal of contaminated sediments. The applicant shall obtain approval from the U.S. Environmental Protection Agency Superfund Program for this in-water work."

We appreciate the opportunity to review this information. If you have any further questions, please contact me at (206) 553-6523.

Sincerely,

Lori Cohen

Lori Cohen
Superfund Site Manager

cc. Dave Smith, Ecology
Nancy Musgrove, Weston

CITY OF TACOMA

INTER-DEPARTMENTAL COMMUNICATION

TO: Rodney M. Kerslake
Hearing Examiner

FROM: Julia Koster
Land Use Administration Planner

RE: Shoreline Management Substantial Development Permit #141.570
Pick's Cove Marine Center

Date: June 14, 1994

The Public Works Department advises the Hearing Examiner of several errata in the staff report for the referenced file.

Pg. 1 and 2: The addition to the proposed warehouse building is 1,450 square feet, not 14,250.
Pg. 15: The proposed office building, with a footprint of 4,300 square feet, is larger that the previously proposed office building was at 3,600 square feet, but the applicant advises that the proposed building is smaller than the existing two story office building.

The Department further recommends the imposition of the following special condition of approval in addition to those set forth in the Department's preliminary report:

1. The applicant shall install public access across the shoreline edge of the property as shown on the project plans, including an eight foot walkway on the shoreline side of the proposed office building, the existing five foot walkway as required by previous permits, and a walkway to be provided in the East 21st Street Right of Way on the shoreline edge. The width of the walkway in the right of way shall be subject to further review by the Public Works Department based on future survey data. All upland public walkways shall be a minimum of six feet in width, be separated from parking areas and aisle ways by either extruded concrete or timber curbing, and shall be paved with either a concrete or asphalt surface. The public access shall be formalized by a covenant or easement to be recorded against the title of the property and shall run with the life of the project. The covenant or easement shall be submitted to the City Attorney and the Land Use Administrator for review and approval prior to its recording, which shall occur prior to the issuance of any development permits for the site.

The Department believes this condition is necessary to ensure the project's consistency with the general regulations and development regulations set forth in Section 13.10.175 of the City's Shoreline Regulations. The Department appreciates your consideration of this matter, and will address any questions you may have at the June 14, 1994 hearing.

cc: Gordon Pickering, Pick's Cove Marine Center
Jonathan Brand, Sitts and Hill Engineers, Inc.

NOTICE

RECONSIDERATION AND APPEAL OF EXAMINER'S DECISION

RECONSIDERATION:

Any aggrieved person having standing under the ordinance governing such application and feeling that the decision of the Examiner is based on errors of procedure or fact may make a written request for review by the Examiner within fourteen (l4) days of the issuance of the Examiner's decision or recommendation. This request shall set forth the alleged errors, and the Examiner may, after review of the record, take such further action as he deems proper and may render a revised decision. (*Tacoma Municipal Code* 13.03.120)

APPEAL OF HEARING EXAMINER'S DECISION:

Within fourteen days of the issuance of the Examiner's decision on a Shoreline Permit, the applicant, any aggrieved party owning property or residing within the area entitled to public notice by mail as set forth in Section 13.10.250 hereof, or any person who appeared in person, represented by counsel, or in writing at the Examiner's hearing, shall have the right to appeal the Examiner's decision to the City Council by filing written notice of appeal in duplicate with the City Clerk, stating the reasons the Examiner's decision was in error; provided, however, that in the event application is made pursuant to Section 13.03.120 of this Title for reconsideration by the Examiner, the appellant shall have five (5) days from the date of receipt of the Examiner's decision on the reconsideration to appeal the Examiner's decision to the City Council. Appeals shall be reviewed and acted upon by the City Council in accordance with Section 13.03.130 of this Title. *Tacoma Municipal Code* 13.10.280)

Tacoma City of Tacoma
City Manager

April 28, 1994

TO: All Departments and Agencies with Jurisdiction

SUBJECT: Environmental Checklist and Determination of Non-significance

In accordance with WAC 197-11-340, copies of the environmental checklist and Determination of Non-significance for the project described below are transmitted:

SUBJECT AND PROJECT LOCATION: A Shoreline Substantial Development Permit to allow for the reconfiguration of an existing marina. Included in the proposal is the removal of open and covered moorage slips from the alignment of the proposed State Route 509 Freeway and the development of eleven new, covered moorage slips at the northerly end of the site. Also proposed is the temporary relocation of three covered moorage slips to the southerly side of the the freeway alignment and the development of future transient moorage and a pumpout station within the alignment after freeway construction is completed. The applicant proposes to build a new steel pile launchway at the north end of the site to serve its existing dry boat storage area. A Shoreline Substantial Development/Conditional Use Permit is requested for a 14,250 square foot building addition to the existing warehouse facility on the site uplands and a pile supported, two story office building to be located on the northwest corner of the site. The site is located at 1940 East "D" Street on the easterly side of the Thea Foss Waterway.

APPLICANT: Gordon Pickering, c/o Pick's Cove Marine Center
SEPA Public Information File No. DNS-03389-94

Please review this checklist and provide comments on this proposal no later than May 13, 1994. The Puyallup Indian Tribe is hereby notified that the consultation process is initiated. The appeal period runs concurrently with the comment period.

Submit comments to

Kathlyn Henderson
City of Tacoma, 747 Market Street, Suite 345
Tacoma, WA 98402.

RECEIVED
MAY 03 1994
SUPERFUND REMEDIAL BRANCH

Julia Kooler 591-2062
City contact

747 Market Street, Room 1244 ▮ Tacoma, Washington 98402-3766 ▮ (206) 591-5130 ▮ FAX (206) 591-5123

Sincerely,

Julia Koster for

Kathlyn Henderson
Environmental Official

c:julia:notice:dnscover.doc

cc: Applicant
Jon Brand, Sitts and Hill Engineers
Kirk Zempel, Sewer Utilities
Department of Ecology, Barbara Ritchie, SEPA Center
State Department of Fisheries, Randy Carman
State Department of Natural Resouces, Kathy Marshall
Puyallup Tribe of Indians, Elizabeth Tail
U.S. Army Corps of Engineers
Environmental Protection Agency, Karen Keeley
National Marine Fisheries Service
US Fish and Wildlife Service, Jeff Krausmann
State Department of Transportation, Jeff Sawyer

OK-KL

DETERMINATION OF ENVIRONMENTAL NONSIGNIFICANCE

TO BE FILLED IN BY APPLICANT

Description of proposal: The project proponent proposes construction of new launchway and covered moorage, and abandonment of existing launchway and moorage to accommodate construction of new I-509 viaduct.
SEE ATTACHED PROJECT DESCRIPTION

Proponent/Applicant: Pick's Cove Marine Center
a. Contact Person Gordon Pickering Phone: 572-9212
City action(s) requested: Shoreline Management Substantial Development Permit AND CONDITIONAL USE PERMIT
Location of proposal including street address, if any:
1940 East "D" Street, Tacoma, WA 98421

AGENCY USE ONLY:
Lead Agency City of Tacoma

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

This section to be used only for DNS's issued under WAC 197-11-340(2). The lead agency will not act on this proposal for 15 days. Comments must be submitted by _____ for agency consideration.

Responsible official: William L. Pugh
Position/title: Director Phone: 591-5525
Department/division: Public Works Department
Signature: William L. Pugh Date: 4/27/94
SEPA Public Information Center:

(✓) Approved as to form by:

You may appeal this determination to the SEPA Public Information Center, Tacoma Municipal Building, 3rd floor, 747 Market Street, Tacoma, Washington 98402, by filing a notice of appeal together with a $200.00 filing fee, no later than May 13, 1994.
SEPA PIC Officer: Molly K. Marquand Date: 4-27-94
SEPA PIC File #: DNS-0339-94 Department File #: — 141.570
Filing Fee $: — Account #: —

ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), Chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions to Applicants

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply". Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help you describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

A site plan, drawn to scale and showing all existing and proposed structures, should be provided with the checklist application.

Use of Checklist for Nonproject Proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply". **IN ADDITION**, complete the **SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS** (WAC 197-11-960 PART D).

For nonproject actions, the references in the checklist to the work "project", "applicant", and "property or site" should read as "proposal", "proposer", and "affected geographic area", respectively.

A. **Background**

1. Name of proposed project, if applicable: Pick's Cove Marina Center
2. Name of applicant/proponent: Gordon Pickering
3. Address and phone number of applicant and contact person:
1940 East " D " Street, Tacoma, WA 98421
Contact: Gordon Pickering - (206) 572-9212
4. Date checklist prepared: 01-21-94
5. Agency requesting checklist: City of Tacoma
6. Proposed timing or schedule (including phasing, if applicable):
Work to commence in Spring of 1994
7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal. If yes, explain.
A future building is planned in the Northwest corner of the site.
8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.
A Shoreline Permit was issued on the project site in 1991.
9. Do you know whether applicants are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. The Washington State Department of Transportation will be initiating construction of the I-509 viaduct in the summer of 1994.
10. List any government approvals or permits that will be needed for your proposal, if known. Shoreline Management Substantial Development permit, Corps of Engineers permit, Hydraulic project approval. CITY DEMOLITION AND BUILDING PERMITS
11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.
The proposed involves construction of a new launchway and relocating existing covered moorage to accommodate the proposed SR-509 viaduct. The proposed action will result in a net loss of slips. Temporary moorage of 6 existing covered slips is proposed within the neighboring lease area. SEE ATTACHED PROJECT DESCRIPTION.
12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, your are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.
The project site is located on the west side of East "D" Street, north of the railroad tracks. The property is located on the Thea Foss Waterway.

TO BE COMPLETED BY APPLICANT

EVALUATION FOR AGENCY USE ONLY

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)?

The Shoreline slope is approximately 1:1

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Bottom sediments are identified as being contaminated.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

None proposed.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Negligible risk of erosion from proposed launchway construction.

See Attached comments.
JAC

TO BE COMPLETED BY APPLICANT	EVALUATION FOR AGENCY USE ONLY
g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? No net increase in impervious area is connected with this proposal.	
h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any. None	
2. Air a. What types of emissions to the air would result from the proposal (i.e., dust, automobile odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known. Some emissions may occur during pile driving.	SEE ATTACHED COMMENTS
b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. No	
c. Proposed measures to reduce or control emissions or other impacts to air, if any. None	

TO BE COMPLETED BY APPLICANT

EVALUATION FOR AGENCY USE ONLY

3. Water
   a. Surface
      1. Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

The project site is located on the Thea Foss Waterway.

      2. Will the project require any work, in or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available site plans.

Yes, a new launchway and remodel of docks is proposed as shown on the Site Plan.

SEE ATTACHED COMMENTS. JAL

      3. Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None

      4. Will the proposal require surface water withdrawls or diversions? Give general description, purpose, and approximate quantities if known.

No

TO BE COMPLETED BY APPLICANT

EVALUATION FOR AGENCY USE ONLY

5. Does the proposal lie within a 100-year flood plain? If so, note location on the site plan.

   No

6. Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

   Noo

b. Ground

1. Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

   No

2. Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: domestic sewage; industrial, containing the following chemicals . . . agricultural; etc.) Describe the general size of the system, the number of such systems, the number of houses to be serviced (if applicable), or the number of animals or humans the system(s) are expected to serve.

   None

TO BE COMPLETED BY APPLICANT

EVALUATION FOR AGENCY USE ONLY

c. Water Runoff (including storm water):

1. Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Any runoff generated on the relocated launchway shall be directed in its historical fashion.

2. Could waste materials enter ground or surface waters? If so, generally describe.

No

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any.

None

4. Plants

a. Check or circle types of vegetation found on the site:

✓ deciduous tree: alder, maple, aspen, other -Landscaped species

____ evergreen tree: fir, cedar, pine, other

____ shrubs

____ grass

____ pasture

____ crop or grain

____ wet soil plants: cattail, buttercup, bull rush, skunk cabbage, other

____ water plants: water lily, eel grass, mil foil, other

____ other types of vegetation

TO BE COMPLETED BY APPLICANT

EVALUATION FOR AGENCY USE ONLY

b. What kind and amount of vegetation will be removed or altered?

Existing landscaping shall be altered as necessary to accommodate new launchway and ramps.

c. List threatened or endangered species known to be on or near the site.

Not aware of any.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Existing landscaping on the site will be re-planted as required for construction of the new launchway and ramps.

5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

birds: hawk, heron, eagle, songbirds, other

mammals: deer, bear, elk, beaver, other

fish: bass, salmon, trout, herring, shellfish, other

b. List any threatened or endangered species known to be on or near the site.

Unknown

c. Is the site part of a migration route? If so, explain.

Unknown

SEE ATTACHED COMMENTS
JAL

TO BE COMPLETED BY APPLICANT	EVALUATION FOR AGENCY USE ONLY
d. Proposed measures to preserve or enhance wildlife, in any: None	
6. Energy and Natural Resources a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs. Describe whether it will be used for heating, manufacturing, etc. N/A	
b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. No	
c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any. N/A	
7. Environmental Health a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe. Environmental health hazards will not be increased by the proposal.	

TO BE COMPLETED BY APPLICANT	EVALUATION FOR AGENCY USE ONLY
1. Describe special emergency services that might be required. None	
2. Proposed measures to reduce or control environmental health hazards, if any. None	
b. Noise 1. What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? None	
2. What types and levels would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site. Construction noise on a short-term basis, during normal work hours.	
3. Proposed measures to reduce or control noise impacts, if any. None	

TO BE COMPLETED BY APPLICANT

EVALUATION FOR AGENCY USE ONLY

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

Marina, boat repair, retail marine supplies, laminant manufacturing.

b. Has the site been used for agriculture? Is so, describe:

No

c. Describe any structures on the site.

Existing launchway, covered and uncovered moorage.

d. Will any structures be demolished? If so, what?

Existing launchway

See Attached comments
JAC

e. What is the current zoning classification of the site?

S-8 Thea Foss Waterway

f. What is the current comprehensive plan designation of the site?

High intensity

g. If applicable, what is the current shoreline master program designation of the site?

S-8

TO BE COMPLETED BY APPLICANT	EVALUATION FOR AGENCY USE ONLY
h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify. The Thea Foss Waterway is an EPA "Superfund" site.	
i. Approximately how many people would reside or work in the completed project? No changes in number of employees will result from the project.	
j. Approximately how many people would the completed project displace? None	
k. Proposed measures to avoid or reduce displacement impacts, if any. None	
l. Proposed measures to ensure the proposal is compatible with existing and projected land use and plans, if any. None	
9. Housing a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing? None	

TO BE COMPLETED BY APPLICANT

EVALUATION FOR AGENCY USE ONLY

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None

c. Proposed measures to reduce or control housing impacts, if any.

None

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

All future construction shall conform to the City of Tacoma's Waterfront Structures and Marina Codes.

b. What views in the immediate vicinity would be altered or obstructed?

None

c. Proposed measures to reduce or control aesthetic impacts, if any:

None

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None

TO BE COMPLETED BY APPLICANT	EVALUATION FOR AGENCY USE ONLY
b. Could light or glare from the finished project be a safety hazard or interfere with views? No	
c. What existing off-site sources of light or glare may affect your proposal? None	
d. Proposed measures to reduce or control light and glare impacts, if any. None	
12. Recreation a. What designated and informal recreational opportunities are in the immediate vicinity? Waterfront access is afforded the public along the Thea Foss Waterway.	SEE ATTACHED COMMENTS
b. Would the proposed project displace any existing recreational uses? If so, describe. No	
c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any. Public access on the site will be permitted during business hours.	

TO BE COMPLETED BY APPLICANT

EVALUATION FOR AGENCY USE ONLY

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

Thea Foss Waterway

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None

c. Proposed measures to reduce or control impacts if any.

None

14. Transportation

a. Identify public streets and highways serving the site and describe proposed access to the existing street system. Show on site plans, if any.

The site is accessed off of "D" Street.

SEE ATTACHED COMMENTS.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No, the nearest transit stop is located approximatley one-quarter mile south of the site on Puyallup Ave.

TO BE COMPLETED BY APPLICANT

c. How many parking spaces would the completed project have? How many would the project eliminate?

The existing site has -- off-street parking stalls. No net loss of stalls is anticiapted.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

No improvements to the existing private parking area are proposed.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

Water and rail transportation is in the immediate proximity to the site.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

Unknown

g. Proposed measures to reduce or control transportation impacts, if any.

None

EVALUATION FOR AGENCY USE ONLY

Some loss of parking will occur with construction of this project; however, applicant will be required to meet City parking standards, so lost parking will be replaced.
M.M.

TO BE COMPLETED BY APPLICANT

EVALUATION FOR AGENCY USE ONLY

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No

b. Proposed measures to reduce or control direct impacts on public services, if any.

None

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

All urban services and utilities are available.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Power: City of Tacoma
Sewer & Water: City of Tacoma
Refuse: City of Tacoma
Telephone: U.S. West
Natural Gas: WA Natural Gas

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature of Proponent: [signature]

Date Submitted: 2/9/94

Environmental Checklist: Comments and Conditions
Pick's Cove Marine Center/1940 East "D" Street

Project Description: A Shoreline Substantial Development Permit at 1940 East "D" Street for the reconfiguration of buildings and overwater moorage structures involving demolition, relocation and reconstruction, to accommodate construction of State Route 509, which will pass through this site and over the Thea Foss Waterway. The following demolition activities will occur: 16,500 square feet of warehouse and office space, the 40 ton launch way on creosote pilings, possible removal of existing creosote pilings, dock containing 15 covered moorage slips (all of these are located within the state right of way), 2,250 square feet of building in the boat yard area, and a dock containing 16 uncovered moorage slips. Three covered moorage slips will be moved on an interim basis to the extreme south end of the site, and then returned to their original position. No activities will occur in the state right of way during the two year construction period. Following construction, use of the existing moorage area will resume, and a transient moorage area and pumpout station will be built in the right of way. On the north end of the site, a new steel pile launch way and 11 additional covered moorage slips will be built. A Shoreline Substantial Development/Conditional Use Permit is requested for a 14,250 square foot building addition to the existing warehouse facility on the site uplands and for a two story, pile supported office building to be located on the northwest corner of the site.

Earth: The site is part of the reclaimed Puyallup River delta, and is identified as a seismic hazard area. No dredging is proposed for this site. Two underground, abandoned fuel storage tanks are located in the state right of way and will be removed during construction of SR 509. The applicant shall comply with all applicable local and state requirements for tank removal.

The adjacent Thea Foss Waterway is identified as a "Superfund" site, and sediments in the waterway are contaminated. Sediment releases may occur from pile driving associated with this project. The applicant shall provide an erosion control plan to ensure that sediment does not enter the Foss Waterway, and a sediment control plan. The applicant may be required to conduct in-water work in accordance with federal environmental regulations, including "CERCLA-Superfund". Prior to conducting any work activity that impacts marine sediments, the applicant may be required to sample the sediments to assure proper removal and disposal techniques. EPA will identifiy any requirements or approvals needed to satisfy their agency's concerns during the public notification period for this permit.

Air: Site is located in an area that does not meet federal standards for suspended particulates, carbon monoxide and ozone. All buildings proposed for demolition should be inspected for asbestos containing materials, and if asbestos is identified, the applicant shall obtain all applicable permits from the Puget Sound Air Pollution Control Agency. Trackout of dirt and debris onto East "D" Street shall be cleaned promptly. All

demolition material, including creosote pilings, shall be disposed of at an approved landfill facility or recycling center.

Water: All proposed work is located within the "S-8" Shoreline District. No filling or dredging is proposed as part of the project. The proposed demolition involves removal of existing creosoted pilings, docks and launchway. Approximately 35-40 creosoted pilings will be removed and replaced by 30-35 steel pilings. Due to potential sediment contamination in the Foss Waterway (see "Earth" Section), the applicant shall comply with state and federal requirements relating to the removal of all or a portion of the pilings. Debris shall not be allowed to enter the Foss Waterway. The immediate shoreline edge is part of a zone C floodplain. The proposed pumpout facility will be connected to the City's sanitary sewer. Potential for increased diesel waste, garbage or other debris from pleasure craft visiting the marina. Storm water collection, treatment and discharge shall be to City standards.

To be [illegible]

Plants: Any existing landscaping damaged or removed during construction shall be replaced prior to receiving certificate of occupancy.

Animals: The Foss Waterway has migratory salmon runs and provides habitat for juvenile feeding and migration. No inwater work may occur from March 15 to June 15. The proposed development will result in an overall increase in overwater coverage and the resulting shading (more information is provided in the attached letter from Sitts and Hill Engineering). Mitigation measures for impacts to fish resources may be a requirement of state Department of Fish and Wildlife HPA approval.
Installation of the proposed marina expansion may impact the intertidal area for juvenile salmonids.

Land Use: Demolition activities are described in the project proposal. The project proposal lies within the Washington State Department of Natural Resources Harbor Area, and lease agreements must be made with DNR for the proposed development activities in this area. Interim and long term uses in the state right of way are subject to approval and a lease agreement with the Washington State Department of Transportation. The proposed development activities must be found consistent with the criteria for approving shoreline permits, including applicable adopted City land use and shoreline plans such as the Shoreline Master Program,the Generalized Land Use Plan, and the Thea Foss Waterway Design and Development Plan.

Recreation: A public accessway is located generally along the shoreline edge of this site. As a condition of permit approval, the proposed development must maintain this public accessway, providing necessary repair or maintenance work, and the accessway may be required to be extended further south.

Traffic: 80 parking spaces are to be provided at the site. Improvements or repair to the right of way adjacent to this site may be a condition of permit approval.
c:julia\shore\dnscond.doc

SITTS & HILL ENGINEERS, INC.

Gary Kozinski, PE

Professional Engineers and Planners

2901 SOUTH 40TH ST., TACOMA, WA 98409-5697
TELEPHONE (206) 474-9449
FAX NO.: (206) 474-0153

THOMAS H. SEMON, P.E.
BRENT K. LESLIE, P.E.
ROBERT N. ERB, P.L.S.
ROBERT J. DAHMEN, P.E.

April 19, 1994

City of Tacoma
Public Works Department
747 Market Street
Room 408
Tacoma, WA 98402-3769

Attention: Julia Koster
Reference: Pick's Cove Marina

Dear Ms. Koster,

Thank you for providing us with your questions and comments regarding the proposed reconfiguration of Pick's Cove Marina. As you know, the proposed improvements to the existing operation are necessary to accomdate construction of SR-509, which will pass through the site and over the Thea Foss Waterway.

There are two primary existing uses of the property; one is the manufacturing of laminate products by Pickering Industries; and the other is the Pick's Cove Marine Center, which is a complex used for the moorage and repair of pleasure boats and yachts. A retail store specializing in marine supplies is also located on the site. Essentially the entire site lies within the 200-foot shoreline setback. Construction of SR-509 will impact both uses, with a net loss of floor space within the manufactuing building and offices, and a net loss of moorage slips in the Marine Center portion of the property.

Existing activities related to the shoreline use centers around the existing 40-ton lauchway, which is located within the right-of-way, and the boat repair yard. Moorage tenants rely on the lauchway and yard for routine boat maintainence. Mr. Pickering proposes demolishing the existing creosote timber supported launchway and building a new steel pile structure on the location shown on the plans. The launchway is an imperative part of the business, and the new one must be operational prior to demolition of the existing one.

Approximately 12,300-square feet of warehouse and office space lying on the south side of the state right-of-way and 4,200-sf lying on the north side of the right-of-way will be demolished to make way for SR-509. In addition, the marina office (1,235-sf) situated in the northwest corner of the existing plant/warehouse building and the supply

building (1,025-sf) lying within the boatyard will be demolished to make way for haul-out operations. A future 3,600-sf building, to be constructed on a pile supported deck, is proposed at the northwest corner of the property. Also proposed is a 1,450-sf addition to the northwest corner of the existing plant/warehouse building. The net change in building square footage on the site amounts to a reduction of 13,710-sf.

Based upon an analysis of our preliminary design, we estimate that 35- 40 existing creosote treated piles will be removed during the marina configuration project. These will be replaced by approximately 30-35 steel driven piles. These figures do not include demolition of the existing creosote treated launchway structure and replacement, or approximately 16 piles for the future pile supported building.

The existing marina facility has 32 uncovered slips comprising approximately 16,000-sf of overwater area, and 66 covered slips covering approximately 38,400-sf of water. The proposed final layout shows 68 covered slips with approximately 44,500-sf of covered area. The proposed covered moorage will be similar to that found on the existing site. These are structures with high roofs which are open on the ends, allowing a moderate degree of light penetration. As shown on the preliminary plans, nearly all of the existing and proposed moorage is located beyond the -10 contour, where shading impacts are considered minimal. We consider any shading impacts resulting from the 6,100-sf increase in covered moorage area to be offset by the 16,000-sf decrease in uncovered area.

Sheet 1 of 2 of our plan set shows our concept for interim use of the property. There are no proposed activities or uses within the WSDOT right-of-way or construction easements during the 2-year construction process. The existing covered moorage dock lying along the south property line will not be used during construction. The sequence of activities will involve demolition and removal of those areas shown on Sheet 1. All demolished structures shall be disposed of in an approved manner under a permit taken out by the state's contractor. The only existing float to be retained will be towed to the interim lease area shown and secured to the existing dock. Following construction of the SR-509 bridge, that portion will be towed into position, and construction of the remaining covered moorage will take place. The proposed transient moorage dock and sewage pump out station will also be constructed following completion of the bridge. It is our understanding that Mr. Pickering has secured permission from DNR for the temporary dock storage shown on the plan. The original schedule for the project called for demolition of structures to begin in July 1994.

It is my understanding that the existing below ground fuel storage tanks and dispensers have not been used in several years, and, that they have been abandoned in an approved manner. We have requested available documentation and will provide it to you as soon as we receive it.

We are proposing construction of a single sewage pump-out station on the transient moorage dock. The marina does not house live aboard tenants.

I trust that we have satisfactorily considered those items addressed in your letter of April 14, 1994. We look forward to working with you further on this project and encourage you to contact us at any time with any additional questions or comments that you might have.

Sincerely,

Jonathon L. Brand, P.E.
Project Engineer

cc Gordon Pickering

City of Tacoma Building and Land Use Services Division
3rd Floor, Tacoma Municipal Building
747 Market Street
Tacoma, WA 98402

RECEIVED
MAY 0 3 1994
SUPERFUND REMEDIAL BRANCH

TO: All Concerned Agencies and Departments

FROM: Kathlyn Henderson, Land Use Administrator

SUBJECT: Shoreline Substantial Development Permit, File No. 141.570

APPLICANT:
Gordon Pickering
Pick's Cove Marine Center
1940 East "D" Street
Tacoma, WA 98421

CONTACT:
Jon Brand
Sitts and Hill Engineering
2901 South 40th Street
Tacoma, WA 98409-5697

REQUEST: A Shoreline Substantial Development Permit to allow for the reconfiguration of an existing marina. Included in the proposal is the removal of open and covered moorage slips from the alignment of the proposed State Route 509 Freeway and the development of eleven new, covered moorage slips at the northerly end of the site. Also proposed is the temporary relocation of three covered moorage slips to the southerly side of the the freeway alignment and the development of future transient moorage and a pumpout station within the alignment after freeway construction is completed. The applicant proposes to build a new steel pile launchway at the north end of the site to serve its existing dry boat storage area. A Shoreline Substantial Development/Conditional Use Permit is requested for a 14,250 square foot building addition to the existing warehouse facility on the site uplands and for a two story, pile supported office building to be located on the northwest corner of the site.

LOCATION: The project is located at 1940 East "D" Street.

ACCESS: Access to the site is from East "D" Street. Marine access is from Thea Foss Waterway. Part of the site is the East 21st Street right of way and the SR 509 right of way.

ADDITIONAL INFORMATION: The project involves demolition, relocation and reconstruction. The following demolition activities will occur: 16,500 square feet of warehouse and office space, the 40 ton launchway on creosote pilings, possible removal of existing creosote pilings, dock containing 15 covered moorage slips (all of these are located within the state right of way), 2,250 square feet of building in the boat yard area, and a dock containing 16 uncovered moorage slips. No activities will occur in the state right of way during the two year construction period. Following construction, use of the existing moorage area will resume, and a transient moorage area and pumpout station will be built in the right of way. No dredging is proposed as part of this application. At this time, no mitigation has been proposed for any overwater impacts. Parking is provided on site. More project information is included in the attached letter from Sitts and Hill Engineering.

Preliminary review indicates that this project will not require an environmental impact statement.

PROPERTY DESCRIPTION: See attached.

Your comments and/or recommendations are requested by May 20, 1994.

A Public Hearing before the City Hearing Examiner is scheduled for June 14, 1994 at 9:00 a.m.

KCH:

Attachments

cc: Public Works Department (~~8~~ 10)
Public Utilities (4)
Fire Department
Health Department, Rob McElroy, EH3128
Police Department
Human Rights Department
Pierce Transit
U.S. West Communications, Attn: BIC Clerk
Planning and Development Services, Attn. Mike Smith

State Department of Ecology
State Department of Fisheries
State Department of Natural Resources
State Department of Wildlife
Port of Tacoma
Puyallup Tribe of Indians, Attn: Russ Ladley
Puyallup Tribe of Indians, Attn: Elizabeth Tail
U.S. Fish and Wildlife Service, Jeff Krausmann
U.S. Army Corps of Engineers
Environmental Protection Agency, Attn: Karen Keeley
U.S. Coast Guard
National Marine Fisheries Service
State Department of Transportation

RESPONSE

_____ No Objections

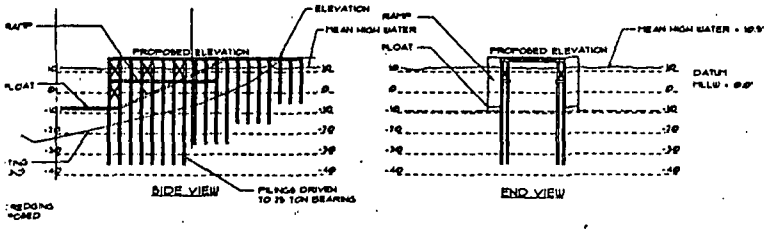
_____ Comments Attached

Signature

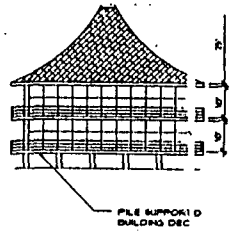
Date Department

Equal Employment Opportunity-Affirmative Action Employer
Section 504/Americans with Disabilities Act
Accomodations provided upon request

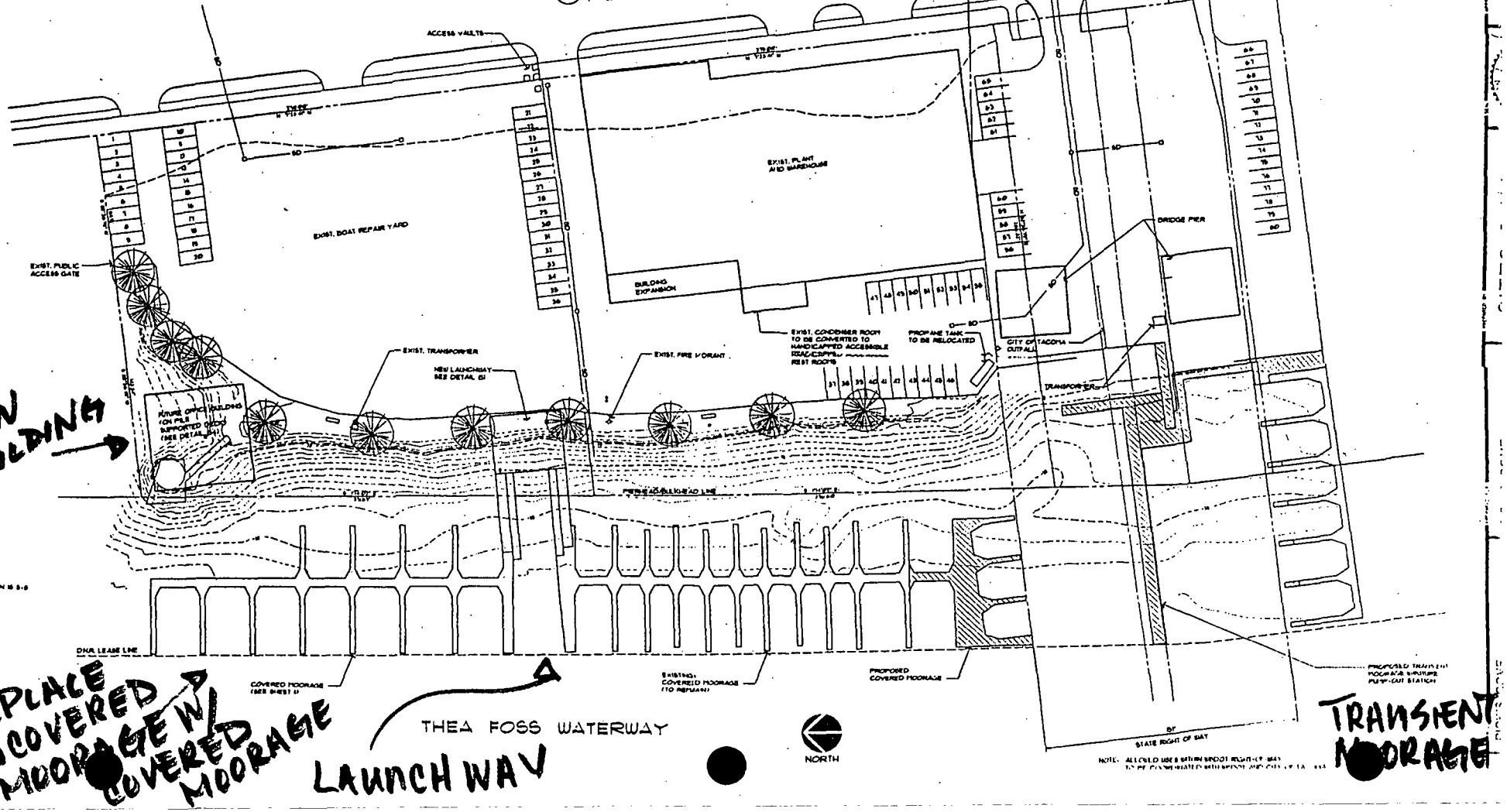
PICK'S COVE
FILE 141.570
1940 EAST 'D'



LAUNCHWAY DETAIL
1" = 30'



B4 PROPOSED OFFICE ELEVATION VIEW
1" = 20'

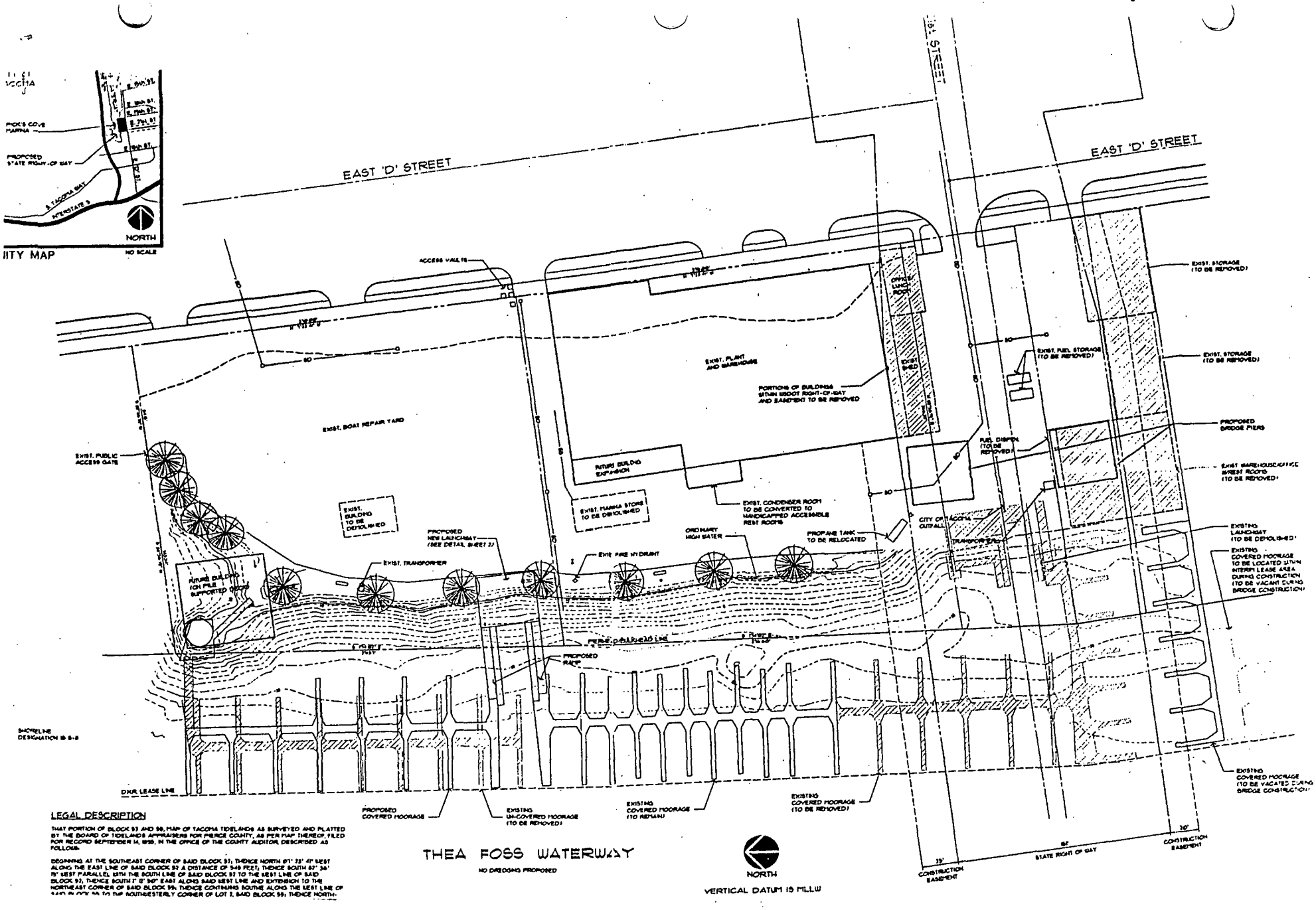


NEW BUILDING

REPLACE UNCOVERED MOORAGE W/ COVERED MOORAGE

LAUNCH WAY

TRANSIENT MOORAGE



LEGAL DESCRIPTION

THAT PORTION OF BLOCK 93 AND 99, MAP OF TACOMA TIDELANDS AS SURVEYED AND PLATTED BY THE BOARD OF TIDELANDS APPRAISERS FOR PIERCE COUNTY, AS PER MAP THEREOF, FILED FOR RECORD SEPTEMBER 14, 1890, IN THE OFFICE OF THE COUNTY AUDITOR, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF SAID BLOCK 93; THENCE NORTH 81° 23' 41" WEST ALONG THE EAST LINE OF SAID BLOCK 93 A DISTANCE OF 349 FEET; THENCE SOUTH 87° 36' 19" WEST PARALLEL WITH THE SOUTH LINE OF SAID BLOCK 93 TO THE WEST LINE OF SAID BLOCK 93; THENCE SOUTH 1° 5' 30" EAST ALONG SAID WEST LINE AND EXTENSION TO THE NORTHEAST CORNER OF SAID BLOCK 99; THENCE CONTINUING SOUTHE ALONG THE WEST LINE OF SAID BLOCK 99 TO THE SOUTHEASTERLY CORNER OF LOT 7, SAID BLOCK 99; THENCE NORTH-

PICK'S COVE MARINE CENTER
FILE 141.570 1940 EAST 'D' STREET

Read y FES

DEPARTMENT OF ECOLOGY
URBAN BAY ACTION PROGRAM INSPECTION REPORT

ENTITY: Picks Cove Marina/Boatyard **INSPECTOR:** Mercuri, Stephens

LOCATION: 1940 East "D" St. **DATE:** 12/3/92

OWNER: Gordon Pickering - Landowner
CONTACT: Randy Robinson, Boatyard Manager

TYPE OF FACILITY: Marina, Small Boat Yard

PERMITS: None

DRAINS TO: Head of Foss Waterway

PATHWAY/QUANTITY:

Process water: Boat wash water recirculating system being built now. Previous discharge to waterway.

Ground water: site is paved

Stormwater: Paint chips and scrapings are vacuumed up, but some residues could enter storm water.

Spills: No obvious spill potential.

SUSPECTED CONTAMINANTS: Cu, zn from hull washing (past).

SAMPLING: Drain has been sampled by TPCHD. Consistently high pH, high metals in sediments near drain. High pH may be from boiler flush discharge from Pickering Industries.

FACILITY DESCRIPTION:
Inspectors Mercuri and Stephens arrived on site at about 1:15 p.m. and spoke with the boatyard manager, Randy Robinson. The site consists of a boat repair yard, a marina, and a yacht supply store. We only inspected the boat repair yard. During the spring and summer, up to 16 boats a day are washed here. About 800 boats a year are washed altogether. At the time of the inspection, a recirculating system for boat hull wash water was under construction, but was not complete. Boats will be washed outside in a paved area which is bermed on two sides and slopes toward a sump. Wash water will be pumped from the sump into a flocculation tank inside of a small shop building, then through a three chamber filtration tank. The final filtration will be through a 100 micron filter. Sludge from the system will be dried out using a home made dryer (not yet designed) and disposed of properly. The sump will be cleaned out about once per week. The bermed area is open on the uphill side so can become filled with stormwater. If that occurs, Mr. Robinson said he would simply siphon off the rainwater. I reminded him that it is necessary to always keep the wash area clean so that stormwater will not pick up contaminants from previous washings. He said that the sump would be cleaned out about once per week.

Boats are also sanded and painted in the paved service yard. There are several portable tents which the boats are placed under for sanding work. At the time of the inspection, there were trucks being sanded on the site. The tents are placed directly on the pavement, with no additional flooring. The sanding and scraping residues are vaccumed up and disposed of in the dumpster. We did not observe loose sanding dust or paint chips on the pavement, although the pavement was spotted with dry paint drippings and appeared to be coated with a film of paint residues that has built up over the years. Mr. Robinson said that only about 10 boats a year are totally stripped and about 400 per

year are just prepped and repainted. They have been using a new etching chemical called Interlux 202 to prep boat bottoms instead of sanding.

According to him, it is not washed off, but applied onto the bottom paint and then painted over.

Oil from few oil changes and minor engine work is collected in a plastic 55 gallon drum inside of the shop and picked up as-needed by various recyclers.

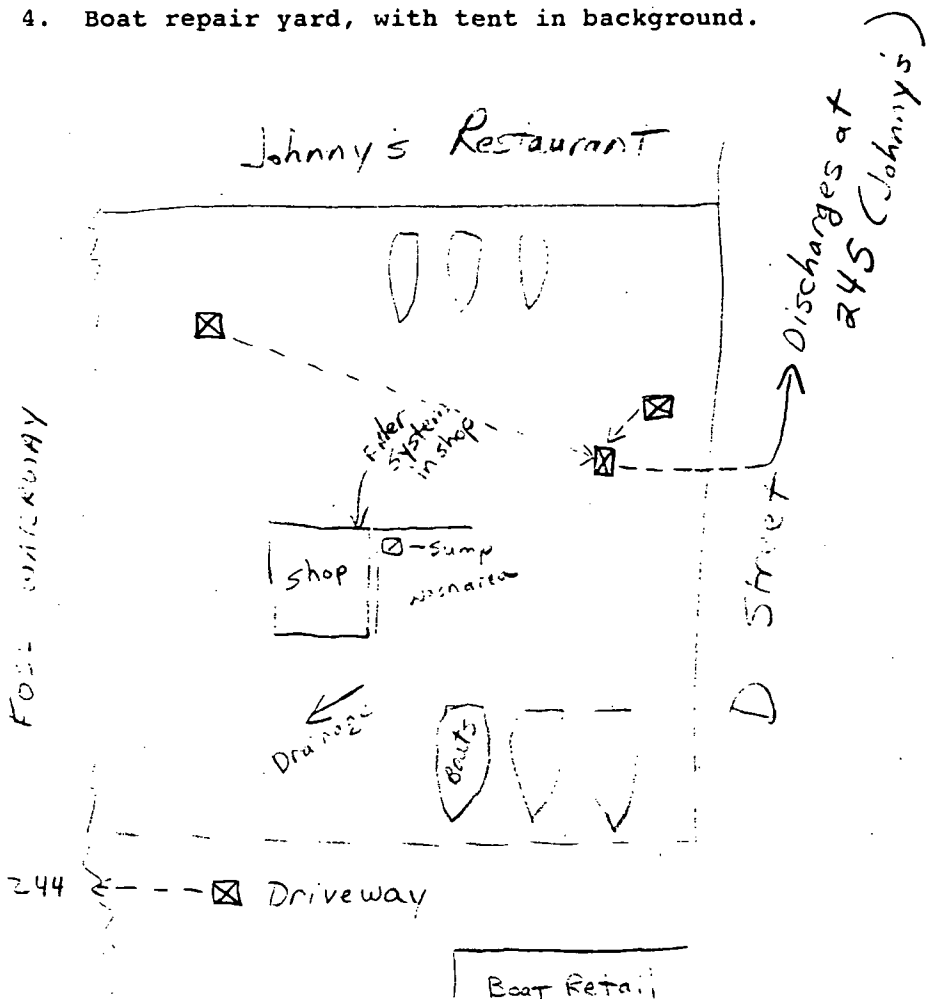
SITE HISTORY/FILE REVIEW:
1988 TPCHD letter requesting cease discharge of boat wash water to Foss. Picks has been on site about 15 years. Mr. Robinson didn't know what had been there before.

PHOTO LOG:
1. Bermed boat wash area.

2. Wash water filtration system.

3. Boat repair yard.

4. Boat repair yard, with tent in background.



-end of report- Dickerson Industries

State of Washington Department of Ecology

INSPECTION REPORT

To File

Inspector Lynn Gooding, Scott

Date of Visit 6-1-89

Permit Number

Name of Entity Picks Cove Marina

Permit Expires

City Tacoma County Pierce

New Industry

Person Contacted

Type of Facility Marina and boat maintenance

Receiving Water City Waterway

Type of Treatment System

Operation: ☐ Satisfactory ☐ Fair ☒ Unsatisfactory

☐ Does not comply with permit conditions

Describe Stopped at Pick's Cove when we noticed paint debris ~~in~~ ~~ca~~ running to catch basin by maintenance yard. Worker on site was told that paint wastes must be stopped from going to catch basins. Left site and while driving by on return trip saw a person dumping a bucketful of red water into catch basin. By the time we turned around, another bucketful was dumped into CB. Person was hosing down and sweeping boat maintenance area then collecting water and dumping in CB. Both catch basins in yard were full of red liquid, red liquid running out of outfall into City Waterway. Worker at yard was told once again that this practice has to stop.

LG

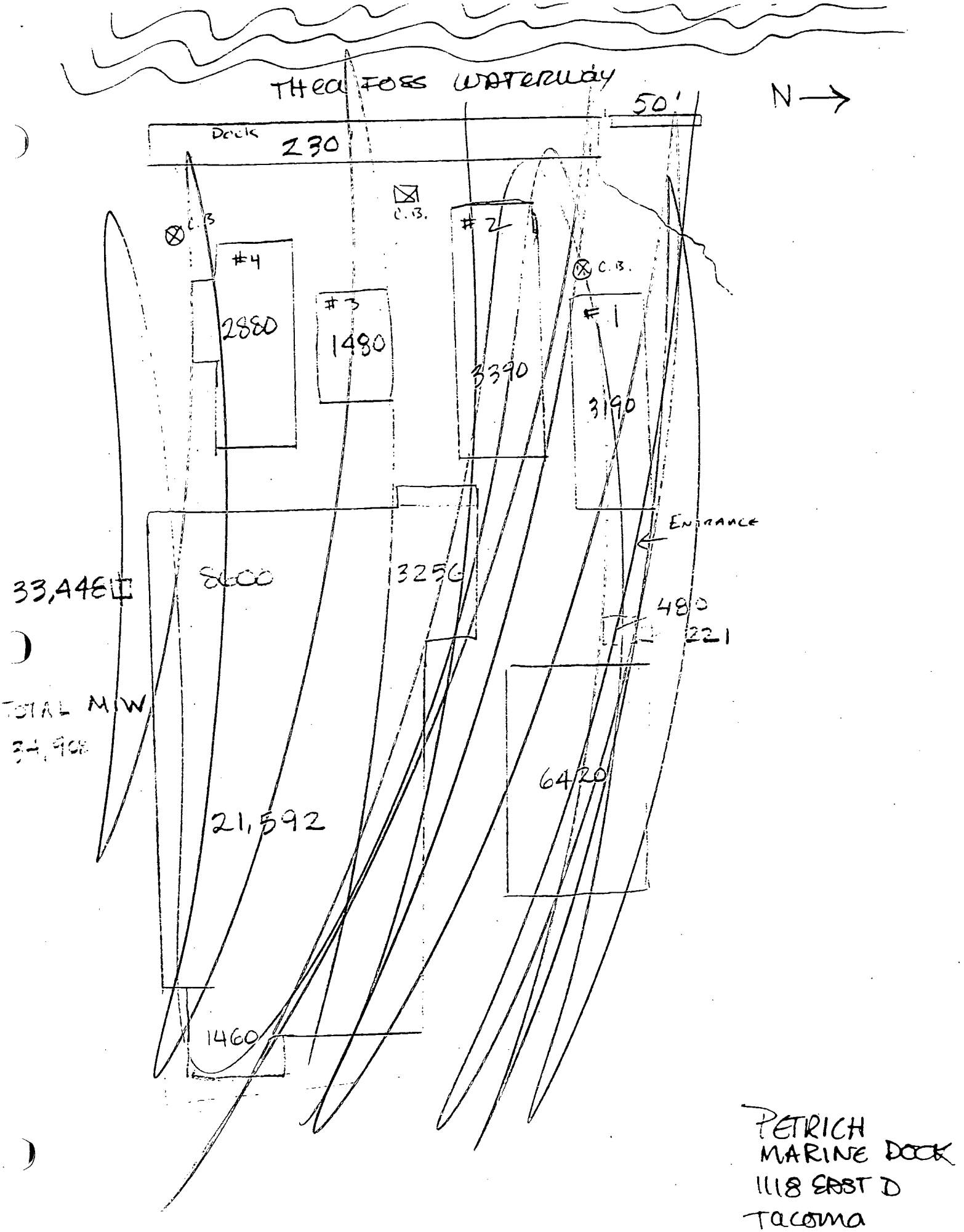
CC

ECY 040-2-116

Puget Sound Freight

Parking lot for The Dock

Facility Not in Existence


THEA FOSS WATERWAY
N →
50'
Dock
230
C.B.
C.B.
C.B.
#4
2880
#3
1480
#2
3390
#1
3190
Entrance
33,446
8600
3256
480
221
TOTAL MW
34,908
6420
21,592
1460
PETRICH
MARINE DOCK
1118 EAST D
TACOMA

Puget Sound Heat Treat

See Marine Iron Works

2 xerox
site
+ working

PUGET SOUND PLYWOOD

RECEIVED
APR 16 1997
Environmental Cleanup Office

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Emergency Enforcement Order for Interim Action Issued

The Washington Department of Ecology has issued, under terms of the Model Toxics Control Act (MTCA, Chapter 70.105D RCW), an enforcement order to David Thomsen to conduct interim actions at the former Puget Sound Plywood property, 230 East "F" Street. An enforcement order is a legal document issued by Ecology requiring that site cleanup activities are conducted in a timely fashion, in accordance with MTCA and other applicable laws and regulations.

Your comments on this enforcement order are welcome through **May 14, 1997**. The box to the right provides information about where to review the enforcement order, as well as where to submit comments.

Site Background

The former Puget Sound Plywood site in Tacoma is between East "D" and East "F" Streets, and from the Unocal tank farm to the end of the peninsula between Thea Foss and Middle Waterways. Numerous containers of chemicals, petroleum products, and hazardous waste have been stored on various portions of property in and around the former Puget Sound Plywood property. David Thomsen owns these containers. Owners of the properties where the containers are stored have not authorized storage of these materials on their respective properties and they would like the materials removed.

In February 1997, a fire occurred in a storage shed where a substantial amount of the materials are currently stored. The shed is located at the northwest corner of the former Puget Sound Plywood property, immediately adjacent to the Superior Oil gasoline tank farm. The unsecured storage shed is a continuing fire hazard, as determined by the Tacoma Fire Department. Based on concerns expressed by other local, state, and federal agencies, Ecology began an initial investigation of the upland storage of the materials. Ecology inspectors determined during the initial investigation that containers are mislabeled or unlabeled about their chemical hazards or specific contents. Some of the containers are inadequately sealed, structurally damaged, and rusted. The shed remains unsecured and without fire suppression capability. The floor of the shed is currently flooded and prone to additional flooding.

David Thomsen removed from the shed four drums of waste oil to recycle the waste oil. However, a waste oil dealer refused to take the oil. The drums were then placed along the road on East Third

Continued on Page 2

March 1997

FACT SHEET

Ecology Southwest Regional Office
Toxics Cleanup Program
300 Desmond Drive SE
P.O. Box 47775
Olympia, WA 98504-7775
(360) 407-6300 (voice)
(360) 407-6306 (TDD)
e-mail mcol461@ecy.wa.gov

PUBLIC COMMENT PERIOD ON EMERGENCY ENFORCEMENT ORDER:

March 24, 1997 to May 14, 1997

Written comments and requests for updates should be directed to Marv Coleman, Site Manager, at the Ecology address listed above.

INFORMATION REPOSITORIES

The enforcement order can be reviewed at the following locations:

Ecology Southwest Regional Office address listed above

Citizens for a Healthy Bay
771 Broadway
Tacoma, WA 98402-3700
(206) 383-2429

Tacoma Public Library-Main Branch
Northwest Room
1102 Tacoma Avenue South
Tacoma, WA 98402-2006
(206) 591-5666

Printed on Recycled Paper

If you have special accommodation needs, please call (360) 407-6300 or (360) 407-6306 (TDD).

Continued from Page 1

hazardous substances at various other locations, but he does not have the funds to properly dispose of the materials.

In March 1997, Ecology and the Tacoma Fire Department hazmat team inspected the storage shed and sampled 24 containers of liquid materials to identify their contents. The U.S. Coast Guard began removing and disposing of a large quantity of hazardous wastes that are being stored by David Thomsen on the vessel "Cactus." If some of the hazardous *substances* from the vessel are not found to be hazardous *wastes*, they will likely be returned to David Thomsen. However, David Thomsen does not have the facilities to properly store hazardous substances.

What Is Being Done?

Ecology is issuing this emergency enforcement order because of the imminent hazards associated with the threatened release of hazardous substances caused by vandalism, fire, and accidental rupture or spillage of hazardous substances that are improperly stored. The enforcement order requires David Thomsen to take the following actions:

- identify which materials, including those removed from the "Cactus," can be reused or recycled;
- determine which materials are solid waste;
- properly label, store, and document hazardous wastes;
- transport hazardous wastes to a permitted hazardous waste treatment/ storage/disposal (TSD) facility;
- properly store and/or dispose of all hazardous substances, including those removed from the "Cactus," existing at the site;
- remove any liquid hazardous substances currently stored in unsecured locations and move them to a storage area that provides for secondary containment, fire suppression, and security from public access.

Ecology will oversee the project to ensure that all facets of the enforcement order are fulfilled. If the requirements and deadlines are not met, Ecology may act to reduce any threatened release or risk to human health or the environment.

What Happens Next?

Public comment on the enforcement order will be considered and the order may be modified, if necessary, based on the comments received.

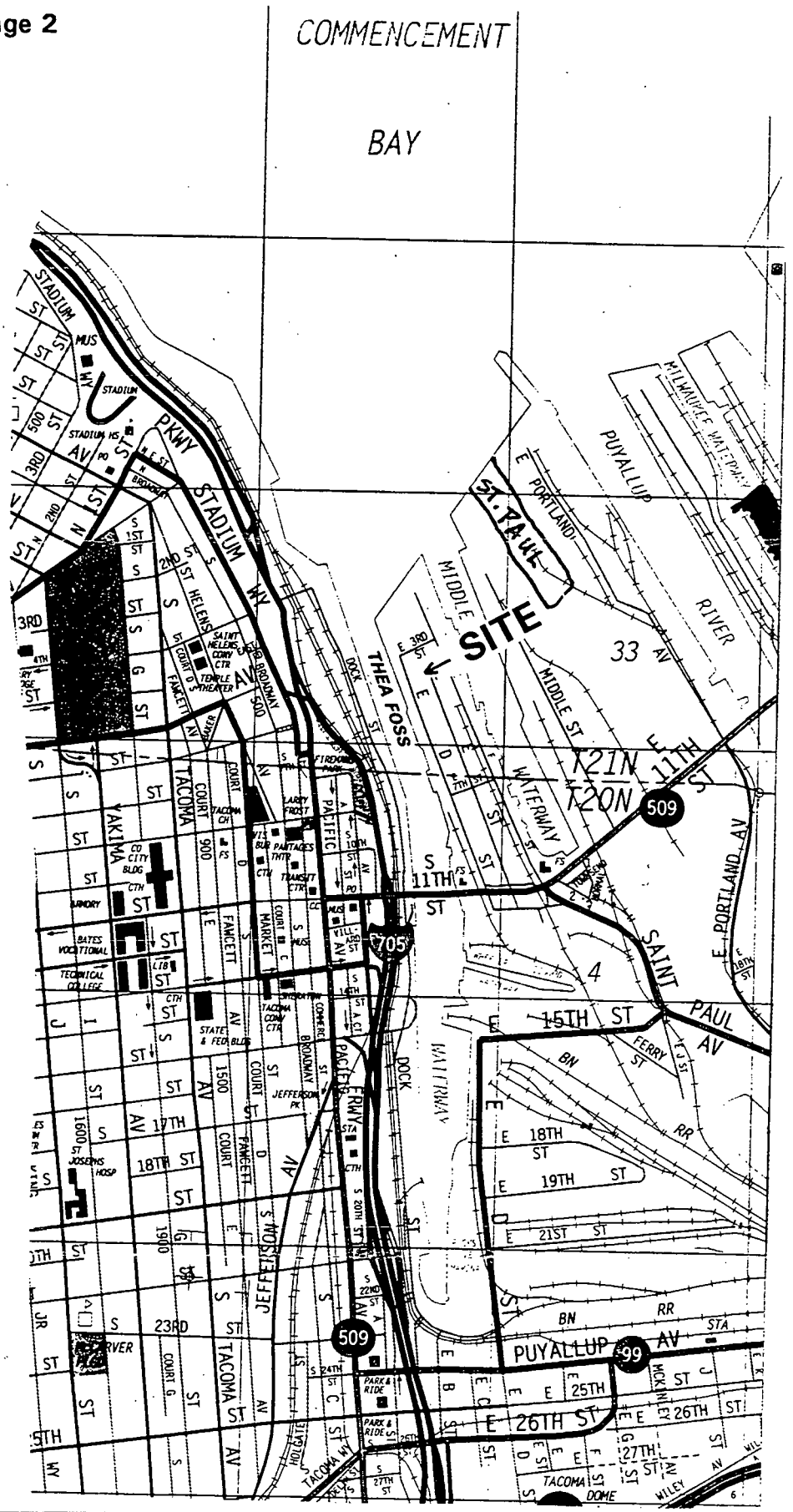
Ecology Wants Your Comments!

You are invited to review and comment on the enforcement order through **May 14, 1997**. The public comment period presents an opportunity to have your ideas and comments heard by Ecology. Information repositories, which include the enforcement order, have been set up at the locations listed in the box on page one. To review more detailed site documents than those in the information repositories, contact Ecology's regional records center at (360) 407-6365 to schedule an appointment.

Please submit your written comments to Marv Coleman, Site Manager, at the Ecology address listed in the box on page one. Ecology will review and respond to all comments received, and may revise the enforcement order. Updates of site activities will be provided to those who submit comments or request to be placed on the site mailing list.

Ecology is an Equal Opportunity and Affirmative Action employer.

Continued from Page 2



Ecology Southwest Regional Office
Toxics Cleanup Program
300 Desmond Drive SE
P.O. Box 47775
Olympia, WA 98504-7775

OLYMPIA
APR 15 '97
WA
IBMETER
6766925
U.S.POSTAGE
0.32

UBAT INSPECTION SUMMARY

ENTITY: Puget Sound Plywood

INSPECTOR: Coleman, Mercuri

OWNER: Worker owned; Chuck Mougey is COO

INSPECTION DATE: 1/14/93

LOCATION: 230 East F Street
Tacoma, WA

CONTACT: Chuck Mougey

TYPE OF FACILITY: Former plywood mill; now veneer drying only

PERMIT(S): Pretreatment for discharge to TSU

DRAINS TO: Thea Foss/~~Madrona~~

PATHWAY/QUANTITY:

Process Water - Coolant water to TSU
Boiler water to Bay

Groundwater - none

Storm Water - CBs and drain lines; overland via surface runoff to beach area

Spill - Previous record of glue spills; some oily residue noted in surface runoff

SUSPECTED CONTAMINANTS: Phenolics
Oil

SAMPLING: Boiler ash and clinkers, staged for disposal

FACILITY DESCRIPTION: A tour and detailed description of the

company's history and current activities was provided by Chuck Mougey, beginning at 13:50 hrs. The plant has ceased plywood production and now does only limited custom drying of veneer, which is shipped elsewhere for manufacturing plywood. With the exception of the boiler fired drying ovens, virtually all of the other equipment once used in the plant has been auctioned off and removed from the site. About 55 people are now employed.

The operation has been in this location since 1940; it was the original user of the property. The land area to the West of the buildings, at the head of the peninsula, is Asarco slag fill, according to Chuck. The fill was placed by the City; the area used only for storage of junk and misc. equipment over the years.

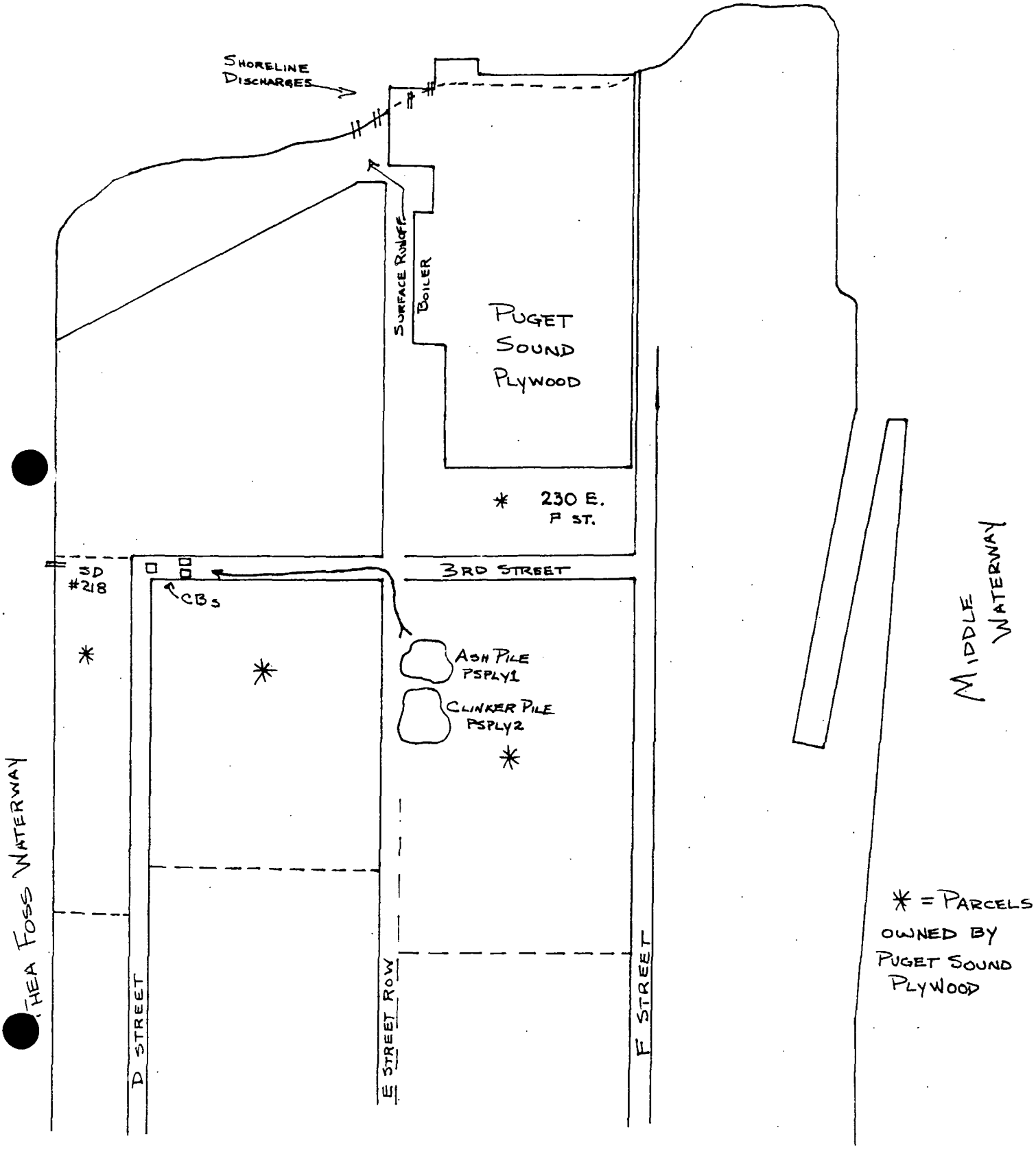
The plant boiler is hog fuel fired. Wash water, generated about every 8 hrs., flows overland to the beach area of the facility. The boiler also generated ash/clinkers, which are removed and recycled by an asphalt company. While awaiting pickup, these residues are staged on empty land across 3rd Street from the plant. Rainfall infiltrating the waste runs off overland, into CBs, and into Thea Foss waterway via outfall #218. (See data from sediment sampling in CB near #218.) On 12/30/92, samples were taken of the ash and clinkers from these materials; results are pending. Some of the boiler waste is spread in a drive way where boiler washings run through the residue to the beach area.

The property owned by the company also includes parcels in addition to the plant site: the empty land to the South, across 3rd Street; a small parcel on D Street, used by Time oil for storage; the LMR Trucking site; and the Dave Thomsen site. (Chuck was vociferous in his concern about dealing with Dave Thomsen and problems with him keeping his site in order.)

The company is planning on leasing parts of the facility out to other industrial operations, as interest is developed. One current possibility is a pyrolysis process company that would process used tires. Recommend continued inspections, particularly as new operations start up at the location. Follow up on boiler waste analyses.

The inspection was concluded at 15:55 hrs.

SAMPLING OF BOILER ASH WASTE AT PUGET SOUND PLYWOOD
BUSINESS ADDRESS: 230 E. F STREET
SAMPLING LOCATION: PROPERTY SHOWN AS ACROSS 3RD STREET
FROM 230 E. F STREET
TACOMA, WA



February 16, 1993

MEMORANDUM

TO: Dave Smith

FROM: Marv Coleman MC

RE: Recommendation for further action at Puget Sound Plywood, based on analyses of waste materials stockpiled on-site.

Samples of boiler ash and boiler clinkers from the facility's hog fuel burner were taken on 12/30/92. The waste materials are stored in an open, unbermed, and unlined area across the street from the main facility. On numerous occasions, runoff from rainwater that infiltrates the piles has been observed running into nearby CBs that discharge to City waterway via Outfall #218.

The samples were run for Phenol and Priority Pollutant Metals analyses. The only parameters that appear to be elevated, with respect to the CBN/T Sediment Cleanup Objectives, are Cadmium, Lead, and Zinc; these being elevated only in the ash material, sample PSPLY1:

Parameter	Results - mg/kg	CBN/T SCO - mg/kg
Cadmium	11	5.1
Lead	1,030	450
Zinc	1,890	410

All other test parameters were below the SCOs for the ash sample; all parameters were below the SCOs for the clinker sample.

In addition to the waste material being staged across the street from the facility prior to disposal, some of it is spilled on an alleyway within the facility, at the point where it is removed from the boilers. This area is usually awash with boiler water that runs off overland to the bay. Some contaminants could enter the bay via this pathway, as well.

Based on the fact that the SCO exceedances are not exceptionally high, and the fact that minimal amounts of the ash itself would likely make it to the surface water, I would recommend that we attempt to gain voluntary compliance with some BMPs for waste management and storage by Puget Sound Plywood. Should they resist that, enforcement of same would be appropriate. If BMPs can be established, I wouldn't think that putting the facility on List 3 would be necessary.

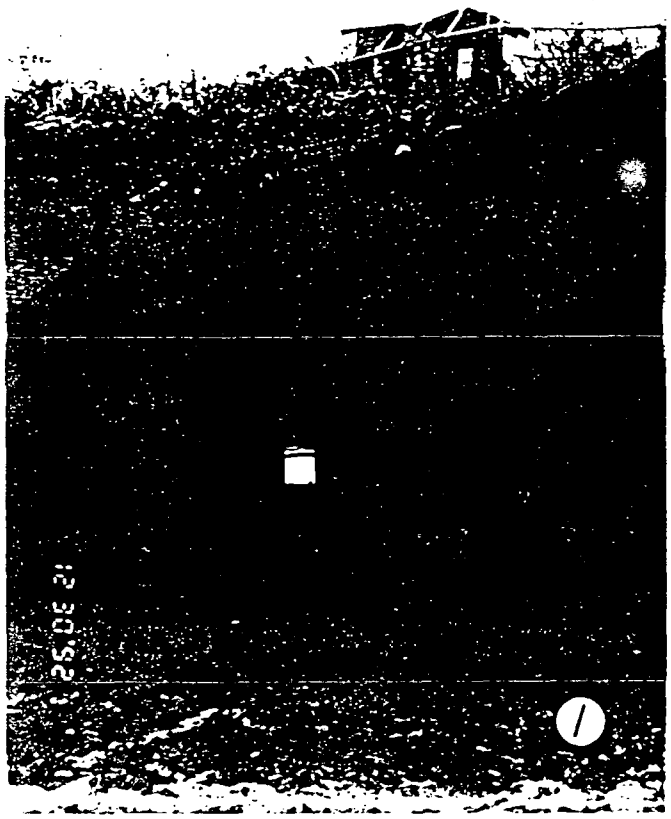
File: PSPLY1.rec

PHOTO LOG

PUGET SOUND PLYWOOD WASTE SAMPLING

1. Remains of boiler ash; unpaved, unbermed lot with rainfall runoff to CBs discharging to City Waterway.

2. Remains of boiler clinkers; staged for disposal same as above.



*** Lab Analysis Report ***

Transaction #: 01261108 Seq #: 01 (40) Organics - General
(WE) Ecology, Manchester Lab
Project: (DOE-577Y) MORE FOSS 12/92 J2X03 MLC
Param: (32731 S) Phenols Sedmt mg/kg-dr

QA Code: ( ) Normal Data
Instrument: (TECH-2) Technicon (AAII) General
Method: (EP1-420.2) Phenolics, Total Recoverable, Colorimetric, Automa
Chemist: (CGT) Tupas, Cyma DOE Hours Worked:
Lab Prep: ( ) Unspecifed
Matrix: (40) Sediment Date Preprd:
Units: (25) mg/kg-dr Date Anlyzd: 930125

Line	Sample #	Result	Sample Location/Description	#Days to Anl
	93 028006	0.03U E	PSPLY1	921230 (26)
2	93 028007	0.38	PSPLY2	921230 (26)

Record Type: TRNIN2 Date Verified: 1-26-93 By: Nelson Ellis
Transaction Status: New Transaction...First Printing...Unverified.
Processed: 26-JAN-93 11:09:39 Status: N Batch: (In CUR DB)

*** Lab Analysis Report ***

Transaction #: 01221222 Seq #: 03 (38) Metals - ICP Scan
Proj Code : DOE-577Y MORE FOSS 12/92 PE # : J2X03

Sample No.: 93 028006 Alternate Keys:

Samp Matrix: (40) Sediment Units: (00) %Slds:
QA Code: ( ) Unspecifed Peaks Total:
Date Extracted: Date Analyzed: 930115 # Days to Ext/Anal: 0/ 16

Line	Par #	Parameter Description	Units	Value
1	01028	Cadmium Cd-Sedmt	mg/kg-dr	11P
2	01043	Copper Cu-Sedmt	mg/kg-dr	240
3	01052	Lead Pb-Sedmt	mg/kg-dr	1030N
4	01068	Nickel Ni-Sedmt	mg/kg-dr	29P
5	01093	Zinc Zn-Sedmt	mg/kg-dr	1890N

*** Lab Analysis Report ***

Transaction #: 01221222 Seq #: 04 (38) Metals - ICP Scan
Proj Code : DOE-577Y MORE FOSS 12/92 PE # : J2X03

Sample No.: 93 028007 Alternate Keys:

Samp Matrix: (40) Sediment Units: (00) %Slds: ____
QA Code: ( ) Unspecifed Peaks Total: ____
Date Extracted: Date Analyzed: 930115 # Days to Ext/Anal: 0/ 16

Line	Par #	Parameter Description	Units	Value
1	01028	Cadmium Cd-Sedmt	mg/kg-dr	2.0U
2	01043	Copper Cu-Sedmt	mg/kg-dr	310E
3	01052	Lead Pb-Sedmt	mg/kg-dr	69PN
4	01068	Nickel Ni-Sedmt	mg/kg-dr	93
5	01093	Zinc Zn-Sedmt	mg/kg-dr	245NE

*** Lab Analysis Report ***

Transaction #: 01210928 Seq #: 01 (30) Metals - Specified
(WE) Ecology, Manchester Lab
Project: (DOE-577Y) MORE FOSS 12/92 J2X03 MLC
Param: (71920 S) Mercury Hg-Sedmt mg/kg-wt

QA Code: ( ) Normal Data
Instrument: (AF5000) AA Perkin-Elmer 5000, Flame
Method: (EP1-245.5) Mercury, Cold Vapor, Manual, Sediments
Chemist: (RFK) Knox, Randy DOE Hours Worked:
Lab Prep: ( ) Unspecifed
Matrix: (40) Sediment Date Preprd:
Units: (24) mg/kg-wt Date Anlyzd: 930113

Line	Sample #	Result	Sample Location/Description	#Days to Anl
1	93 028005	0.0760	7TH&E	921230 (14)
2	93 028006	0.178N	PSPLY1	921230 (14)
3	93 028007	0.005U	PSPLY2	921230 (14)
4	93 028008	0.041P	GLOBE	921216 (28)

Record Type: TRNIN2 Date Verified: 1-21-93 By: Susan Kass
Transaction Status: New Transaction...First Printing...Unverified.
Processed: 21-JAN-93 09:45:06 Status: N Batch: (In CUR DB)

Scofield at 1715

See North Pacific Plywood Reports (same reports, different properties)

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (206) 407-6300

November 20, 1995

Ms. Christina Ngo
Environmental Protection Agency
1200 Sixth Avenue HW-113
Seattle, WA 98101-3188

Dear Christina:

Re: Former Atlas Foundry / Coast Iron - Metals Contamination In Banks

Samples taken from banks at the former Atlas Foundry and Coast Iron sites along Thea Foss Waterway revealed that total metals values for several metals that are chemicals of concern for the waterway exceeded Sediment Quality Objectives (SQOs) for the waterway. Although this could be an indicator of an ongoing source control problem with respect to direct contact by marine organisms along the face of the banks themselves, the data did not reflect adequately whether the banks should be considered an ongoing source of contamination to the waterway sediments or water column.

To try to answer that question, the banks were resampled and the material submitted for analyses using two separate leaching techniques in addition to running total metals. The first method used the TCLP leach technique that is usually used to characterize wastes for dangerous waste designation. The second method used an ASTM procedure that leaches the samples with deionized water. Both entail less aggressive digestion of the samples than the totals procedure; the TCLP procedure uses dilute acetic acid, which is slightly more aggressive than the ASTM procedure.

Although the banks contain highly elevated total metals values, the material does not appear to allow metals to leach significantly, as indicated in the data on page 2.

Foundry slag material present at the Globe Machinery site on the east side of the waterway was subjected to similar comparative testing at an earlier date. Results of that testing led to a determination that the Globe slag exhibits no appreciable leaching of metals. By comparison, the Atlas and Coast Iron slags show a higher degree of leaching by both TCLP and ASTM methods for copper, lead, and nickel, although all the metals started out at considerably higher levels in the Atlas and Coast Iron slags as total metals. This leaching, however, does not appear to be significant with respect to impacts on the adjacent waterway sediments or water column.

EPA Round One sampling of sediments immediately below the banks consisted of samples RD-B32, a grab sample below the deposit under the 11th St. Bridge (Atlas); RD-S21, a composite below the bulkhead running the length of the parking lot (Atlas); and RD-S24, a grab sample in front of the northerly portion of the Coast Iron bank. Of the three samples, only RD-B32 exhibited exceedances of the SQOs for the metals of interest: Antimony = 206 ppm; Copper = 1040 ppm; Lead = 1070 ppm; and Zinc = 426 ppm. Although the exceedances are significant for copper and lead in this sample, the evidence suggests that the deposit at Atlas, under the 11th St. Bridge, has only a very localized impact on sediments in the waterway.

Based on the results from the leach testing and sediment sampling, at this time Ecology no longer believes that the banks adjacent to the Former Atlas Foundry (and Coast Iron) sites are confirmed sources of problem chemicals to the Head of Thea Foss Waterway Problem Area. However, any disturbance of the slag should be conducted in a manner that sloughing into the waterway does not occur, and needs to be coordinated with Ecology.

TABULATED RESULTS - All values reported as ppm.

	Total Metals	TCLP Metals	ASTM Metals	SQO	Water Quality Standard
Former Atlas Foundry					
Arsenic	58.7		0.003	57	0.036
Mercury	0.426	0.00005	0.00005	0.59	0.000025
Antimony	44	0.030	0.220	150	4.30
Cadmium	3	0.0092	0.003	5.1	0.0093
Chromium	1,020	0.018	0.005	260	0.050
Copper	11,800	83.700	0.0587	390	0.0029
Lead	4,680	8.570	0.099	450	0.0085
Nickel	528	2.030	0.010	>140	0.0083
Silver	9.2	0.003	0.003	6.1	0.0023
Zinc	1,870	12.800	0.021	410	0.086
Coast Iron					
Arsenic	54.6	0.0031	0.0030		
Mercury	0.145	0.00005	0.000097		
Antimony	30	0.030	0.030		
Cadmium	3	0.0067	0.003		
Chromium	1,380	0.007	0.005		
Copper	1,210	0.200	0.058		
Lead	273	0.020	0.020		
Nickel	376	0.395	0.022		
Silver	9.0	0.003	0.003		
Zinc	452	0.145	0.021		

Please give me a call at (360) 407-6250, if you have any questions.

Sincerely,

Dave Smith

Dave Smith
Toxics Cleanup Program
Southwest Regional Office

DS:jr

→ Also see Atlas Foundry

UBAT INSPECTION SUMMARY

ENTITY: Sea Scouts INSPECTOR: Coleman

OWNER: City of Tacoma INSPECTION DATE: 10/18/92

LOCATION: 1131 Dock St.
Tacoma, WA

CONTACT: Manager of Boy Scout's Store

TYPE OF FACILITY: Warehouse and boat repair facility

PERMIT(S): none

DRAINS TO: Thea Foss

PATHWAY/QUANTITY:

Process Water - none

Groundwater - gradient below building towards waterway

Storm Water - surface runoff from parking area and boardwalk along waterfront to waterway

Spill - none

SUSPECTED CONTAMINANTS: Petroleum products, solvents, historical metals

SAMPLING: none

FACILITY DESCRIPTION: A facility inspection was performed by conducting and non-guided walkthrough. Most of the warehouse area is used for storage of furniture and other dry stores belonging to the Sea Scouts and Boy/Girl Scouts. A small section of the building along Dock Street serves as a store for sales of surplus scouting equipment and clothing. A youth group is currently in the process of constructing a small coffee house for street kids in the rear (toward waterway) portion of the warehouse.

The North end of the building consists of a small office for the Sea Scouts and a shop area where the group is rebuilding boats. Some engine repair work is taking place; no painting or refinishing is presently being done on-site. Small quantities of lube oil are maintained in this area. Storage appeared to be well managed and clean.

The building's floor consists of a continous pour concrete pad; no floor drains were noted. The Southeast corner of the warehouse has the remains of an old bathroom that has been disconnected and porcelain removed. Suspect that it drained to waterway at one time, but it appears to have been out of service for some time.

Historical records indicate that the building once housed Coast Iron Works. No evidence of iron-works wastes were observed in or directly around the building, although the metal wastes found under the Southwest side of the 11th Street bridge may be associated with that operation. The South end of the building has had a UST removed. Previously present remediation soils have been removed. This would have been the former location of Western Fish and Oyster. This location has been demo'd and cleared all the way to the City Steam Plant property to the South. The area is now used for parking cars. It consists of bare soils with no catchbasins. The waterway side has a boardwalk over the water, constructed by the city.

WASHINGTON STATE DEPARTMENT OF ECOLOGY

RECEIVED

JUN 06 1995

SUPERFUND BRANCH

Permit No. WA-003950-1

Issuance Date: September 30, 1993
Effective Date: October 6, 1993
Expiration Date: October 6, 1998

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT

State of Washington
DEPARTMENT OF ECOLOGY
Olympia, Washington 98504-8711

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1251 et seq.

Superior Oil Company
250 East "D" Street
Tacoma, Washington 98421

Industry Location:

250 East "D" Street
Tacoma, Washington

Waterway Segment Number:

05-10-01

Water Body I.D. No.:

WA-10-0030

Industry Type:

Bulk Storage, Distribution and
Blending of Petroleum Products

Receiving Water:

Thea Foss Waterway at
Commencement Bay, Puget Sound

Discharge Location:

Latitude: 47° 15' 40"
Longitude: 122° 26' 05"

---

is authorized to discharge in accordance with
the special and general conditions which follow.

Megan White

Megan White, P.E.
Section Supervisor Toxics Cleanup Program
Southwest Regional Office

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SUMMARY OF SUBMITTALS

Permit Section	Submittal	Frequency	First Submittal Date
	Discharge Monitoring Report	Quarterly	15th day of month following each reporting period
	Acute Biomonitoring Study (effluent)	2/year in the first year after completion of the stormwater treatment system	December 1995
	Sediment Baseline Study Plan	1/permit cycle	No later than December 1995
	Sediment Chemistry Study	1/permit cycle	March/April 1996
	Sediment Biological Toxicity Study	1/permit cycle if required	Compliance schedule shall be specified in an administrative order, if necessary
	Solid Waste Control Plan	1/permit cycle in first year	July 1, 1994
	Spill Control Plan	1/permit cycle Annual updates if major changes occur	Within 180 days of permit issuance
	Treatment System Operating Plan (for groundwater and stormwater treatment system(s))	1/permit cycle	Within 60 days of each treatment system's design approval
	Low Permeability Tank Farm Liner Plan	1/permit cycle in first year	Within 180 days of permit issuance
	Low Permeability Tank Farm Liner Installation	1/permit cycle	Within 1 year of plan approval by Ecology
	Stormwater Pollution Prevention Plan	1/permit cycle	Submit plan 9 months from permit effective date. Implement plan 12 months after permit effective date

S1. A. INTERIM DISCHARGE LIMITATIONS OUTFALL 001 DISCHARGE ONLY

The Permittee is authorized to discharge treated effluent to Thea Foss Waterway at the discharge Outfall 001 subject to the following interim limitations until October 15, 1995, or until the upgraded stormwater treatment system is operational, whichever is sooner. Footnote [a] provides a compliance schedule consisting of interim milestones for design, approval, and construction for the stormwater treatment system upgrade.

Outfall 001 Discharge Limitations

Parameter	Daily Average (DA)	Daily Maximum (DM)	Minimum Frequency	Sample Type
Oil and grease		No single sample shall exceed 15 mg/L	Monthly	Grab
		No visible sheen	Daily	Visual
pH	Shall be maintained within the range of 6.0 to 9.0		Monthly	Grab

B. FINAL EFFLUENT LIMITATIONS

The Permittee is authorized to discharge treated effluent to Thea Foss Waterway at the discharge Outfall 001 and internal discharge point (IDP) 002 until the expiration date of this permit. The Permittee is subject to the following limitations and monitoring requirements:

EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

Outfall 001 Discharge Limitations[a]

Parameter	Daily Average (DA)	Daily Maximum (DM)	Minimum Frequency	Sample Type
Flow, gpd	--- (reported only)	---	Weekly	Estimated[b]
Oil and Grease, mg/L	no visible sheen		Daily	Visual[b] Inspection
	10	15	Monthly	Grab
Total Suspended Solids (TSS) mg/L	30	45	Monthly	24 hr. composite
BTEX, mg/L			Monthly	Grab
Benzene	---	0.040		
Ethylbenzene	---	0.100		
Toluene	--- (reported only)	---		
Xylene	--- (reported only)	---		

Parameter	Daily Average (DA)	Daily Maximum (DM)	Minimum Frequency	Sample Type
Total Petroleum Hydrocarbons (gasoline)[c], mg/L	N/A	1.0	Monthly	Grab
Total Petroleum Hydrocarbons (diesel)[d], mg/L	N/A	10.0	Monthly	Grab
pH	Not outside the range of 6.0 to 9.0		Monthly	Grab

Internal Discharge Point (IDP) 002 Discharge Limitations

IDP 002 is at the point where all water from the groundwater treatment system leaves the treatment facility and any associated post-treatment storage tanks prior to this stream mixing with process or stormwater flow to Outfall 001.

Parameter	Daily Average	Daily Maximum	Minimum Frequency	Sample Type
Flow [c], gpd	--- (reported only)	---	Weekly	Measured[b]
Oil and grease, mg/L	10 no visible sheen	15	Monthly Daily	Grab Visual[b] Inspection
Total Petroleum Hydrocarbons (gasoline)[c], mg/L	N/A	1.0	Monthly	Grab
Total Petroleum Hydrocarbons (diesel)[d], mg/L	N/A	10.0	Monthly	Grab
Benzene, mg/L[f]	N/A	0.005	Monthly	Grab
BTEX[f] (benzene, toluene, ethylbenzene, and xylene) mg/L	N/A	0.100	Monthly	Grab
Non Carcinogenic[g] PAHs, mg/L	---	0.30	Annually	Grab
Benzo (a)anthracene[h] mg/L	---	0.00013	Annually	Grab
Chrysene, mg/L[h]	---	0.0015	Annually	Grab
Benzo (b)fluoranthene[h] mg/L	---	0.00018	Annually	Grab
Benzo (k)fluoranthene[h] mg/L	---	0.00017	Annually	Grab
Benzo(a) Pyrene[h] mg/L	---	0.0002	Annually	Grab

Parameter	Daily Average	Daily Maximum	Minimum Frequency	Sample Type
Dibenzo(a,h)[h] anthracene, mg/L	---	0.00030	Annually	Grab
Indeno(1,2,3-cd)[h] pyrene, mg/L	---	0.00043	Annually	Grab
Total lead[i], mg/L ---		0.0058	Monthly	Grab
pH	std units	6.0 to 9.0	Monthly	Grab
Total Suspended Solids[j] (TSS), mg/L	30	45	Monthly	24 hour Composite
Spills[k]		N/A	Immediately, daily while discharge continues. Analyze for known and suspected constituents.	Grab

NOTES:

[a] Interim discharge limitations for Outfall 001 shall remain in effect until October 15, 1995, or until the upgraded stormwater treatment system is operational, whichever is sooner. Thereafter final discharge limitations for Outfall 001 shall apply. A compliance schedule for stormwater treatment system upgrade milestones consists of the following deliverables and their corresponding due dates:

	Deliverable	Due Date
1.	Conceptual Design of proposed stormwater treatment system	November 9, 1993
2.	Engineering/Drafting system design report	January 15, 1994
3.	Applications made for Shoreline Permit, Air Quality Permits, Building and Electrical Permits as needed	February 16, 1994
4.	Equipment delivery	October 16, 1994
5.	System construction start	March 15, 1995
6.	System construction complete and system fully operational	October 15, 1995
7.	Treatment system operation and maintenance plan	60 days after Ecology treatment system design approval

Failure by the Permittee to provide timely or sufficient delivery of the above milestone items may result in Ecology enforcement action.

b/ A log book shall be kept at the facility in which all weekly flow and daily oil and grease visual inspection observations are to be listed and described.

c/ TPH-G (Total Petroleum Hydrocarbons, gasoline-range) shall be measured using Ecology Method WTPH-G.

d/ TPH-D (Total Petroleum Hydrocarbons, diesel-range) shall be measured using Ecology Method WTPH-D.

e/ The maximum flow rate will be set equal to the design flow rate of the ground water extraction system once the system has achieved steady state operation.

f/ EPA methods 602, 624, or 1624 shall be used for the measurement of benzene, ethylbenzene, and toluene. EPA method 8240, or an equivalent method shall be used for the measurement of xylenes, including ortho-, meta-, and para-xylene.

g/ Non-carcinogenic PAHs: anthanthrene, anthracene, benzo (c) acridine, benzo (b) fluorene, benzo (g,h,i) perylene, benzo (e) pyrene, carbazole, coronene, cyclopenta (c,d) pyrene, dibenzo (a,h) acridine, dibenzo (a,j) acridine, dibenzo (a,c) anthracene, 7 h dibenzo (c,g) carbazole, dibenzo (a,h) pyrene, 1,4 dimethylphenanthrene, fluoranthrene, 1-methylphenanthrene, perylene, phenanthrene, pyrene, triphenylene. EPA SW 846 Method 8310 shall be used for analysis.

h/ EPA SW 846 Method 8310 shall be used for analysis.

i/ Total Lead shall be measured using EPA Method 7421, with samples prepared using EPA Method 3010.

j/ The method of sampling for TSS shall be the composite of four aliquots on each sampling day. The four aliquots shall consist of two samples per shift, totaling four samples per day.

k/ In the event of a spill to surface <u>or</u> ground water, a sample of the contaminated water shall be collected in duplicate, and the Southwest Regional Office Spill Response Team shall be notified, immediately by telephone, and in writing within seven days, of the material involved, volume, affected environment, and response measures for containment and removal of spilled materials. A copy of the written report shall be submitted to the Southwest Region Toxics Cleanup Section. Such report shall not relieve the owner or operator of a facility of his duty to correct and fully remedy such clean up. A sample shall be provided, if requested, to Ecology at the Southwest Regional Office within 24 hours.

S2. OTHER EFFLUENT LIMITATIONS AND REQUIREMENTS

A. Tank Flushing Activities

For any temporary discharge (e.g., hydrotesting a newly constructed tank), the Permittee is required to obtain a Temporary Water Quality Modification (TWQM) three weeks in advance of commencement of discharge. TWQM is authorized under WAC 173-201-035, subpart 8(e), and is managed under separate procedure in the water quality permitting system.

B. Tank Farms Low Permeability Liners

Low Permeability Tank Farm Liner Plan

The Permittee shall submit for Ecology review within 180 days of permit issuance a plan for installation/construction of durable low permeability liners for all facility tank farms which hold more than a total of 10,000 gallons of petroleum. The permeability of the tank farms once the low permeability liners have been installed shall not exceed 1×10^{-6} cm/sec. Permeabilities shall be verified by a post-construction test which measures the rate of fall of water level (water introduced for the purpose of the test) in the tank farm. A plan for the above-referenced test shall be included in the overall plan.

The plan shall also include a schedule to install a tank farm drain system with an outflow valve. The valve must be kept closed except to drain water through the oil/water separator/treatment system.

The Permittee shall begin construction within one year of Ecology approval of the plan.

C. Operation and Maintenance

1. The oil/water separator shall be inspected on a weekly basis at minimum and maintained as needed to ensure satisfactory performance. Oil sludges shall be disposed of in a manner that will not cause water quality degradation to state waters. A record of inspection, maintenance, and disposal shall be kept on file and available for review by Ecology personnel.

2. All contaminated runoff from the enclosed tank farm and product transfer area shall be directed to the existing oil/water separator for treatment prior to discharge. Periodic drainage of water from the above-ground storage tanks shall be collected into a waste oil container and disposed of properly.

3. All product storage barrels shall be securely stoppered and stored in an upright position, under cover on a durable impervious surface, and bermed.

4. All detergent washing of vehicles shall be conducted on established wash racks which drains into the sanitary sewer and not to oil/water separator.

5. No discharge of oil, chemicals, toxic or hazardous materials to state waters is permitted. In the event of an accidental discharge of oil, chemicals, toxic or hazardous materials into waters of the state or onto land with a potential for entry into state waters, including groundwater, representatives of the Ecology's Southwest Regional Office Spill Response Team shall be notified immediately at (206) 753-2353.

6. No emulsifiers or dispersants are to be used in waters of the state without approval from Ecology.

7. Contained, collected or accumulated oils and solvents shall be discharged directly to the waste oil tank and not discharged to the oil/water separators or any sewer systems.

8. Best Management Practices will be employed on the dock facilities to collect oil spillage and prevent entry of oil into state waters when making and breaking hose connections, and to prevent spillage from all breaking hose reels and filler nozzles. Containment and other specialized oil cleanup equipment shall be available at times for immediate emergency use.

9. Proper maintenance of facilities is required at all times.

10. Containers mounted for direct removal of lubricants, solvents, and liquid chemicals must be place inside a bermed and covered containment area. Drip pans shall be supplied and maintained for each dispenser.

11. Operation and maintenance of the groundwater extraction and treatment system shall be performed in accordance with an O & M plan to be written covering that system pursuant to a separate Ecology site cleanup action (see S8).

D. <u>Storm Water Pollution Prevention Plan</u>

1. **Objectives**

   a. To implement Best Management Practices (BMPs) to reduce, eliminate, and prevent the pollution of storm water.

   b. To eliminate violations of surface, ground water, and sediment standards.

2. **General Requirements**

   a. A Storm Water Pollution Prevention Plan shall be developed within 9 months after the effective date of this permit and implemented within 12 months after the effective date of the permit.

   b. The owner of the facility with storm water discharges covered by this permit shall retain the Pollution Prevention Plan on site and make it available to Ecology on request.

c. Ecology may notify the discharger when the Pollution Prevention Plan does not meet one or more of the minimum requirements of this section. Within 30 days of notice, the discharger shall submit to Ecology a time schedule for modification of the plan.

d. The Permittee shall amend the Pollution Prevention Plan whenever there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants or if the plan is ineffective in controlling the pollutants as required.

3. **Overall Approach**

The following approach shall be considered in developing the Pollution Prevention Plan:

a. Assessment of chemicals and other materials on site that could contaminate storm water including:

- Raw material used
- Air emissions
- Waste generation & disposal
- Maintenance activities, etc.
- Spills, etc.

b. Assessment of potential for contaminating storm water.

c. Assessment of potential for storm water contaminating surface water, ground water, or sediments.

d. Development and implementation of mechanisms to prevent storm water and surface ground water and sediment contamination including:

- Management/administration actions
- BMPs
- Structural measures as necessary.

4. The Pollution Prevention Plan shall contain the following:

a. Assessment and description of existing and potential pollutant sources, including:

i. A site map showing the storm water conveyance and discharge structures, an outline of the storm water drainage areas for each storm water discharge point (including discharges to ground water), paved areas and buildings, areas of pollutant contact-actual or potential, surface water locations, areas of existing and potential soil erosion, and vehicle service areas.

ii. A list of pollutants that have a reasonable potential to be present in storm water discharges and a determination, or an estimate of the annual

quantities of these pollutants in the storm water discharges.

Each of the following shall be evaluated for potential for contributing pollutants to storm water runoff:

- Loading and unloading areas
- Outdoor storage Activities
- Outdoor manufacturing and processing areas
- Significant dust and particulate generating processes
- Roof drains for roofs subject to air disposition
- On-site waste disposal practices.

B. Storm water management controls needed for the facility, including:

Best Management Practices: Implementation of source control and/or treatment BMPs. BMPs shall be prepared in accordance with the requirements of Title 40 CFR, Part 112, Part 125, subpart K, and Part 151 (as proposed August 24, 1978). Ecology Storm Water Management Manual can be used for technical guidance. BMPs can include:

- Good Housekeeping: Material handling areas shall be inspected and cleaned to reduce the potential for storm water pollution.

- Preventive Maintenance: Inspection and maintenance of storm water conveyance system devices; i.e., catch basins, oil/water separators, vegetative systems and plan equipment and systems that could fail and could result in discharge to storm water.

- Sedimentation and Erosion Prevention: Identify areas, which, due to topography, have a high potential for significant soil erosion and shall identify measures to limit erosion.

- Employee Training: A schedule for training employees on the Pollution Prevention Plan; training shall address spill response, good housekeeping, and material management practices.

- Spill Control and Reporting: Procedures for prevention, reporting, and cleanup of spills.

- Additional Treatment: In order to meet Outfall 001 permit limitations, treatment of stormwater in addition to the oil/water separator, may be required. The required low permeability tank farm liners will greatly increase the facility's stormwater flow and very likely require treatment

system upgrade. The plan shall include proposed stormwater treatment system upgrades.

E. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties of which the Permittee is or may be subject to under Section 311 of the Federal Water Pollution Control Act.

S3. MONITORING AND REPORTING

The Permittee shall monitor the operations and efficiency of all treatment and control facilities and the quantity and quality of the waste discharged. A record of all such data shall be maintained. The Permittee shall monitor the parameters as specified in permit conditions S1 A and B. and shall comply with the following additional requirements.

A. Reporting

Monitoring results shall be summarized and submitted quarterly on the Discharge Monitoring Report (DMR) Form (EPA 3320-1). The DMR reports shall include raw data sheets (bench sheets). These reports shall be submitted no later than the 15th day of the month following the completed three month reporting period. The reports shall be sent to:

Department of Ecology
Southwest Regional Office
Water Quality Section - WDIS
Post Office Box 47775
Olympia, WA 98504-7775

Monitoring shall be started on the date of issuance.

B. Records Retention

The Permittee shall retain for a minimum of three years all records of monitoring activities and results, including all reports or recordings from continuous monitoring instrumentation. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by the Director.

C. Recording of Results

For each measurement or sample taken, the Permittee shall record the following information: (1) the date, exact place, and time of sampling; (2) the dates the analyses were performed; (3) who performed the analyses; (4) the analytical techniques or methods used; (5) the results of all analyses; and (6) the name of the person who took the samples or measurements.

D. Representative Sampling

Samples and measurements taken to meet the requirements of this condition shall be representative of the volume and nature of the monitored discharge, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions affecting effluent or environmental quality.

E. Lab Accreditation

To help ensure the accuracy of lab test data submitted to Ecology, the State of Washington has adopted lab accreditation/registration legislation (Chapter 173-50 WAC). Private and municipal wastewater labs that submit permit related test results to Ecology must be either accredited or registered for the parameters tested at that lab.

For facilities which produce less than 5 million gallons per day effluent, such as this facility, after July 1, 1994, all monitoring data, except for flow, temperature, and internal process control parameters, shall be prepared by a laboratory registered or accredited under the provisions of, Accreditation of Environmental Laboratories, Chapter 173-50 WAC. Soils and hazardous waste data are exempted from this requirement pending certification of laboratories for analysis of these media by the Department.

F. Permit Modifications

Monitoring of effluent quality, sediment quality and biological toxic response is intended to indicate whether or not current permit conditions are stringent enough. Therefore, based on the results of compliance monitoring, the department may establish specific monitoring and compliance requirements beyond those identified in this permit by permit modification or administrative order.

G. Test Procedures

All sampling and analytical methods used to meet the monitoring requirements specified in this permit shall, unless approved otherwise in writing by the Department or specified in this permit, conform to the Guidelines Establishing Test Procedures for the Analysis of Pollutants, contained in 40 CFR Part 136.

H. Flow Measurement

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements are consistent with the accepted industry standard for that type of device. Frequency of calibration shall be in conformance with manufacturer's recommendations or at a minimum frequency of at least one calibration per year.

I. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by this permit (S2.) the monitoring should be done using acceptable test procedures and the results of this monitoring shall be included in the Permittee's self-monitoring reports.

J. Signatory Requirements

All applications, reports, or information submitted to the Department shall be signed and certified.

1. All permit applications shall be signed by either a principal executive officer of at least the level of vice president of a corporation, a general partner of a partnership, or the proprietor of a sole proprietorship.

2. All reports required by this permit and other information requested by the Department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described above and submitted to the Department, and

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

3. Changes to authorization. If an authorization under paragraph J.2.b is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of J.2.b must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this section shall make the following certification:

   "I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting

false information, including the possibility of fine and imprisonment for willful violations."

K. Reporting - Sediment Quality Data

Sediment quality data shall be reported according to the format given in Puget Sound Ambient Monitoring Program Data Transfer Formats, Version 2, or modifications thereof.

S4. SOLID WASTE DISPOSAL

A. Residual Solids Handling

The Permittee shall handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground or surface water.

B. Solid Waste Control Plan

The Permittee shall submit a solid waste control plan to the Department no later than July 1, 1994, for review and approval. This plan shall include all solid wastes with the exception of those solid wastes regulated by Chapter 173-303 WAC (Dangerous Waste Regulations). The plan shall include at a minimum a description, source, generation rate, and disposal methods of these solid wastes. This plan shall not be at variance with any approved local solid waste management plan. The Permittee shall comply with the plan as approved by the Department. Any proposed revision or modification of the approved solid waste handling plan must be submitted to the Department for review and approval. The Permittee shall comply with any approved solid waste control plan modifications. The Permittee shall submit an update of the solid waste control plan with the application for permit renewal 180 days prior to the expiration date of the permit.

S5. ACUTE TOXICITY

Acute toxicity testing of the effluent at Outfall 001 shall be conducted for the purposes of characterizing the effluent. Based on the results of this testing, the Department may issue an order, or modify this permit to require additional toxicity testing: toxicity identification, toxicity reduction evaluation (TI/TRE); and/or to impose whole effluent toxicity effluent limitations. Whole effluent acute toxicity limitations shall be imposed pursuant to regulations adopted to implement RCW 90.48.520.

A. Testing and Reporting

Acute toxicity testing of Outfall 001 effluent shall be conducted twice the first year after construction of the upgraded stormwater treatment system for the purpose of initially characterizing the effluent. Acute toxicity testing shall be conducted in accordance with the Monitoring Requirements specified in this section. The testing shall be conducted so as to determine an LC_{50} (lethal concentration for 50 percent of the test organisms) and an acute No Observable Effect Concentration (NOEC). The percent survival in 100 percent effluent shall also be reported.

Testing shall be conducted using two species: 1) Rainbow trout, *Oncorhynchus mykiss* (96-hour static-renewal test, method: EPA/600/4-90/027); or Fathead minnow, *Pimephales promelas* (96-hour static-renewal test, method: EPA/600/4-90/027); and 2) Water flea, *Ceriodaphnia dubia*, *Daphnia pulex* or *Daphnia magna* (48 hour static test, method: EPA/600/4-90/027).

Testing shall be conducted using the above protocols or approved modifications thereof.

The Department will accept whole effluent acute toxicity data produced in the last two years as fulfillment of this section if it meets the information and quality control requirements of this section.

A written report of the toxicity test results shall be submitted to the Department within 60 days after each sampling interval. A final report on effluent characterization shall be submitted to the Department within 90 days after the last sample for effluent characterization. This final report shall list the LC_{50}, acute NOEC, and percent survival in 100 percent effluent for all species, and submit any information on toxicity source control and treatability developed during the year.

All acute toxicity testing reports for effluent characterization or routine monitoring shall contain the bench sheets and latest reference toxicant results for the test methods. Two copies of these reports shall be sent to the Southwest Regional Office.

B. Monitoring Requirements

1. Testing shall be conducted on 24 hour composite samples of the effluent except when the Department or the Permittee, with the Department concurrence, determines that grab samples better represent toxicity. Water from the same source (natural or synthetic) as the water used for culturing the test organisms should be used as dilution water. Samples taken for toxicity testing should be cooled to 4 degrees Celsius and sent to the lab immediately. The lab should begin the toxicity testing as soon as possible but no later than 36 hours after the time that sampling was begun.

2. All tests for effluent characterization shall measure the response of the organisms in 0 percent effluent (control), 100 percent effluent, and a sufficient number of effluent dilutions to accurately determine an LC_{50} and an acute NOEC.

3. Each written report shall include all relevant information outlined in Section 12, Report Preparation, of Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, EPA/600/4-90/027 or approved modifications thereof. In addition, each report shall contain the bench sheets and the latest reference toxicant results for the test method.

4. Permittees that have ammonia and/or chlorine in the effluent shall have the lab measure the ammonia and/or total residual chlorine of a split of each sample collected for toxicity testing. All samples taken for toxicity testing shall have the pH, total alkalinity, total hardness, dissolved oxygen, and conductivity or salinity measured by the laboratory prior to beginning the toxicity test.

5. The acute toxicity tests shall be conducted in accordance with the following protocol or approved modifications thereof:

   Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, EPA/600/4-90/027.

6. All quality assurance criteria used (including the LC_{50} calculation method) shall be in accordance with Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, EPA/600/4-90/027 or approved modifications thereof. Test results which are not valid (e.g., control mortality exceeds acceptable level) will not be accepted and testing must be repeated.

S6. SEDIMENT MONITORING

A. Sediment Baseline Study Plan

The Permittee shall prepare a comprehensive site-specific baseline study plan addressing the requirements specified for the chemical and biological studies identified in the following subsections even though only the chemical studies may be required. Any data on the chemical and biological analysis of the sediment, collected within the last five years and meeting the QA/QC and protocol requirements of this section, may be submitted to the Department as part of the sampling plan (above) for consideration as a fulfillment of sediment monitoring requirements. The Permittee may also present data to demonstrate that there is not likely to be any chemical accumulation in the sediment near the Permittee's outfall or that its sediments are minor compared to other sources of sediment near the Permittee's outfall and in that way justify a reduced sampling program. The objective of this reduced sampling will be to demonstrate that no sediment deposition is occurring. If the reduced sampling plan is approved by the Department but the sampling reveals the deposition and probable accumulation of chemical contamination is occurring then the other requirements of this section will apply. The study plan shall be submitted by December 1995. Following the Department approval of the plan, sampling and analysis for sediment chemistry (Section B below) shall be conducted, as needed, during March or April 1996. If the sampling and analysis for chemical concentrations exceed the applicable sediment quality criteria of Chapter 173-204 WAC, then the Permittee shall conduct biological testing (Section C). The studies described in Subsections B and C may be conducted simultaneously. A written report of the results of the chemical analysis, and biological testing if done concurrently, shall be submitted to the Department by September 1, 1996. If the sediment chemical analysis exceeds the applicable sediment quality criteria, the biological testing shall be completed and the results

submitted to the Department by February 1, 1997. An additional copy of the report shall be sent to the Department of Natural Resources, Division of Aquatic Lands, Mail Stop QW-21, Olympia, WA 98504.

B. Chemical Analysis of the Sediment

1. **Chemical Analysis of the Sediment**

The Permittee shall conduct chemical analyses of the sediment samples collected in the area of their outfall(s) in accordance with protocols, study requirements, and QA/QC procedures specified in this section.

The samples shall be analyzed for Copper, Lead, and Zinc reported as mg/kg dry weight; Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, 2-methylnaphthalene, Fluoranthene, Pyrene, Benz(a)anthracene, Chrysene, Total Benzofluoranthenes (sum of the "B","J",and "K" isomers), Benzo(a)pyrene, Indeno (1,2,3,-c,d) pyrene, Dibenzo (a,h) anthracene, Benzo (g,h,i)perylene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2,4-trichlorobenzene, Hexachlorobenzene, Dimethylphthalate, Diethyl phthalate, Di-n-butyl phthalate, Butyl benzyl phthalate, Bis (2-ethylhexyl) phthalate, Di-n-octyl phthalate, dibenzofuran, Hexachlorobutadiene, N-nitrosodiphenylamine, and Total PCB's reported as mg/kg organic carbon and Phenol, 2-methylphenol, 4-methylphenol, 2,4-dimethyl phenol, Pentachlorophenol, Benzyl Alcohol, and Benzoic acid reported as ug/kg dry weight. In addition to analyzing for specified toxic pollutants, the Permittee shall analyze the sediment samples for grain size, total organic carbon, oil and grease, ammonia, total sulfides, and other parameters as needed to evaluate the sediment chemistry data.

2. **Protocols**

Sediment monitoring shall be conducted in accordance with the protocols (or approved modifications thereof) included in Recommended Protocols for Measuring Selected Environmental Variables in Puget Sound. Final Report No. TC-3991-04. Prepared for U.S. Environmental Protection Agency, Puget Sound Estuary Program by Tetra Tech Inc. March 1986 as updated by the Department. Detection levels shall be in the one to twenty parts-per-billion range.

3. **Monitoring Requirements**

a. The Permittee shall collect five samples at equally spaced distances along each of a minimum of three transects adjacent to the shoreline on both sides of the outfall. The three transects shall be located: 1) in an area used as a background, outside of the area of influence of the discharge, and 2) at the base of Outfall 001. The Department may agree to modify this sampling plan if new information or the sediment baseline study plan indicates a better sampling dis-

tribution. The above monitoring requirements may be reduced if the information submitted in the sediment baseline study plan indicates a very low potential for the deposition of sediment near the outfall and if the Department concurs with the reduced sampling. The objective of the reduced sampling will be to demonstrate that no sediment deposition is occurring, however, if the reduced sampling does reveal the deposition of sediment the other requirements of this section will apply.

b. The Permittee shall use some method of fixing the location of the transect boundaries (i.e., triangulation off the shore, microwave navigation system, or using Loran or Global Positioning System (GPS) coordinates). The proposed method of fixing location shall be identified in the study plan. Any subsequent reports shall document position method and station locations.

c. The sediment collected for samples shall consist of the upper two centimeters of sediment. The minimum depth of sampler penetration shall be four centimeters. If the Permittee determines there is a potential need for biological tests, sufficient sample may be collected for both the chemical and biological tests to avoid resampling costs. This may require multiple grabs/casts at each station and the compositing of the intrastation samples before the compositing of the transect (interstation) samples.

4. **Quality Assurance/Quality Control Procedures**

a. The Permittee shall follow the quality assurance procedures discussed in the protocols cited in Section 2 above.

b. Reference samples with similar characteristics (i.e., grain size) and control samples shall be used for quality control. The Permittee shall document in their report when and where the reference and control samples were collected, and what analyses were conducted.

C. <u>Biological Tests</u>

If the chemical analysis of the sediments reveals exceedance of the applicable sediment quality chemical criteria (as referenced in 173-204 WAC) the following biological tests shall be completed.

1. Acute tests (The Permittee shall perform test a. and choose and complete one test from b.).:

a. Amphipod *Rhepoxynius abronius* ten-day sediment bioassay.

b. 48-hour mortality/abnormality sediment bioassay with Pacific oyster (*Crassotrea gigas*) or Blue mussel (*Mytilus edulis*) or Purple sea urchin (*Strongylocentr-*

otus purpuratus) or Sand dollar (*Dendraster excentricus*).

2. Chronic test (The Permittee shall choose and complete one of the following a.,b., or c.):

   a. Benthic Infaunal Abundance: Abundance of Crustacea, Polychaeta, and Mollusca.

   b. Juvenile Neanthes: 20-day biomass of juvenile polychaete *Neanthes arenaceodentata*.

   c. Microtox saline extract: Decreased luminescence for the bacterium *Photobacterium phosphoreum* after a 15 minute exposure.

3. Protocols - The protocols for the biological tests are given in:

   -Recommended Protocols for Measuring Selected Environmental Variables in Puget Sound. Final Report No. TC-3991-04. Prepared for U.S. Environmental Protection Agency, Puget Sound Estuary Program by Tetra Tech Inc. March 1986 as updated by the Department.

   -Techniques for Sampling and Analyzing the Marine Macrobenthos. EPA-600/3-78-030.

4. QA/QC - The Permittee shall follow the quality assurance procedures discussed in the protocols cited above.

S7. SPILL PLAN

The Permittee shall update any existing Spill Control Plan for the prevention, containment, and control of spills or unplanned discharges of: 1) oil and petroleum products, 2) materials, which when spilled, or otherwise released into the environment, are designated Dangerous (DW) or Extremely Hazardous Waste (EHW) by the procedures set forth in WAC 173-303-070, or 3) other materials which may become pollutants or cause pollution upon reaching state's waters.

The updated spill control plan shall include the following:

A. A description of the reporting system which will be used to alert responsible managers and legal authorities in the event of a spill.

B. A description of preventive measures and facilities (including an overall facility plot showing drainage patterns) which prevent, contain, or treat spills of these materials.

C. A list of all oil and chemicals used, processed, or stored at the facility which may be spilled into state waters.

For the purpose of meeting this requirement, plans and manuals required by 40 CFR Part 112, WAC 173-180D, -181, and contingency plans required by Chapter 173-303 WAC may be submitted.

The spill plan shall be updated annually if major facility changes occur. The plan and any supplements shall be followed throughout the term of the permit.

S8. TREATMENT SYSTEM OPERATING PLAN

Wastewater treatment systems for treatment of groundwater and stormwater shall be operated according to procedures and criteria described in an approved operating plan.

This plan shall be submitted for the Department review and approval as part of the site groundwater cleanup process and stormwater treatment system upgrades.

The plan shall include, but is not limited to, the following:

A. A baseline operating condition which describes the treatment system operating parameters and procedures used to meet the effluent limitations of S1.B. at the production levels used in developing these limitations.

B. In the event of production levels which are below the baseline levels used to establish these limitations, the plan shall describe the operating procedures and conditions needed to maintain design treatment efficiency. The monitoring and reporting shall be described in the plan.

C. A description of any regularly scheduled maintenance or repair activities at the permitted facilities which would affect the volume or character of the wastes discharged; a list including quantities and chemical compositions of any maintenance-related substances (such as cleaners, degreasers, solvents, etc.) that will be discharged, and a plan for monitoring and treating/controlling the discharge of maintenance related materials.

GENERAL CONDITIONS

G1. Discharge Violations:

All discharges and activities authorized by this permit shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than, or at a concentration in excess of, that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

G2. Proper Operation and Maintenance:

The Permittee shall at all times properly operate and maintain all facilities and systems of collection, treatment, and control (and related appurtenances) which are installed or used by the Permittee for pollution control.

G3. Reduced Production for Compliance:

The Permittee, in order to maintain compliance with its permit, shall control production and/or all discharges upon reduction, loss, failure, or bypass of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

G4. Non-Compliance Notification:

If for any reason, the Permittee does not comply with, or will be unable to comply with, any of the discharge limitations or other conditions specified in the permit, the Permittee shall, at a minimum, provide the Department with the following information:

A. A description of the nature and cause of non-compliance, including the quantity and quality of any unauthorized waste discharges;

B. The period of non-compliance, including exact dates and times and/or the anticipated time when the Permittee will return to compliance; and

C. The steps taken, or to be taken, to reduce, eliminate, and prevent recurrence of the non-compliance.

In addition, the Permittee shall take immediate action to stop, contain, and clean up any unauthorized discharges and take all reasonable steps to minimize any adverse impacts to waters of the state and correct the problem. The Permittee shall notify the Department by telephone so that an investigation can be made to evaluate any resulting impacts and the corrective actions taken to determine if additional action should be taken. In the case of any discharge subject to any applicable toxic pollutant effluent standard under Section 307(a) of the Clean Water Act, or which could constitute a threat to human health, welfare, or the environment, 40 CFR Part 122 requires that the information specified in Sections G4.A., G4.B., and G4.C., above, shall be provided not later than 24 hours from the time the Permittee becomes aware of the circumstances.

If this information is provided orally, a written submission covering these points shall be provided within five days of the time the Permittee becomes aware of the circumstances, unless the Department waives or extends this requirement on a case-by-case basis.

Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the conditions of this permit or the resulting liability for failure to comply.

G5. Bypass Prohibited:

The intentional bypass of wastes from all or any portion of a treatment works is prohibited unless the following four conditions are met:

A. Bypass is: (1) unavoidable to prevent loss of life, personal injury, or severe property damage; or (2) necessary to perform construction or maintenance-related activities essential to meet the requirements of the Clean Water Act and authorized by administrative order;

B. There are no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, maintenance during normal periods of equipment down time, or temporary reduction or termination of production;

C. The Permittee submits notice of an unanticipated bypass to the Department in accordance with Condition G4. Where the Permittee knows or should have known in advance of the need for a bypass, this prior notification shall be submitted for approval to the Department, if possible, at least 30 days before the date of bypass (or longer if specified in the special conditions);

D. The bypass is allowed under conditions determined to be necessary by the Department to minimize any adverse effects. The public shall be notified and given an opportunity to comment on bypass incidents of significant duration, to the extent feasible.

"Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

After consideration of the factors above and the adverse effects of the proposed bypass, the Department will approve or deny the request. Approval of a request to bypass will be by administrative order under RCW 90.48.120.

G6. Right of Entry:

The Permittee shall allow an authorized representative of the Department, upon the presentation of credentials and such other documents as may be required by law:

A. To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this permit;

B. To have access to and copy at reasonable times any records that must be kept under the terms of the permit;

C. To inspect at reasonable times any monitoring equipment or method of monitoring required in the permit;

D. To inspect at reasonable times any collection, treatment, pollution management, or discharge facilities; and

E. To sample at reasonable times any discharge of pollutants.

G7. Permit Modifications:

The Permittee shall submit a new application or supplement to the previous application where facility expansions, production increases, or process modifications will (1) result in new or substantially increased discharges of pollutants or a change in the nature of the discharge of pollutants, or (2) violate the terms and conditions of this permit.

G8. Permit Modified or Revoked:

After notice and opportunity for public hearing, this permit may be modified, terminated, or revoked during its term for cause as follows:

A. Violation of any terms or conditions of the permit;

B. Failure of the Permittee to disclose fully all relevant facts or misrepresentations of any relevant facts by the Permittee during the permit issuance process;

C. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit;

D. Information indicating that the permitted discharge poses a threat to human health or welfare;

E. A change in ownership or control of the source; or

F. Other causes listed in 40 CFR 122.62 and 122.63.

Permit modification, revocation and reissuance, or termination may be initiated by the Department or requested by any interested person.

G9. Reporting a Cause for Modification:

A Permittee who knows or has reason to believe that any activity has occurred or will occur which would constitute cause for modification or revocation and reissuance under Condition G8 or 40 CFR 122.62 must report such plans, or such information, to the Department so that a decision can be made on whether action to modify or revoke and reissue a permit will be required. The Department may then require submission of a new application. Submission of such application does not relieve the

Permittee of the duty to comply with the existing permit until it is modified or reissued.

G10. Toxic Pollutants:

If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant and that standard or prohibition is more stringent than any limitation upon such pollutant in the permit, the Department shall institute proceedings to modify or revoke and reissue the permit to conform to the new toxic effluent standard or prohibition.

G11. Plan Review Required:

Prior to constructing or modifying any wastewater control facilities, detailed plans shall be submitted to the Department for approval in accordance with Chapter 173-240 WAC. Facilities shall be constructed and operated in accordance with the approved plan.

G12. Other Requirements of 40 CFR:

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G13. Compliance With Other Laws and Statutes:

Nothing in the permit shall be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G14. Additional Monitoring:

The Department may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G15. Revocation for Non-Payment of Fees:

The Department may revoke this permit if the permit fees established under Chapter 173-224 WAC are not paid.

G16. Removed Substances:

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall not be resuspended or reintroduced to the final effluent stream for discharge to state waters.

G17. Duty to Reapply:

The Permittee must reapply, for permit renewal, at least 180 days prior to the specified expiration date of this permit.

FACT SHEET

This fact sheet is a companion document to the draft National Discharge Elimination System (NPDES) Permit No. WA-003950-1. The Department of Ecology (the Department) is proposing to issue this permit, which will allow discharge of wastewater to waters of the State of Washington.

This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical basis for those decisions. Public involvement information is contained in Appendix A. Definitions are included in Appendix B.

GENERAL INFORMATION

Applicant:	Superior Oil Company
Facility Name and Address:	Superior Oil Company 250 East "D" Street Tacoma, Washington
Type of Facility:	Bulk storage, distribution and blending of petroleum products
Discharge Location:	Thea Foss Waterway, Commencement Bay, Puget Sound
Location Map:	See Appendix C
	Latitude: 47° 15' 40" N Longitude: 122° 26' 05" W
Water Body ID Number:	WA-10-0030

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APPENDIX A--DEFINITIONS

BACKGROUND INFORMATION

DESCRIPTION OF THE RECEIVING WATER

Thea Foss Waterway of Commencement Bay in Puget Sound north of the 11th Street bridge is designated as a Class B receiving water in the vicinity of the outfall. Characteristic uses include the following:

> fish migration; fish and shellfish rearing, spawning and harvesting; wildlife habitat; secondary contacts; recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation.

RELATIONSHIP TO THE COMMENCEMENT BAY NEARSHORE/TIDEFLATS SUPERFUND SITE

The Superior Oil Company facility is located within the boundaries of the Commencement Bay Nearshore/Tideflats (CB/NT) Superfund site. Ecology and EPA have completed the CB/NT remedial investigation (August 1985) and the feasibility study (February 1989). The remedial action plan for contaminated sediments and source control within the site is documented in a Record of Decision (ROD), which was signed on September 30, 1989.

The facility is located on the eastern bank of Thea Foss Waterway, which is located within the Mouth of Thea Foss Waterway Problem Area in the CB/NT site. The priority problem chemicals for this problem area include pollutants that have been detected in groundwater from the facility: high and low molecular weight poly-aromatic hydrocarbons (HPAH) and (LPAH). Under this permit, groundwater extraction and treatment is required to control discharge of problem chemicals in groundwater from this facility. Monitoring will be conducted to ensure the effectiveness of groundwater treatment prior to its discharge to marine waters, so that the receiving water quality standards are not violated.

After the terms of this permit have been implemented, Ecology or EPA will be able to assess the potential impact of discharges from this site on marine sediments to ensure that CB/NT sediment cleanup objectives are met. The issuance of the NPDES permit requires a monitoring mechanism which will help determine if the site remediation is sufficient to prevent recontamination of sediments in Thea Foss Waterway.

DESCRIPTION OF THE FACILITY

INDUSTRIAL PROCESS

The Superior Oil Company facility is an approximately 5.3 acre bulk petroleum storage, distribution, and blending facility.

Total storage capacity is 350,000 barrels. The terminal presently handles gasoline (unleaded regular, premium and leaded regular), diesel, bulk ethanol, and gasoline additives. From time to time, other products such as calcium chloride and vanillin black liquor have been stored. Gasoline and diesel

together account for more than 95 percent of the petroleum product throughput of the terminal since Superior began operations. Product movement is by pipeline, vessel, rail and truck with the majority of product received by pipeline and shipped by truck.

Appendix C (Location Map) shows Superior's current facilities. Products off-loaded from ships include leaded and unleaded gasoline, and diesel. Off-loading occurs through product-dedicated lines which are above ground throughout the facility.

Superior stores and distributes products using two loading racks for trucks (Appendix C). Lines to these loading racks are above and below ground. A rail spur terminates on site that is used for off or on loading.

High dikes surround the on-site tank farms. Areas within the dikes are not accessible by vehicles, are not paved, and have gravel bottoms which may be underlain by asphalt-like material (compressed oil and rocks) in places. The western compound is lined with an engineered low permeability clay layer. The southern two compounds on the east side will be clay lined at completion of present engineering construction activities. Drainage within the dikes either infiltrates, or, if it runs off, is collected and routed to an oil/water separator.

Areas outside the tank farms are generally paved with commercial asphalt with minor areas of concrete paving and bare ground. Runoff is collected and routed to the oil/water separator.

The oil/water separator shown on Appendix C treats all collected runoff. It consists of two separators in series; the first contained in tanks and the second using subgrade sumps. The second separator discharges water into the Thea Foss Waterway. The oil/water separator typically discharges about 200 gallons per minute (gpm) water on an intermittent, as-needed basis. Accumulated oil is hauled off by vacuum truck or recycling on a periodic basis. The oil/water separator discharge is subject to this NPDES permit.

GROUND WATER CLEANUP

In addition to storm water, the current permit had also included intermittent discharges from on-site groundwater recovery wells. The new proposed permit includes discharge from a forthcoming groundwater extraction and treatment system. This system shall be designed and approved pursuant to a separate Ecology action. The proposed permit provides performance requirements for the forthcoming treatment system in the form of permit limitations.

A number of monitoring wells are currently in place at the facility. These wells show free phase petroleum liquid beneath much of the facility. The petroleum is comprised of three major types: gasoline, diesel and black oil/bunker C.

FACILITY HISTORY

The terminal at 250 "D" Street was built by Tidewater Oil Company in the 1920s. Subsequent owners/lessees included Phillips Petroleum, Puget Sound Plywood and Northwestern Petroleum Inc. Superior Oil Company began operations in 1976. At the time, the property contained 12 above ground storage tanks, a truck loading rack, a rail spur, a two-tank fire suppressant system and a dock on City Waterway. Under prior ownership, the terminal primarily stored gasoline and diesel fuels. Northwestern Petroleum Inc., a lessee at the time Superior purchased the property, handled bunker C ("black oil"). Bunker C, used to fuel ships and industrial boilers, is highly viscous and has to be heated before it can be pumped. It typically contains 20 to 80 percent polynuclear aromatic hydrocarbons. The black oil operation continued under a lease arrangement with Superior Oil until 1979, after which it was no longer handled at the terminal.

Outfall 001 is an existing single pipe which flows into the mouth of Thea Foss Waterway. No dilution zone has been established. This outfall is located approximately at the mean low water mark, thus at very low tides it is above sea level. Outfall 001 discharges all facility effluent which consist of:

1. Storm Water
2. Treated Groundwater (from IDP 002)

IDP 002 will discharge effluent from the proposed groundwater extraction and treatment system at the site. This system is needed to clean up the subsurface soils and groundwater from past petroleum leaks or spills, and will be designed and built pursuant to a separate Ecology action.

PREVIOUS PERMIT LIMITATIONS

The previous permit for this facility was issued on March 14, 1986. The previous permit required the following effluent limitations for collected stormwater and flow from onsite groundwater recovery wells:

Parameter	Limit
Oil and Grease	15 mg/l (no visible sheen)
pH	Within the range 6.0 to 9.0

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on March 17, 1993, which was a Class 2 inspection.

The Permittee has remained in compliance with the previous 15 mg/L oil and grease limit on approximately 50 percent of the DMRs submitted over the past five years.

The cause of these noncompliances has been inadequate O/W separator maintenance/cleanout and also, possibly, O/W separator design inadequacy. Ecology water quality inspectors have not as yet taken formal enforcement action but rather have worked with facility staff to attempt to upgrade compliance. The O/W separator was retrofitted with coalescing plates in September 1992 but noncompliances continue.

WASTEWATER CHARACTERIZATION

An application for permit renewal, including chemical characterization of wastewater, was submitted to Ecology on March 3, 1991, and accepted by the Department on April 14, 1993. The permit application is available for review in Ecology Southwest Regional Office files.

PROPOSED PERMIT LIMITATIONS AND CONDITIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific wastewater. Technology-based limitations are required by regulation (40 CFR and Chapter 173-220 WAC). Water quality-based limitations are based upon maintaining the characteristic and beneficial uses of receiving waters (Chapter 173-201A WAC) and assuring that the discharge will comply with the Water Quality Standards. The more stringent of these two limits must be chosen for each of the parameters of concern.

The Washington State Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the waters of the state. The Water Quality Standards contain numerical and narrative criteria, and an antidegradation policy. In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Water Quality Standards.

Numerical Criteria

"Numerical" water quality criteria are numerical values set forth in the Water Quality Standards that specify the allowable levels of potential pollutants in a receiving water. Numerical criteria are among the criteria contained in the Water Quality Standards WAC 173-201A-030.

Numerical criteria set forth in the Water Quality Standards are used to derive the effluent limits in a discharge permit. When water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

Narrative Criteria

In addition to numerical criteria, "narrative" water quality criteria are used to limit acute and chronic toxicity, radioactivity, and other deleterious materials, and prohibit the impairment of the aesthetic value (WAC 173-201A-030) of the waters of the state. Narrative criteria describe the specific beneficial uses of each water body or waterbody segment in the State of Washington.

Antidegradation Policy

Among the major elements of the State of Washington's Antidegradation Policy is the requirement that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria.

There are exceptions to the latter rule under certain circumstances. Overriding concerns of the public, the availability and amount of treatment being performed on an effluent, and other factors are considered when such an exception is granted. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

Ecology has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, Ecology will use the designated classification criteria for this water body in the proposed permit. This proposed permit should not cause a degradation of existing water quality.

INTERIM EFFLUENT LIMITATIONS - OUTFALL 001

Facility stormwater treatment system upgrades must be designed and built by the Permittee, after Ecology approval, in order to comply with the final effluent limitations for Outfall 001. 40 CFR 122.47 allows the use of interim effluent limitations for design and construction of enhanced treatment systems. The interim limitations for Outfall 001 are identical to the effluent limitations which were listed in the Permittee's previous permit as shown on page 5 of this fact sheet. These interim limitations shall be in effect until October 15, 1995 or until the upgraded stormwater treatment system is in operation, whichever is sooner.

FINAL EFFLUENT LIMITATIONS/DERIVATION

1. **Flow**

Outfall 001

To assess the quantity of discharge from the facility, flow is to be continuously monitored during discharge by means of estimation. Flow estimates shall be recorded in the daily log book.

IDP 002

Flow from this low volume pumped stream shall be measured.

2. **Oil and Grease (Outfall 001 and IDP 002)**

The effluent limitation for oil and grease is set at 15 mg/l daily maximum. The sampling frequency is monthly with visual inspection on a daily basis. Visual inspection results shall be listed in a log book.

The oil and grease limitation is a Technology Based Effluent Limitation, based upon the proven performance of gravity oil/water separators. The use of gravity oil/water separators satisfies the Federal and State Technology Based Requirements (BCT and AKART). The "no visible sheen" requirement is based on Environmental Protection Agency (EPA) Quality Criteria for Water, 1986 (the "Gold Book").

The recommended method for analyzing oil and grease is EPA 413.1.

3. **Total Petroleum Hydrocarbons (TPH) (Gasoline) - (Outfall 001 and IDP 002)**

1.0 mg/L is the daily maximum.

Total Petroleum Hydrocarbons (TPH) (Diesel) - (Outfall 001 and IDP 002)
10.0 mg/l is the daily maximum.

Limitations for TPH-G (gasoline-range) are based on Best Professional Judgment (BPJ) (Ecology experience with similar water treatment systems).

The limitations for TPH-D (diesel-range) is based on use of oil-water separation and on BPJ (Ecology experience with similar water treatment systems).

The acceptable analytical method is Method WTPH-418.1 modified for water. A copy of this method is available from Ecology.

4. **BTEX (Benzene, Ethyl Benzene, Toluene, Xylenes)**

Outfall 001

Benzene, Ethylbenzene

Daily Maximum Limit (DML) for benzene is set at 0.04 mg/L and the DML for ethylbenzene is set at 0.10 mg/L; these are well above the detectable limits. Sample frequency shall be monthly.

These are Technology-Based effluent limitations, based upon the performance of air strippers and/or activated carbon column and satisfy the Federal and State Technology Based Requirements (BCT and AKART). BPJ has been incorporated in setting these limits in accordance with 40 CFR 125.3 and detectable quantities through EPA analytical method number 624 for purgeable compounds.

Limits for Outfall 001 are less stringent than those for IDP 002 since Outfall 001 consists primarily of stormwater, an intermittently high volume flow. IDP 002 consists of extracted groundwater, a low volume, constant flow stream which can be more effectively treated. Stormwater is currently treated in an oil/water separator for gross oil removal. The primary means for "treatment" of this stream is good housekeeping of the facility. Keeping the facility oil/spill free keeps runoff clean. Additional treatment may be required to achieve all Outfall 001 permit limitations. The Storm Water Pollution Prevention Plan (Special Condition 2D) requires the Permittee to prepare and implement a plan to keep the facility clean and to treat storm water as needed to achieve permit limits.

Toluene and Xylene

No final limitation is set for Toluene and Xylene, However, monitoring and reporting of these parameters are required. Sample frequency shall be monthly. In the event of new information developed for water quality criteria based on human health or protection of aquatic organisms on these parameters, the permit conditions and the reopener clause will allow Ecology to reevaluate and modify the permit conditions.

IDP 002

Technology-Based Limits

EPA has developed a model NPDES permit for gasoline facilities (see references). The permit includes the following technology-based effluent limitations for groundwater pump and treat systems (such as the IDP 002 system) using air stripping or activated carbon. The limitations assume a 99.5 percent removal rate. These limits are more stringent than those

of Outfall 001 limits because this stream is a low-volume controlled flow and thus more rigorous treatment is practicable.

Parameter	Limit (Daily Maximum)
Benzene	.005 mg/L
Total BETX	.010 mg/L

Water Quality-Based Limits

Current water quality criteria (ppb) for the organic constituents are as follows:

CRITERIA	BENZENE	ETHYLBENZENE	TOLUENE	XYLENE
Marine Chronic	700	-----	5,000	-----
Marine Acute	5,100	430	6,300	-----
Human Health (Fish Only)	40	3,280	424,000	-----

The technology-based limitations are at or below all criteria. Thus the technology-based limitations have been adopted as permit limits.

5. **Total Suspended Solids (TSS) (Outfall 001 and IDP 002)**

This parameter is important in industrial water supply practices. A suspended solids concentration has been reported in the facility's application Form 2C. The term "total suspended solids" is defined as residual non-filterable solids (particulate matter) retained by a glass-fiber and dried at a constant temperature at 103° to 105° C.

TSS blanket the bottom of water bodies, reduce light transparency, damage the invertebrate populations, and block gravel spawning beds. Contaminants often are absorbed by particulate matter.

The TSS final limitation for daily average is set at 30 mg/L and daily maximum is set at 45 mg/L. Sampling frequency shall be monthly and will be changed to quarterly after six (6) months of continued compliance. The limitation was derived by surveying the TSS effluent limits contained in NPDES permits for similar facilities.

Acceptable methods are described in Standards Methods for the Examination of Water and Wastewater, 16th Ed., Nos. 209C, "Total Suspended Solids dried at 103 to 105 degrees C."

6. **Total Lead (IDP 002)**

Because lead is present in gasoline as a component of an organic compound tetraethyl lead (TEL), it is not amenable to traditional metals removal technologies such as pH adjustment, flocculation and sedimentation. TEL is amenable to treatment by granular activated carbon.

The discharge limitation for lead of 0.0058 mg/l is based on the EPA Gold Book marine chronic criterion.

7. **pH (Outfall 001 and IDP 002)**

The pH is used to measure the intensity of the acidic or basic character of the effluent. It is defined as the negative of log (H+). This permit limits pH to a range of 6.0 to 9.0. Because of the high buffering capacity of salt water, compliance with the technology based limits of 6 to 9 will assure compliance with the Water Quality Standards.

Acceptable methods are those Standard Methods for the Examination of Water and Wastewater, 16th Ed., No. 423, "pH Value", pp 429-37.

8. **Non-Carcinogenic Polyaromatic Hydrocarbons (PAH) (IDP 002)**

Non-carcinogenic PAHs: anthanthrene, anthracene, benzo (c) acridine, benzo (b) fluorene, benzo (g,h,i) perylene, benzo (e) pyrene, carbazole, coronene, cyclopenta (c,d) pyrene, dibenzo (a,h) acridine, dibenzo (a,j) acridine, dibenzo (a,c) anthracene, 7 h dibenzo (c,g) carbazole, dibenzo (a,h) pyrene, 1,4 dimethylphenanthrene, fluoranthrene, 1-methylphenanthrene, perylene, phenanthrene, pyrene, triphenylene.

These compounds, while not carcinogenic, are toxic to humans and marine life. The daily maximum effluent limit of 0.30 mg/L total was derived using EPA Gold Book criteria. EPA SW 846 method 8310 shall be used for analysis.

9. **Seven (7) Carcinogenic PAHs (IDP 002)**

Carcinogenic PAHs: benzo (a) anthracene, chrysene, benzo (b) fluoranthene, benzo (k) fluoranthene, benzo (a) pyrene, dibenzo (a,h) anthracene, indeno (1,2,3-cd) pyrene.

As with benzene the recognized safe concentration of these International Agency for Research on Cancer (IARC) listed carcinogens is 0.

A non-zero effluent limit has been based on the following methodology:

The effluent limits for the seven (7) carcinogenic PAHs listed in the permit represent the Practical Quantification Limit (PQL) for each chemical compound. The PQL is the lowest concentration that can be

reliably measured within specified limits of precision, accuracy, representativeness, completeness, and comparability during routine laboratory operating conditions using Ecology approved methods. The source of the PQLs used in this permit is the EPA document SW-846. Since the human health based limit (zero) is lower than the PQLs, the PQLs are appropriate as permit limits since they are the lowest value which can be quantified. EPA SW 846 Method 8310 shall be used for analysis.

10. **Spills**

The requirement to sample and report spills is needed to assure that chemicals used, handled and stored at the site do not enter the environment as a result of site management practices or accidents (see footnote a/ on page 7 of the permit).

SUMMARY OF PERMIT CONDITIONS

1. Final Effluent Limitations

The following effluent limitations have been proposed for this permit:

Parameter	Limitation (Daily Maximum)	Basis for Limitation
pH	6-9 S.U.	EPA Model Permit, BPJ*
Oil and Grease	15 mg/l no visible sheen	BPJ WQ Gold Book
Benzene (IDP 002) (Outfall 001)	0.005 mg/L 0.040 mg/L	EPA Model Permit, BPJ BPJ
BETX	0.10 mg/L	EPA Model Permit, BPJ
Ethylbenzene	0.10 mg/L	BPJ
TPH-Gasoline	1.0 mg/L	BPJ
TPH-Diesel	10.0 mg/L	BPJ
Total Lead	0.0058 mg/L	BPJ
TSS	45 mg/L	BPJ
Non Carcinogenic PAHs	0.35 mg/L	WQ Gold Book
Carcinogenic PAHs	7 different limits	BPJ

The daily maximum is defined as the greatest allowable value for any calendar day.

* BPJ = Best Professional Judgement

WHOLE EFFLUENT TOXICITY

In addition to the requirement not to exceed specific chemical parameters, the Water Quality Standards require that the effluent not cause toxic effects in the receiving waters.

Because of the complex nature of the Permittee's effluent and the potential for it to contain toxic chemicals, this permit contains requirements for whole effluent toxicity testing as authorized by the Revised Code of Washington (RCW) RCW 90.48.520 and 40 CFR 122.44. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and so this approach is called whole effluent toxicity testing. Whole effluent toxicity testing is used to measure both acute toxicity and chronic toxicity.

Acute toxicity tests measure death as the significant response to the toxicity of the effluent. Dischargers who monitor their wastewater with acute toxicity tests are providing an indication of the potential lethal effect of the effluent to organisms in the receiving environment.

Used alone, acute toxicity tests are insufficient indicators of potential environmental harm from effluent toxicity. Additional tests, which are needed to measure various sublethal toxic responses such as retarded growth or reduced reproduction, are known as chronic toxicity tests.

This permit requires the Permittee to test the effluent to determine if acute toxicity is present as a pollutant.

Ecology is currently involved in rule-making to define the process for determining effluent limits for whole effluent toxicity. Until these rules are promulgated, Ecology will not place effluent limits into permits for whole effluent toxicity. However, all narrative criteria concerning toxicity in the Water Quality Standards are in effect and can be used to require a Permittee to determine the cause of toxicity in an effluent based on whole effluent toxicity test results.

Ecology will use a preponderance-of-the evidence approach to determine if the effluent presents a risk for acute conditions in the receiving water. If it is determined that a risk to aquatic biota exists, Ecology may issue an Administrative Order requiring that a Permittee investigate and reduce or eliminate any source of the toxicity.

Human Health

The conditions in this permit seek to protect aquatic life from toxic effects. It is assumed that protecting aquatic life will also protect the health of humans. If Ecology finds that this permit does not protect human health, the permit will be modified to incorporate new conditions as needed. Human health based limits in this permit for carcinogens are based on the concentration considered safe by the IARC (International Agency for Research on Cancer).

Sediment Quality

Ecology has promulgated Sediment Management Standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that Ecology may require Permittees to evaluate the potential or the discharge to cause a violation of applicable standards (WAC 173-204-400).

Ecology has determined that this discharge has the potential to cause a violation of the sediment quality standards because of the fact that PAH free phase petroleum has been spilled and currently exists beneath the facility. Offshore sediments have elevated PAH concentrations. A condition has been placed in the permit which requires the Permittee to demonstrate that either the point of discharge is not an area of deposition or, if the point of discharge is a depositional area, that there is not an accumulation of toxics in the sediments.

MONITORING AND REPORTING

Effluent monitoring, recording, and reporting are required (WAC 173-220-210) to verify the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring and testing schedule is detailed in the permit under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

OTHER PERMIT CONDITIONS

SPILL PLAN

Ecology has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidently released. Ecology may require the Permittee to develop best management plans to prevent this accidental release under authority of 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The permit requires the Permittee to update this plan and submit it to Ecology.

SOLID WASTE PLAN

This permit requires, under authority of RCW 90.48.080, that the Permittee develop a solid waste plan to prevent solid waste from causing pollution of states waters. The plan is submitted to the local permitting agency for approval, if necessary, and to the Department.

LOW PERMEABILITY LINER PLAN

In order to prevent additional releases of petroleum to the subsurface, the Permittee is required to install low permeability liners in all bulk storage tank farms holding a total of more than 10,000 gallons of petroleum which are as yet unlined. The Permittee will submit a plan for Ecology review within 180 days of permit issuance. This plan will provide a proposed design for tank farm liners and associated stormwater piping and treatment systems. The liners will be installed within one year of Ecology approval of the plan.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all NPDES permits issued by Ecology.

PERMIT MODIFICATIONS

Ecology may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards, Sediment Quality Standards, or Ground Water Standards, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

Ecology may also modify this permit as a result of a new or amended state or federal regulations.

RECOMMENDATIONS FOR PERMIT ISSUANCE

This permit meets all statuary requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. Ecology proposes that this permit be issued for five years.

REFERENCES

Environmental Protection Agency (EPA)

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Condition for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(EE2). (Cited in EPA 1985 op.cit.)

REVIEW BY THE PERMITTEE

A proposed permit was reviewed by the Permittee for verification of facts. Only factual items were corrected in the draft permit.

APPENDIX A--DEFINITIONS

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Class 2 Inspection--A walk-through inspection of a facility that includes the elements of a Class 1 Inspection plus sampling and testing of wastewaters. It may also include a review of the facility's record of environmental compliance.

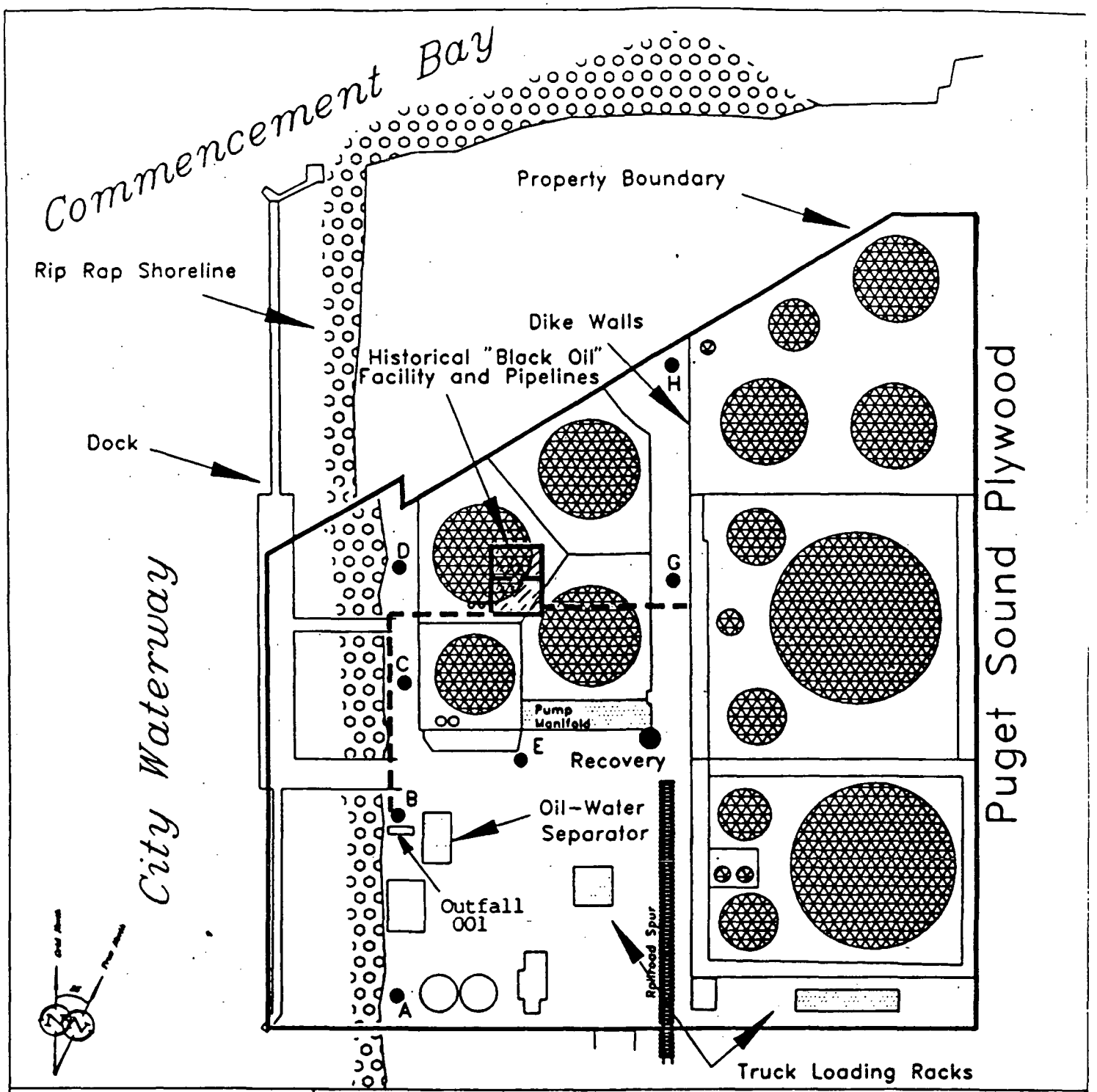
National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

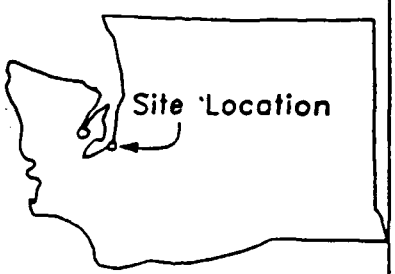
pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shell fish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.





Map Legend

Recovery — Existing Recovery Well

A — Existing Monitoring Well

Storage Tank

0 100 200

Scale in Feet

Appendix B

Location Map
Superior Oil Company
Tacoma, Washington

UBAT INSPECTION SUMMARY

ENTITY: Tacoma Fixture

INSPECTOR: Smith, Schrieve

OWNER: Tacoma Fixture

INSPECTION DATE: 11/4/92

LOCATION: 1815 East "D" Street
Tacoma, WA 98421

CONTACT: Jay Young, Assistant General Manager

TYPE OF FACILITY: Kitchen cabinet manufacturer

PERMIT(S): None

DRAINS TO: Thea Foss

PATHWAY/QUANTITY:

Process Water - none

Ground Water - no data

Storm Water - Parking lot and street catch basins to waterway

Spill - none

SUSPECTED CONTAMINANTS: none known

SAMPLING: none

FACILITY DESCRIPTION: Inspection started at 3:07 hrs with a tour of the interior of the facility. Paints and laquers were stored in an enclosed concrete-bermed room (no drains). After mixing, the paints and laquers were pumped out of the enclosed room to sprayers for direct use in coating unfinished cabinets.

We observed two storm drains and a manhole inside the building where the spray booths are located. We pulled the manhole cover and observed no signs of contaminated material in the drain. Jay stated that the facility was used as a juice processor in the past (6 years ago) and the drains were used at that time to hose down and clean the floors. He stated that the floors are never hosed down (swept instead) during the current operation. He also stated that the enclosed room is the only place where spills of laquers or paints are possible.

We asked him if he had considered plugging the drains. He said he has not considered drain plugging due to the negligible spill potential. He also stated that there was no reason he could not plug them as long as there was no problem with drainage of sprinkler system water in the event of a fire. We offered to consult with the City of Tacoma and provide him a recommendation. He accepted our offer and we left the inside of the building. We saw nothing on the outside of the building that deserved mention. We concluded the inspection at 3:22 pm.

I consulted Dick Kersop, Fire Inspector for the City of Tacoma, concerning the interior drains. He had no problem with plugging the drains. This assessment was relayed to Jay Young by Dave Smith 12/11/92. Dave recommended drain plugging as insurance against possible spills.

UBAT INSPECTION SUMMARY

Inspection Date: 11-15-91

ENTITY: Tacoma Fixtures, Inc.

INSPECTOR: Herold, Ed Canabary

OWNER: Facility: Jim Ryan
Property: John Backus

LOCATION: 1815 East D Street
Tacoma, WA 98421

CONTACT: Jim Ryan

TYPE OF FACILITY: Furniture cabinet manufacturing

PERMITS: none

DRAINS TO: City sanitary, Foss WW via city stormdrains

PATHWAY/QUANTITY:

Process Water:	none
Ground Water:	none, all paved
Storm Water:	Foss Waterway, parking lot & 4 interior floor drains
Spill:	none evident

SUSPECTED CONTAMINANTS: none

SAMPLING: none

FACILITY DESCRIPTION: Ecology inspectors entered the facility at 2:30 p.m. Facility owner, Jim Ryan, conducted the tour of the cabinet manufacturing operation.

Tacoma Fixtures manufactures cabinets and doors from pre-finished particle board for sale to contractors. Painting and gluing is conducted on the site. Painting is conducted in a spraying booth with paints and a compressor located in an adjacent paint locker. The gluing operations are conducted at work stations throughout the factory. Water-based "Elmers" type glue is used for bonding members. A solvent-based contact cement is used for attaching counter tops. Heat-sealing plastics are used for bonding countertop edge strips.

The solvents associated with painting and cementing are recycled by Lilyblad Products.

The four delivery trucks are leased, and all servicing is performed by the lessor at his facility.

The buildings at Tacoma Fixtures cover approximately 97,000 square feet and were constructed in about 1960.

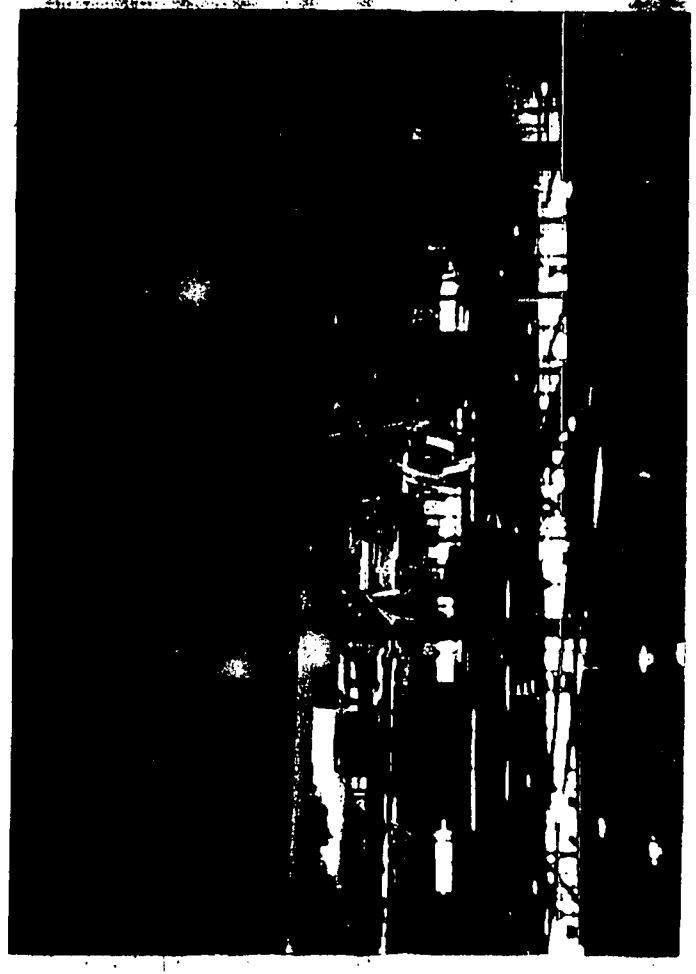
Four interior floor drains are present which drain to the storm sewer system. These floor drains were in use when "Emerald Products" conducted food processing operations in the facility prior to 1985. "Emerald Products" reportedly manufactured apple juice concentrate. The floor drains appeared to be dry at the time of inspection. Although most solvents are stored within an enclosed paint locker, four 5-gallon buckets of solvent were present within the catchment area of one floor drain.

Mr. Ryan was informed of the need to either totally segregate solvents or preferably plug the floor drain system permanently. The inspection concluded at 4:00 p.m.

MH:dc(12/tcpl)

attachments: photos (2)

STOCK# PP 3



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (206) 407-6300

September 25, 1995

Ms. Mary Henley
City of Tacoma Sewer Utility
Engineering Division
2201 Portland Avenue
Tacoma, WA 98421-2711

Dear Mary:

Re: City of Tacoma Steam Plant Property at 1141 Dock Street

This letter is to clarify Ecology's expectations for source control actions at the City's "old steam plant" property at 1141 Dock Street. This property is on List 3 of Ecology's milestone one report for the head of Thea Foss waterway, and is considered to be a confirmed source of contamination to the waterway. This determination was based on the presence of a "stack" of what is thought to be metal shavings and shop floor sweepings in the intertidal area of the site. This stack was sampled by Tacoma City Light in 1993 and found to contain the following exceedances of the Commencement Bay Sediment Quality Objectives: 658.1 mg/kg lead and 6.5 mg/kg cadmium. In 1995, Chris Neumiller and Joyce Mercuri performed another bank reconnaissance and found a piece of ash-like substance about the size of a 55 gallon drum in the intertidal area close to the stack. The ashy substance is the same as what is found on the adjacent Consumer Heating Plant site (Investco), which is known to contain elevated mercury.

In order to stop ongoing contamination to Foss Waterway sediments from this site, the stack and ash material need to be removed. These materials are found in the intertidal area and a low tide will be necessary to remove them. Since daylight low tides will not occur until next year, Ecology expects the removal to be complete by May 31, 1996. After removal, the underlying intertidal sediments should be sampled to confirm that the contaminants were removed.

In addition to the intertidal contamination, a 1988 report shows several samples from the steam plant before demolition contained high levels of mercury. At this time, Ecology has not concluded that these "upland" contaminated samples are an ongoing source of mercury to the Thea Foss Waterway, due to the relatively low concentrations of mercury in the steam plant intertidal area. However, Ecology considers the upland of the site to be contaminated, and expects it will be investigated and cleaned up under the Thea Foss Redevelopment Consent Decree.

Please inform me by December 31, 1995, what the City intends to do to remove the bank contaminants. Please call me at (360) 407-6250, if you have any questions or would like to discuss this further. Thank you for your time and consideration of this matter.

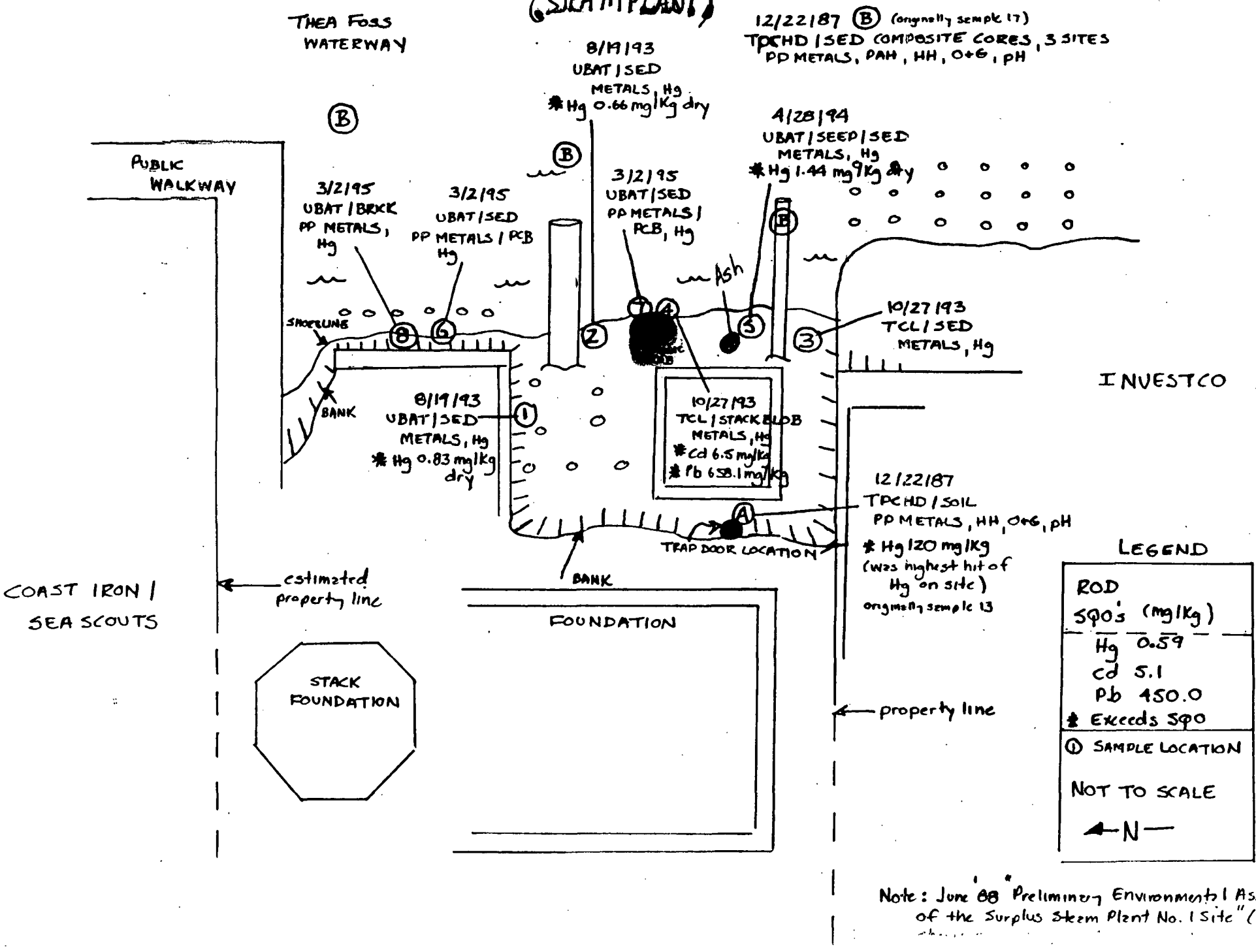
Sincerely,

David Smith

David Smith
Toxics Cleanup Program
Southwest Regional Office

DS:jr

CITY OF TACOMA (STEAM PLANT)



Note: June '88 "Preliminary Environmental Assessment of the Surplus Steam Plant No. 1 Site" (TPCHD

5/16/95 Ecology / Neumiller

WASHINGTON STATE DEPARTMENT OF ECOLOGY
UBAT INSPECTION SUMMARY

ENTITY: Tacoma Transloading Inc. **INSPECTOR:** Mercuri/Coleman

OWNER: Leases from BN Railroad **INSPECTION DATE:** 10/21/92

LOCATION: In Burlington Northern Rail yard on "D" Street. Immediately behind Nichols Trucking.

CONTACT: Bill Miller, Operator

TYPE OF FACILITY: Transloading from rail to truck.

PERMITS:

DRAINS TO: Foss

PATHWAY/QUANTITY:

Process Water: None
Ground Water: Yard is gravel.
Stormwater: Surface runoff across gravel. Water pools up except during excessive rain. No storm drain system.
Spills: No hazardous substances on site.

SUSPECTED CONTAMINANTS: none

SAMPLING: None required

FACILITY DESCRIPTION: Ecology inspectors arrived at the site approximately 1:30 p.m. and spoke with Bill Miller, facility operator. The facility consists of a covered loading area where materials are loaded into trucks. They lease the site and one rail siding from Burlington Northern Railroad. The products which are transloaded are food products. The main product seemed to be bulk cotton seed. Spills of the seed are given to a farmer for animal feed. There were two 55 gallon drums on the site labeled "DMX-7". Mr. Miller explained that this was a food grade acid which is sprayed on certain food products to prevent mold.

There do not appear to be any problems which would affect Foss Waterway at this time. The facility did not exist in 1988, when TPCHD drainage map was produced.

-end of report-

14

DEPARTMENT OF ECOLOGY
URBAN BAY ACTION PROGRAM INSPECTION REPORT

ENTITY: The Dock **INSPECTOR:** Coleman

LOCATION: 535 Dock St. **DATE:** 12/92

OWNER:

CONTACT: None

TYPE OF FACILITY: Retail/offices

PERMITS:

DRAINS TO: Mouth of Thea Foss Waterway

PATHWAY/QUANTITY:

Process water: None.

Ground water: No data about ground water quality.

Storm water: No evidence of problem chemicals associated with storm water runoff.

Spills: No evidence of spills.

SUSPECTED CONTAMINANTS:

None

PROPERTY DESCRIPTION:

This property has an assortment of retail stores and offices. The property was formerly a grain warehouse. There is no evidence of problem chemicals associated with this property.

DEPARTMENT OF ECOLOGY
URBAN BAY ACTION PROGRAM INSPECTION REPORT

ENTITY: Thompsen Property **INSPECTOR:** Reale

LOCATION: East D Street, north of UNOCAL Tank Farm **DATE:** 12/10/92

OWNER: David Thompsen

CONTACT: David Thompsen

TYPE OF FACILITY: Temporary storage of used automobile and boat parts

PERMITS: None

DRAINS TO: Head of Thea Foss and Wheeler-Osgood Waterways

PATHWAY/QUANTITY:

Process water: None.

Ground water: No data about ground water quality.

Storm water: No drainage conduits on site.

Spills: No evidence of spills.

SUSPECTED CONTAMINANTS: None

PROPERTY DESCRIPTION:

Inspector Reale met Mr. David Thompsen at the site and was given a tour of the property. Mr. Thompsen buys and sells used automobile and boat parts. The property is a half-acre unpaved yard used to temporarily store limited quantities of automobile and boat parts. There are no drainage conduits on site. Because of the limited quantity of material stored, the small size of the site, and the lack of an efficient pathway to the waterway, it appears unlikely that the property releases problem chemicals to the waterway at levels that justify an enforcement action at this time.

URBAN BAY ACTION PROGRAM INSPECTION REPORT

ENTITY:	Time/Superior Oil	**INSPECTOR:**	D. Reale C. Neumiller
LOCATION:	North end of E. D St. Tacoma, WA 98401	**DATE:**	11/17/92

OWNER: Time/Superior Oil Co.
CONTACT: Kevin Murphy, 286-6443
TYPE OF FACILITY: Bulk Petroleum Storage and Transfer
PERMITS: NPDES

DRAINS TO: Mouth of Thea Foss

PATHWAY/QUANTITY

PROCESS WATER: Washdown of (2) truck loading racks.

GROUND WATER: Gasoline, diesel, and Bunker C found in soil and ground water beneath the site.

STORMWATER: Collected at racks and inside the unlined tank farms.

SPILLS: None recently.

SUSPECTED CONTAMINANTS: BTEX, TPH, LPAH, HPAH

SAMPLING: Surface water (outfall) sampling in December 1990, by Tacoma-Pierce County Health Department, showed PAH. A 1990 ground water study showed free product on ground water including gasoline, diesel, and Bunker C oil.

FACILITY DESCRIPTION: The storage facility has a total capacity of 350,000 barrels. Current products stored at the facility are primarily gasoline and diesel. There are two truck loading racks. The storage tank farms are all surrounded by concrete walls. No liners have been installed but some residual oil may be present such that stormwater may accumulate in the tank farm sumps. Much of the stormwater is expected to infiltrate into the ground. Sumps flow to the oil/water separator. Each sump line has a valve which is normally closed. Therefore, liquids accumulating in the tank farms only flow to the oil/water separator when an operator opens a valve manually.

The two racks have drains which flow to the oil/water separator. These racks are occasionally rinsed with water.

Time Oil staff have indicated that no truck washing or tank drawdown occurs.

Much of the facility outside of the tanks farms is asphalted. The asphalt area has storm drains which flow to the oil/water separator.

The oil/water separator consists of a concrete collection sump a large above ground separation tank and a smaller above ground product storage tank. Coalescing media have recently been installed in the separator. This should improve the removal of suspended petroleum droplets but will not remove dissolved petroleum. Time Oil's NPDES permit, which has expired and awaits Ecology renewal, regulates discharge from the oil/water separator. Oil and grease and pH are the only parameters regulated by the old permit.

A new NPDES permit will not doubt also regulate BTEX, TPH, and PAH. This will very likely require an upgrade in the treatment system. Additionally, Ecology plans to require low permeability liners to be installed in the tank farms. This will greatly increase the water treatment system's required flow capacity.

Subsurface contamination has been found on site, specifically:

Free phase petroleum has been found in five of eight monitoring wells spread out across the site. Gasoline, diesel, and Bunker C oil were found. Bunker C oil has been found in combination with diesel and gasoline. These lighter fractions may be co-dissolving the Bunker C oil. The Bunker C oil is, by itself, of low solubility. It is high (20 to 80 percent) in polynuclear aromatic hydrocarbons (PAH), which are problem chemicals for the Mouth of Thea Foss waterway. Co-dissolution of the Bunker C oil by diesel or gasoline may be increasing the rate of release of PAH from the site.

Time/Superior has stated they hope to pursue investigation and cleanup of the site as an independent action. Ecology is in the process of evaluating whether the proposed independent action will be timely and sufficient. Time/Superior has stated they will submit an investigation work plan to Ecology by early December 1992. This plan should give an indication of the timeliness and sufficiency of the action. Based on this information, Ecology may decide to pursue active enforcement at the site.

(dr1c/4)

CL → CN go

RECEIVED

AUG 26 1996

Environmental Cleanup Office

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

August 21, 1996

Red Westgard
Totem Marine Services
820 East D Street
Tacoma, WA 98421-1814

Dear Red:

Based on our phone conversation last month, I understand you are committed to install a boat hull washing recycling system by October. If construction has not started by October 15, 1996, you will receive a "Notice of Correction", which will appear similar to the unsigned letter enclosed. You will also receive such a notice if construction is not completed by November 15, 1996.

Please let me know if you have any questions regarding this procedure, I can be reached at (360) 407-6250.

Sincerely,

Dave Smith

Dave Smith, Supervisor
Commencement Bay Urban Bay Action Team
Toxics Cleanup Program
Southwest Regional Office

DS:jr
Enclosure

cc: Marc Pacifico, Ecology

DRAFT

DEPARTMENT OF ECOLOGY

NOTICE OF CORRECTION

To: Red Westgard
Totem Marine Services
820 E. "D" Street
Tacoma, WA 98421-1814

This Notice of Correction (NOC) is issued under the authority of RCW 43.05 (Technical Assistance Programs). Discharging pressure wash water is not in compliance with RCW 173-220, which specifies Washington State regulations under the National Pollution Discharge Elimination System (NPDES). This NOC requires Totem Marine Services to build a boat washwater recycling sytem or discontinue boat hull washing. Totem Marine Services is required to complete construction of the system or discontinue boat hull washing within 45 days of receipt of this NOC.

Totem Marine Services is not in compliance with their NPDES permit. The permit required Totem Marine Services to submit plans and specifications for a boat wash system to Ecology by November 5, 1994, and to begin construction of the boat wash system within 90 days of Ecology's acceptance of the plans and specifications. Ecology (Joyce Mercuri) met with you on March 8, 1995 and verbally accepted plans for your boat wash system (collection and recycling of waste water).

To achieve compliance with the above, Totem Marine Services must, within 45 days of receipt of this NOC, complete construction of a boat washwater recycling system or discontinue boat hull washing. If your plans and specifications for the proposed boat wash system have changed since the March 8, 1995 meeting with Joyce Mercuri, Totem Marine Services must resubmit plans and specifications to Ecology within 21 days of receipt of this NOC.

Failure to complete this requirement could result in Ecology taking a formal enforcement action which could include a penalty of up to $10,000.00 per day, per violation.

You may request an extension of the 45 day deadline, for good cause, by contacting Dave Smith in writing and providing the reasons why you are requesting the extension. Your request must be received no later than 10 days after you receive this NOC. All Ecology staff identified in this NOC may be contacted by writing to them at Department of Ecology, Southwest Regional Office, P.O. Box 47775, Olympia, WA 98504-7775.

DATED this _____ day of _____, 1996, at Olympia, Washington.

_____
"UNIT SUPERVISOR"
Supervisor , Commencement Bay Urban Bay Action Team
Toxics Cleanup Program
Southwest Regional Office

United States
Environmental Protection
Agency

Region 10
1200 Sixth Avenue
Seattle WA 98101

Alaska
Idaho
Oregon
Washington

EPA

March 1, 1995

Reply To
Attn Of: HW-113

Ms. Kathlyn Henderson
Land Use Administrator
Building and Land Use Services Division
747 Market Street
Tacoma, Washington 98402-3769

Subject: Additional Comments on Shoreline Development Permit Application File 141.573; Totem Marine Services

Dear Ms. Henderson:

The U.S. Environmental Protection Agency (EPA) has commented previously on the Shoreline Development Permit Application File 141.573. In the permit application, Totem Marine Services proposed modifications to the property located at 820 East "D" Street. My previous correspondence on this matter identified special requirements with regard to the on-going Superfund investigations and cleanup at the Commencement Bay Nearshore/Tideflats Superfund Site. This letter is to provide the current status of our concerns.

EPA was concerned that the foundry slag along the bank may have been and may continue to be a source of contamination to the waterway. EPA has reviewed this matter closely and based on current information, EPA has concluded that the slag does not appear to be acting as a source of problem chemicals to the mouth of the Thea Foss Waterway.

As you know, data collected by Ecology indicated the presence of metals (i.e., cadmium, copper, and nickel) in slag material located along the shorelines of the Globe Machine and Totem Marine Services properties (see data summary in Table 1). The slag material originated from the former Fick Foundry. More recent subtidal sediment sampling conducted directly offshore of the Globe and Totem Marine properties by the City of Tacoma last summer did not indicate the presence of these or other metals at concentrations greater than sediment quality objectives (SQOs). Please see the sediment sampling results in Table 2 and the sample locations in the attached map. Note that two HPAHs [total benzofluoranthenes and dibenzo(a,h)anthracene] were detected at

concentrations exceeding SQOs in the sediment sample collected offshore of the Totem Marine property; however, these organic compounds were ubiquitous in the waterway and it is unlikely that the slag material along the bank represents a source of these compounds. Therefore, based on this data, it does not appear that the slag material located along the Globe Machine and Totem Marine Services properties is acting as a source of problem chemicals to the mouth of the Thea Foss Waterway.

As I understand it, the Totem Marine Services' proposal includes removal of the slag along the shoreline of the property. EPA continues to be concerned that removal of the slag may expose contaminated bank material which could then serve as a source of contamination to the Thea Foss Waterway. Therefore, as we have stated before, EPA may require sampling of the materials that may be exposed and are expected to remain in place after the slag removal. It is likely that such sampling will require that one or more composite samples representative of the material be analyzed for the chemicals of concern. The exact sampling procedures and analytical methods must be proposed by the Applicant to EPA and approved by EPA.

Finally, although the slag along the bank of Totem Marine Services does not appear to be a source of contaminants to the waterway, EPA recommends that any removal actions be conducted in such a manner that sloughing of shoreline material into the waterway does not occur. Disturbance of the nearshore subtidal sediments should be minimized to reduce impacts to future remedial design activities within the waterway.

I am forwarding a copy of the letter to Mr. L.R. ("Red") Westgard of Totem Marine Services, and the other contacts listed below. From talking to Mr. Westgard, I understand there is a meeting and site visit currently scheduled on March 8, 1995, between the agencies and the applicant to discuss the project plans.

Please call me if you have any further questions, please contact me at (206) 553-6523.

Sincerely,

Lori Cohen

Lori Cohen

Superfund Site Manager

Attachments

cc. L.R. Westgard
Randy Carman, Fisheries
John Malek, EPA
Joyce Mercuri, Ecology
Garin Shrieve, Ecology
Nancy Musgrove, Weston
Thomas Poole, Corps of Engineers
Ann Urich, Corps of Engineers

Table 1. Summary of Historical Source Material (Slag) Chemical Data Collected by Ecology along Globe Machine and Totem Marine Services Waterway Banks

Property			Globe	Globe	Globe	Totem	Totem
Location on Bank			NA	Top	Bottom	Top	Bottom
Sampling Date			12/16/92	1/18/94	1/18/94	1/18/94	1/18/94
Metals (mg/kg dry weight)	SQO	2LAET					
Cadmium	5.1	6.7	5.7	4.08	3.54	1.4	5.76
Copper	390	530	705	512	348	242	446
Lead	450	530	120	82.5	86.4	43.8	42.1
Nickel	140	140	373	182	143	253	386
Zinc	410	960	212	43.5	130	92.2	53.8
Shaded cells indicate SQO exceedances.							

Table 2. Summary of Subtidal Sediment Chemical Data Collected in the Vicinity of Globe Machine and Totem Marine Services by City of Tacoma During Round 1 Sampling Activities

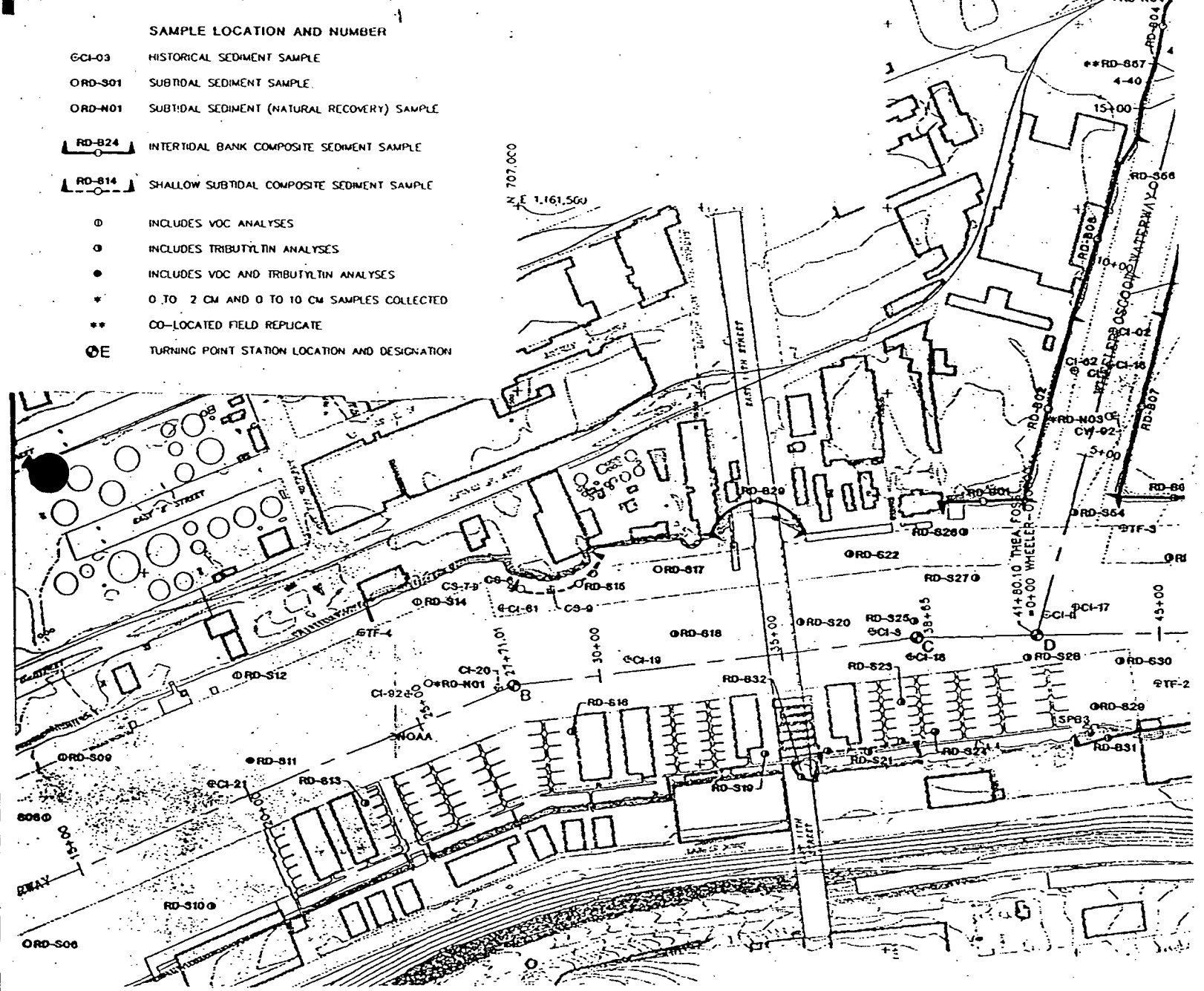
Sample Location ID			RD-S14		RD-S15	
Sample ID			48-S		49-S	
Sampling Date			8/23/94		8/23/94	
Mudline Elevation (Feet)			-16.3		-18.5	
Metals (mg/kg dry weight)	SQO	2LAET				
Antimony	150	200	14.7		41.7	
Arsenic	57	93	16.3		18	
Cadmium	5.1	6.7	1		0.77	
Chromium	NA	270	22.9		55.7	
Copper	390	530	114		127	
Lead	450	530	84		134	
Mercury	0.59	2.1	0.2		0.17	
Nickel	140	140	14.3		34.5	
Silver	6.1	6.1	0.46	U	0.79	
Zinc	410	960	177		122	
Tributyltin (ug/kg dry weight)	NA	NA	NA		NA	
Phenols (ug/kg dry weight)						
Phenol	420	1200	99	U	100	U
2-Methylphenol	63	72	99	U	100	U
4-Methylphenol	670	1800	90	J	100	U
2,4-Dimethylphenol	29	72	99	U	100	U
Pentachlorophenol	360	690	99	U	100	U
LPAHs (ug/kg dry weight)						
Naphthalene	2100	2400	170		190	
Acenaphthene	500	730	110		85	J
Acenaphthylene	1300	1300	200		97	J
Anthracene	960	4400	320		200	
Fluorene	540	1000	180		84	J
Phenanthrene	1500	5400	1200		500	
2-Methylnaphthalene	670	1400	120		110	
Total LPAHs	5200	13000	2300		1266	
HPAHs (ug/kg dry weight)						
Fluoranthene	2500	24000	1200		770	
Pyrene	3300	16000	1500		1100	
Benzo(a)anthracene	1600	5100	640		620	
Chrysene	2800	9200	850		920	
Benzo(b)fluoranthene	NA	NA	1200		1900	
Benzo(k)fluoranthene	NA	NA	1200		1900	
Total benzofluoranthenes	3600	7800	2400		3800	
Indeno(1,2,3-c,d)pyrene	690	1800	280		540	
Benzo(a)pyrene	1600	3000	670		910	
Dibenzo(a,h)anthracene	230	540	110		330	
Benzo(g,h,i)perylene	720	1400	210		500	
Total HPAHs	17000	69000	7860		9490	
Chlorinated Aromatics (ug/kg dry weight)						
1,2-Dichlorobenzene	50	110	99	U	100	U
1,3-Dichlorobenzene	170	170	99	U	100	U
1,4-Dichlorobenzene	110	120	99	U	100	U
1,2,4-Trichlorobenzene	51	64	99	U	100	U
Hexachlorobenzene	22	130	2.5	U	2.6	U

Table 2. Summary of Subtidal Sediment Chemical Data Collected in the Vicinity of Globe Machine and Totem Marine Services by City of Tacoma During Round 1 Sampling Activities

Sample Location ID			RD-S14		RD-S15	
Sample ID			48-S		49-S	
Sampling Date			8/23/94		8/23/94	
Mudline Elevation (Feet)			-16.3		-18.5	
Volatile Organics (ug/kg dry weight)						
Tetrachloroethene	57	140	4	U	NA	
Trichloroethene	NA	NA	4	U	NA	
Ethylbenzene	10	37	4	U	NA	
Total xylenes	40	120	4	U	NA	
Chlorinated Aliphatics (ug/kg dry weight)						
Hexachlorobutadiene	11	270	2.5	U	2.6	U
Phthalates (ug/kg dry weight)						
Dimethyl phthalate	160	1400	99	U	100	U
Diethyl phthalate	200	1200	99	U	100	U
Di-n-butyl phthalate	1400	1400	99	U	100	U
Butyl benzyl phthalate	900	900	99	U	130	
Bis(2-ethylhexyl)phthalate	1300	1900	490	U	1600	U
Di-n-octyl phthalate	6200	6200	500	U	510	U
Other Organics (ug/kg dry weight)						
Benzyl alcohol	73	870	99	U	100	U
Benzoic acid	650	760	500	U	510	U
Dibenzofuran	540	700	62	J	61	J
N-nitroso-diphenylamine	28	48	99	U	100	U
Pesticides/PCBs (ug/kg dry weight)						
Total PCBs	150	150	73.5	U	76.5	U
4,4'-DDD	16	NA	2.7	J	3.3	J
4,4'-DDE	9	NA	4.9	U	5.1	U
4,4'-DDT	34	34	4.9	U	5.1	U
Aldrin	NA	NA	2.5	U	2.6	U
Alpha chlordane	NA	NA	2.5	U	2.6	U
Gamma chlordane	NA	NA	2.5	U	2.6	U
Dieldrin	NA	NA	4.9	U	5.1	U
Heptachlor	NA	NA	2.5	U	2.6	U
Lindane	NA	NA	2.5	U	2.6	U
Conventionals						
Ammonia as N (ppm)	NA	NA	16.2		16.9	
pH	NA	NA	7.79		7.96	
Sulfide (ppm)	NA	NA	145		203	
Total organic carbon (%)	NA	NA	1.6		2.8	
Total solids (%)	NA	NA	63.6		64	
Total volatile solids (%)	NA	NA	3.58		4.44	
Grain Size (% by weight)						
Gravel	NA	NA	28.4		7.2	
Sand	NA	NA	51.7		57.2	
Silt	NA	NA	12.6		26.1	
Clay	NA	NA	7.3		9.5	
NA: Not available						
Shaded cells indicate SQO exceedances.						

THEA FOSS AND WHEELER OSGOOD WATERWAY
PRE-REMEDIAL DESIGN

CONFIRMED SAMPLE LOCATION PLAN
ROUND 1 FIELD ACTIVITIES*



* Please note that this map only shows a portion of the Round 1 field sample activities for the remedial design project. It is a partial xerox of a map prepared by Hart Crowser for the City of Tacoma.

KK

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (206) 407-6300

February 15, 1995

Mr. L. R. "Red" Westgard
Totem Marine Services
820 East "D" Street
Tacoma, Washington 98421-1814

RE: General NPDES Permit No. WAG-03-1026 Class 1 Compliance Inspection

Dear Mr. Westgard:

I am enclosing a copy of an inspection report which I recently completed for the inspection of your facility on July 7, 1994. I apologize for the long delay in completing this.

Please review the "Conclusions" section of the report for specific issues which need to be addressed on your site. Many of these were also addressed in my January 13, 1995 letter to you. I fully understand the position you are in regarding the shoreline permit delay and the need for decisions about the bank contamination. I hope that the EPA can resolve this issue soon. In the meantime, please consider constructing a temporary wash pad on your site to prevent boat wash water from discharging to Foss Waterway. One potential way of constructing a temporary system would be to build a shallow "pool" with tarps and railroad ties, with the wash water being pumped to a settling/flocculation tank, then to a reservior for re-use. If your water use is very low, evaporating the water may be an option for you to consider as well. No boat wash water should be allowed to discharge to Foss Waterway.

Please call me at (360) 407-6260 if you have any questions or would like to discuss the report.

Sincerely,

Joyce

Joyce Mercuri
Urban Bay Inspector
Southwest Regional Office
Toxics Cleanup Program

JM:ak
Enclosure

EPA

United States Environmental Protection Agency
Washington, D. C. 20460

NPDES Compliance Inspection Report

Form Approved
OMB No. 2040-0003
Approval Expires 7-31-85

Section A: National Data System Coding

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
1 N 2 5	3 W A G 0 3 1 0 2 6 11	12 07 07 9 4 17	18 C	19 5	20 2

Remarks

21 66

Reserved	Facility Evaluation Rating	BI	QA	Reserved
67 69	70	71	72	73 74 75 80

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time	Permit Effective Date
TOTEM MARINE SERVICE 820 East D Street Tacoma WA 98421-1814	1:00 ☐ AM ☒ PM	11/5/93
	Exit Time/Date 3:00 p.m.	Permit Expiration Date 11/4/97

Name(s) of On-Site Representative(s)	Title(s)	Phone No(s)
L.R. "Red" Westgard	Owner	206/572-2666

Name, Address of Responsible Official	Title	
	Phone No.	Contacted ☐ Yes ☐ No

Section C: Areas Evaluated During Inspection
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Permit	NA	Flow Measurement	NA	Pretreatment	S	Operations & Maintenance
M	Records/Reports	NA	Laboratory	U	Compliance Schedules	NA	Sludge Disposal
S	Facility Site Review	NA	Effluent/Receiving Waters	M	Self-Monitoring Program	S	Other:

Section D: Summary of Findings/Comments (Attach additional sheets if necessary)

SEE ATTACHED REPORT

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Telephone	Date
Joyce Mercuri Joyce Mercuri	Dept. of Ecology 360/407-6260	

Signature of Reviewer	Agency/Office	Date
Steven G. Eberl, P.E.	Ecology WQP, SWRO, 206/586-5550	

Regulatory Office Use Only

Action Taken	Date	Compliance Status
		☐ Noncompliance ☐ Compliance

EPA Form 3560-3 (Rev. 3-85) Previous editions are obsolete.

WASHINGTON STATE DEPARTMENT OF ECOLOGY

CLASS 1 NPDES COMPLIANCE INSPECTION REPORT
GENERAL PERMIT FOR SMALL BOATYARDS
URBAN BAY ACTION TEAM

ENTITY: Totem Marine Service
820 East "D" Street
Tacoma, WA 98421-1814

Date of Inspection: 7/7/94

Permit Number: WAG-03-1026

Inspectors: Mercuri, Coleman, Tollefsen (TSU) JM 2/15/95

Contact: Red Westgard

Waterbody: Mouth of Thea Foss

Boatwash system:
No system in place. Owner has applied for shoreline permit to construct a boat hoist and wash pad. Permit has been held up because of uncertainty about need for remediation of slag on banks at the site. Permittee intends to install a complete recycle system (per telephone conversation of 1/4/95). Letter issued 1/13/95 requesting letter of intent to adopt Metro report and plans and specifications. As of 7/94 when inspection was conducted, about 3 boats per week were low-pressure washed with a garden hose. Water from the washing drains to a deep sump which discharges to the Thea Foss waterway through outfall 208.

Control of residues from bottom sanding/painting:
Most work at this facility is engine and mechanical work on boats less than 30 feet in length which are brought to the site via trailer. A few jobs involve bottom sanding and painting. The boat hulls are prepped with a power sander, and paint is applied manually with rollers and brushes. Tarps are used under all outside work, and are cleaned up each day with a vacuum. Draping around the sides of the vessels is used if the weather is windy. We observed work being conducted on a boat bottom in the yard, and BMPs were being used as described above. The person doing the work seemed well informed about BMPs and spill procedures.

Yard maintenance/cleaning:
The yard is paved, and is swept manually about once per week. Mr. Westgard said he intends to purchase an electric sweeper.

Sandblast grit management:
Totem does not do any sandblasting.

Catch basins:
Site stormwater flows to a large (4' dia.), deep (12' ?) sump with a valved discharge pipe. There appear to be about 4 feet of sediment in the sump. The outlet pipe is several feet above the level of the sediment. We recommended to Mr. Westgard to have the sediment in the sump tested and removed.

Waste/solvent storage:
There is no outside storage of wastes or solvents. Used oil, antifreeze, oil filters are kept inside the building, pending recycling. The used oil tank is emptied about three times per year. There is a Safety Clean solvent tank on the site. This is serviced about once every three months.

Spill Plan and Solid Waste Plan:
The Totem Marine Service permit states that a spill plan and solid waste plan should be in place by 5/5/94. At the time of the inspection, Totem did not have a written spill plan or solid waste plan. With a letter of 1/13/95, Ecology provided guidance for the plans to Mr. Westgard, who indicated that he would develop the plans. In spite of not having written plans in place, Totem does follow specific practices for management of wastes, as noted above.

Monitoring:
Effluent monitoring is not required as this site does not discharge to marine or fresh waters of the state. Annual monitoring of stormwater is required for all permittees. For Totem, the first year of the permit ended November 1, 1994. As of an early January telephone conversation with Mr. Westgard, Totem had not obtained a stormwater permit. In the 1/13/95 letter, Ecology provided guidance about the yearly stormwater sample required under the permit.

CONCLUSIONS:

1. This site needs to install a boat wash water system by the spring busy season. A temporary system would be appropriate if the shoreline permit continues to be delayed because of the bank contamination issue. A letter of intent to adopt one of the approved systems described in the Metro "Boatyard Wastewater Treatment Guidelines" should be provided to Ecology. In a January 13, 1995 letter, Ecology requested the letter of intent by February 10, 1995. Plans and specifications for the proposed boat wash system should be submitted to Ecology by March 10, 1995, as requested in the January letter.
2. BMPs are being implemented. Employees are aware of BMP requirements.
3. A solid waste plan and spill plan should be developed.
4. A stormwater sample should be obtained and analyzed as specified in the NPDES permit.

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

7272 Cleanwater Lane • PO Box 47775 • Olympia, Washington 98504-7775 • (206) 753-2353

MEMORANDUM

3/14/94

MAR 2 5 1994

TO: Karen Keeley, EPA

FROM: Joyce Mercuri

RE: Totem Marine Services

At our last MRP meeting on March 9, you requested information about Totem Marine Services to support their being listed on list 3 of the Mouth of Foss Waterway Milestone One report. Totem Marine Services recently moved from the west side of Foss Waterway to a part of the old Fick Foundry complex on the east side of the waterway. Totem has not been fully inspected by UBAT at its new location, although UBAT inspectors have met with the owners on the site and received a general overview of site activities. Boat hull washing of pleasure boats does occur on the site and the wash water discharges to Thea Foss Waterway.

Totem Marine Services was issued a general NPDES permit for small boatyards on 11/5/93. They are required to submit plans and specifications for an approved pressure wash system by 11/5/94. I have attached the facility fact sheet and request for coverage under the NPDES permit to this memo. Please refer to pages five and six of the request for coverage for more information about hull washing activities at the site.

Please call me at 407-6260 if you have any questions.

FACILITY FACT SHEET

FACILITY: Totem Marine Service, Inc.

ADDRESS: 820 East D Street
Tacoma, WA 98421

MAILING ADDRESS: 820 East D Street
Tacoma, WA 98421

CONTACT PERSON(s): L. R. Westgard (206)572-2666
Dennis Boyle (206)572-2666

FACILITY DESCRIPTION:

The facility was constructed prior to 1940. The services provided at the facility including vessel repair, and bottom cleaning. This facility only services pleasure boats with wooden or fiberglass hulls. The number of vessels serviced at the facility is approximately 200 per year. The application does not indicate any marine service installation such as travel hauls or moorages at the site.

SERVICES PROVIDED:

- [ ] Vessel Haul-out
- [ ] New Vessel Construction
- [xx] Vessel Repair
  - [ ] Engine, Prop, Shaft, and Rudder Repair & requires haul-out
  - [ ] Engine Repair and Maintenance conducted within the engine space without haul-out
  - [x] Engine Repair and Maintenance only, vessel haul-out is performed by others.
  - [x] Hull Repair
- [xx] Pressure Washing
  - [x] Low Pressure Washing
  - [x] High pressure Washing
  - [ ] Abrasive Blasting
  - [ ] Paint Removal by sanding and Scraping
- [xx] Painting

WASTEWATER DIS. POINT(s): Thea Foss Waterway

RECOMMENDATION:

This facility is conducting boatyard activities which require coverage under the boatyard general permit. It is recommended that a general permit be issued for this facility for the period of five (5) years.

FOR OFFICE USE ONLY

Date Received 6-9-93
Application/Permit No. WAG-03-1026
Waterway Segment WA-10-0030
SIC 3732

REQUEST FOR COVERAGE UNDER
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
BOATYARD GENERAL PERMIT

This information will be used to determine if coverage by a general permit is appropriate. All questions must be answered completely and accurately to be considered for coverage. If a question does not apply, answer with NA.

RECEIVED
93 JUN -9 AM 10:
SW REGION

SECTION A GENERAL INFORMATION

1. Name of facility: TOTEM MARINE SERVICE

2. Mailing address: 820 EAST "D" STREET
Street
TACOMA WA. 98421
City State Zip

3. Facility address: 820 EAST "D" STREET
Street
TACOMA WA. 98421
City State Zip

4. Primary contact person:
L.R. WESTGARD OWNER 206 572-2666
Name Title Phone Number

5. Alternate contact person:
DENNIS BOYLE MGR 206 572-2666
Name Title Phone Number

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

L.R. WESTGARD
Printed name of person signing

OWNER
Title

L.R. Westgard
Signature of applicant

6-4-93
Date application signed

SECTION B NAME, OWNERSHIP, AND PHYSICAL LOCATION OF FACILITY

1. Name of facility: TOTEM MARINE SERVICE

2. Ownership:

[ ] Public (State) [ ] Public (Federal) [X] Private
[ ] Both Public and private (Co-op) [ ] Tribal
[ ] Other, Explain _____

3. Facility location on grid system:

a. Township 20 NORTH b. Section 4
c. Quarter NW 1/4 d. Range 3
e. County PIERCE f. Latitude 47° 15' 22"
g. Longitude 122° 26' 30"

4a. Is this facility (check one):

[X] Existing? [ ] Proposed?

b. Date facility was (or will be) constructed: PRE 1940

5. Receiving Water(s): Name(s) THEA FOSS WATERWAY

6a. Does this facility presently have a discharge permit (pretreatment, state waste discharge, or NPDES): [ ] yes [X] no

b. If yes, what was the date of issuance: _____

c. permit number: _____

7a. Has this facility received from any level of government, written notice of complaint pertaining to water pollution from this facility?

[ ] yes [X] no

b. If yes, explain. Include nature of complaint, government agency, and date of complaint.

SECTION C. **SERVICES PROVIDED at the facility in a typical year:**

1a. Do you provide new construction? [ ] yes [X] no

b. vessel repair? [X] yes [ ] no

c. bottom cleaning? [X] yes [ ] no

2. What types of vessels; i.e. tugs, fishing vessels, barges, pleasure boats (power or sail), etc.; does the facility provide services to?

PLEASURE

3. What type of hull materials are repaired, painted, washed sanded, or otherwise worked on at your facility? Wood, Steel, Aluminum, Fiberglass, Other.

FIBERGLASS
WOOD

4. Estimate total number of vessels worked on at your facility in a typical year?

200

5. Does the facility have:

		number	
a.	Drydocks	_____	
b.	Marineways	_____	
c.	Lifts	_____	
d.	Travel haul	_____	
e.	Crane	_____	
f.	Tidal grids	_____	
g.	Moorages	_____	(permanent)
h.	Moorages	_____	(temporary)

WE PLAN TO INSTALL A FIXED LIFT AND CERTIAN TRANSIENT FLOATS

6. Does the facility provide an area for do it your self boat repair?

NO

SECTION D. **YARD CAPACITY**

1a. Capacity of the marineway, crane, lift etc. used to remove vessels from the wate for maintenance or repair of the hull?

Type of Lift	Boat Tonnage	Boat Length	Boat Width
N/A			

b. Number and size of tidal grids at the facility, if any?

2. Describe the location and construction of the marine way, crane, lift etc. particularly with regard to facilitating pollution control and abatement. (In addition to a narrative, please attach a site plan of the boat building and repair facility per item K on page 12.)

SECTION E. PRESSURE WASHING and/or ABRASIVE BLASTING PRACTICES

1. To the best of your knowledge what percentage of the hulls brought to your facility in the last year:

   a. Needed a haul out? 30

   b. Needed abrasive blasting? 0

   c. Needed a high pressure wash, 3500 psi max? 10

   d. Needed a low pressure wash, no booster pump? 10

   f. Had paint removal done by sanding and scraping? 0

2. For the abrasive blasting done in a typical year (the last year if that answer is easier to obtain) how many tons of abrasive material are used, e.g. copper slag, garnet, steel shot, walnut shells, plastic beads, reformulated baking soda, etc.?.

3. Of the total amount of abrasive material used at your facility, estimate the percent used in a "sandblasting" shed.

4. How do you store spent abrasive material?

5. How, how often, and where is the spent abrasive blasting material disposed of, landfill, recycle, reuse, etc.?

6. If any chemical analyses of spent abrasive blasting material has been done in the last three years please attach a copy.

7. Where do you pressure wash hulls, sides and bottoms?

   NORTHEAST CORNER OF SITE

8. Where does the wash water drain to?

STORM

9. How is it collected?

STORM DRAIN SYSTEM

10a. Do you use an acid solution when pressure washing?

NO

10b. If so, please attach the Material Safety Data Sheet (MSDS).

11. Do you provide pretreatment; i.e., filtering, settling, centrifuging, chemical precipitation, etc.; for the pressure washing waste water before disposal?

NO

12. If so, which pretreatment method? Please attach a copy of waste discharge authorization from the local sewer authority.

13. How and where is the sludge from the pretreatment disposed?

N/A

14. What containment practices do you use to control fugitive dust emissions from abrasive blasting, grinding, sanding etc.?

N/A

SECTION F. PAINTING PRACTICES

1. What containment practices do you use to control fugitive emissions from spray painting?

N/A

2. What anticorrosive paints are commonly used at your facility? (you may attach manufacturers data sheets)

ZINC CHROMATE

3a. What anti-fouling paints are commonly used at your facility? (you may attach manufacturers data sheets)

INTERLUX

b. Do you have pesticide application license?

NO

c. When was your pesticide application license obtained or renewed?

4. Describe the location and construction of the paint storage building or area.

DO NOT HAVE

5. What other paints, coatings, sealers, thinners, or solvents, etc. are used at your facility?

PARTS CLEANER
BOSTIC
SPRAY PAINT IN CANS
ANTI SIEZE

6. Where is paint mixed?

NONE MIXED

7. What spill prevention and containment practices do you practice? For example are drip pans or visquine used to contain paint spills?

YES

8. Do you or the vessel owners/operators do touch up painting or detail painting on vessels from floats?

NO

9a. Do you have a still for recycling paint thinners?

NO

b. How do you dispose of your still bottoms and waste paint?

N/A

c. How often do you dispose of waste paint and still bottoms?

N/A

10. What are your procedures for minimizing waste paint disposal?

USE ALL THE PAINT

11. Where and how is waste paint stored prior to disposal?

N/A

SECTION G. **ENGINE and EQUIPMENT REPAIR SERVICES**

1. What is the estimated number of engine repairs or overhauls done annually?

   150

2a. Describe the facility's waste oil handling practices

   RECYCLE

b. Waste product segregation practices

   SEPERATE CONTAINERS

c. The waste storage area and storage capacity

   INSIDE; 1 200 GAL TANK
   1 50 " "

3. How often is stored waste oil disposed?

   WHEN FULL

4. Do you have steam cleaning facilities at your yard?

   NO

5a. Do you have an oil water separator at your facility?

   NO

b. If so, what wastewater streams does it treat?

c. Where does the effluent go: sanitary sewer, waste oil handler, or other?

   N/A

d. How frequently is the oil water separator cleaned and serviced?

   N/A

6a. Do you use dip tanks for cleaning machine parts?

   NO

b. What type of degreasers do you use?

   SOLVENT

c. What type of recycle/disposal services do you use for solvents and degreasers?

   SUNWEST ENERGY CORP
   PORTLAND OR. 97217

7. How do you store and dispose of used antifreeze and coolants?

   IN TANK; BY RECYCLER

8. What type of storage do you have for batteries?

   COVERED

9. How frequently and in what manner do you dispose of used batteries?

   PICKED UP BY INTERSTATE BATTERIES

SECTION H. WASTE DISPOSAL SERVICES

1. Do the services provided by your boatyard include:

a. Pumping bilge water?

NO

b. If so, how frequently?

N/A

c. How is oily bilge water disposed?

N/A

d. Facilities for receiving sanitary wastes and gray water from docked vessels?

NO

e. A listing of contractors providing disposal services for tenants or clients?

NO

SECTION I. OTHER WASTE DISPOSAL REUSE OR RECYCLING PRACTICES

1. How are the following solid waste disposed of, recycled or reused?

a. Abrasive blasting material,

N/A

b. Scrap metal,

TACOMA METALS

c. Used absorbent materials,

CITY REFUSE

d. Fiberglass resin,

N/A

e. Solvents disposed of?

SUNWEST ENERGY CORP.
PORTLAND OR 97217

2. Do you use IMEX (Industrial Materials Exchange Services) Tel. (206) 296-4336?

NO

ECTION J. MANAGEMENT PRACTICES

1a. Do you have a written plan for preventing accidental loss of oil, fuel, paint, etc.?

NO

b. Does it include a training plan?

N/A

c. When was it last updated?

N/A

2. Does the facility have an operations and maintenance plan including a schedule for routine cleaning sweeping, and vacuuming of docks, paved work areas, and catch basins?

NO

3a. Do you provide guidance to arriving vessels on pollution prevention practices they need to comply with?

NO

b. If so, please provide a copy with the return of the permit application.

N/A

4a. Do you have in effect a Spill Control Plan?

NO

b. If so, when was it last updated?

N/A

5. Are the basic spill containment and cleanup materials on site ready for immediate deployment?

YES

SECTION K. **SITE PLAN**

1. Provide a site plan locating storm drains, outfalls, catch basins, oil and waste storage areas, paint storage area, paint booth, solvent still, work areas, pressure wash water collection sump, wastewater treatment facilities, battery storage area, dip tanks, etc.

   For your benefit the site plan should identify and show any source of stormwater running onto your facility.

2. Provide a location map of the facility. It is sufficient to indicate the site location on a 8½" x 11" photocopy of a USGS quadrangle map.

3. Attach chemical analyses characterizing the pressure wash wastewater leaving your facility. Analyses for copper, lead, zinc, arsenic, oil and grease, and total suspended solids in pressure wash wastewater.

   Attach any existing information you possess characterizing the stormwater leaving your facility and running on to your facility to this application.

PLEASE NOTE: If you don't have a management plan for your facility, technical assistance is available from the Department of Ecology.

Mouth of Foss

M

DEPARTMENT OF ECOLOGY
URBAN BAY ACTION PROGRAM INSPECTION REPORT

ENTITY: Totem Boat Haven/Storage **INSPECTOR:** Mercuri, Coleman

LOCATION: Dock Street, Tacoma **DATE:** 12/16/92

OWNER: Moorage Associates owns business. City of Tacoma owns land.
CONTACT: Andy Wnek

TYPE OF FACILITY: Marina, storage units

PERMITS: no

DRAINS TO: Foss Waterway

FACILITY DESCRIPTION:
Inspectors Mercuri and Coleman arrived on the site about 1:20 p.m. and met with Andy Wnek, manager. The facility consists of a large marina with storage units on the upland. The site is paved, with a series of catch basins among the storage units which drain directly to Foss Waterway. Underground storage tanks were removed last year. There is a marine travel lift dock for hauling boats out of the water. No boat work is done outside of the building however. No boats are washed on site.

'94 Totem moved
they are now located
next to Globe machine (Fick Foundry)
on east side of TF

See slag sample data field
under Globe machine.

-end of report-

Mouth of Foss M

DEPARTMENT OF ECOLOGY
URBAN BAY ACTION PROGRAM INSPECTION REPORT

ENTITY: Totem Marine Services **INSPECTOR:** Mercuri, Stephens

LOCATION: 821 Dock Street, TACOMA **DATE:** 12/3/92

now moved to 800 East D Street?

OWNER: L.R. "Red" Westgard

CONTACT: Same

TYPE OF FACILITY: Boat motor repair/boat storage

PERMITS: none

DRAINS TO: Mouth of Foss

PATHWAY/QUANTITY:

Process water: Some boat washing takes place

Ground water: site is paved/covered

Stormwater: most of the work takes place inside of large building

Spills: dock area adjacent to site (Dave Thompsen's) has many unidentified barrels

SUSPECTED CONTAMINANTS:

SAMPLING: no

FACILITY DESCRIPTION:
Inspectors Mercuri and Stephens arrived on the site about 2:30 p.m. and talked with Mr. Westgard. The site consists of a very large warehouse type building, with little outside space. There is a small parking lot in front of the building with one catch basin. At the rear is a paved area that is contiguous with the parking lot for Totem Marina. This area is used for washing boats. From the presence of a regular garden hose it appears that they do not pressure wash. The wash area was not stained with paint or residues. Mr. Westgard said they paint (and presumably wash) about 30 boats a year.

The primary activity on the site is engine and outdrive work on power boats. Some painting and hand sanding also occurs inside the building. Used oil is collected in a 250 gallon tank inside of the shop. The floor around this tank was covered with kitty litter to absorb leaks and spills. There was also a partial drum of used anti-freeze in this area. Acetone is used in small quantities as a solvent, with about 5 gallons on site at any given time. There was a stack of pails near the used oil area which we recognized as the pails Marv Coleman had requested Dave Thompsen remove from the Wattles property. Mr. Westgard informed us that Mr. Thompsen lives on a boat tied up at the dock at the Totem building, and was storing the material there "temporarily".

The Thompsen dock area was not accessible to inspect, but could be observed through a small window in the side of the building. There were a number of unidentified drums and pails among other "junk" on the dock.

Another building behind the main warehouse used to be Ron's Marine Tops, but is now used by Totem for storage.

-Totem Marine Services UBAT Inspection - 12/3/93 -

Totem Marine Services is planning to move their operation elsewhere on Foss Waterway within the next few months. Mr. Westgard asked me to send him some information about the general boatyard permit, which I have done.

FILE REVIEW/SITE HISTORY:
Building was built in 1916, owned by Burlington Northern. Was used as a warehouse.

PHOTO LOG:
1. Inside of building.

2. Boat hull wash area.

3. Used oil area.

4. Thompsen dock area.

5. Thompsen dock area.

WASHINGTON STATE DEPARTMENT OF ECOLOGY
UBAT INSPECTION SUMMARY

ENTITY: TTX **INSPECTOR:** Mercuri/Coleman

OWNER: Leases from BN Railroad **INSPECTION DATE:** 10/21/92
Company owned by Trailer Train Inc. out of Chicago

LOCATION: 502 East 21st Street. In Burlington Northern Rail yard on "D" Street. Office is trailer within fenced yard.

CONTACT: Dan Tyrell, Supervisor, Ramp Maintenance

TYPE OF FACILITY: Rail car maintenance.

PERMITS: None

DRAINS TO: Foss

PATHWAY/QUANTITY:

Process Water: Pressure wash water from cleaning auto racks.
Ground Water: Yard is gravel.
Stormwater: Surface runoff across gravel. Water pools up except during excessive rain. Storm drains flow to outfall # 243.
Spills: None apparent. No containment around oil or diesel tanks.

SUSPECTED CONTAMINANTS:

SAMPLING: Sample taken in manhole near 21st and "D" Streets. See sample results from FOSSCB992.

FACILITY DESCRIPTION: Ecology inspectors arrived at the site approximately 2:00 p.m. and spoke with Daniel Tyrell, supervisor. This facility provides service to Trailer Train Co. rail cars. There is a fenced-in gravel yard where there are two small mobile home type trailers, truck and equipment storage, and an above-ground tank for diesel fuel. The bulk of the work takes place at the tracks a couple of hundred yards east of the office, on a siding leased from Burlington Northern Railroad. The work consists largely of structural repairs, lubrication, and pressure washing of the automobile carrying racks. The pressure washing operation does not use soap. Graphite, carried by a petroluem based solvent named "Solvent 325" is used for lubrication. They could not find the MSDS sheet for the solvent while we were in the office. At the work site next to the tracks there were two freight containers. One of these was locked, and we were told by Mr. Tyrell that it contained solvents, oil, and other maintenance equipment. The second container had parts and tools in it. A small (10 gallon?) container of oil was on a rack beside one of the freight containers. Marv Coleman suggested that a containment pan should be used under the oil to prevent spills. Mr. Tyrell said he could have that done. Joyce Mercuri suggested that a containment pan be built around the diesel tank in the main yard as well.

There is an underground stormwater pipe which runs down 21st street. It appears that runoff from this site could enter the storm drainage system. However, it is unclear exactly where the manholes and catch basins are that feed into the system.

This site does not appear to contribute to pollution in Foss Waterway. Recommend taking site off of List 1.

-end of report-

URBAN BAY ACTION PROGRAM INSPECTION REPORT

ENTITY:	Unocal	**INSPECTOR:**	D. Reale C. Neumiller
LOCATION:	516 East D Street Tacoma, WA 98401	**DATE:**	11/10/92

OWNER: Unocal
CONTACT: Dennis Coey, Plant Manager, ph: 272-3215
TYPE OF FACILITY: Bulk Petroleum Storage and Transfer
PERMITS: NPDES for process and stormwaters. Ground water treatment via D Street Petroleum site NPDES permit.

DRAINS TO: Mouth of Thea Foss

PATHWAY/QUANTITY:

PROCESS WATER: Rinse water from racks, external truck rinse, and tank draw (water drawn from the bottom of petroleum storage tanks).

GROUND WATER: Ground water cleanup part of the D Street Petroleum site.

STORMWATER: Drains racks and lined tank farm.

SPILLS: None recently.

SUSPECTED CONTAMINANTS: Gasoline in ground from past leaks/spills. Cleanup in progress.

SAMPLING: Extensive ground water monitoring per D Street Consent Decree. Surface water discharges via oil/water separator. Unocal samples for BTEX were clean in 1990.

FACILITY DESCRIPTION: The Unocal facility consists of one petroleum tank farm, truck loading rack, and an office building. Ground water beneath the site is contaminated with petroleum, primarily gasoline. This site and other adjacent properties (BP Oil, Shell Oil [out of service], and Globe Machine Manufacturing Company) comprise the D Street petroleum site. Unocal, Shell, and Mobil (which sold its facility to BP in 1990) are performing a cleanup of the site under a Model Toxics Control Act Consent Decree with Ecology. The cleanup consists of ground water extraction and cleanup as well as soil vapor extraction and burning.

Unocal's operating facility has the following discharge waters per NPDES permit, which flow through an oil/water separator:

1. Stormwater from their tank farm and loading rack. The tank farm has a low permeability liner and drains to a sump. The sump has a valve on the drain line which is kept closed except to drain stormwater. the rack has a roof over most of the area above its spill catchment sloped ground surface. Drains flow to the oil/water separator.

2. Truck wash waters (washdown of truck outsides only) in rack area.

3. Rack area wash water.

4. Tank "drawdown" water. This is water pumped from the bottom of the large storage tank(s).

Unocal's existing NPDES permit only limits oil and grease and pH. When their permit is renewed limits for BTEX, TPH, and PAH will very likely be added. The oil/water separator will not remove dissolved petroleum thus Unocal may be required to install upgraded treatment units. Unocal has maintained "good housekeeping" practices at the facility, which is the reason their effluent does not appear to be a problem. Ecology is reviewing our position on truck and rack washing and tank drawdown as allowable surface water discharges.

(dr1/4)

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

RECEIVED
APR 15 1997
Environmental Cleanup Office

April 4, 1997

Mr. Craig B. Wattles
The Wattles Company
P.O. Box 1233
Tacoma, WA 98401-1233

Dear Mr. Wattles:

In reply to your request for additional documentation regarding the investigation and cleanup of a wooden pipe containing PCB contaminated liquids, on your property in 1994, please note the following facts taken from the field and laboratory records at the Department of Ecology (Ecology).

The wooden pipe that contained the PCB contaminated liquids ran west from the Western Steel Fabricators building to approximately 8 feet from the bank of the Thea Foss Waterway. At the edge, the upland bank falls off vertically to intertidal sediments several feet below. During the course of excavating the pipe for removal, it was found that the end of the pipe was crushed at the end described above by a concrete pole. Ecology sampling of a small spot of soils directly at the end of the pipe, which appeared discolored, revealed PCB levels of 187 mg/kg (Ecology sample #94 198009). Subsequently, the pipe, its contents, and soils that had been contaminated were removed.

Confirmation sampling of soils showed that the removal of the small area of soil at the end of the pipe resulted in soils that were non-detect for PCBs (CeCon sample #37971-1). Soils beyond the end of the pipe, all the way to the waterway, did not exhibit any sign of contamination. In addition, the Environmental Protection Agency (EPA) included a sample of the intertidal sediments during the Round 1 sampling, to be run for PCBs, to determine if there was any indication that PCBs had gone beyond the end of the pipe and contaminated waterway sediments. That sample, RD-B01, was a composite taken along the intertidal bank below the area described above. It showed non-detect for PCBs at the 64.5 ug/kg level (the 1989 CBN/T ROD SQO was 150 ug/kg); other chlorinated benzenes that were present at extremely elevated levels in the sump and pipe were non-detects, also.

In addition to the liquids that were in the pipe due to its connection to the Western Steel sump, the inside walls of the wooden pipe were coated with a tarry substance that, when analyzed, revealed elevated levels of poynuclear aromatic hydrocarbons (PAHs), consistent with those commonly found associated with structures that stored or conveyed coal gas. Besides the analytical data that was developed, it was noted during the cleanup that the pipe that ran out toward the waterway was not graded to drain toward the waterway. In fact, the liquid waste that was found in the pipe was sequestered in the upland part of the pipe due to its general grading back toward the building. Due to the evidence of coal tar-like residues in the pipe, added to the lack of grading toward the waterway, Ecology suspects that the pipe was used to convey coal gas during the early part of the century (historical records and other excavations have

confirmed this type of usage), and was not a drain line from the upland area of the property to the waterway.

The precise history and use of the wooden pipe is difficult to determine. However, based on the above, Ecology is of the opinion that the pipe did not convey waste liquids that contained elevated levels of PCBs to the waterway. If you have any additional information that would help to shed more light on the use or purpose of the pipeline, we would be most appreciative to receive it. Please let me know if you have any questions or comments.

Sincerely,

Mary Coleman
Site Manager/Inspector
Urban Bay Action Team
Toxics Cleanup Program
Southwest Regional Office

MC:cg(1\tcp)

cc: Christina Ngo, EPA Region X
Dave Smith, Ecology

WASHINGTON STATE DEPARTMENT OF ECOLOGY

UBAT INSPECTION SUMMARY

ENTITY: West Coast Grocery Truck Maintenance

INSPECTOR: Mike Herold
Paul Tollefson, TSU

OWNER: Super Valu, Inc.

INSPECTION DATE: 11-7-91

LOCATION: 490 East 19th Street
Tacoma, WA 98401

CONTACT: Mike Swanson, Fleet Manager, 593-5806

TYPE OF FACILITY: Truck Maintenance

PERMIT(S): Tacoma Pretreatment

DRAINS TO: Tacoma Sanitary and Foss Waterway

PATHWAY/QUANTITY:

Process Water:	truck wash water to Tacoma Sanitary
Ground Water:	all paved
Storm Water:	outdoor material storage area runoff to stormdrains-->Foss Waterway
Spill:	none

SUSPECTED CONTAMINANTS: none

SAMPLING: none

FACILITY DESCRIPTION:

Inspectors entered the facility and located maintenance manager Mike Swanson.

The facility performs maintenance on the fleet of trucks operated by Super Value, Inc. at the Tacoma location. West Coast Fruit and Produce and West Coast Grocery own or lease a fleet of approximately 65 trucks. The

maintenance center has recently installed an oil/water separator and a wash pad on the west side of the building. This pad is used to steam clean engines and cabs and discharges to the Tacoma Sanitary Sewer. They eventually hope to wash the trailers on the pad. Visual inspection of the separator chambers indicated that the separator has not been used enough to generate an oil accumulation in the final chambers. The facility maintains a schedule for separator inspection.

Waste oil and solvents are recycled to Kleen Kare and Safety Kleen, respectively. An oil filter sink which drains to a collection drum and Safety Kleen parts cleaner are maintained in the shop.

Floor drains under the doors discharge to the oil/water separator. Housekeeping seem adequate to prevent discharges to the floor drains.

Storm drains in the yard are connected to the system which discharges at TPCHD (I-246 and 247). Accumulating waste oil and a waste battery were being stored on the vehicle wash pad against the building. Mr. Swanson was advised to move these items inside the building. This was done.

MH:nm(2/10)
Attachments:
1. Photo Log
2. Photos
3. Site Map

URBAN BAY ACTION PROGRAM INSPECTION REPORT

ENTITY: West Coast Grocery Warehouse

INSPECTOR: Schrieve, Coleman

DATE: 11/3/92

LOCATION: 1525 East D Street

OWNER: West Coast Grocery

CONTACT: Herb Muchow, Facilities Manager

TYPE OF FACILITY: Wholesale Grocery Warehouse

PERMITS: none?

DRAINS TO: Thea Foss Waterway/Wheeler-Osgood Waterway

PATHWAY/QUANTITY:

Process water: none

Ground water:

Stormwater: Drainage to Foss through oil/water separator

Spills: No evidence of notable spills of oil or liquids.

SUSPECTED CONTAMINANTS: Possible oil and grease in parking/loading area

SAMPLING: None.

FACILITY DESCRIPTION:

Note see inspections for West Coast Produce.

Inspectors Garin Schrieve and Marv Coleman arrived on the site at 2:30 pm and were met by Mr. Herb Muchow, Facilities Manager. West Coast Grocery is a supplier of grocery and assorted items to independent grocery stores in the Pacific Northwest. Operations consist of off-loading, storage, and distribution of grocery store items. The original operations began approximately 45 years ago, and have since expanded to the current warehouse size.

The facility consists of a large warehouse (approx. 900,000 sq.ft.), with a truck loading/off-loading dock on the north side. Mr. Muchow stated that all interior drains go to sanitary sewer, and that the external drains from the truck loading area drain to an oil/water separator that discharges to the

storm drain. A fueling island containing one 15,000 gal tank of diesel is located in the north truck docking area. Mr. Muchow stated that it was installed approximately 1.5 years ago and that it is equipped with a leak detection system.

We first walked around the north trucking area and examined the oil/water separator. Mr. Muchow indicated that it is checked approximately once a month unless it has been raining, and then it is checked more frequently. He said that they had experienced a small flow of oil from the separator once when a spill of oil occurred near the fueling island. He said that Arrow Services pumps out the separator approximately once/year or when oil accumulation is 10-12 inches in depth in the separator. The separator appeared normal during when examined.

We then walked through the interior of the warehouse. Again Mr. Muchow pointed out that all drains on the interior of the building were connected to the sanitary sewer. Marv asked were the transformers were located. Mr. Muchow indicated that they were contained in 2 interior vaults. We attempted to gain access to these but Mr. Muchow did not have the keys, and the maintenance personnel had gone home. The exterior of the vaults were not labelled as PCB containing. Mr. Muchow indicated that at least one of the vaults was equipped with a floor drain to sanitary. He did not know whether the transformers contained PCBs, but knew that they had been inspected by General Electric for leakage and soundness in the last year or so.

All of the equipment used on-site, except for trucks, is electric powered. The facility uses battery packs for the fork lifts, and recharges them on-site. The maintenance of the batteries themselves is under a "change-out" contract with a local supplier. Make-up water is added to the batteries on-site. Drains under the charging areas are connected to sanitary according to Mr. Muchow.

There is a 300 gal ust for the spare generator located in the visitor parking area. Mr. Muchow indicated that it is pumped out and refilled yearly,

Mr. Muchow indicated that he would let us know about the content of the transformer vaults, and that we could stop back by in the morning when the maintenance staff were present. The inspection ended at 3:00 pm.

ACTION TAKEN:

Again explained the purpose of our inspection, and thanked Mr. Muchow for his time.

FILE NAME: inspect\WCgroc.fos

WASHINGTON STATE DEPARTMENT OF ECOLOGY
UBAT MEMORANDUM

12/8/92

TO: Dave Smith

FROM: Joyce Mercuri

RE: West Coast Grocery- Sampling at storm drain # 249 on Foss Waterway

A water sample from storm drain #249 on the east side of Foss Waterway was taken as a part of the "FOSSFLUFF" sample event on 9/8/92. Refer to Tacoma/Pierce County Health Department drainage map of Commencement Bay for location of drain. The drainage map shows that this outfall drains the north lot and parking area in front of West Coast Grocery. There is a fueling area in the north parking lot. A drainage line is also shown coming from the building itself, although this could be a roof drain.

The sample was taken at 9:20 a.m. Low tide on that day was a one foot tide at 9:35 a.m. It had been raining during the night and morning just prior to the sampling event. The sample was obtained directly from the outfall by Joyce Mercuri and Marv Coleman and was transported to the Ecology walk-in cooler at the end of the sampling day. The sample was kept on ice in an ice chest while en route.

The water discharging from the drain when the sample was taken was black in color, but not opaque. Sample results are summarized below:

Constituent	Concentration	Marine Acute Water Quality Standard
Copper	90.3 ug/l*	2.5 ug/l
Lead	69 ug/l	151.1 ug/l
Zinc	1020 ug/l*	84.6 ug/l
Cadmium	3.2 ug/l	37.2 ug/l
Nickel	11 ug/l	71.3 ug/l
Mercury	undetected	2.1 ug/l
Oil and grease	2.2 mg/l	15 mg/l (guidance)
Total Organic Carbon	47.3 mg/l	

Conclusions:
Copper and zinc were higher than the Marine Acute Water Quality Standards. The range of all samples taken from storm drains on 9/8/92 (total of 5 drains) was 24 - 141 ug/l for copper and 40.8 - 1020 ug/l for zinc. The UBAT Foss Waterway database shows the average zinc level to be 209.91 ug/l and the average copper level to be 80.3 ug/l. Zinc and copper from this drain were

DAVE SMITH 12/8/92
RE: WEST COAST GROCERY

higher than the average for all waterway samples. Zinc seems to be a particular problem.

Recommendation:
At this point it is not possible to tell what the source of the metals is. UBAT should confirm storm drain layout using City of Tacoma drainage maps and/or dye testing, then possibly sample upstream catch basins to pinpoint source. Also should determine if galvanized pipes are used, and examine fuel island BMP's at West Coast Grocery to determine if adequate.

1/94 Joyce Mercuri said that WCG used to do a lot of truck washing, which could have generated ~~a~~ lots of metals (especially zinc) that ~~wer~~ would be deposited in Catch Basins. ~~ex~~

DEPARTMENT OF ECOLOGY
URBAN BAY ACTION PROGRAM INSPECTION REPORT
****Follow-up Inspection****

ENTITY: West Coast Grocery **INSPECTOR:** Mercur JM 9/3/93

LOCATION: 1525 East D Street
Tacoma, WA 98401 **DATE:** 8/18/93

CONTACT: Herb Muchow, Facilities Manager

TYPE OF FACILITY: Grocery warehousing and transportation

PERMITS: Not required

DRAINS TO: Head of Foss Waterway

FACILITY DESCRIPTION:
The purpose of the follow-up inspection was to meet with Mr. Muchow and discuss possible causes of excessive zinc in rainwater runoff from the site. I showed Mr. Muchow the Commencement Bay drainage map and explained that the storm drains flow to outfall #249, and are a private drainage system not under control of the City of Tacoma. Mr. Muchow said that he was under the impression that the drainage from West Coast Grocery flows to the outfall at 18th Street (#248). I later discussed this with Roy Young of the Tacoma-Pierce County Health Department who told me that he has dye-tested the system and it does flow to #249. I told Mr. Muchow that it was my understanding that some catch basins at the MPS facility east of West Coast Grocery also drain to this system. He was unaware of this. I also asked Roy Young about this, and he confirmed that some of the drainage from MPS flows to the West Coast Grocery system.

We began the inspection by looking at the drainage system on the north side of the main building. This area is paved and the main activity is truck traffic to the loading bays of the warehouse. A series of catch basins runs east to west, and joins with another drainage line from the employee parking lot just upstream of an oil/water separator. The stormwater line continues on after the oil water separator in front of (west) the main building. The catch basins appeared to be full of sediment. Mr. Muchow said he does not know if they have ever been cleaned out and they are planning to have them cleaned out soon. I informed him that catch basin sediments must be tested and disposed of properly. Prior to construction of the permanent truck wash rack, trucks were washed in this yard area. It is likely that the catch basin sediments contain contaminants from the historical truck washing, including zinc.

We also examined the fuel island. This area is covered with a roof and is surrounded by a low berm. A catch basin has been added within the berm. This catch basin is connected to the main drainage system. Mr. Muchow said that they periodically wash down the fuel area into the catch basin. I explained that, even with the oil/water separator, washing of the fuel island and discharge to the storm drain system is not allowed. I explained that the fuel island should be completely segregated from the storm drain system and from the service yard stormwater. He said that it would be possible to disconnect the catch basin. I also noted a leaking filter on one of the diesel hoses, where a small bucket was nearly full of fuel.

Finally, we looked at the final chamber of the oil/water separator. It appeared to have an oily sheen on the water surface, although it is possible that the stagnant water only appeared to have a sheen. Mr. Muchow said they would have it cleaned out that week. In general, they have it cleaned out on a regular basis.

FOLLOW UP NEEDED:
Provide letter to Mr. Muchow detailing actions to be taken at the site.

XXXXXXXXXXXXXXXX
Director

FAX STAMP EPA REGION X
TO: KAREN KEELEY
PAGES + COVER 3
FROM: Mercuri
FYI

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
7272 Cleanwater Lane (0-11) • Olympia, Washington 98504-8711 • (360) 407-6000

September 3, 1993

Herb Muchow, Facilities Manager
West Coast Grocery
1525 East D Street
Post Office Box 2237
Tacoma, Washington 98401

Dear Mr. Muchow:

Thank you for meeting with me on August 18 to discuss potential sources of zinc from the West Coast Grocery site. I have enclosed the inspection report which summarizes my visit. It does not appear that there are any current, ongoing sources of zinc at the site, although I think it is likely that the sediments in the catch basins contain zinc from past practices. As we discussed, there are a few things that should be followed up on at your facility. These are outlined below:

1. Clean out catch basins and storm drain lines. You can find companies in the Tacoma area which clean catch basins in the telephone book under industrial cleaning or vacuum cleaning. At times, sediments from catch basins can be classified as dangerous waste (per Chapter 173-303, the state Dangerous Waste Regulations). Therefore, it is important to characterize the waste before disposal and ensure it is disposed of properly. Also, any water generated during the cleaning should <u>not</u> be disposed of to the storm drain system. Typically, the water is disposed of to the local sewage treatment plant after receiving permission from the treatment plant.

   Please provide me with a letter by September 24 describing how the cleaning will be done and how wastes will be disposed of.

2. Please take a sediment sample from the catch basin just "upstream" of the oil water separator and have it analyzed for copper, lead, zinc and mercury. The sample should be a composite of several spoonsful of sediments from different parts of the catch basin. The sample should be analyzed for "total metals" on a dry weight basis. There are several environmental laboratories in the Tacoma area that can analyze the sample. I am asking for this sample to get a better idea of whether the catch basins are the cause of the zinc problem in the stormwater outfall. Please call me if you need more information about the sample.

   You will probably also need to have toxicity tests done for the disposal of catch basin wastes. The vactor company should be able to provide you with guidance on this. It may be most cost effective to have all the sampling done at one time.

3. Disconnect the catch basin in the fuel island from the main storm drain system. Also, if necessary, complete the berm around the fuel island to prevent stormwater from entering the site, and to capture any spills that may occur. All changes on the fuel island should be reviewed by the local fire department. If you intend to connect the fuel island drain to the sanitary sewer, you must receive permission from the Tacoma Sewer Utility. For more information, call Mike Kennedy, Tacoma Sewer Utility, at 591-5588. All wash water from cleaning the fuel island pad should be

collected and disposed of either to the sanitary sewer (with permission of the sewer utility) or through a company that deals with waste oils.

In the letter requested above, please let me know what you intend to do with the fuel island.

4. Continue to maintain the oil/water separator on a regular basis.

I have enclosed the guidance on best management practices for fueling islands, catch basin maintenance and oil/water separator maintenance from the Puget Sound Stormwater Management Manual. I will be glad to answer any questions about implementing the items outlined above. Please call me at (206) 586-4692.

Sincerely,

Joyce Mercuri

Joyce Mercuri
Urban Bay Inspector
Southwest Regional Office
Toxics Cleanup Program

JM:ak
Enclosures

cc: Karen Keeley
Hyun Um

WASHINGTON STATE DEPARTMENT OF ECOLOGY

RECEIVED SEP 26 1994 Surcharge Remedial Branch

TELEPHONE RECORD

Date 9/20/94

Time ☒ a.m. ☐ p.m.

☐ CALLED BY
☐ CALLED

Mr./Ms. Herb Muchow

Telephone

Address West Coast Grocery
AND Vicki Fagerness, Ecochem (Consultant to WCG for drain cleaning)

Representing

Project

Discussed

I talked with both parties today regarding the drain cleaning project. The drains were cleaned around Sept 3 or 4. The original projection was for a 3 or 4 day project but it took 6 or 7 instead. Much of the sediments were in the lines, so they used more water than originally thought. They brought in 2 Baker tanks for the water. The vac trucks held the water/sediment mixture for a short while, then decanted water through oil-water separator into Baker tank. The first sample was a composite from both tanks + failed the TSU standard for lead. They then resampled from the circulating stream from each tank + it came up Not detected for lead each time. As of 9/20/94, Troy Naccarato at TSU gave them permission to dispose water into the sanitary system. The sediments were disposed of w/ no problem at Kitsap Co. landfill.

West Coast will resample water and sediments in 6-8 months.

Fuel island is now on oil/water separator + discharges to sanitary sewer.

Signed Joyce Mercuri

ECY 010-46(b)

9/21/94

Joyce Mercuri (Ecology) told Karen Keeley (EPA) that she had numerous conversations with West Coast Grocery re: storm drain clean out effort. West Coast voluntarily cleaned out all catch basins and lines on their property. Water from the cleanout was temporarily stored in 2 baker tanks, and was then sampled and received approval by the City for discharge to the POTW. According to Joyce, sediments were disposed of appropriately. Ecology said that WCG did a very thorough job.

URBAN BAY ACTION PROGRAM INSPECTION REPORT

ENTITY: Western Dry Kiln

INSPECTOR: Schrieve, Smith

DATE: 11/4/92

LOCATION: 1102 St. Paul Ave, Tacoma

OWNER: Lindal Cedar Homes

CONTACT: Wes Howard, Facility Maintenance

TYPE OF FACILITY: cedar kiln drying operation

PERMITS: None

DRAINS TO: Thea Foss Waterway/Wheeler-Osgood Waterway

PATHWAY/QUANTITY:

Process water:	kiln condensate
Ground water:	
Stormwater:	Standing water on-site; drainage to Foss/Wheeler Osgood Waterway
Spills:	No evidence of large spills; oily sheen present on puddle near warehouse entrance.

SUSPECTED CONTAMINANTS: Possibility for minor oil spills in maintenance building

SAMPLING: None.

FACILITY DESCRIPTION:

Inspectors Garin Schrieve and Dave Smith arrived on the site at 2:25 pm and were met by Mr. Wes Howard, Facilities Maintenance. The operations of Western Dry Kiln involve the cutting and kiln drying of cedar for home building. The company is owned by Lindal Cedar Homes, and the land occupied is leased from The Wattles Company.

We spoke with Mr. Howard on the processes used on the site. He said that ~~no~~ chemicals ~~are~~ used in the kiln drying process, and the only chemicals present on-site are oils/solvents used for equipment (compressor/saws) maintenance. He said that the fork lifts are maintained under a service contract, and that the work is done off-site. The oil storage area was located in the

are no longer

maintenance building, away from contact with surface water. The solvents used on-site are recycled/maintained by SafetyKleen.

Western Dry Kiln also occupies two warehouses and a portion of a third also leased from the Wattles Company. These warehouses are used only for kiln-dried wood storage.

A storm drain runs underneath the operations/sawmill building, collecting storm water discharge from the facilities roof, and from a low lying area on the east side of the building used for lumber transport to and from the kilns. Storm water is pumped from this area into the storm drain. Kiln condensate drains to this area. These appeared to be the only storm drains present on the site.

An oily sheen was noted at the entrance to the warehouse adjacent to the shop area (marked X on the attached site map). Mr. Howard indicated that this was from the fork lifts splashing through the puddles in front of the warehouse. We informed him that efforts should be made to prevent oil from contacting any surfaces exposed to stormwater.

Mr. Howard requested that we send him a letter describing what we had seen and what he could do to improve the "cleanliness" of the operations. We agreed.

ACTION TAKEN:

Again explained the purpose of our inspection, and thanked Mr. Howard for his time.

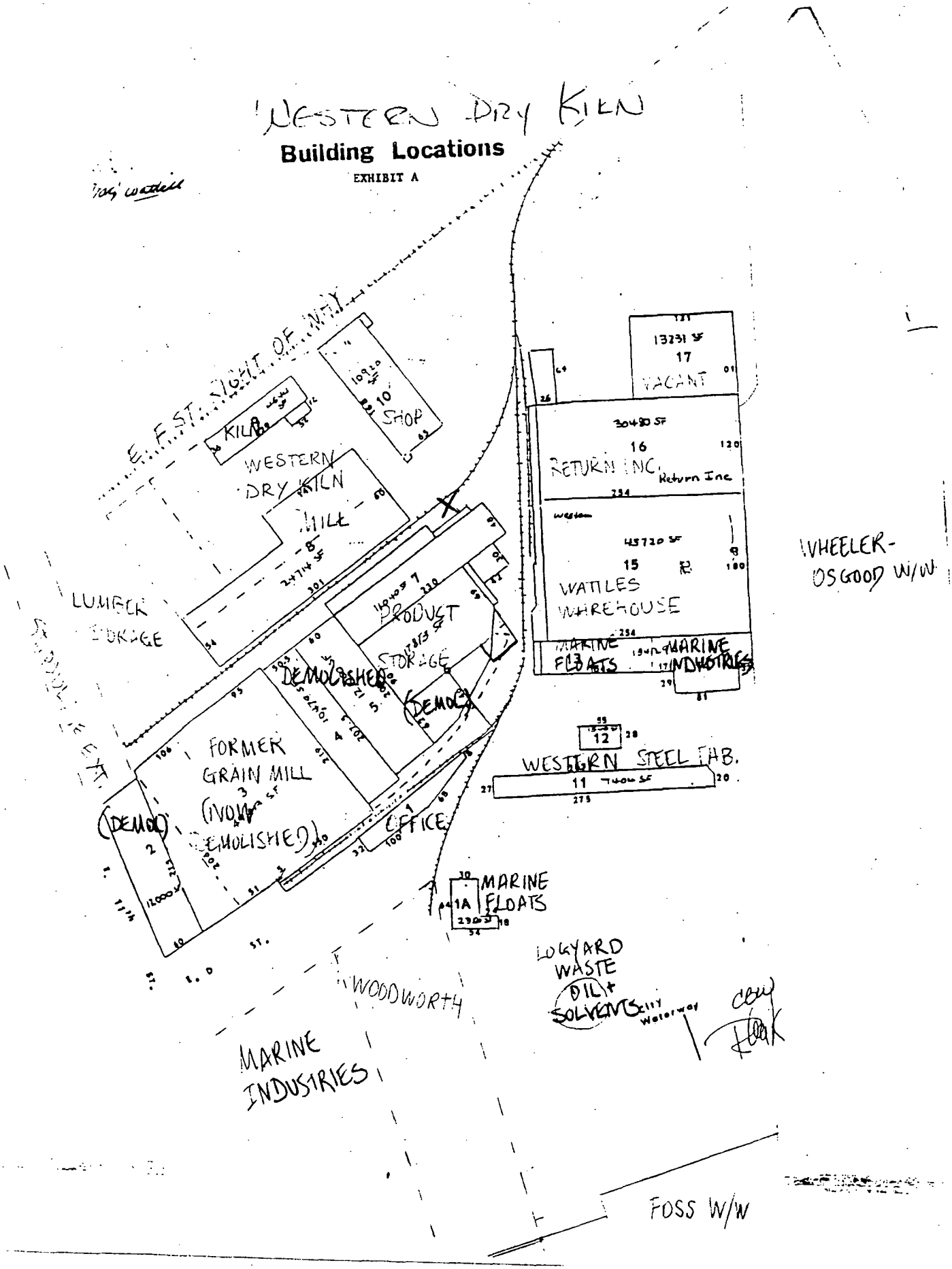
FILE NAME: inspect\wdrykiln.fos

WATTLES COMPLEX

WESTERN DRY KILN

Building Locations

EXHIBIT A



WASHINGTON STATE DEPARTMENT OF ECOLOGY

UBAT INSPECTION SUMMARY

ENTITY: Western Dry Kilns, Ltd. INSPECTOR: Herold, McKenna

OWNER: Lindahl Cedar INSPECTION DATE: 10-4-91

PROPERTY OWNER: Wattles Corp.

LOCATION: 1102 St. Paul Avenue
Tacoma, WA 98421

CONTACT: Peter Perez, Manager

TYPE OF FACILITY: Wood Manufacturing

PERMIT(S): None

DRAINS TO: Tacoma Stormdrains

PATHWAY/QUANTITY:

Process Water: Small quantity of kiln residual leachate, boiler blowdown.

Ground Water:

Storm Water: Attempting to establish route. Boiler blowdown and kiln residues.

Spill: None.

SUSPECTED CONTAMINANTS: Boiler blowdown.

SAMPLING: None.

FACILITY DESCRIPTION:

Inspectors entered at 10:30 a.m., and contacted Pete Perez, the facility manager.

Mr. Perez stated that the facility was formerly operated by St. Regis until 1987 and then by Lindahl Cedar. Western Dry Kiln is connected to Lindahl. The facility manufactures rough lumber to meet customer specification, making

siding, windows, decking, and other wooden building materials. Most raw material lumber is from Canada, mostly cedar.

Lumber must be kiln-dried prior to milling. Lumber is stored outside on the north end of the yard. The kiln drying process generally takes two to four weeks for a batch of lumber. Steam is injected into the kiln to modulate the drying process. A small amount of water and wood leachate is generated by the kiln process. This minimal flow likely infiltrates to the site soil before reaching storm drains except during winter rainfall events. Boiler blowdown from the kiln operation is drained to a sump pump system with any kiln leachate and then to the city storm drain system. The receiving waterway is either Foss or Wheeler-Osgood, but which as not been confirmed. Boiler treatment is contracted to CH_2O. Western Dry Kiln adds CH_2O products #6257, a hydroxy-phosphate polymer, and #6380, a cyclohexylamine filmer.

Lumber is milled after drying, then stored in a warehouse at the facility.

The maintenance shop uses Chevron brand thinner #325 for parts cleaning. Waste oil is removed from the lift truck maintenance contractor, Vance Liftruck Company.

Approximately 26 people are employed at Western Dry Kiln. A holding tank is used for storing sanitary wastes, then pumped out by a contractor.

A due diligence environmental assessment is in progress for possible purchase of the land by Lindal Cedar Homes. Three monitoring wells are on site.

The inspection concluded at 1:00 p.m.

MH:nm(2/9)

Attachments:

Photo Log

Photos

Site Map

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (206) 407-6300

RECEIVED
MAR 06 1995
SUPERFUND

February 28, 1995

see all info on western steel fabricators in the wheeler-osgood binder

Ms. Karen Keeley
U.S. Environmental Protection Agency
Region 10
1200 6th Avenue HW113
Seattle, Washington 98101-3188

RE: Addendum 2 to the Milestone 1 Source Control Status Report for the Head of Thea Foss Waterway Problem Area in the Commencement Bay Nearshore/ Tideflats Superfund Site

Dear Ms. Keeley:

In this Addendum 2 to the Milestone 1 Report for the Head of Thea Foss Waterway (July 1, 1993), the Department of Ecology is making a correction to the list of ongoing confirmed sources of problem chemicals to the Head of Thea Foss Waterway Problem Area. When the Milestone 1 Report for the Head of Thea Foss Waterway and the Wheeler-Osgood Waterway was completed (July 1, 1993), Western Steel Fabricators, 1207 East "D" Street, Tacoma, was considered a confirmed source of problem chemicals to Wheeler-Osgood Waterway. While the source was being cleaned up (early 1994), Ecology discovered that the site had also been a confirmed source of problem chemicals to the Head of Thea Foss Waterway and thus should have been included as a List 3 source in the Milestone 1 Report. The source is now controlled and is no longer a source of problem chemicals to either waterway.

In late 1992, Ecology discovered very high levels of PCBs and other problem chemicals in a sump inside a building used by Western Steel Fabricators for structural steel fabrication. At that time, all available information suggested that the sump drained to Wheeler-Osgood Waterway via outfall #260 or #261. Therefore, Ecology listed Western Steel Fabricators as a confirmed source of problem chemicals to the Wheeler-Osgood Waterway Problem Area in the Milestone 1 Report for that waterway.

On January 15, 1993, Ecology issued a Water Quality Order under the provisions of Chapter 90.48 RCW (# DE 93TC-S318) to Western Steel Fabricators (operator) and The Wattles Company (property owner) requiring these parties to clean out contaminated drain lines and take other actions to ensure that problem chemicals do not enter Wheeler-Osgood Waterway via on-site drains.

One of the drain lines had to be removed due to the presence of PCBs in the line. During the removal process, the workers found that this drain line did not connect with the drain system that discharged to Wheeler-Osgood Waterway. Instead, the line was found to run to the Head of Thea Foss Waterway Problem Area. The line was old but in good condition, and some soils surrounding the line were contaminated, including those soils near the outfall (located about five feet from the waterway). The drain line and all associated contaminated material were subsequently removed.

As of November 1994, Western Steel Fabricators and the Wattles Company met all the requirements in the Water Quality Order, including a report documenting the cleanup (CEcon Corporation, 1994). As indicated earlier in this addendum, the site is no longer considered a source of problem chemicals to either the Wheeler-Osgood Waterway Problem Area or the Head of Thea Foss Waterway Problem Area.

References:

CEcon Corporation, 1994. Field Report for The Wattles Company Sump Clean Up. November 1994.

Sincerely,

Dave Smith

Dave Smith
UBAT Unit Supervisor
Southwest Regional Office
Toxics Cleanup Program

ENTITY: Woodworth & Company

OWNER:

LOCATION: 1200 E 'D' St
CITY: Tacoma 98402

MAILING ADDRESS:

CITY/ZIP:

CONTACT: John Woodworth PHONE: 383.3585

TYPE OF FACILITY: Asphalt paving; dirt hauling;concrete;asph batch plant
PERMITS:

DRAINAGE: Hylebos
PATHWAY/DRAINAGE:

PROCESS WATER Stack scrubber (48000 gpd);pH 7.6;85 degF;125 H20 pass through basin and discharg to

GROUNDWATER

STORM WATER

SPILL

SUSPECT CONTAMINANTS solvents;detergents;PAH

SAMPLING: Draft PRP eval:9/29/89,sampling at old tanks revealed 180 mg/kg gas. GW-benzene:1300ppb,toulene:780ppb,ethylbenzene:3200ppb,M-xylene:2600 ppb,o,p-xylene:2800ppb

FACILITY DESCRIPTION One 5000 gal tank and one 10000 gal tank for petroleum

COMMENTS: 1929-1935: place was a wood storage facility. '38: used for general purposes(office built). '38-'80: asphalt batch plant. Oil/water sep installed in 1986.2 underground storage tanks removed in 1988

FINAL ACTION:

UBAT INSPECTION REPORT

ENTITY: Woodworth & Co.

INSPECTOR: Herold, Mercuri
Write-up by D. Smith

OWNER: Woodworth, Inc.

INSPECTION DATE: 2/05/92

LOCATION: 1200 East D Street
& 1114 St. Paul Ave

CONTACT: John Greco

TYPE OF FACILITY: Construction Maintenance

PERMIT(S): None

DRAINS TO: Foss Waterway, City Sanitary

PATHWAY/QUANTITY:

Process Water -- Vehicle wash pad to sanitary

Ground Water -- All paved

Storm Water -- Maintenance yard runoff to storm drain through an oil/water separator

SUSPECTED CONTAMINANTS: Oil

SAMPLING: None

FACILITY DESCRIPTION:

1. Truck and Heavy Equipement Maintenance Facility at 1200 East D Street

Ecology inspectors entered the site at 10 am, 2/5/92, and met John Greco, the operations manager. Mr. Greco stated that the site at 1200 East D Street was an asphalt batch plant until 1978, when the plant was moved to a site at Norpoint Way (drains to Head of Hylebos; called "Woodworth Gravel Pit/Asphalt Plant"). The current office building was constructed on the site in 1982. The maintenance shops were on the site at the time the asphalt plant was operating.

Woodworth currently operates a maintenance facility for trucks and heavy

equipment. Woodworth uses a contractor (Cleen Care) to dispose antifreeze, waste oil, and oil filters. Paint waste is disposed of at the City of Tacoma's hazardous waste disposal facility. Lubricant, antifreeze, bulk oil, and fuel supplements are stored under roof. The floor was very oily and drains toward the parking lot. Shop rags are rented from Superior linen.

Oil pads and kitty litter are used to sorb oil off the floor and Airo Services disposes the used pads and litter. Part of the maintenance shop contains a floor trench. Mr. Greco stated that the trench is only used for vehicle work and is not connected to the storm drain.

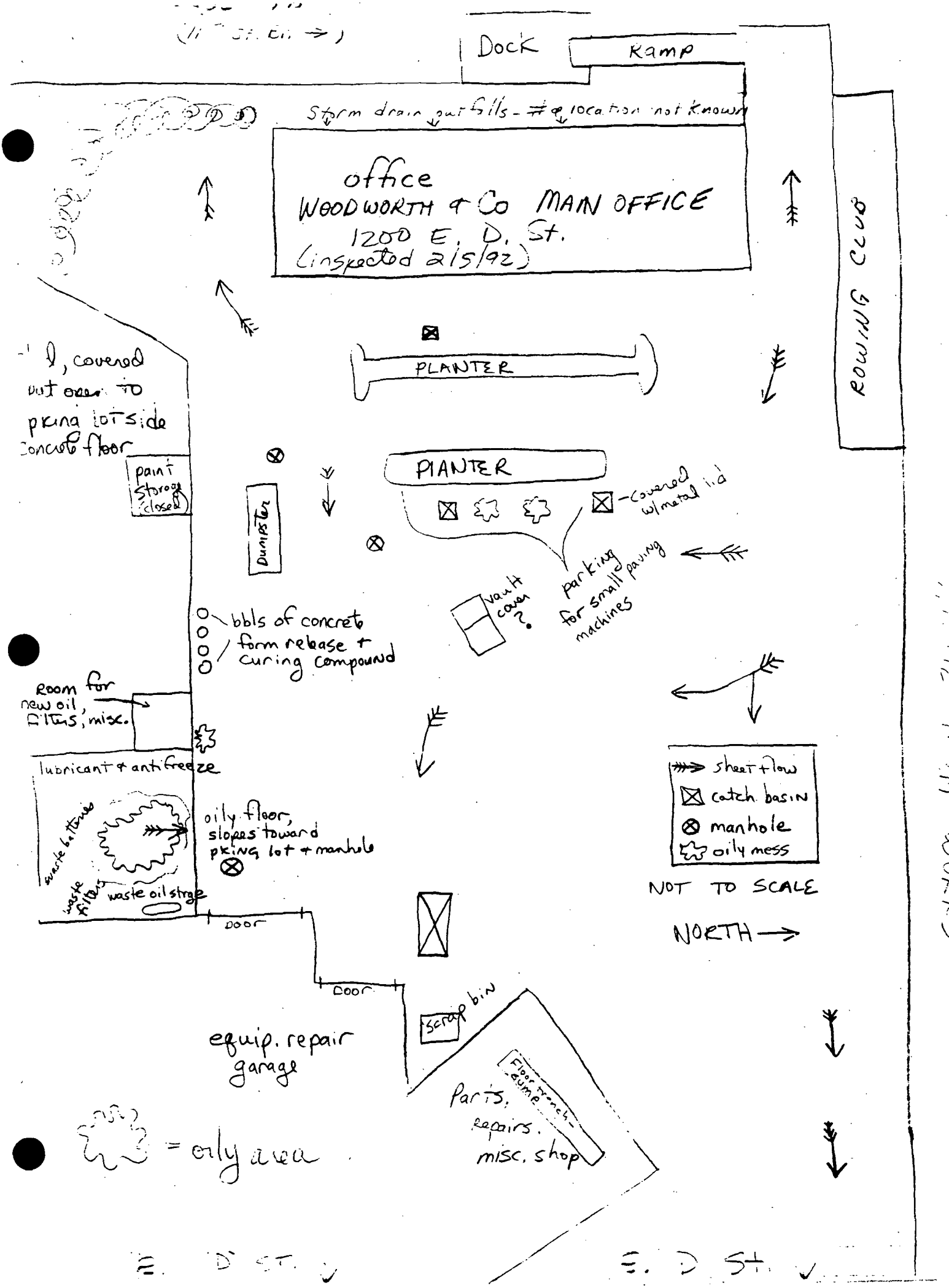
2. Truck Fueling and Washing Area at 1114 St. Paul Avenue

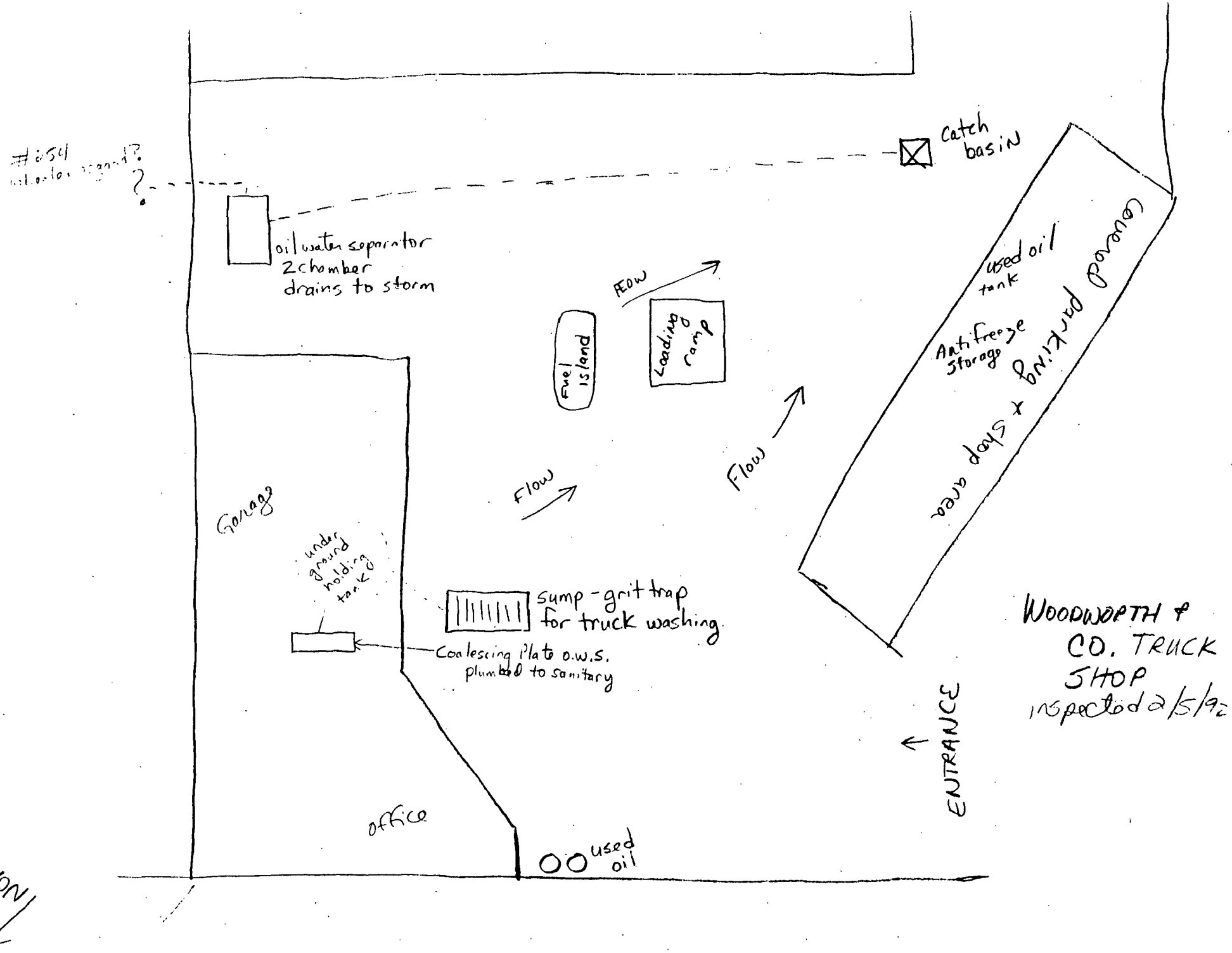
Woodworth washes trucks on a vehicle wash pad at this property. A sump was installed in 1987 in front of the garage to collect grit during steam cleaning. Every three months it is pumped out to a holding area and then to an oil-water separator plumbed to the sanitary system (not the separator that collects storm water from the entire yard). When the oil-water separator is full, a float triggers a pump to activate. Filters are removed once per month and are steam cleaned. Oil is drained off and placed in an oil tank.

The paved yard includes a fuel island. Storm water from the paved yard drains to an oil/water separator, which is pumped once a year. We opened the separator and observed two chambers with an oil sheen on the effluent and lots of oil in the main chamber. Mr. Greco said he would increase the frequency of pumping the separator (quarterly instead of annually).

Used oil and anti-freeze were stored under a covered, open shed.

Woodworth also parks gravel trailers in an unpaved yard near Wheeler Osgood waterway (at Return, Inc.). Hydraulic lines from these trailers leak and leave large oil spots.


Dock
Ramp
Storm drain outfalls - # & location not known
office
WOODWORTH & Co MAIN OFFICE
1200 E. D. St.
(inspected 2/5/92)
ROWING CLUB
PLANTER
PLANTER
covered w/metal lid
Dumpster
paint storage (closed)
covered out area to parking lot side concrete floor
vault cover ?
parking for small paving machines
bbls of concrete form release + curing compound
room for new oil, filters, misc.
lubricant + antifreeze
waste batteries
waste filters
waste oil stage
oily floor, slopes toward parking lot + manhole
sheet flow
catch basin
manhole
oily mess
NOT TO SCALE
NORTH
DOOR
DOOR
scrap bin
equip. repair garage
Floor trench sump
Parts, repairs, misc. shop
= oily area
E. D ST.
E. D ST.



WOODWORTH & CO. TRUCK SHOP
inspected 2/5/92

Used oil storage

Inside equipment maintenance shop

d antifreeze and oil filter area

Recycling/product storage area with oily floor.

Oily area

Recycling/product storage area and nearby manhole. Note oily areas.

Vehicle wash area

TF/WO Storm Water Data
Outfall Locations

Keeley

3/9 Dave + Joyce have not read this yet. Apparently, Serdar + Norton did not agree on results.

3/10 I asked Joyce to stamp this Int. Conf. - it's not Ecology IEPA position.

DEPARTMENT OF ECOLOGY

March 8, 1994

TO: Joyce Mercuri

FROM: Dave Serdar DS

THROUGH: Dale Norton D.N.

SUBJECT: Evaluation of Thea Foss Waterway Storm Drain Data

BACKGROUND

Thea Foss Waterway, located in inner Commencement Bay, is heavily contaminated with a variety of pollutants from point and non-point sources (Tetra Tech, 1985; City of Tacoma, 1990; Norton, 1993). A number of storm drains discharging into the waterway have been shown to be substantial contributors to the problem. Remediation of the waterway is scheduled to begin in the near future. In order for the City of Tacoma, as well as other parties, to begin the remediation process, information on existing sources of contamination is needed so that the city may begin to identify and eliminate these sources.

In November 1993, the Environmental Investigations and Laboratory Services (EILS) Program at Ecology was asked to review existing Thea Foss storm drain data. Most of these data were generated by the City of Tacoma during a 1987-1989 study of water quality in Foss (then called City Waterway) and other areas of inner Commencement Bay. The objectives of this review are to: 1) provide staff of the Commencement Bay Urban Bay Action Team an evaluation of the usefulness of these data in efforts to identify contaminant sources, and 2) make recommendations on actions to better identify sources of contaminants in Foss storm drains.

RESULTS

The following is a reply to specific questions listed in a memorandum from Joyce Mercuri to Dave Serdar dated November 24, 1993. In some instances, the questions were lumped together to avoid redundancy of the replies.

Q: Does the information we currently have tell us anything useful? can we tell which drains really cause the worst problems and how bad these problems are? Can we make judgements about sediment impacts to the waterway from the existing information? Is more information needed before we can tell how much of a problem individual drains are? What kind of info?

As mentioned previously, the bulk of the data comes from suspended particulates collected by the City of Tacoma during 1987-1989. Some Ecology and City of Tacoma catch basin

sediment data are also available. In general, the City of Tacoma data are of limited use in quantifying and prioritizing pollutant loadings to the waterway. This is primarily due to the lack of quality assurance (QA) data and comprehensive flow information.

The absence of QA data does not allow a means to evaluate the precision and accuracy of the data set and associated uncertainty of the chemical results. In addition, the lack of flow data makes it difficult to quantify pollutant loadings from individual drains and subsequently prioritize the contributions of individual drains.

One approach to evaluating these data is shown in Table 1. The available data were summarized and compared to the Sediment Quality Objectives (SQOs) for Foss Waterway described in EPA's Record of Decision for Commencement Bay (EPA, 1989) and contaminant concentrations found in Foss settling particulate matter during 1989-1992 (Norton, 1993). Chemicals chosen for this comparison were those exceeding the SQOs in Foss Waterway settling particulate matter. Note that values for settling particulate matter were calculated differently than in Norton's 1993 report. Several conclusions may be drawn from this table:

1. Each one of the nine storm drains considered exceeds SQOs for at least two chemicals.

2. Drain No. 230, the 15th St. drain, exceeds SQOs for more chemicals than any other drain. No. 230 also has the highest median values for zinc, mercury, LPAH, HPAH, bis(2-ethylhexyl)phthalate, and butyl benzyl phthalate. This drain is most likely the source of elevated mercury in settling matter at station TF-2, and probably a significant contributor to mercury levels at TF-3.

3. Drains 237.2 and 237.1 (twin 96ers) exceed SQOs for four and six chemicals, respectively. Considering flows from each of these drains is an order of magnitude higher than other drains (Tetra Tech, 1985), they represent a serious problem in terms of contaminant loading. These drains probably represent the greatest contribution to elevated concentrations of copper, zinc, mercury, LPAH and bis(2-ethylhexyl)phthalate in settling matter near the head of the waterway. Drain 245 appears to represent a substantial copper and mercury source, and Drain 235 a substantial HPAH and phenol source to the head of the waterway.

4. Drains 254 may contribute somewhat to elevated copper and bis(2-ethylhexyl)phthalate in settling matter at station TF-3. However, contaminant concentrations at TF-3 are probably strongly influenced by discharges from Drain 230.

5. Drain nos. 243, 218, and 214 do not appear to be a high priority due to relatively low contaminant levels in drain sediments and settling matter near the area of discharge.

The quickest and most straightforward way to determine if individual drains are currently a problem is to analyze drain sediments near their outlets. Data should be of the highest quality available with a full complement of QA data. At the very least, samples should be analyzed for copper, zinc, mercury, PAH and other semi-volatile organics, TOC, and grain size.

· ignores impact of historical sources on beds at outfall!!!

Q: Can a judgement be made about if and how this information could be used in sediment impact modeling?

At the very least, data on flow, suspended sediment concentrations, particle size, and probably TOC would be required to model sediment impacts. These data are rather sketchy at present. Lack of QA data also precludes reliable model-making. More complex models may also require water column characteristics (pH, DOC, salinity, temperature, etc.) to draw conclusions about sediment-freshwater-saltwater interactions.

If existing data were used for modeling, the lack of QA would be problematic because reliability of the input data cannot be assessed. This would add a large measure of uncertainty to model predictions.

Q: Are the catch basin, end-of-pipe sediments and particulate data comparable to each other? Does it matter that we don't have flow amounts?

From a qualitative point of view, pipe sediment and particulate data are probably comparable. Pipe sediments are a composite, over time, of particulates settling in the system. Therefore, pipe sediments yield a time-integrated estimate of contaminant concentrations, while particulates provide an instantaneous measurement.

– assuming that 100% particles settle out!! ± disagree

Another consideration is that suspended particulate samples are generally composed of finer-grained particles than catch basin sediments. Normalizing data from each sample type to grain size and TOC would provide a means for direct comparison. The available data set did not include grain size data.

Once again flow data is critical to understanding contaminant contributions from each of the storm drains. Without flow data, loads cannot be calculated.

← what do you do w/loads? NOTHING loads ≠ sedimentation

Q: Do we need to find out how long it took to gather each centrifuged sample and TSS (to get an idea of load)?

TSS data is a requisite for calculating loads. Amount of time spent centrifuging is only useful if the corresponding flow data are available.

Q: How much of an issue is lack of QA?

QA data is essential to determining the accuracy and precision of sample data. Without it, the sample data will always be subject to question. The City of Tacoma report contains little or no QA data (none could be found).

Q: Do the steps in the draft outline for the storm drain order make sense as far as identifying problem areas?

The steps for identifying problem areas in drainages for 230 and 237a&b [237.1 & 237.2] were reviewed. Specific and general comments are listed below. Attached is a copy of the order with numbered bullets.

Specific Comments:

#4. Before a loading analysis is conducted for each sub-watershed, catch basin/manhole sediments and sub-watershed runoff data should be analyzed to determine which sub-watersheds are problems. If sediment samples indicate that the sub-watershed is not contaminated or have a significant contamination source, there will be no value in doing a loading analysis.

#5. If sub-watersheds are to be ranked, it should be on the basis of either sampling/loading analysis or potential problem businesses. If sampling in a sub-watershed shows low contaminant levels, why dwell on potential problem businesses in that watershed? If potential problem businesses are used to rank the sub-watersheds, it should be incorporated into the planning for initial sampling of catch basin/manhole sediments described in #3.

#10. Yearly sampling for each drain may not be required pending results of sub-watershed sampling.

#11 & 12. Should be prioritized based on results of above actions.

General Comments:

Somewhere in the order it should be stated precisely how the effectiveness of source control efforts will be evaluated.

There appears to be too much emphasis on businesses as the source of contamination. Previous investigations of urban stormwater runoff and catch basin sediments have shown high levels of metals and PAH from residential areas, as well as commercial/industrial areas.

Drainage areas for the Nalley Valley and South Tacoma drains (twin 96ers) are only 28% and 10% commercial/industrial, respectively. Therefore, the draft work order may underestimate the contribution from other sources.

Q: After they identify problem areas and conduct source control or treatment, what kind of sampling will be needed to determine if things have improved? Will we even be able to compare to existing information since it is so sketchy? Should we have them do more baseline sampling to compare to over the long term? If so, what should be the parameters for time of year, flow, locations?

Two approaches to sampling would be useful to meet these goals: End-of-pipe loading estimates using particulate data, and analysis of catch basin sediments. The advantages and disadvantages of each are outlined in Table 2.

Table 2. Storm Water Particulate vs. Sediment Sampling.

SAMPLE TYPE	ADVANTAGE	DISADVANTAGE
Particulates	Able to quantify contaminants not detected in whole water.	Requires substantial effort (time, money, expertise, equipment).
	Able to estimate loads to waterway when combined with flow and TSS data.	Can only be conducted during storm events. Can only obtain one sample per storm event.
	Over time, gives good estimate of source control effectiveness.	Samples may not represent average conditions in storm drain.
		Samples ignore illegal discharges of short duration
Catch basin sediments	Can be done any time of year.	Over time, yields only indirect evidence of source control (or lack thereof).
	Can be done at multiple sites - better for tracing sources.	Cannot quantify contaminant contributions from individual sub-basins. You don't need this!
	Provide sample concentrations integrated over time.	Storm drain sediments may be biased toward larger grained particles.

Existing information is useful in focusing on contaminants of concern. However, due to lack of QA and flow/TSS loads, these data should not be used as baseline. It is unfortunate that this is the case since the City of Tacoma apparently put a substantial amount of effort into the particulate study.

CONCLUSIONS AND RECOMMENDATIONS

The Foss Waterway data on stormwater particulates and storm drain sediments reported by the City of Tacoma (City of Tacoma, 1990), Ecology (Norton, 1988), and others indicates that at least nine drains discharging to the waterway represent significant contamination sources. However, the City of Tacoma data should be used with caution due to lack of QA. Of the nine drains considered here, three (230, 237.1, and 237.2) appear to contribute a substantial portion of total contaminants entering the waterway. This conclusion is supported by data from the remedial investigation (Tetra Tech, Inc., 1985) and sediment trap monitoring (Norton, 1993).

Preliminary objectives of source control efforts should be to identify contaminant sources and establish a method for gauging the effectiveness of these efforts. To this end, the following is recommended:

1. Sample catch basin/storm drain sediments for chemical contaminants and physical characteristics from all significant drains in a comprehensive manner. At the very least, samples should be analyzed for copper, zinc, mercury, PAH and other semi-volatile organics, TOC, and grain size. Preliminary sampling should be done near the outlets of the storm drains. As hot-spots are identified, subsequent sampling may be worked "upstream" to better characterize problem sub-basins. This process is also described in the Elliott Bay storm drain monitoring approach (Tetra Tech, 1988).

End-of-pipe sediment sampling in Drains 230, 237.1 and 237.2 is probably not necessary based on a preponderance of evidence showing these drains to be substantially contaminated. Source tracing activities in these watersheds could begin immediately.

Initial screening of the individual drains should be conducted with several considerations in mind. Sample analysis should be of the highest quality available, and should include a full complement of QA data. To the extent possible, a screening survey should build on existing data in order to expand the existing data set on Foss waterway. This may include obtaining consistent sample types, analyses, etc. with previous surveys. Finally, any data generated may be used in the design of subsequent studies by the City of Tacoma. A specific proposal for sampling should strive to integrate existing or future sampling efforts by the city.

2. Obtain end-of-pipe contaminant load estimates for Drains 230, 237.1, and 237.2 by collecting particulate samples. Centrifugation is probably the best method of obtaining particulates. This should be conducted at least twice each during dry and wet seasons,

conditions permitting. The purpose of this recommendation is to establish high quality data on contaminant loads entering the waterway through these drains. These data may then be used to evaluate the success of subsequent source control work.

Dale and I would be happy to discuss any questions or comments you have regarding this memo. In addition, we would be interested in helping review or plan any upcoming studies in Foss waterway.

REFERENCES

City of Tacoma, 1990. Surface Water Quality Study. City of Tacoma, Public Works Department Sewer Utility.

EPA, 1989. Commencement Bay Nearshore/Tideflats: Record of Decision. U.S. Environmental Protection Agency Region 10, Seattle, WA.

Norton, D., 1988. Review of Metals and Organics Data of Sediment Samples Collected by Ecology June 9-10, 1987, from Tacoma Tideflats Storm Drains. Memo. *to* Scott Morrison, Washington State Department of Ecology, Olympia, WA.

Norton, D., 1993. Spatial and temporal Trends in Contaminant Levels in Settling Particulate Matter: Thea Foss Waterway (Commencement Bay)-June 1989 to November 1992. Washington State Department of Ecology, Olympia, WA.

Tetra Tech, Inc., 1985. Commencement Bay Nearshore/Tideflats Remedial Investigation. Prep. *for* Washington State Department of Ecology and U.S. Environmental Protection Agency.

Tetra Tech, Inc., 1988. Elliott Bay Action Program: Storm Drain Monitoring Approach. Prep. *for* U.S. Environmental Protection Agency Region 10 - Office of Puget Sound, Seattle, WA.

Table 1. Contaminant Concentrations in Foss Waterway Drain Sediments (suspended and bed sediments), Settling Particulate Matter, and Sediment Quality Objectives for Foss Waterway (median values; mg/kg, dry).

	Near Head of Foss														
Chemical	Drain 245	n	Drain 243	n	Drain 237.2	n	Drain 237.1	n	Drain 235	n	Settling Particulate Matter* (Station TF-1)	n	Sediment Quality Objectives
Copper	1500	4	244 NO	3	244 NO	18	320 NO	18	139	5	160 ND	11	~~150~~ 350
Zinc	663	4	213	3	650	18	1022	18	304	5	410	11	410
Mercury	1.34	4	0.8	2	0.4	16	0.63	17	0.38	5	0.63	11	0.59
LPAH	0.9	4	ND	3	1.4	18	5.3	19	4	5	9.8	7	5.2
HPAH	3.2	4	2.8	3	6.1	18	11.5	19	17.1	6	61	7	17
Phenol	0.09	3	0.1	1	0.1	11	0.1	17	0.6	4	ND	7	0.42
4-Methylphenol	0.05	3	0.05	1	0.1	9	0.1	16	0.6	4	ND	7	0.67
bis(2-EH)phthalate	15	4	5.2	2	15.3	17	47.7	18	9.2	5	11	7	1.3
butylbenzylphthalate	0.4	3	3.4	2	2	17	3.1	16	1.2	4	ND	7	0.9

*during 1989-1992, from Norton (1993)

Exceeds Sediment Quality Objectives

ND=Not Detected

N/A=Not Analyzed

Table 1 (Cont'd). Contaminant Concentrations in Foss Waterway Drain Sediments (suspended and bed sediments), Settling Particulate Matter, and Sediment Quality Objectives for Foss Waterway (median values; mg/kg, dry).

	Near Mouth of Foss						North of 15th St. Drain				Wheeler-Osgood Waterway				
Chemical	Drain 218	n	Drain 214	n	Settling Particulate Matter* (Station TF-4)	n	Drain 230	n	Settling Particulate Matter* (Station TF-2)	n	Drain 254	n	Settling Particulate Matter* (Station TF-3)	n	Sediment Quality Objectives
Copper	269	1	238	3	145	12	567	20	180	9	363	4	225	12	~~150~~ 350
Zinc	908	1	505	3	190	12	1652	20	270	9	542	4	330	12	410
Mercury	0.09	1	0.08	3	0.44	12	1.45	18	0.78	9	0.23	3	0.7	12	0.59
LPAH	ND	1	2	3	3.2	6	11.9	20	2.5	5	1.7	4	5.1	7	5.2
HPAH	ND	1	9.4	3	14	6	63.7	20	12	5	10.5	4	17	7	17
Phenol	0.4	1	0.06	2	0.07	6	0.1	20	ND	5	0.34	4	ND	7	0.42
4-Methylphenol	N/A		0.04	2	0.2	6	0.1	20	ND	5	0.34	4	ND	7	0.67
bis(2-EH)phthalate	N/A		2.7	2	2.8	6	74.8	20	ND	5	7.8	4	4.1	7	1.3
butylbenzylphthalate	N/A		0.08	2	ND	6	4.3	20	ND	5	1.0	4	ND	7	0.9

*during 1989-1992, from Norton (1993)

Exceeds Sediment Quality Objectives

ND=Not Detected

N/A=Not Analyzed

* Karen Larkin feels that we should not present the specifics of this order at this preliminary stage. Items may change during negotiations.

FOSS STORM DRAIN ORDER -- rough outline

List 3 drains: 230, 237A, 237B, 245, 218, 254

235 may also be a problem. List may change when the new particulate sample analyses are completed.

Drains 245, 218, 254 - drainages inspected by Ecology for Milestone 1 effort.

City should:

- -commit to a specific timeline to clean out systems
- -also clean out 214? (not on list 3 but some problems noted)
- -resample in 9 months
- -specify long term plan for re-inspecting

Drains 230, 237A & B (235?)

City should:

1 -break watersheds down into sub-watersheds according to logical divisions within the storm drainage system.
2 -identify businesses in sub-watersheds for each drain system with potential to pollute
3 -sample manhole/catch basin sediments at a representative (downstream) point for each sub-watershed
4 -calculate loading analysis using "simple method" for each sub-watershed (may not include this)
5 -rank sub-watersheds for each drain system based on results of sampling and loading analysis and evaluation of potential problem businesses
6 -rank businesses within the worst sub-watersheds for inspections (prioritize according to a strategy - SIC codes, geographic, pretreatment needs, etc.).
7 -provide schedule for inspections (should be coordinated with pretreatment inspections and groundwater inspections where possible)
8 -conduct inspections
9 -develop method for keeping track of new businesses & inspecting them
10 -conduct particulate and whole water sampling twice per year for each drain
11 -develop a schedule for cleaning out catch basins and storm drain lines.
12 -develop a schedule for resampling catch basins

Sampling

Do one wet, one dry sample for water and particulates for 230, 237A & 237B (235?) each year.

MEMORANDUM

July 6, 1993

RECEIVED
JUL 2 2 1993
SUPERFUND REMEDIAL BRANCH

TO: Tacoma Storm Drains File

FROM: Joyce Mercuri

RE: Foss Waterway Storm Drains sediment analysis

The following charts summarize information available in the Department of Ecology UBAT database for Foss Waterway drains. The database contains records of individual sediment and particulate samples. Values for metals, PAHs, phenols and phthalates were averaged for each drain in order to evaluate the potential for recontamination of Foss Waterway sediments.

The tables showing average wet and dry weather particulates for drains 230, 237.1, 237.2, and 254 were generated from data contained in the City of Tacoma Surface Water Quality Study (Final), January 1990. These particulate samples were collected between 1986 and 1989. For a complete account of methods, consult the 1990 study. These tables also show the Sediment Quality Objective (SQO) from the CBN/T Record of Decision and five times the SQO for comparison to the average. Note that sample results for phthalates may have been affected by lab contamination, resulting in artificially high numbers.

The remaining tables show the average of all samples and the average of the most recent (1992-93) samples for drains 214, 218, 225, 235, 243, and 245. Where no sediment quality data are available, water quality data are presented. Samples were collected by Department of Ecology, City of Tacoma, or Tacoma-Pierce County Health Department staff between 1987 and 1993.

The City of Tacoma is expected to produce additional centrifuge particulate data for some of the Foss Waterway Drains within the next month.

cc: Karen Larsen
Karen Larsen
Dave Norton
Dave Smith
Hyun Um
Carol O'Keefe
Debbie Taines
Ann Wessel

FYI

FOSS DRAIN #230 (15TH AND DOCK - JOHNNYS SEAFOOD) 1986-89 DATA

AVERAGE* WET AND DRY WEATHER PARTICULATES

	Actual Average	Sediment Quality Objective (SQO)	5 X SQO
TOC (%)	10		
Oil & Grease mg/kg	73772		
Zinc mg/kg	5,433	410	2,050
Lead mg/kg	989	450	2,250
Mercury mg/kg	1.26	.59	2.95
Copper mg/kg	604	390	1,950
Cadmium mg/kg	7.83	5.1	25.5
Nickel mg/kg	1,671	>140	
Acenapthene ug/kg	187	500	2,500
Acenapthylene ug/kg	425	1,300	6,500
Anthracene ug/kg	2,022	960	4,800
Flourene ug/kg	684	540	2,700
Napthalene ug/kg	1,284	2,100	10,500
Phenanthrene ug/kg	8,318	1,500	7,500
TOTAL LPAH ug/kg:	12,921	5,200	26,000
Benzo(a)anthracene ug/kg	5,834	1,600	8,000
Benzoflouranthenes ug/kg	11,195	3,600	18,000
Benzo(ghi)perylene ug/kg	1,152	720	3,600
Benzo(a)pyrene ug/kg	3,180	1,600	8,000
Chrysene ug/kg	12,411	2,800	14,000
Dibenzo(ah)anthracene ug/kg	122	230	1,150
Flouranthene ug/kg	15,000	2,500	12,500
Indeno(123cd)pyrene ug/kg	1,608	690	3,950
Pyrene ug/kg	14,159	3,300	16,500
TOTAL HPAH ug/kg:	64,660	19,000	95,000
Phenol ug/kg	1,351	420	2,100
2-Methylphenol ug/kg	100	63	315
4-Methylphenol ug/kg	226	670	3,350
B2EHPht ug/kg	92,608	1,300	6,500
BBPht ug/kg	13,342	900	4,500

* Average of eight wet weather and nine dry weather sample events. Undetected constituents were averaged in at 1/2 the detection limit. The detection limit for organics was 200 ug/kg.

Source: City of Tacoma Surface Water Quality Study (Final). Public Works Department, Sewer Utility, January 1990.

AVERAGE* WET AND DRY WEATHER PARTICULATES

	Actual Average	Sediment Quality Objective (SQO)	5 X SQO
TOC %	13		
Oil & Grease mg/kg	113,895		
Zinc mg/kg	2,450	410	2,050
Lead mg/kg	470	450	2,250
Mercury mg/kg	1.1	.59	2.95
Copper mg/kg	382	390	1,950
Cadmium mg/kg	5.78	5.1	25.5
Nickel mg/kg	856	>140	
Acenapthene ug/kg	212	500	2,500
Acenaptylene ug/kg	785	1,300	6,500
Anthracene ug/kg	967	960	4,800
Flourene ug/kg	673	540	2,700
Napthalene ug/kg	648	2,100	10,500
Phenanthrene ug/kg	8,203	1,500	7,500
TOTAL LPAH ug/kg:	11,488	5,200	26,000
Benzo(a)anthracene ug/kg	2,354	1,600	8,000
Benzoflouranth ug/kg	7,582	3,600	18,000
Benzo(ghi)pery ug/kg	5,494	720	3,600
Benzo(a)pyrene ug/kg	2,620	1,600	8,000
Chrysene ug/kg	6,569	2,800	14,000
Dibenzo(ah)ant ug/kg	152	230	1,150
Flouranthene ug/kg	11,802	2,500	12,500
Indeno(123cd)pyrene ug/kg	3,690	690	3,950
Pyrene ug/kg	12,064	3,300	16,500
TOTAL HPAH ug/kg:	52,326	19,000	95,000
Phenol ug/kg	1,407	420	2,100
2-Mphenol ug/	100	63	315
4-Mphenol ug/	22,007	670	3,350
B2EHPht ug/kg	279,476	1,300	6,500
BBPht ug/kg	3856	900	4,500

* Average of eight wet weather and nine dry weather sample events. Undetected constituents were averaged in at 1/2 the detection limit. The detection limit for organics was 200 ug/kg.

Source: City of Tacoma Surface Water Quality Study (Final). Public Works Department, Sewer Utility, January 1990

AVERAGE* WET AND DRY WEATHER PARTICULATES

	Actual Average	Sediment Quality Objective (SQO)	5 X SQO
TOC %	6		
Oil & Grease mg/kg	54,760		
Zinc mg/kg	1,282	410	2,050
Lead mg/kg	422	450	2,250
Mercury mg/kg	.50	.59	2.95
Copper mg/kg	378	390	1,950
Cadmium mg/kg	2.82	5.1	25.5
Nickel mg/kg	1,120	>140	
Acenapthene ug/kg	104	500	2,500
Acenaptylene ug/kg	102	1,300	6,500
Anthracene ug/kg	6,260	960	4,800
Flourene ug/kg	20,160	540	2,700
Napthalene ug/kg	481	2,100	10,500
Phenanthrene ug/kg	40,553	1,500	7,500
TOTAL LPAH ug/kg:	139,578	5,200	26,000
Benzo(a)anthracene ug/kg	5,378	1,600	8,000
Benzoflouranth ug/kg	3,631	3,600	18,000
Benzo(ghi)pery ug/kg	813	720	3,600
Benzo(a)pyrene ug/kg	1,476	1,600	8,000
Chrysene ug/kg	7,793	2,800	14,000
Dibenzo(ah)ant ug/kg	124	230	1,150
Flouranthene ug/kg	21,632	2,500	12,500
Indeno(123cd)pyrene ug/kg	1,298	690	3,950
Pyrene ug/kg	97,434	3,300	16,500
TOTAL HPAH ug/kg:	67,659	19,000	95,000
Phenol ug/kg	1,046	420	2,100
2-Mphenol ug/	100	63	315
4-Mphenol ug/	100	670	3,350
B2EHPht ug/kg	521,869	1,300	6,500
BBPht ug/kg	11,655	900	4,500

* Average of eight wet weather and nine dry weather sample events. Undetected constituents were averaged in at 1/2 the detection limit. The detection limit for organics was 200 ug/kg.

Source: City of Tacoma Surface Water Quality Study (Final). Public Works Department, Sewer Utility, January 1990

AVERAGE* WET AND DRY WEATHER PARTICULATES

	Actual Average	Sediment Quality Objective (SQO)	5 X SQO
TOC %	8		
Oil & Grease mg/kg	48,725		
Zinc mg/kg	3,171	410	2,050
Lead mg/kg	416	450	2,250
Mercury mg/kg	.82	.59	2.95
Copper mg/kg	464	390	1,950
Cadmium mg/kg	3.79	5.1	25.5
Nickel mg/kg	1,466	>140	
Acenapthene ug/kg	394	500	2,500
Acenaptylene ug/kg	203	1,300	6,500
Anthracene ug/kg	1,054	960	4,800
Flourene ug/kg	4,247	540	2,700
Napthalene ug/kg	954	2,100	10,500
Phenanthrene ug/kg	4,792	1,500	7,500
TOTAL LPAH ug/kg:	11,644	5,200	26,000
Benzo(a)anthracene ug/kg	1,497	1,600	8,000
Benzoflouranth ug/kg	3,440	3,600	18,000
Benzo(ghi)pery ug/kg	358	720	3,600
Benzo(a)pyrene ug/kg	1,189	1,600	8,000
Chrysene ug/kg	3,869	2,800	14,000
Dibenzo(ah)ant ug/kg	100	230	1,150
Flouranthene ug/kg	5,739	2,500	12,500
Indeno(123cd)pyrene ug/kg	100	690	3,950
Pyrene ug/kg	5,280	3,300	16,500
TOTAL HPAH ug/kg:	21,572	19,000	95,000
Phenol ug/kg	1,583	420	2,100
2-Mphenol ug/	73,880	63	315
4-Mphenol ug/	141	670	3,350
B2EHPht ug/kg	270,145	1,300	6,500
BBPht ug/kg	4,712	900	4,500

* Average of six wet weather and nine dry weather sample events. Undetected constituents were averaged in at 1/2 the detection limit. The detection limit for organics was 200 ug/kg.

Source: City of Tacoma Surface Water Quality Study (Final). Public Works Department, Sewer Utility, January 1990

The following charts summarize the Department of Ecology Database on Foss Waterway drains other than 230, 237.1, 237.2 and 254. Sediment data is presented where available. If no sediment data is available, water quality data is presented only.

DRAIN 214 - SEDIMENT (7th & D- Near Globe Machine)	ALL SAMPLES AVERAGED 6/87 (Ecol.), 12/92 (Ecol.), 3/93 (City)	92-93 AVERAGE
Cd	4.62	4.43
Cu	210	184.5
Hg	.67	.05
Ni	52	40.1
Pb	367	304
Zn	500	406
HPAH	35150	13300 (from 3/93 only)
LPAH	9603	207 (from 3/93 only)

214: No water quality data available

DRAIN 218 - SEDIMENT (3rd & D)	9/24/92 -one sample (Ecol.)
Cd	1.6
Cu	269
Hg	.09
Ni	23.7
Pb	109
Zn	908
Phenol	410 ug/kg
PAH	Not analyzed

218: No water quality data available.

-continued-

DRAIN 225- WATER DATA (below 11th Street Br.)	9/8/92- one sample (Ecol.)
Cd	2
Cu	52
Hg	.05
Ni	10
Pb	20
Zn	41

No sediment quality data available.

DRAIN 235 - SEDIMENT (21st and Dock)	ALL SAMPLES AVERAGED 6/87 (Ecol.), 6/92 (Ecol.), 3/93 (City)	92-93 AVERAGE
Cd	3.2	2.8
Cu	129	124
Hg	.71	.22
Ni	49	60
Pb	289	226
Zn	295	287
LPAH	2747	2120
HPAH	22110	15665

Phenol, 120

235 Water: 9/92 - zn 230, pb 50, hg .11, cu 95.4, cd 2, ni 10, LPAH 2.1, HPAH 2, Acetone 7

Often smells like petroleum/solvents (?)

-continued-

DRAIN 243-SEDIMENT (21st and D)	ALL SAMPLES AVERAGED 6/87 (Ecol.), 4/89 (TPCHD), 3/93 (City)	1993 DATA
Cd	1.59	.66
Cu	253	135
Hg	.8	.41
Ni	35	25
Pb	235	79
Zn	291	160
LPAH	3655 (1987 & '93 data)	410
HPAH	13845 (1987 & '93 data)	2690

Phenol, 120
243 water: zn 87.5, pb 75, cd 3, ni 15, hg .05, cu 83.5

DRAIN 245 (Johnny's Restaurant Parking Lot)	ALL SAMPLES AVERAGED 6/87 (Ecol.), 9/92 (Ecol.), 3/93 (City)	1992 & 1993 DATA
Cd	5.84	2.76
Cu	1660	896
Hg	.83	.14
Ni	29	20
Pb	339	116
Zn	657	512
LPAH	3040 (1987 & '93 data)	3040 ('93 data)
HPAH	3044 (1987 & '93 data)	3040 ('93 data)

245 water: 1990, 1992 data: zn 160.5, pb 15.5, hg .05, cu 44.5, cd 2, ni 10, (1992 samples were higher)

Site File

Mary Riveland
~~CHRISTINE O. GREGOIRE~~
Director

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

7272 Cleanwater Lane, LU-11 o Olympia, Washington 98504-6811 o (206) 753-2353

UBAT MEMO

11/23/92

(Revised 6/1/93)

ROUTE TO: Dave Smith, Marv Coleman, Sandy Stephens, Dom Reale, Garin Schreive, Chris Neumiller

FROM: Joyce Mercuri JM

RE: Screening for sources of pollutants on Thea Foss and Wheeler-Osgood Waterways.

This is a summary of information known about drains on Foss Waterway. Specific sample data can be found in Foss Waterway water and sediment databases and MRP-2 database (TPCHD information). MRP data was included only if it included metals or organics information. This starts at the northeast bank near Time Oil and continues around the waterway. Numbers correspond to TPCHD map numbers.

219: Above ground oil water separator at Time Oil. 1990 Data shows L & HPAH in water. Bunker oil in groundwater, according to Dom. Petroleum odor.

218: Sampled catch basin in street upstream from outfall and upstream from intersection with D street. Wood dust was present. Phenol was present, just below SCO. Could be from Puget Sound Plywood or blowing wood dust from other wood products industries in the area.

738: Parking lot drain from Unocal Oil offices. Not sampled.

727: Seep. Not sampled.

217: OWS at Unocal. Not sampled.

216: Parking lot drain from BP Oil offices. Not sampled.

215: Oil water separator at BP. Not sampled.

214: Drains old Shell Oil and part of Coastcraft. No loose sediments in system. Outfall under water at time of most recent inspection. Runoff from Coast Craft stack wash goes into catch basin at head of this system. Checked catch basin where pipe from Coast Craft comes in.

Sediments were not oily, smelly, or suspicious in any way. 1987 catch basin sample from this system at the corner of 7th and D Streets showed zn, pb, hg, cu, and PAH. Catch basin at 7th and E Streets sampled 12/92 to determine input from old Shell Oil facility. Moderate levels of metals present, but not above normal street runoff. City of Tacoma sampled crusted sediments from manhole (3/93) and found elevated cadmium and slightly high zinc.

213: Paved area drain on north side of Globe Machine storage building. Used to be tanks from old Shell operation. Rudimentary oil/water separator.

739: Listed on map as oil/water separator in south parking lot of Globe storage building. OWS is not visible. Drainage in area has been modified for D Street Petroluem cleanup. The two outfalls have valves on them. PAHs identified in water in 1990. TPCHD notes many instances of petroleum odor, yellow color, and low DO. Water tested 12/91 by TPCHD and appeared normal.

210: Parking lot drain from Globe Machine engineering building.

209: Small system drains Globe Machine area. Drains appear to come from inside of old Fick building. Hits of copper (141 ug/l) and zinc (212 ug/l) in water. Inspection of buildings nearby did not show current ongoing source. Bank nearby had black material on it with slightly elevated lead.

208: Parking lot drain from old Fick Pattern Works building. Recently taken over by Totem Marine Services. Metal slag in bank in this area.

847: Triple outfall at Olympic Chemical. Need to look at NPDES permit.

XXX: Another drain with oil/water separator exists at the south end of the Olympic Chemical property. It is not on TPCHD map. Drains Olympic Chemical parking area. Not covered in NPDES.

XXX: Metal slag in bank in front of old Globe Machine building.

207: Small system drains part of old Fick Foundry & corner near Capital Material Handling. Not sampled. May be some cross connection to sanitary. TSU notified.

206: Fire station drain.

740: Formerly from Puget Sound Heat Treat. Building now vacant. Sampled. Slight elevated cu.

745, 741, 744: Parking lot drains from Petrich Marine Dock. No major housekeeping problems noted at site.

742: Parking lot drain from Woodworth construction. No major housekeeping problems noted at site. Some oily pavement.

260, 261: Behind Western Steel Fabricators. May be connected to solvent sump building. Sump has been sampled. No discharges observed from outfalls. Site is being investigated by owner under Ecology order.

259: Runoff from yard between Marine Floats warehouse and Western Steel.

258: Series of drains from Marine Floats/Return, Inc. warehouse.

257, 256: Same as above.

254: Wheeler/Osgood Drain. Lots of information available.

253: Outfall from old brick structure on Wheeler/Osgood waterway. No discharge to sample. No suspected problems.

252: Outfall from Johnson/Postman area. Not sampled. No suspected problems.

251: same as above.

250: Drain from J.D. English parking lot. No problems in this area.

249: Outfall from West Coast Grocery, including OWS from fuel station in north lot. Water sampled. Water was black in color. Very low oil & grease. Moderately high copper, lead, high zinc. TPCHD has noted petrol and diesel odors a couple of times. Receives some runoff from Arrow Transportation. City checked drainage for cross connections with city system and found none.

248: Short system drains E. 18th Street near West Coast Grocery warehouse. Not sampled. No problems in this area. TPCHD has observed suds from this drain.

247: Distributary from system that drains 245. Not sampled.

246: Two small drains below Johnny's Restaurant. Not sampled.

245: Outfall and manhole in parking lot at Johnny's Restaurant. Manhole contains large sump. Drains E. 19th St., including former runoff from W. Coast Grocery truck wash and current partial runoff from Arrow Transportation. Water from outfall had only minor copper hit. Outfall often has strong H2S smell. Manhole showed high zn, pb, hg, cu, cd, and some PCB in 1987. Recent Ecology sample (fall, '92) shows less metals, .3 ppm PCB, and high cu. City sampled sediments in March '93 and found elevated cu (602 mg/kg) and zn (494 mg/kg). Exceeds SQO for B2EHP. Picks Cove boatyard drainage is at least partially connected to this outfall.

244: Picks Cove boatyard runoff. High zn, cu. Very high pH. Paint observed in discharge by TPCHD.

243: Drains E. 21st St./BN Rail Yard/Pickering Industries. High cu in water

at manhole upstream from D St. (1992), high hg and elevated cu, zn in pipe mouth sediments (1987). Some H2S smell at outfall. Pickering may have dumped glues into storm drains in the past. City sediment samples from 3/93 do not show elevated metals or organics upstream of Pickering.

743: Small PVC pipe from Pickering Industries offices. No sample data (no discharges observed). Building will be demolished for new highway.

242: Pipe near American Plating. No information.

748: Seep and pipe from American Plating. Sampled at low tide. No problems.

240, 241: Pipes near American Plating. TPCHD observed high turbidity & low dissolved oxygen.

239: Pipe at Berg Scaffolding. Berg washes fork lifts over storm drains. Not sampled. TPCHD observed high turbidity.

238: Seeps near Berg Scaffolding. Not sampled.

237 E. and W.: Twin 96'ers.

236: Mystery pipe. Haven't seen it, even at low tides.

235: S. 21st St. system. Hg, B2EHP, PCB in soils above pipe. elevated zn, cu, cd in water. BNA sample was pretty clean. 7 ug/l acetone. Many incidents of petroleum odors and sheens noted. May possibly be related to tank leaks at Union Station. (Marv is looking into further). City sampled pipe mouth sediments 3/93 - no elevated metals. Some elevated phthalates and lpahs.

778, 777: Small pipes near ground level at Harmon Cabinets. Probably former boiler blowdown.

703: Underground pond at Harmon Cabinets. Soils near pond showed 3.1 ppm phenol in 1986. Chlorinated ethanes present in water in 1983. 1992 sample showed no phenol in water but 27 ug/l acetone. No current pathway/source found inside Harmon building.

233: Drain from below Albers Mill. Not sampled.

776: Drain from below Morris Marina (Old Pacific Coast Oil site). No current problems on site. Not sampled.

232: Series of drains from old North Pacific Plywood site. Not sampled.

839: Drain from old Scofield site. Not sampled.

231: Seep from old Scofield site. Not sampled.

230: "Johnny's" drain. Pipe sediments have high metals, oil & grease, phenol. Water sample had elevated zn, cu, pb. TPCHD has observed petroleum odors, sheen, and dye. Johnny's washes fish waste into this drain.

229: Colonial Fruit and produce. Not sampled. No problems at site.

791: Same as above.

790: Drain at S. End of old Central Heating Plant. UST cleanup completed winter '93. No off-site contamination found. Pipe no longer connected to anything.

228: Drain at N. end of old Central Heating Plant.

796: Seep near old steam plant. Not sampled.

227: Pipes at Sea-Scouts Building. Not sampled. No current problems on site.

226: Same as above.

838: Parking lot drains from Sea Scouts building.

XXX: West bank near 11th Street Bridge. Metal shavings all throughout bank in this area. Needs to be sampled.

225: 11th Street drain. Drains downtown. Water sample was surprisingly clean. No problems.

224: Pipe under 11th St. Bridge. Not sampled.

223: Short drain system for runoff from storage buildings at Totem Marina. No data. No problems in area.

222: Same as above.

221: Parking lot drain from The Dock. No data. No problems in area.

- Send TPHD to PLI
- Tell Lori @ GW-Dist summarize

April 20, 1993

MEMORANDUM

RE: Analytical data on banks soils and/or waste materials along the Thea Foss Waterway: Reviewed or developed by Ecology.

The sites discussed in this memorandum are those that are known to have visible or documented nearshore bank contamination (e.g., sludge, coal tar, sandblast grit, wood waste, foundry slag and other pyrogenic waste, and demolition debris). This memo does not document or describe all sediment contamination along the banks or intertidal zones of the waterway. Although this data can be used as indicators of potential site contamination problems, further characterization of contamination may be necessary.

Additional information on individual sites and copies of laboratory data sheets are contained in inspection reports for Thea Foss Waterway retained by the Ecology SWRO UBAT program.

FORMER ATLAS FOUNDRY (Map No. 5)

Consolidated foundry slag on bank, extending down into water beneath the 11th Street Bridge. Extent of bank deposit from Atlas south to Coast Iron area is unknown due to bulkhead construction. Sporadic nodes of waste material are evident along this area. Total metals analysis of one grab sample taken in December 1992:

Sample ATL1BANK

Antimony	42	mg/kg
Arsenic	29.1	mg/kg
Cadmium	**9.3**	**mg/kg**
Chromium	**420**	**mg/kg***
Copper	**19,600**	**mg/kg**
Lead	**2,350**	**mg/kg**
Mercury	0.28	mg/kg
Nickel	**560**	**mg/kg**
Silver	1.5	mg/kg
Zinc	**2,220**	**mg/kg**

FORMER COAST IRON FOUNDRY (Map No. 18)

Apparently similar material to that described above; was sampled prior to construction of boardwalk, into upper part of bank. This material is now covered by rip rap down to lower tide level, where it then juts out into the water below the rip rap. EPTOX analyses were performed as the material was being characterized for possible disposal; taken in December 1989:

	Sample 15+00		Sample 15+62		Sample 15+74	
Arsenic EPTOX	<5.0	mg/l	<5.0	mg/l	<5.0	mg/l
Barium EPTOX	<100	mg/l	<100	mg/l	<100	mg/l
Cadmium EPTOX	<1.0	mg/l	<1.0	mg/l	1.0	mg/l
Chromium EPTOX	<5.0	mg/l	<5.0	mg/l	<5.0	mg/l
Lead EPTOX	<5.0	mg/l	<5.0	mg/l	<5.0	mg/l
Mercury EPTOX	<0.1	mg/l	<0.1	mg/l	<0.1	mg/l
Selenium EPTOX	<1.0	mg/l	<1.0	mg/l	<1.0	mg/l
Silver EPTOX	<5.0	mg/l	<5.0	mg/l	<5.0	mg/l
Endrin EPTOX	<0.02	mg/l	<0.02	mg/l	<0.02	mg/l
Lindane EPTOX	<0.4	mg/l	<0.4	mg/l	<0.4	mg/l
Methoxychlor "	<10	mg/l	<10	mg/l	<10	mg/l
Toxaphene EPTOX	<0.5	mg/l	<0.5	mg/l	<0.5	mg/l
2,4-D EPTOX	<10	mg/l	<10	mg/l	<10	mg/l
2,4,5-T EPTOX	<1	mg/l	<1	mg/l	<1	mg/l
PAH - Total	2,391	ug/kg	2,712	ug/kg	4,630	ug/kg
(PAH compounds reported were inconsistant; no explanation in report)						
TOC - Total	11,400	mg/kg	26,200	mg/kg	24,400	mg/kg
TOX - Total	<1,000	ug/kg	<1,000	ug/kg	<1,000	ug/kg
TPH - Total	4,418	mg/kg	1,739	mg/kg	198	mg/kg

FORMER CITY OF TACOMA STEAM PLANT (Map No. 16)

Sampling done in 1988 prior to demolition of the plant yielded mercury (HG) hits in intertidal and upland portions of the site and structures. Both are of concern with respect to sediments, the former for obvious reasons, the latter because some of the demolition debris was placed into the water along the site banks. A second round of sampling was done in August 1993 by Ecology and Tacoma City Light to see if residuals remain on the site:

Sample ID	Hg mg/kg	Pb mg/kg	Cd mg/kg
(1988)			
Composite of concrete chips and pipe material from discharge tunnel	27.8		
Boiler ash	7.6		
Boiler ash	2.08		
Floor drain between boilers & shop	10.4		
Floor drain between boilers & shop	14.4		
Trap door from room A	120		
Trap door from room C	1.38		
Exposed soil at NE corner of bldg.	0.64		
(1993)			

#1 Upper bank sediments	0.83		
#2 Lower bank sediments	0.66		
#3 Lower bank sediments	0.08u		
#4 "Stack" of consolidated waste	0.19	658.1	6.5

GLOBE MACHINE & TOTEM MARINE SERVICES (Map Nos. 24, 28A, & 28D)

Consolidated and unconsolidated foundry wastes from former Fick and possibly Globe operations. Initial sampling was done in December 1992 for total metals; follow-up sampling was done in January 1994 for total metals and metals using an ASTM water leach and TCLP extraction. The latter analyses were done to get a rough idea of the relative leachability of the metals in the waste materials:

Sample ID (Totals)	Cd mg/kg	Cu mg/kg	Pb mg/kg	Zn mg/kg	Ni mg/kg
12/16/92	5.7	705	120	212	373
Globe-Top of Bank	4.08	512	82.5	43.5	182
Globe-Bot of Bank	3.54	348	86.4	130	143
Totem-Top of Bank	1.4	242	43.8	92.2	253
Totem-Bot of Bank	5.76	446	42.1	53.8	386
(Leach)	ug/l	ug/l	ug/l	ug/l	ug/l
Globe-ASTM H_2O	3u	8.3j	20u	na	30j
Totem-TCLP	3u	na	20u	na	na

INVESTCO (aka FORMER CONSUMER'S CENTRAL HEATING PLANT) (Map No. 34)

While investigating the steam plant site, consolidated, seemingly pyrogenic waste material similar to that found in the intertidal zone of the steam plant was noted in the intertidal zone of the Investco property. Two samples, SPB1 from the north face of the deposit, and SPB2 from the east (waterward) face of the deposit were taken for total metals in December 1993:

Sample ID	Cd mg/kg	Cu mg/kg	Pb mg/kg	Hg mg/kg	Zn mg/kg
SPB1	1u	203	13	.136	116
SPB2	.2u	181	111	4.76	202

NORTH PACIFIC PLYWOOD (Map No. 47)

The presence of sawdust and burned sawdust on the site shoreline, and anecdotal evidence regarding dumping and burning of glue wastes prompted sampling of the woodwastes in July 1993. Sample -1SS is representative of the burned material and adjacent sediment; sample -2SS is representative of the unburned material and adjacent sediment:

Sample ID	Total Phenols ug/kg
TFNPP1SS	300
TFNPP2SS	280

Some petroleum hydrocarbon staining along the shoreline of this parcel and the adjacent south Scofield parcel was also investigated. The property at the south end has upland subsurface petroleum hydrocarbon contamination, but the shoreline deposits consist of solid asphaltic materials. Due to their nature, they were not sampled.

NORTH SCOFIELD (Map No. 63A)

No data for this property is included herein, as the only data reviewed is of questionable quality and is quite old. However, the site is generally known to have suffered from the dumping of copius quantities of concrete derived wastes at the northeast corner, in particular. No data has been developed that indicates that CBN/T chemicals of concern are extant in this area, but the shoreline and banks are likely to contain materials that are quite alkaline in nature.

HARMON CABINETS (Map No. 29)

Anecdotal evidence had indicated that waste glues, and perhaps other wastes, had historically been dumped beneath the building into a pond that underlies the structure. The water from the pond was sampled in September 1992; the pond sediments were not sampled since it seems unlikely that the sediments would be carried from the pond to the waterway. A subsequent inspection of the building and interview of its owner substantiated the probability that glue dumping into this area was unlikely:

Sample ID	Total Phenolics ug/l	Acetone ug/l
FOSSCB92	2u	27 (likely lab contam.)

J.M. MARTINAC (Map No. 36)

The northern end of the shoreline of this property is covered with sandblast grit. Under their NPDES permit, Martinac is required to remove the grit. The company is currently negotiating with Ecology regarding procedures to do so.

TACOMA COAL GASIFICATION SITE (Map No. 68)

Nearshore groundwater, soils, sludges, and seep samples have been obtained for this site. The data is available from Ecology SWRO UBAT. The site is currently under an Agreed Order to investigate and develop interim remediation measures to address the contamination that poses a threat to the waterway.

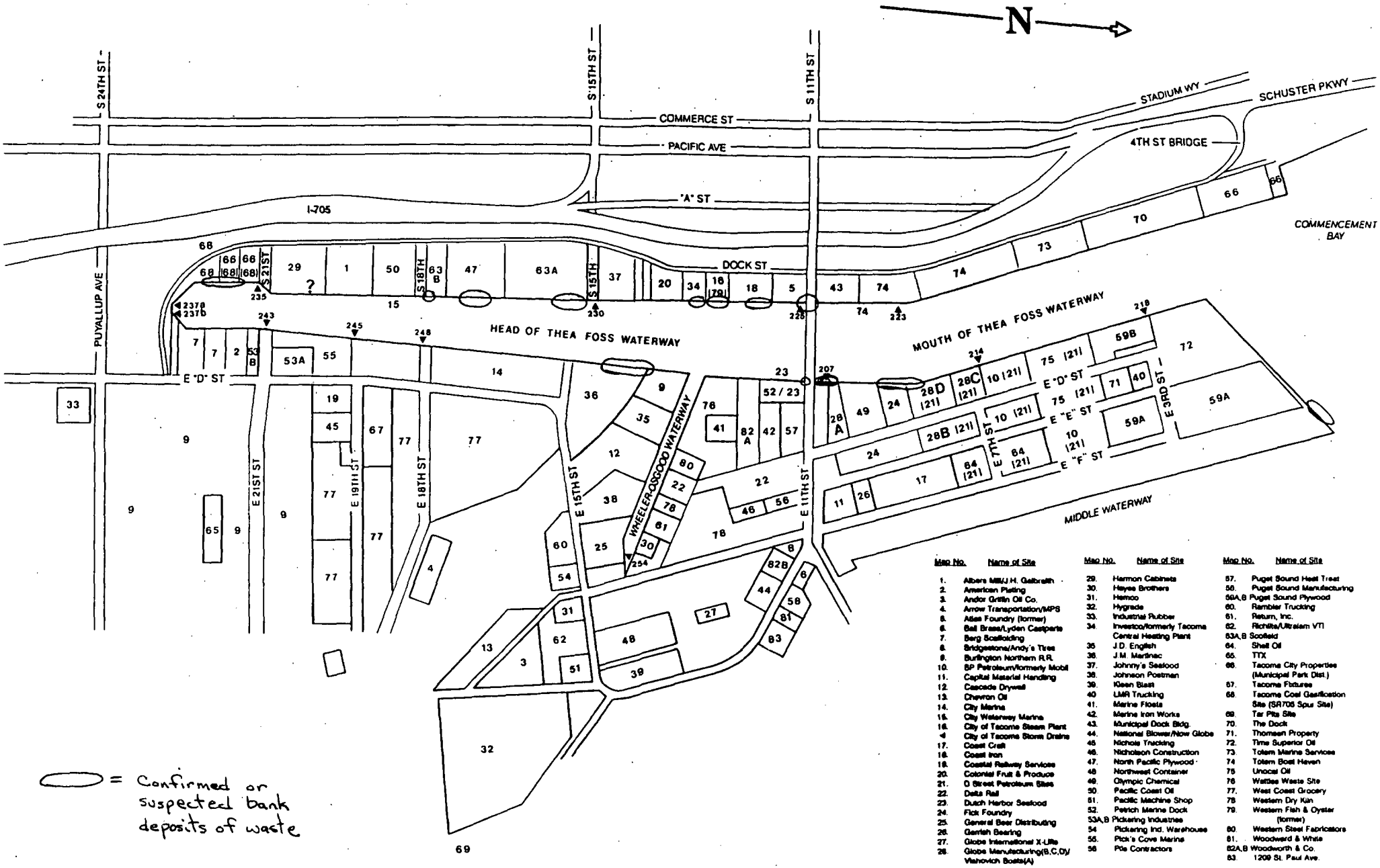
JOHNNY'S DOCK (Between Map Nos. 14 & 55)

Under a recent City of Tacoma Shoreline Permit, EPA required Johnny's Dock Restaurant to collect and analyze one sample of sediments adjacent to their property. The sample was collected prior to placement of new rip rap. EPA allowed the placement of rip rap because chemical concentrations did not exceed the CBN/T SQOs. Results are available from EPA Region X.

u = undetected at concentration shown
Bold = Above CBN/T SQOs.
* = Above Chapter 173-204 WAC Marine Sediment Quality Standard, where no CBN/T SQO is established.

MAP A

THEA FOSS/WHEELER OSGOOD PROPERTIES



Map No.	Name of Site
1.	Albers Mill/J.H. Galbraith
2.	American Plating
3.	Andor Griffin Oil Co.
4.	Arrow Transportation/MPG
5.	Atlas Foundry (former)
6.	Ball Brass/Lyden Castparts
7.	Berg Scaffolding
8.	Bridgestone/Andy's Tires
9.	Burlington Northern R.R.
10.	BP Petroleum/formerly Mobil
11.	Capital Material Handling
12.	Cascade Drywall
13.	Chevron Oil
14.	City Marina
15.	City Waterway Marina
16.	City of Tacoma Steam Plant
4	City of Tacoma Storm Drains
17.	Coast Craft
18.	Coast Iron
19.	Coastal Railway Services
20.	Colonial Fruit & Produce
21.	D Street Petroleum Sites
22.	Delta Rail
23.	Dutch Harbor Seafood
24.	Fick Foundry
25.	General Bear Distributing
26.	Garrish Bearing
27.	Globe International X-Ultra
28.	Globe Manufacturing(B,C,D)/ Vlahovich Boats(A)
29.	Harmon Cabinets
30.	Hayes Brothers
31.	Hemco
32.	Hygrade
33.	Industrial Rubber
34.	Investco/formerly Tacoma Central Heating Plant
35	J.D. English
36.	J.M. Martinac
37.	Johnny's Seafood
38.	Johnson Postman
39.	Klean Blast
40	LMR Trucking
41.	Marine Floats
42.	Marine Iron Works
43.	Municipal Dock Bldg.
44.	National Blower/Now Globe
45	Nichols Trucking
46.	Nicholson Construction
47.	North Pacific Plywood
48	Northwest Container
49.	Olympic Chemical
50.	Pacific Coast Oil
51.	Pacific Machine Shop
52.	Petrich Marine Dock
53A,B	Pickering Industries
54	Pickering Ind. Warehouse
55.	Pick's Cove Marina
56	Pile Contractors
57.	Puget Sound Heat Treat
58.	Puget Sound Manufacturing
59A,B	Puget Sound Plywood
60.	Rambler Trucking
61.	Return, Inc.
62.	Richlite/Ultralam VTI
63A,B	Scofield
64.	Shell Oil
65.	TTX
66.	Tacoma City Properties (Municipal Park Dist.)
67.	Tacoma Fixtures
68.	Tacoma Coal Gasification Site (SR705 Spur Site)
69.	Tar Pits Site
70.	The Dock
71.	Thomsen Property
72.	Time Superior Oil
73.	Totem Marine Services
74	Totem Boat Haven
75	Unocal Oil
76	Wattles Waste Site
77.	West Coast Grocery
78	Western Dry Kiln
79.	Western Fish & Oyster (former)
80	Western Steel Fabricators
81.	Woodward & White
82A,B	Woodworth & Co.
83	1209 St. Paul Ave.