

Lower Duwamish Waterway RM 2.3-2.8 East Seattle Boiler Works to Slip 4

Summary of Existing Information and Identification of Data Gaps

Prepared for



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Acronyms and Abbreviations

ASR	auto shredder residue
AST	above ground storage tank
BEHP	bis(2-ethylhexyl)phthalate
bgs	below ground surface
BMP	best management practice
BTEX	benzene, toluene, ethylbenzene, and xylenes
CDL	construction, demolition, and land-clearing debris
COC	chemical of concern
cPAH	carcinogenic polynuclear aromatic hydrocarbon
CSCSL	Confirmed and Suspected Contaminated Sites List
CSL	Cleanup Screening Level
CSO	combined sewer overflow
DCA	dichloroethane
DCE	dichloroethene
DMR	discharge monitoring report
DW	dry weight
ECHO	Enforcement and Compliance History Online
Ecology	Washington State Department of Ecology
EOF	Emergency Overflow
EP	extraction procedure
EPA	U.S. Environmental Protection Agency
E&E	Ecology & Environment, Inc.
FSD	Ecology Facility/Site Database
GIS	Geographic Information Systems
GWC	Great Western Chemical
GWCC	Great Western Chemical Company
GWI	Great Western International
HPAH	high molecular weight polynuclear aromatic hydrocarbon
ISIS	Integrated Site Information System
ISO	International Standards Organization
LAET	Lowest Apparent Effects Threshold
LDW	Lower Duwamish Waterway
LDWG	Lower Duwamish Waterway Group
LPAH	low molecular weight polynuclear aromatic hydrocarbon
LPG	Liquefied Petroleum Gas
LUST	leaking underground storage tank
MCL	Maximum Contaminant Level
METRO	King County Department of Metropolitan Services
MDI	dimethyldiisocyanate
µg/L	micrograms per Liter
mg/kg	milligrams per kilogram
mg/L	milligrams per Liter
mgy	million gallons per year
MTCA	Model Toxics Control Act

Acronyms and Abbreviations (Continued)

NAICS	North American Industry Classification System
NAPL	non aqueous phase liquid
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge and Elimination System
NWRO	Northwest Regional Office
OC	organic carbon
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PCS	petroleum contaminated soil
PCT	polychlorinated terphenyl
ppm	parts per million
PSAPCA	Puget Sound Air Pollution Control Agency
PSTL	Puget Sound Truck Lines
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
RM	river mile
SAIC	Science Applications International Corporation
SCAP	Source Control Action Plan
SHA	Site Hazard Assessment
SIC	Standard Industrial Classification
SL	screening level
SKCDPH	Seattle-King County Department of Public Health
SMS	Sediment Management Standards
SPU	Seattle Public Utilities
sq. ft.	square foot
SQS	Sediment Quality Standard
SVOC	semivolatile organic compound
SWPPP	Storm Water Pollution Prevention Plan
TCA	trichloroethane
TCE	trichloroethylene
TOC	total organic carbon
TPH	total petroleum hydrocarbons
TRI	Toxics Release Inventory
TSCA	Toxic Substances Control Act
UST	underground storage tank
VC	vinyl chloride
VCP	Voluntary Cleanup Program
VOC	volatile organic compound
WBZ	water-bearing zone
WQS	water quality standard
WWTP	wastewater treatment plant

1.0 Introduction

1.1 Background and Purpose

This *Summary of Existing Information and Identification of Data Gaps* report (Data Gaps report) pertains to River Mile (RM) 2.3-2.8 East¹ (Seattle Boiler Works to Slip 4), one of several source control areas identified as part of the overall cleanup process for the Lower Duwamish Waterway (LDW) Superfund Site (Figure 1). It summarizes readily available information regarding properties in the RM 2.3-2.8 East drainage basin. The purpose of the Data Gaps report is to:

- Identify chemicals of potential concern in sediments within the RM 2.3-2.8 East source control area;
- Evaluate potential contaminant migration pathways to RM 2.3-2.8 East sediments;
- Identify and describe potential adjacent or upland sources of contaminants that could be transported to sediments;
- Identify critical data gaps that should be addressed in order to assess the potential for recontamination of sediments and the need for source control; and
- Determine what, if any, effective source control is already in place.

The LDW was added to the U.S. Environmental Protection Agency (EPA) National Priorities List in September 2001 due to chemical contaminants in sediment. The key parties involved in the LDW Superfund site are the Lower Duwamish Waterway Group (LDWG; comprised of the city of Seattle, King County, the Port of Seattle, and The Boeing Company), EPA, and the Washington State Department of Ecology (Ecology). LDWG is conducting a Remedial Investigation/Feasibility Study (RI/FS) for the LDW Superfund site.

Data collected during the Phase I Remedial Investigation (RI) were used to identify locations that could be candidates for early cleanup action. Seven candidate early action sites (or Tier 1 sites) were identified. Ecology's *Lower Duwamish Waterway Source Control Status Report, 2003 to June 2007* (Ecology 2007e) identified another eight areas where source control actions may be necessary. RM 2.3-2.8 East (Seattle Boiler Works to Slip 4) was identified as one of these Tier 2 sites.² Subsequently, Ecology and EPA redefined the boundaries of these and eight additional source control areas, generally defined by stormwater drainage basins, as shown in Figure 1.

Ecology is the lead agency for source control for the LDW Superfund site. Source control is the process of finding and eliminating or reducing releases of contaminants to LDW sediments, to the extent practicable. The goal of source control is to prevent sediments from being recontaminated after cleanup has been undertaken.

The LDW Source Control Strategy (Ecology 2004) describes the process for identifying source control issues and implementing effective controls for the LDW. The basic plan is to identify and manage potential sources of sediment recontamination in coordination with sediment cleanups.

¹ River miles as defined in this report are measured from the southern tip of Harbor Island.

² Note: The RM 2.3-2.8 East Source Control Area was identified in previous documents as Tier 2 Area 10 (T2A-10).

Source control will be achieved by using existing administrative and legal authorities to perform inspections and require necessary source control actions.

The strategy is based primarily on the principles of source control for sediment sites described in EPA's *Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites* (EPA 2002), and the Washington State Sediment Management Standards (SMS; WAC 173-340-370[7] and WAC 173-204-400). The Source Control Strategy involves developing and implementing a series of detailed, area-specific Source Control Action Plans (SCAPs).

Before developing a SCAP, Ecology prepares a Data Gaps Report for the source control area. Findings from the Data Gaps report are reviewed by LDW stakeholders and are incorporated into the SCAP. This process helps to ensure that the action items identified in the SCAP will be effective, implementable, and enforceable. As part of the source control efforts for RM 2.3-2.8 East, Ecology requested Science Applications International Corporation (SAIC) to prepare this Data Gaps report.

1.2 Report Organization

Section 2 provides background information on the RM 2.3-2.8 East source control area, including location, physical characteristics, chemicals of concern, and pathways by which contaminants may reach sediments. Sections 3 through 5 describe potential sources of contaminants and data gaps that must be addressed in order to develop a SCAP for the site. Section 6 provides a summary of data gaps, and Section 7 lists the documents reviewed during preparation of this report.

Information presented in this report was obtained from the following sources:

- Ecology Northwest Regional Office (NWRO) Central Records
- Washington State Archives
- EPA files
- Seattle Public Utilities (SPU) Business Inspection reports
- Ecology Underground Storage Tank (UST) and Leaking Underground Storage Tank (LUST) lists
- Ecology Facility/Site Database (FSD)
- Ecology Integrated Site Information System (ISIS) Database
- Washington Confirmed and Suspected Contaminated Sites List (CSCSL)
- EPA Enforcement and Compliance History Online (ECHO)
- EPA Envirofacts Warehouse
- King County Geographic Information Systems (GIS) Center Parcel Viewer and Property Tax Records
- GIS shape files produced by SPU

1.3 Scope of Report

This report documents readily available information relevant to potential sources of sediment recontamination at RM 2.3-2.8 East, including outfalls, adjacent properties, and upland properties. This report does not identify or assess the possibility of migration from sources outside of the RM 2.3-2.8 East drainage basin.³

Air pollution is a potential source of contaminants to sediments with origins outside of the RM 2.3-2.8 East drainage basin. Although limited discussion of atmospheric deposition is provided in Section 2, the scope of this report does not include an assessment of data gaps pertaining to the effects of air pollution on RM 2.3-2.8 East sediments. Because air pollution is a concern for the wider LDW region, Ecology will review work being conducted by the Washington State Department of Health and planned by the Puget Sound Partnership regarding atmospheric deposition. Ecology is planning to hire a contractor to develop options and recommendations for addressing data gaps related to air pollution.

Data presented in this report are limited to RM 2.3-2.8 East, adjacent and upland properties, and direct discharges. This report focuses only on upland sources that have the potential to recontaminate RM 2.3-2.8 East area sediments in the event that sediment remediation is required. This does not preclude the potential for recontamination from capped sediments if this remedial option is selected. Source control with regard to any contaminated sediments left in place will be important to address as part of the remedial action selection process for RM 2.3-2.8 East.

Chemical data have been compared to relevant regulatory criteria and guidelines, as appropriate. The level of assessment conducted for the data reviewed in this report is determined by the source control objectives. The scope of this Data Gaps report does not include data validation or analysis that exceeds what is required to reasonably achieve source control.

³ The area referred to herein as the 'RM 2.3-2.8 East drainage basin' is actually a sub-drainage of the LDW drainage basin, and is defined by stormwater collection systems and outfalls. In other words, the area from which stormwater drains to RM 2.3-2.8 East is defined as the RM 2.3-2.8 East drainage basin, as shown in Figure 5.

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2.0 RM 2.3-2.8 East (Seattle Boiler Works to Slip 4)

The RM 2.3-2.8 East Source Control Area is located along the eastern side of the LDW Superfund Site between 2.3 and 2.8 miles from the southern end of Harbor Island (Figure 1). Properties located directly adjacent to the LDW that could affect sediments at RM 2.3-2.8 East, from north to south, are shown in Figure 2. These are:

- Guimont parcel,
- Seattle Boiler Works,
- Seattle Iron & Metals,
- Puget Sound Truck Lines/Phil's Finishing Touch,
- Seattle City Light, and
- Crowley Marine Services.

Upland properties that could potentially affect RM 2.3-2.8 East sediments include:

- Fox Avenue Building/Fox Avenue Building #2,
- Whitehead Company/Former Tyee Industries,
- Whitehead Company/Former Perkins Lot,
- Trim Systems,
- Nitze-Stagen/Frye Parcels,
- Nelson Trucking,
- Former Sternoff Parcel,
- Markey Machinery Company, and
- El Gallo D'Oro/James Dore

To the east of these properties is East Marginal Way S.; across this roadway to the north are residential areas, and to the northeast is North Boeing Field. To the northwest of the RM 2.3-2.8 East source control area are Slip 3, Northland Services/Glacier Marine Services, and Shultz Distributing, while Slip 4 is located to the south.

2.1 Site Description

General background information on the LDW is provided in the Phase I RI Report (Windward 2003), which describes the history of dredging/filling and industrialization of the Duwamish River and its environs, as well as the physiography, physical characteristics, hydrogeology, and hydrology of the area.

The upland areas adjacent to the LDW have been industrialized for many decades; historical and current commercial and industrial operations in the vicinity of RM 2.3-2.8 East include food products manufacturing and distribution, metal products fabrication and recycling, cargo handling and storage, chemical repackaging and distribution, coffee roasting, heavy equipment storage, and truck interior manufacturing.

In the late 1800s and early 1900s, extensive topographic modifications were made to the Duwamish River to create a straightened channel; many of the current side slips are remnants of old river meanders.

Groundwater in the Duwamish Valley alluvium is typically encountered within about 3 meters (10 feet) of the ground surface and under unconfined conditions (Windward 2003). The general direction of groundwater flow is toward the LDW, although the direction may vary locally depending on the nature of the subsurface material, and temporally, based on proximity to the LDW and the influence of tidal action. High tides can cause temporary groundwater flow reversals, generally within 100 to 150 meters (300 to 500 feet) of the LDW (Booth and Herman 1998).

Bottom sediment composition is variable throughout the LDW, ranging from sands to mud. Typically, the sediment consists of slightly sandy silt with varying amounts of organic detritus. Coarser sediments are present in nearshore areas adjacent to storm drain discharges (Weston 1999); finer grained sediments are typically located in remnant mudflats and along channel side slopes. Sediments within RM 2.3-2.8 East consist of 4 to 92 percent fines (dry weight [DW]) and in the range of <1 to 2.8 percent total organic carbon (TOC) (Windward 2003, 2005a, 2005b, 2007a, 2007b).

Numerous private outfalls are present along the shoreline in this area. City of Seattle municipal outfalls are located near the west ends of S. Myrtle Street and S. Garden Street (Figure 5). The extent of the areas drained by these outfalls appears to be limited to the parcels on the west side of East Marginal Way S. between RM 2.3 and 2.8 East.

Groundwater flow in the vicinity of RM 2.3-2.8 East is generally toward the LDW and the S. Myrtle Street Embayment.

2.2 Chemicals of Concern in Sediment

Results of sediment sampling near RM 2.3-2.8 East are provided in Appendix A; chemical results exceeding the Sediment Management Standards (SMS) are summarized in Tables 1 and 2. Sediment sampling locations are shown in Figure 3.

2.2.1 Sediment Investigations

Sediment samples have been collected from the area near RM 2.3-2.8 East as part of the following investigations:

- **Duwamish Waterway Sediment Characterization Study (NOAA 1998)**

Seventeen samples were collected in the vicinity of RM 2.3-2.8 East. Results from these sample locations are included in Appendix A. Samples were analyzed for polychlorinated biphenyls (PCBs) and polychlorinated terphenyls (PCTs).

- **EPA Site Inspection, Lower Duwamish River (Weston 1999)**

Seventeen surface sediment samples were collected in the vicinity of RM 2.3-2.8 East. Results from these sample locations are included in Appendix A. Samples were analyzed

for volatile organic compounds (VOCs) semivolatile organic compounds (SVOCs), metals, PCBs as Aroclors and congeners, dioxins/furans, and TOC.

- **LDW Phase II Remedial Investigation, Round 1 and 2 Surface Sediment Sampling (Windward 2005a, 2005b)**

Seven surface sediment samples were collected during two rounds of sampling for the Phase II RI in 2005. Results from these sampling locations are included in Appendix A. All samples were analyzed for the SMS list of chemicals and SVOCs. A subset of samples was also analyzed for organochlorine pesticides (one sample), dioxins/furans (one sample), and PCB congeners (two samples).

- **LDW Phase II RI Subsurface Sediment Sampling (Windward 2007a)**

Twenty-four sediment samples were collected from five coring locations in 2006. Results from these sample locations are included in Appendix A. Samples were analyzed for metals, SVOCs, and PCBs. In addition, the samples from location SC41 were analyzed for dioxins/furans.

- **LDW Phase II Remedial Investigation, Round 3 Surface Sediment Sampling (Windward 2007b)**

Two surface sediment samples were collected in 2006. Results from these sample locations are included in Appendix A. The samples were analyzed for metals, SVOCs, and PCBs.

2.2.2 Identification of Chemicals of Concern

A chemical of concern (COC) is defined in this report as a chemical that is present at concentrations above regulatory criteria in RM 2.3-2.8 East sediments, and is therefore of particular interest with respect to source control. These COCs are the initial focus of the evaluation of potential contaminant sources.

The Washington SMS (Chapter 173-204 WAC) establish marine Sediment Quality Standard (SQS) and Cleanup Screening Level (CSL) values for some chemicals that may be present in sediments. The SQS values correspond to a sediment quality level that will result in no adverse effects on biological resources and no significant human health risk. CSLs represent minor adverse effects levels used as an upper regulatory threshold for making decisions about source control and cleanup.

A chemical was identified as a COC for RM 2.3-2.8 East if it was detected in surface or subsurface sediment at concentrations above the SQS and/or CSL. A comparison of sample results to the SQS and CSL values is provided in Appendix A, and those chemicals that were detected at concentrations above their respective SQS/CSL values are listed in Tables 1 and 2 for surface and subsurface sediments, respectively. For non-polar organics, the measured dry weight concentrations were organic carbon (OC) normalized to allow comparison to the SQS/CSL. Chemicals detected in sediment for which no SQS/CSL values are available may be identified as COCs on a case-by-case basis.

Contaminants may be present in soil, groundwater, stormwater, or stormwater solids at concentrations above regulatory criteria and/or soil-to-sediment or groundwater-to-sediment screening levels. While not currently considered COCs in sediment, these chemicals may warrant further investigation, depending on site-specific conditions, to evaluate the likelihood that they will lead to exceedance of marine sediment CSLs. These additional contaminants are discussed as appropriate in Sections 3 through 5.

Mercury, polynuclear aromatic hydrocarbons (PAHs), and PCBs exceeded the SQS values in surface sediments; PCBs exceeded the SQS value in subsurface sediments.

Metals

The mercury concentration in sample SS88 is 0.62 milligrams per kilogram (mg/kg), which exceeds the SQS and CSL values by factors of 1.5 and 1.1, respectively. This surface sediment sample was collected south of the S. Garden Street municipal outfall, adjacent to Puget Sound Truck Lines (Figure 3).

Polynuclear Aromatic Hydrocarbons (PAHs)

SQS exceedances for PAHs were detected in two surface sediment samples collected adjacent to Puget Sound Truck Lines (sample 740) and Crowley Marine Services (Crowley; sample 741). These exceedances are described in detail in Table 1 and are summarized below:

Sample Location	Chemical	SQS Exceedance Factor	CSL Exceedance Factor	Adjacent Property
DR175 (741)	Benzo(a)anthracene	1.6	NA	Crowley
DR175 (741)	Chrysene	2.0	NA	Crowley
DR174 (740)	Chrysene	1.0	NA	PSTL
DR175 (741)	Dibenzofuran	2.9	NA	Crowley
DR175 (741)	Fluoranthene	6.5	NA	Crowley
DR174 (740)	Fluoranthene	1.1	NA	PSTL
DR175 (741)	Fluorene	4.2	1.2	Crowley
DR175 (741)	Indeno(1,2,3-cd)pyrene	1.1	NA	Crowley
DR175 (741)	Phenanthrene	9.2	1.9	Crowley
DR175 (741)	Total HPAH (calc'd)	2.5	NA	Crowley
DR175 (741)	Total LPAH (calc'd)	3.1	1.5	Crowley

PSTL = Puget Sound Truck Lines

Polychlorinated Biphenyls (PCBs)

PCBs exceeded the SQS in nine surface sediment samples. Concentrations were highest in samples adjacent to Puget Sound Truck Lines, with a maximum concentration of 1.8 mg/kg DW (176 mg/kg OC), which exceeded the SQS value by a factor of 15. In subsurface sediments, an SQS exceedance for PCBs was observed in one sample, SC45, collected adjacent to Crowley. The total PCB concentration in the sample was 0.57 mg/kg DW (8.28 mg/kg OC), which exceeded the screening value by a factor of 4.4. Due to the high TOC in this sample, the result

was compared to the Lowest Apparent Effects Threshold (LAET) value rather than the SQS (Ecology 1996d).

2.2.3 Chemicals of Concern at RM 2.3-2.8 East

COCs were identified based on the results of sediment sampling conducted between 1991 and 2007. Chemicals that exceeded the SQS in at least one surface or subsurface sediment sample offshore of RM 2.3-2.8 East are considered COCs.

Although no sediment quality standards have been promulgated, dioxins and furans are also considered to be COCs at RM 2.3-2.8 East due to their presence in high concentrations, particularly within the S. Myrtle Street Embayment.

In addition, the presence of organo-tin compounds at various locations, particularly offshore of Seattle Boiler Works, Seattle Iron & Metals, and Puget Sound Truck Lines, warrant their inclusion as COCs.

The following chemicals are considered to be COCs at RM 2.3-2.8 East with regard to potential sediment recontamination:

- Mercury
- PCBs
- PAHs
- Dioxins/furans
- Organo-tin compounds

2.3 Potential Pathways to Sediment

Transport pathways that could contribute to the recontamination of EAA-6 sediments following remedial activities include direct discharges via outfalls, surface runoff (sheet flow) from adjacent properties, bank erosion, groundwater discharges, air deposition, and spills directly to the LDW. These pathways are described below, and are discussed in more specific detail in Sections 3 through 5.

2.3.1 Direct Discharges via Outfalls

Direct discharges may occur from public or private storm drain systems, combined sewer overflows (CSOs), and emergency overflows (EOFs).

Some areas of the LDW are served by combined sewer systems, which carry both stormwater and municipal/industrial wastewater in a single pipe. These systems were generally constructed before about 1970 because it was less expensive to install a single pipe rather than separate storm and sanitary systems. Under normal rainfall conditions, wastewater and stormwater are conveyed through this combined sewer pipe to a wastewater treatment facility. During large storm events, however, the total volume of wastewater and stormwater can sometimes exceed the conveyance and treatment capacity of the combined sewer system. When this occurs, the combined sewer

system is designed to overflow through relief points, called CSOs. The CSOs prevent the combined sewer system from backing up and creating flooding problems.

Untreated municipal/industrial wastewater and stormwater can potentially be discharged through CSOs to the LDW during these storm events. The city of Seattle owns and operates the local sanitary sewer collectors and trunk lines, while King County owns and operates the larger interceptor lines that transport flow from the local systems to the West Point Wastewater Treatment Plant (WWTP). The City's CSO network has its own National Pollutant Discharge Elimination System (NPDES) permit; the County's CSOs are administered under the NPDES permit established for the West Point WWTP.

An EOF is a discharge that can occur from either the combined or sanitary sewer systems that is not necessarily related to storm conditions and/or system capacity limitations. EOF discharges typically occur as a result of mechanical issues (e.g., pump station failures) or when transport lines are blocked; pump stations are operated by both the City and County. Pressure relief points are provided in the drainage network to discharge flow to an existing storm drain or CSO pipe under emergency conditions to prevent sewer backups. EOF events are not covered under the City's or County's existing CSO wastewater permits.

Of the County CSO outfalls along the LDW, the Michigan CSO, S. Brandon Street CSO, and Hanford No. 1 (discharging via the City's Diagonal Avenue S. CSO/SD) outfalls had the highest average combined sewer overflow volumes between 1999 and 2005. Annual stormwater discharge volumes are usually substantially higher than annual CSO discharge volumes because storm drains discharge whenever it rains, and CSOs only discharge during storm events that exceed the system capacity. Annual stormwater discharges to the LDW have been estimated at approximately 4,000 million gallons per year (mgy) compared to less than 65 mgy from the county CSOs and less than 10 mgy from the city CSOs (Windward 2007c)⁴.

To minimize the frequency and volume of CSO events, the County utilizes different CSO control strategies to maximize system capacity. An automated control system manages flows through the King County interceptor system so that the maximum amount of flow is contained in pipelines and storage facilities until it can be conveyed to a regional wastewater treatment plant for secondary treatment. In some areas of the system, where flows cannot be conveyed to the plant, the flows are sent to CSO treatment facilities for primary treatment and disinfection prior to discharge. County CSOs discharge untreated wastewater only when flows exceed the capacity of these systems (King County 2007).⁵

As a result, some areas of the CSO drainage basins may discharge to different outfalls at different times, depending on the route that the combined stormwater/wastewater has taken through the County conveyance system. Furthermore, some industrial facilities in the LDW basin may discharge stormwater to a separated system and industrial wastewater to a combined system, or a conveyance that begins as a separated system may discharge to a combined system further downstream along the flow path.

⁴ It should be noted that stormwater discharges are regulated under a separate NPDES permit.

⁵ City CSOs are generally smaller and flows are not treated prior to discharge.

When preparing a Data Gaps report for a source control area, all properties that potentially discharge to that source control area (whether through a CSO/EOF or a separated storm drain) are identified to the extent that the boundaries of the drainage basin are known. However, for areas where drainage basins overlap, a property review is performed only if the property has not already been included in a previously published Data Gaps report. Exceptions include situations where contaminants may be transported to the current source control area via a transport pathway that was not applicable for the earlier evaluation.

Numerous outfalls are present in the RM 2.3-2.8 East area, including two public storm drain outfalls and several private outfalls. Contaminants discharged via these outfalls could directly affect waterway sediments. There are no CSO or EOF outfalls within the RM 2.3-2.8 East source control area.⁶

2.3.2 Surface Runoff (Sheet Flow)

In areas lacking collection systems, spills or leaks on properties adjacent to the LDW could flow directly over impervious surfaces or through creeks and ditches to the waterway. Current operational practices at adjacent properties may contribute to the movement of contaminants to the LDW via runoff.

2.3.3 Groundwater Discharges

Contaminants in soil resulting from spills and releases to adjacent and upland properties may be transported to groundwater and subsequently be released to the LDW. Contaminated groundwater has been documented at upland properties with groundwater flow directions toward the S. Myrtle Street Embayment.

Many seeps have been identified along RM 2.3-2.8 East and the S. Myrtle Street Embayment (Terra Vac and Floyd & Snider, Inc. 2000b and Windward 2004). Copper has been detected at concentrations above the marine chronic and acute water quality standard (WQS) in one seep sampled along the bank adjacent to Crowley Marine Services (Table 3; Windward 2004) and VOCs have been detected in seep samples collected in the S. Myrtle Street Embayment (Terra Vac and Floyd & Snider, Inc. 2000b).

2.3.4 Bank Erosion

The banks of the LDW shoreline are susceptible to erosion by wind and surface water, particularly in areas where banks are steep. Shoreline armoring and the presence of vegetation reduce the potential for bank erosion. Contaminants in soils along the banks of the LDW could be released directly to sediments via erosion. Little information was available on the construction of the banks and the potential for sediment recontamination via this pathway. Ecology is planning to conduct a bank investigation in this area, to be completed in 2008.

⁶ King County Airport SD#3/PS44 EOF (a King County storm drain and SPU EOF outfall) and the E. Marginal Way S. pump station (a King County EOF) are located in Slip 4, just to the south of RM 2.3-2.8 East.

2.3.5 Atmospheric Deposition

Atmospheric deposition occurs when air pollutants enter the LDW directly or through stormwater. Air pollutants may be generated from point or non-point sources. Point sources include industrial facilities, and air pollutants may be generated from painting, sandblasting, loading/unloading of raw materials, and other activities, or through industrial smokestacks. Non-point sources include dispersed sources such as vehicle emissions, aircraft exhaust, and off-gassing from common materials such as plastics. Air pollutants may be transported over long distances by wind, and can be deposited to land and water surfaces by precipitation or particle deposition. None of the properties within the RM 2.3-2.8 East source control area are currently regulated as point sources of air emissions.

Contaminants originating from nearby properties and streets may be transported through the air and deposited at RM 2.3-2.8 East or in areas that drain to the LDW. Although chemical deposition from air directly to the LDW probably occurs, this transport mechanism is not likely to result in sediment concentrations above local background levels. This potential pathway is discussed further in this report only for facilities that may represent a point source of air pollutants.

Additional information on recent and ongoing atmospheric deposition studies in the LDW area is summarized in the LDW Source Control Status Report (Ecology 2007e and subsequent updates); Ecology will continue to monitor these efforts.

2.3.6 Spills to the LDW

Near-water and over-water activities have the potential to impact adjacent sediments from spills of material containing contaminants of concern. Several facilities within the RM 2.3-2.8 East source control area conduct loading and unloading of materials from barges. Accidental spills during loading/unloading operations may result in transport of contaminants to sediment.

3.0 Potential for Sediment Recontamination from Outfalls

3.1 Public Outfalls

City of Seattle storm drain outfalls are located at the ends of S. Myrtle Street and S. Garden Street (Figure 5):

Outfall No.	Secondary ID	Location	Pipe Diameter/Material
2026	141E	S. Myrtle Street	30-inch ductile
2035	153E	S. Garden Street	30-inch; material not listed

Source: LDW Draft Phase 2 RI (Windward 2007c).

Lateral storm drain lines connect several of the surrounding facilities to these main lines. The extent of the area draining to these outfalls is not known, but appears to be limited to the properties located on the west side of East Marginal Way S. between S. Myrtle Street and Slip 4. The southern portion of the Seattle Boiler Works parcel (north of S. Myrtle Street) also appears to drain to the S. Myrtle Street outfall.

3.2 Private Stormwater Outfalls

Private outfalls exist at Seattle Boiler Works, Seattle Iron & Metals, Puget Sound Truck Lines, and Crowley/Alaska Logistics. These are summarized below and described in more detail in Sections 4 and 5.

Outfall No.	Secondary ID	Facility	Pipe Diameter/Material
2027	150E	Seattle Boiler Works	6-inch clay
2028	149E	Seattle Boiler Works	18-inch concrete
2029	147E	Seattle Boiler Works	3-inch aluminum
2030	148E	Seattle Boiler Works	3-inch aluminum
2032	146E	Seattle Boiler Works	3-inch aluminum
2033	145E	Seattle Boiler Works	3-inch PVC
2034	152E	Seattle Iron & Metals	6-inch steel
2036	154E	Puget Sound Truck Lines	8-inch steel
2037	155E	Puget Sound Truck Lines	10-inch steel
2038	162E	Puget Sound Truck Lines	6-inch concrete
2039	161E	Puget Sound Truck Lines	6-inch concrete
2040	164E	Puget Sound Truck Lines	12-inch concrete
2042	174E	Crowley/Alaska Logistics	8-inch PVC
5006	175E	Crowley/Alaska Logistics	8-inch PVC

Source: LDW Draft Phase 2 RI (Windward 2007c).

3.3 Data Gaps

Information needed to assess the potential for sediment recontamination associated with the city of Seattle public storm drain outfalls is listed below:

- Data on contaminant concentrations in storm drain solids and stormwater near the S. Myrtle Street and S. Garden Street outfalls are needed to evaluate whether contaminants are being transported to RM 2.3-2.8 East sediments.
- If contaminants are present at concentrations of potential concern near these outfalls, then source tracing samples are needed to identify potential source(s) of contaminants.

Data gaps related to the private outfalls identified in Section 3.2 are listed with data gaps for the associated facilities in Section 4.

4.0 Potential for Sediment Recontamination from Adjacent Properties

Parcel ownership in the vicinity of RM 2.3-2.8 East is shown in Figure 4. Aerial photographs of the RM 2.3-2.8 East source control area for the years 1936, 1946, 1956, 1960, 1969, 1974, 1977, 1980, 1985, 1990, 1992, and 1995 are provided in Appendix B.

Six properties located adjacent to the LDW were identified as potential sources of contaminants to RM 2.3-2.3 East:

- Guimont parcel (Section 4.1)
- Seattle Boiler Works (Section 4.2)
- Seattle Iron & Metals (Section 4.3)
- Puget Sound Truck Lines/Phil's Finishing Touch (Section 4.4)
- Seattle City Light (Section 4.5)
- Crowley Marine Services (Section 4.6)

The potential for sediment recontamination associated with each of these parcels is discussed in the following sections. Additional information needed to assess the sediment recontamination potential is also identified.

4.1 Guimont Parcel

Facility Summary: Guimont Parcel	
Address	6901 Fox Avenue S.
Tax Parcel No.	0001800113
Property Owner	William P. Guimont
Parcel Size	5.42 acres (236,095 sq. ft.)
Facility/Site ID	57331171 (Bunge Foods Corp.)
SIC Code	2045: Prepared Flour Mixes/Doughs
EPA ID No.	None
NPDES Permit No.	SO3000098
UST/LUST ID No.	None

The Guimont Parcel, which is the northwestern-most parcel near RM 2.3-2.8 East, is owned by William P. Guimont (Figure 4). The property is located at 6901 Fox Avenue S., is 5.42 acres in size, and was purchased by Mr. Guimont from the Fox Avenue Warehouse Corporation in November 1996.⁷

The property is located near the LDW in an industrial area of Seattle (Figure 2). It is bordered on the north by SEATAC Marine Properties/Glacier Marine Services, on the west by the LDW, on the south by Seattle Boiler Works, and on the east by Fox Avenue S.

⁷ King County GIS Center Parcel Viewer: http://www.metrokc.gov/gis/mappointal/PViewer_main.htm

According to King County tax records, the parcel contains one structure: a 128,800-square foot (sq. ft.) warehouse. The site is paved.

4.1.1 Current Operations

Dawn Food Products, Inc. (Dawn) currently operates a distribution warehouse at this parcel. Dawn carried King County Discharge Permit No. 7043 from July 28, 2002 to July 28, 2007; it is not known whether this permit has been renewed. Discharge from the facility is conveyed to the West Point WWTP. No additional information regarding Dawn was available in the files reviewed by SAIC.

According to Dawn's website, the company has been operating since 1920. Dawn was the first supplier of dry mixes (e.g. waffle and pancake mixes) in the United States and currently produces over 4,000 custom, proprietary and branded products. Dawn is headquartered in Jackson, Michigan. Dawn's facility in Seattle is one of 20 distribution centers.⁸

4.1.2 Historical Operations

Historical operations at this property included the Bunge Foods Corporation (1991 to approximately 2003), Pacific Huts, Inc. (during the 1940s), and reportedly a shipyard and gasoline station. No other information on historical operations at this location was identified.

Bunge Foods Corporation (Bunge) began operations in 1991 in the state of Washington. Their business license expired in March 2005. Dawn apparently purchased the Bunge facility before or during 2003 (King County 2003). Bunge continues to serve food processor and food service customers in the United States and Canada with a line of bulk and packaged premium shortenings, oils and related products, and products designed to reduce trans-fatty acids.⁹

Bunge operated under Standard Industrial Classification (SIC) code 2045: Prepared Flour Mixes and Doughs. Stormwater was discharged to the LDW under an Industrial Stormwater General Permit (No. SO3000098; Ecology 1992b). Bunge re-applied for coverage under this permit in July 1995 (Bunge 1995). The permit is not currently active. No additional information regarding Bunge was available in the files reviewed by SAIC.

Pacific Huts, Inc. (Pacific Huts) manufactured prefabricated wooden igloos for use by U.S. troops in Alaska during the 1940s. The huts weighed 4.5 tons each and were rainproof, stormproof, termite-proof, and fungus-proof. The huts were made of plywood, spruce, and Masonite. Pacific Huts reportedly built the 100,000-sq. ft. factory on an abandoned shipyard and adjoining gas station (Time Magazine 1943).

According to the 1945 *Sources of Pollution in the Duwamish-Green River Drainage Area*, Pacific Huts generated "considerable" amounts of sawdust during production. The sawdust was hauled to the city dump for disposal (Foster 1945).

⁸ Dawn Food Products website:

http://www.dawnfoods.com/public/managed/about_us/capabilities/manufacturing/index.asp

⁹ Bunge Foods Corporation website: <http://www.bunge.com/products-services/food-products.html>

4.1.3 Environmental Investigations and Cleanups

No records of environmental investigations or cleanups for the Guimont parcel were found in the files reviewed by SAIC.

No sediment samples have been collected from the LDW directly adjacent to the Guimont parcel. Three sediment samples collected immediately downstream from the Guimont parcel contained PCBs (sample 178) and PCBs, PAHs, and metals (samples SS81 and 679); however, none of the chemical concentrations exceeded the SQS.

4.1.4 Potential for Sediment Recontamination

Little information about past activities at this property was available. Manufacturing activities by Pacific Huts, Inc. during the 1940s and earlier shipyard and fueling operations could have resulted in the release of contaminants. No potential contaminant sources associated with current operations at this property were identified.

Potential Pathways to RM 2.3-2.8 Sediments

The potential for sediment recontamination associated with this property is summarized by transport pathway below.

Stormwater

Bunge operated under an Industrial Stormwater General Permit during its operations at the site; however, this permit is no longer active. The current operator discharges to the sanitary sewer system. No information on current stormwater discharges was available.

Soil and Groundwater

Past operations at this property could have resulted in soil and/or groundwater contamination; no soil or groundwater sampling has been conducted. Sediment samples collected near this property did not exceed SQS values, however. The potential for sediment recontamination via this pathway is believed to be low.

Bank Erosion/Leaching

No information was available on the construction of the banks in this area, and the potential for bank erosion is unknown. However, sediment samples collected in the LDW near and downstream of this property did not indicate the presence of contaminants at concentrations above the SQS. The potential for sediment recontamination via this pathway is believed to be low.

Surface Runoff/Spills

Surface runoff from this property may reach the Duwamish Waterway via sheet flow. No inspections have been conducted at Dawn Foods, and therefore the potential for spills or contaminant transport via surface runoff is unknown.

4.1.5 Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Guimont parcel is listed below. Data gaps were identified for the stormwater and surface runoff pathways to RM 2.3-2.8 sediments.

Stormwater Discharge

- A business inspection is needed at this property to ensure that operations at the Dawn facility are in compliance with applicable regulations and best management practices (BMPs) to prevent the release of contaminants to the LDW.
- If stormwater flows to the LDW, a facility plan showing the locations of catch basins and storm drains should be generated.

Surface Runoff

- A business inspection is needed to evaluate whether surface runoff from current operations at this property could transport contaminants to RM 2.3-2.8 East.

4.2 Seattle Boiler Works, Inc.

Facility Summary: Seattle Boiler Works, Inc.	
Address	500 S. Myrtle Street
Tax Parcel No.	001800091
Property Owner	Frederick J. Hopkins Family Trust
Parcel Size	4.40 acres (191,664 sq. ft.)
Facility/Site ID	17577864
SIC Code	3499: Fabrication of metal products
EPA ID No.	NA
NPDES Permit No.	SO3002208
UST/LUST ID No.	8147

Seattle Boiler Works is located at 500 S. Myrtle Street near the LDW in an industrial area of Seattle (Figure 2). It is bordered on the north by Dawn, on the west by the LDW, on the south by S. Myrtle Street and Seattle Iron & Metals, and on the east by Fox Avenue S.

The property is owned by the Frederick J. Hopkins Family Trust (Figure 4). The parcel is 4.40 acres in size and is zoned for industrial use. According to tax records, there are four buildings on the site:

- The Machine Shop is 15,400 sq. ft. and was built in 1969.
- The Boiler Shop is 23,000 sq. ft. and was built in 1921.
- The Office is 3,480 sq. ft. and was built in 1940.
- The Industrial Heavy Manufacturing Building Shop is 24,000 sq. ft. and was built in 1942.

According to the Ecology's UST list, there is one exempt UST on the property; the UST site ID is 8147. No other information about this tank was available.

4.2.1 Current Operations

Seattle Boiler Works, the current tenant of the property, began operating at this location in 1949. Seattle Boiler Works specializes in fabrication of metal products (SIC code 3499) such as storage tanks, pressure vessels, boilers, heat exchangers, columns, stacks, and tank heaters. Seattle Boiler Works, headquartered in Seattle, Washington, was founded in 1889. The company serves the petrochemical, pulp and paper, crude oil drilling, hydroelectric, cogeneration, aerospace, general construction, defense, and manufacturing industries.¹⁰

The facility operates under Industrial Stormwater General Permit No. SO3-002208D (Ecology 2007b). The Ecology Facility/Site ID is 17577864. The site is partially paved.

Materials Used and Wastes Generated

New steel is stored outdoors. Spills, if any, of hydraulic fluid or other oils are cleaned by using an absorbent such as kitty litter (Ecology 2001).

Regulatory History

In 1995, Ecology identified Seattle Boiler Works as a potentially significant contributor of pollutants to the LDW (Ecology 1995a) and required the company to apply for coverage under the stormwater baseline general permit. Seattle Boiler Works obtained NPDES Industrial Stormwater General Permit No. SO3-002208 on February 10, 1995 (Ecology 1995b).

Ecology performed an NPDES stormwater compliance inspection on June 26, 2007. The Ecology inspector reported that Seattle Boiler Works was not sampling stormwater at the facility, which was in violation of its stormwater permit. The Ecology inspector noted that catch basins needed to be inspected and cleaned; pollutants were entering the catch basin in the forming shop; many accumulations of sediment, waste, waste containers, and empty drums were present throughout the facility, storage containers were improperly stored, and aboveground storage tanks (ASTs) did not have proper containment. Ecology made the following recommendations (Ecology 2007b):

- Inspect and clean all catch basins and properly dispose of sediment;
- Take necessary actions to stop pollutants from entering the catch basin in the forming shop;
- Remove and properly dispose of accumulations of sediment, waste, waste containers, and empty drums;
- Clean areas of the facility where these items were allowed to accumulate;
- Review the BMP for Storage of Liquid, Food Waste, or Dangerous Waste Containers and implement these practices at the site;

¹⁰ Seattle Boiler Works website: <http://seattleboiler.com/index.htm>

- Provide employee training concerning the facilities SWPPP; and
- Provide secondary containment for existing ASTs or replace with double-walled ASTs.

Water Discharges

Based on Ecology's 2007 site inspection report, there are several catch basins at the facility, including a catch basin in the forming shop which is attached to the stormwater conveyance system. A facility drawing from 2001 shows at least 10 drains (Figure 6); however, a formal facility plan showing the locations of these catch basins was not found in the files reviewed by SAIC.

Seattle Boiler Works is concerned that vehicle shredding operations at Seattle Iron & Metals, resulting in the deposition of a film on vehicles parked at Seattle Boiler Works, may elevate chemical concentrations in stormwater discharges originating from Seattle Boiler Works (Ecology 2007b).

There are six outfalls to the LDW located on the Seattle Boiler Works property, as listed in Section 3.2. Seattle Boiler Works is permitted for only one outfall. According to the draft LDW Phase 2 RI, some of these outfalls may be permitted under Shultz Distributing (four outfalls permitted) and Seattle Iron & Metals (one outfall permitted) (Windward 2007c).

4.2.2 Historical Operations

National Steel Construction Company (National Steel) formerly occupied this parcel. The company's name is still visible on the main building facing Fox Avenue S. Little information regarding National Steel was found in the files reviewed by SAIC.

National Steel used sulfuric acid in a 1,250-gallon tank and hydrofluoric acid in a 250-gallon tank at their facility. Any spills or drainage from these tanks would go directly into the LDW. The 1945 report *Sources of Pollution in the Duwamish-Green River Drainage Area* estimated that approximately 1,200 to 1,500 gallons of acid were dumped into the river each month (Foster 1945).

The 1945 report stated that National Steel discharged acid pickling liquor directly to the LDW. The Pollution Control Commission required that the acid be neutralized prior to discharge. The report stated that the company had 200 employees and their sewage was directly discharged to the Duwamish (Foster 1945).

4.2.3 Environmental Investigations and Cleanups

No records of environmental investigations or cleanups at the Seattle Boiler Works parcel were found in the files reviewed by SAIC.

Seven surface sediment samples and one subsurface sediment sample have been collected in the LDW near Seattle Boiler Works. PAHs, metals, and/or phthalates have been detected in six surface sediment samples and one subsurface sediment sample collected adjacent to Seattle Boiler Works; however, the concentrations did not exceed the SQS. Concentrations of dioxins

and furans were detected in surface sediment samples 681 and SS83, collected in 1999 and 2005, respectively, and subsurface sample SC41, collected in 2006. PCB concentrations reported in one surface sediment sample collected in 1998 (sample 172) slightly exceeded the SQS (Section 2.2 and Table 1).

4.2.4 Potential for Sediment Recontamination

Seattle Boiler Works has been operating at this location since 1949; little information about earlier activities at this property was available. Activities at Seattle Boiler Works may have resulted in releases of contaminants to the environment.

Potential Pathways to RM 2.3-2.8 Sediments

The potential for sediment recontamination associated with this property is summarized by transport pathway below.

Stormwater

Based on Ecology's 2007 facility inspection report, Seattle Boiler Works has not regularly cleaned sediments from the catch basins or performed discharge monitoring sampling, in violation of its stormwater permit. Ecology identified housekeeping deficiencies and noted that pollutants were entering the catch basin in the facility's forming shop. The potentially sediment-filled catch basins and unknown water quality of the facility's discharge are two sources of potential sediment recontamination. The ASTs at the facility do not have secondary containment features; therefore, a spill or leak from these ASTs and other improperly stored containers could enter the facility's stormwater conveyance system and be discharged to the LDW. Spills that may occur at the property could enter the onsite storm drain system and be discharged to the Duwamish through the outfalls located on the west side of the parcel and the north side of the S. Myrtle Street Embayment.

Soil and Groundwater

The potential for sediment recontamination via soil and groundwater pathways is unknown. Past operations at the site indicate a potential for contamination of soils and groundwater; however, no soil or groundwater sampling has been conducted. Sediment samples collected near this property contained dioxins and PCBs.

Bank Erosion/Leaching

No information was available on the construction of the banks in this area, and the potential for bank erosion is unknown. Sediment samples collected in the LDW near this property indicated the presence of PCBs in one surface sample at a concentration above the SQS, and dioxins and furans were detected in this area. If soil contamination is present at this property, bank erosion and leaching is a potential pathway for sediment recontamination.

Surface Runoff/Spills

The extent and configuration of the stormwater system at Seattle Boiler Works is unknown. Spills that may occur at this property could enter the LDW via surface runoff.

4.2.5 Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Seattle Boiler Works parcel is listed below.

Stormwater Discharge

- A June 2007 stormwater compliance inspection noted several deficiencies. No follow-up inspections of this facility have been conducted. Operations at this facility should be monitored to ensure compliance with permit requirements and stormwater BMPs to prevent release of contaminants to the Duwamish.
- Six outfalls to the LDW are located on Seattle Boiler Works property, however only one outfall is identified in the facility's stormwater permit. Information on the sources of discharges (if any) to these outfalls is needed.
- Stormwater and stormwater solids samples are needed to assess the potential for transport of contaminants to the LDW via this pathway. In addition, a facility plan showing the locations of all catch basins and stormwater conveyance lines should be generated and made available, and a line tracing survey should be conducted at this facility.

Groundwater Discharge

- Due to the presence of dioxins and PCBs in sediments adjacent to this property, data on contaminant concentrations in soil and groundwater are needed in order to evaluate the potential for groundwater from this site to recontaminate RM 2.3-2.8 East sediments.

Bank Erosion/Leaching

- If soil or groundwater contamination is present at this property, a bank survey should be conducted to evaluate the potential that contaminants are entering the LDW via bank erosion or leaching.

Surface Runoff/Spills

- Additional information on the stormwater system configuration at this property is needed to evaluate the potential for contaminant transport to the LDW via surface runoff.

4.3 Seattle Iron & Metals Corporation

Facility Summary: Seattle Iron & Metals Corporation	
Address	601 S. Myrtle Street 620 S. Othello Street
Tax Parcel No.	213620076 and 2924049089
Property Owner	Shalmar Group
Parcel Size¹¹	Parcel 0076: 8.22 acres (358,063 sq. ft.) Parcel 9089: 1.44 acres (62,726 sq. ft.)
Facility/Site ID	12153465 (Myrtle Street Property) 94727791 (Seattle Iron & Metals) 9872313 (Whitehead Company) 6368989 (All Alaskan Seafoods)
SIC Code	26: Paper and Allied Products (Myrtle Street Property) 5093: Scrap and Waste Materials (Seattle Iron & Metals)
EPA ID No.	WAH000010678
NPDES Permit No.	WA0031968A – Individual SO3003645 – General (to be canceled)
UST/LUST ID No.	9634 (Whitehead Company) 10855 (Manson Construction)

The Shalmar Group owns two adjacent parcels, 0076 and 9089 (Figure 4). The parcels were previously owned by the Othello Street Warehouse Corporation. The addresses for the parcels are 601 S. Myrtle Street (0076) and 620 S. Othello Street (9089). The larger of the two parcels (0076) is 8.22 acres in size with 10 buildings erected on the property. The smaller parcel (9089) is 1.44 acres in size with one building erected on the property.

These parcels are located adjacent to the LDW in an industrial area of Seattle (Figure 2). Seattle Iron & Metals is bordered by Seattle Boiler Works and S. Myrtle Street to the north, Trim Systems/CVG Commercial Vehicle Group, Pioneer Distribution and 7th Avenue S. to the east, Puget Sound Truck Lines and S. Othello Street to the south, and the LDW to the west.

Parcel 0076 is listed on the CSCSL as “The Myrtle Street Property” at 606 S. Myrtle Street. The Ecology Facility/Site ID is 12153465. Petroleum contamination in soil and groundwater has been confirmed for the property. The Myrtle Street property is part of Ecology’s Voluntary Cleanup Program (VCP); the VCP ID is NW0093.

Ecology Facility/Site ID 9872313 is also assigned to this parcel under the name “Whitehead Company” at 600 S. Myrtle Street. Two leaded gasoline USTs with capacities up to 1,100 gallons were removed from the property (UST Site ID 9634).

In 1998, The Port of Seattle arranged to demolish the existing 28,400-sq. ft. warehouse and grade approximately 16,000 cubic yards of soil to allow Seattle Iron & Metals to use the facility.

¹¹ For simplicity, the last four digits of a parcel number are used to identify that parcel in the text and in Figure 4.

Othello Street Warehouse Corporation placed a Restrictive Covenant on this parcel following completion of an Independent Remedial Action.

Of the 10 buildings on parcel 0076, one 14,849-sq. ft. office building was constructed in 1929. The nine remaining buildings were built in 1999 and include:

- A 9,840-sq. ft. warehouse,
- A 6,500-sq. ft. garage,
- A 20,010-sq. ft. covered storage area,
- A 1,728-sq. ft. metal scrap shed,
- A 900-sq. ft. furnace cover,
- A 480-sq. ft. scale house/office building,
- A 1,305-sq. ft. shredder works building,
- A 200-sq. ft. annex scale house/office building, and
- A 1,972-sq. ft. stormwater treatment building/equipment shed.

The building on parcel 9089 is a 1,554-sq. ft. equipment building that was constructed in 1999.

Soil beneath these parcels is comprised of sands interbedded with silt from the ground surface to approximately 10 to 20 feet below ground surface (bgs), based on exploration soil logs. Groundwater is encountered between 6 and 11 feet bgs (City of Seattle 1998).

4.3.1 Current Operations

Seattle Iron & Metals currently occupies the two adjacent parcels owned by the Shalmar Group. Seattle Iron & Metals is a recyclable material wholesaler, specializing in preparing scrap metal for recycling. The business's primary address is 601 S. Myrtle Street. Seattle Iron & Metals moved to this location in 1999 from its previous facility on Harbor Island, where it had operated for more than 70 years.

The following information regarding Seattle Iron & Metals was collected from EPA and Ecology databases:

- RCRA ID No. WAH000010678
- Ecology Facility/Site ID 94727791
- Industrial Stormwater General Permit No. SO-3003645C (coverage began June 4, 1999, permit to be cancelled [Ecology 1999b, 2008c])
- UST Site ID 10855
- North American Industry Classification System (NAICS) Codes: 042393 (Recyclable Material Merchant Wholesalers)

In 2007, Seattle Iron & Metals applied for and received an individual NPDES Permit No. WA-003196-8.

Site Facilities and Operations

Seattle Iron & Metals is a full-service metals recycler. Iron, steel, aluminum, brass, copper, and other non-ferrous metals are processed, sorted, and packed. Seattle Iron & Metals uses a 4,000-horsepower metal shredder to break up larger pieces of ferrous and non-ferrous metals into smaller pieces, which are then sold to metal recyclers for further processing (Ecology 2007a). Mixed metals, such as automobiles and appliances, are processed then separated magnetically, electrically, and by air to refine the ferrous and non-ferrous metal components into a uniform size and grade of recycled material. The facility's guillotine shear is one of the largest in the northwest and has the ability to slice through steel plate and beams up to five inches thick. Over-sized scrap, such as ship plate, is processed by torch cutters.¹²

Trucks enter the site on the east side and pull into a scale for weighing. Workers examine the trucks and record the weight and other information prior to the trucks moving to unloading areas. The trucks then are reweighed prior to the leaving the facility (Ecology 2007a).

A large crane runs along tracks on the edge of the wooden wharf used to remove or place scrap metal into barges on the waterway. The facility is fenced with sound deadening material to reduce the noise impact on neighbors.

Unloaded metal, depending on size, is either sent to the shearer or to the shredder. The shearer can cut up metal up to 4 inches thick. The shredder is a large (50-foot high) machine that can crush automobiles into small pieces. The shredder is open so employees in the shredder's control tower can see into the machine as it cuts up the material. Scrap metal is then sorted by type and placed into the appropriate shed or warehouse awaiting distribution.

Other features of the facility include a stationary fueling station, a garage, two piers, a high capacity dock crane, rail access, and a certified railroad scale. All equipment and vehicle maintenance and repair are performed in the garage. Outside storage and parking areas are paved¹³ (Ecology 2006g).

A furnace used to burn insulation off electrical wire may have been relocated to Seattle Iron & Metals' current facility from the former Harbor Island facility. The furnace was registered with Puget Sound Air Pollution Control Agency (PSAPCA) and Seattle Iron & Metals was not required to obtain an Air Operating Permit for the furnace (City of Seattle 1998).

The property was capped prior to Seattle Iron & Metals' occupancy; however, the cap was cracked. Seattle Iron & Metals planned to install a new cap, which required Ecology's approval under Section 3 of the Restrictive Covenant for the property (Ecology 1998a, 1998c). Seattle Iron & Metals installed a 10-inch thick layer of concrete over the 9.5-acre property.¹⁴ Significant contaminated soil was removed prior to installing the concrete platform. U.S. SeaCon, Inc. installed 110 stone pile columns to support the 10-inch concrete platform.

¹² Seattle Iron & Metals Corporation website: <http://www.seairon.com/pages/3/index.htm>

¹³ Seattle Iron & Metals Corporation website: <http://www.seairon.com/pages/2/index.htm>

¹⁴ Seattle Iron & Metals Corporation website: <http://www.seairon.com/pages/1/index.htm>

Waste Handling

Potentially hazardous liquids that are present in junked cars are burned during the shredding process (Ecology 2006g).

Wastewater Discharges

The receiving area for non-ferrous materials is covered and all runoff (i.e., fluids from materials mixed with process water) and process water drained from the shredder are conveyed to the process water treatment area and then discharged to the King County sanitary sewer (Ecology 1998c). Trucks bringing salvage to the facility are hosed down in a covered and bermed vehicle wash down area so wash water is not mixed with stormwater. Wash water is directed to the sanitary sewer (Ecology 2007a). Seattle Iron & Metals operates under Discharge Authorization No. 705 as a minor discharger.

Stormwater Discharges

Stormwater from the industrial areas of the facility is directed to a treatment system which consists of flocculation and metal precipitation. Contaminated stormwater is held in an underground storage vault (Ecology 2007a). Stormwater samples are collected at a spigot tapped into the treatment system's effluent pipe. Treated stormwater is discharged directly to the LDW. Discharge at the outfall is a mixture of Seattle Iron & Metals' treated stormwater and stormwater draining from S. Orchard Street (Ecology 2006g).

Parking lot and roof drain stormwater on the northwest side of the facility is discharged to the S. Myrtle Street outfall, and parking lot and roof drain stormwater on the northeast side of the facility discharges into a private outfall located in the LDW. The stormwater treatment system has gutters next to the LDW shoreline to catch any runoff before it enters the waterway. The captured water is sent through a filtering system prior to discharge.

According to a 2002 letter from Seattle Iron & Metals to Ecology, water is used to suppress dust generated by the shredder. Most water vaporizes or is consumed through production, though some water does reach the ground and mingles with stormwater. This process water and stormwater mixture is treated in the stormwater treatment system prior to discharge to the LDW (Seattle Iron & Metals 2002).

Seattle Iron & Metals has one permitted stormwater outfall, which is believed to be Outfall No. 2034 (see Section 3.2). The outfall is constructed of 6-inch-diameter steel (Windward 2007c).

Regulatory History

Administrative Order No. DE 99WQ-N383, requiring the company to apply for an Individual State Waste Discharge Permit, was issued to Seattle Iron & Metals on May 28, 1999 (Ecology, No Date).

Ecology conducted a water compliance inspection of the facility on April 13, 2000. Seattle Iron & Metals was still in the process of bringing the stormwater treatment system up to satisfactory performance following the business relocation from Harbor Island to the S. Myrtle Street

location. Ecology recommended that Seattle Iron & Metals use collected stormwater to wash down the site, which could then be treated prior to discharge. However, Ecology directed Seattle Iron & Metals to discharge wash-down water from the vicinity of the shredder to the sanitary sewer. Due to the urgency of the business relocation, Ecology noted many deficiencies including scrap metal stored too close to the LDW, incomplete implementation of the SWPPP, oil spills, damaged asphalt, and fuel tanks that were not stored under cover. Ecology concluded that additional stormwater protection would be necessary at the facility (Ecology 2000a).

In May 2000, Seattle Iron & Metals was issued Notice of Violation No. DE 00WQNR-1034 for discharging stormwater to surface waters. Turbidity readings and concentrations of copper, lead, and zinc in the stormwater exceeded permitted effluent limits (Ecology 2000b).

Ecology conducted a stormwater compliance inspection on March 29, 2006. The inspection was in response to a complaint that scrap metal from the facility spilled into the LDW. According to the facility's discharge monitoring reports (DMRs), the total zinc concentration reported during Second Quarter 2005 exceeded permit limits. The inspector noted petroleum stains around a stationary fueling station and recommended implementation of fuel station and source control BMPs to prevent petroleum contamination of stormwater (Ecology 2006g).

Following the scrap metal spill, Seattle Iron & Metals installed an additional barrier to prevent future material overflow (Ecology 2006g).

In August 2006, Ecology expressed concern regarding an auto shredder residue (ASR) sample which failed standards for lead, and advised Seattle Iron & Metals that if future samples failed, additional sampling would be required. Additionally, Ecology directed Seattle Iron & Metals to sample sludge collected from the stormwater treatment system for metals. Sludge material would be handled as a hazardous waste if it did not meet metals criteria. If sludge material did meet metals criteria, then Seattle Iron & Metals would need to conduct a fish bioassay test to determine if it was a Washington State-only hazardous waste (Ecology 2006i).

Ecology more recently performed a stormwater compliance inspection at the Seattle Iron & Metals facility on April 19, 2007, prior to issuing Seattle Iron & Metals' individual NPDES permit. The Ecology inspector noted that the facility appeared to be in very good order (Ecology 2007a).

According to an Ecology NPDES inspection performed at the adjacent Seattle Boiler Works facility in June 2007, explosions frequently occur when the vehicle shredder is operating at Seattle Iron & Metals, and the residue from the explosions leaves a film on vehicles parked at the Seattle Boiler Works facility (Ecology 2007b).

Another NPDES inspection was performed at Seattle Iron & Metals in December 2007. The processing facility was overstocked with inventory due to transportation problems outbound. Ecology inspectors expressed some concerns about processing too close to the waterway and stormwater capacity during heavy rain events. Seattle Iron & Metals uses the Safety Kleen Continuous Use Program to collect some of the facility's waste streams and Ecology inspectors advised Seattle Iron & Metals about changes to this program (Ecology 2008a).

4.3.2 Historical Operations

Prior to their purchase by the Shalmar Group, the two parcels that make up this property were owned by the **Othello Street Warehouse Corporation**. No information regarding operations at the property during its ownership by the Othello Street Warehouse Corporation was available for review during preparation of this Data Gaps report.

All Alaskan Seafoods, Inc. formerly occupied a portion of parcel 0076 with an address at 501 S. Myrtle Street in Seattle. The facility was adjacent to Seattle Boiler Works and Seattle Iron & Metals. The business operated under EPA ID No. WA0000229062 (inactive). The Ecology Facility/Site ID is 6368989, and the NAICS Codes is 114112 (Shellfish Fishing).

No listings for All Alaskan Seafoods, Inc. were found on the Washington Secretary of State – Corporations Search website or in current telephone directories. No additional information regarding this company was available in the files reviewed by SAIC.

In February 1988, **Northland Services, Inc.** filed a first Notification of Dangerous Waste Activities form with Ecology. The form indicates that Northland was operating as a transporter of dangerous waste. The address for these activities is listed as 601 S. Myrtle Street, which indicates that Northland was operating at this parcel. Manson Construction and Engineering (Manson Construction) is listed as the property owner (Northland 1988).

In October 1994, Northland filed a revised Notification of Dangerous Waste Activities form with Ecology. The form indicates that Northland was operating as a transporter of dangerous waste via highway and waterway transportation. The EPA Site ID is listed as WAD981773005. Northland is listed as the property owner (Northland 1994).

Manson Construction and Engineering operated on the 601 S. Myrtle Street property from 1982 to 1988. According to Ecology's ISIS database, there are two USTs on the property which may have been installed during Manson's occupancy. One UST is used for heating fuel and the other has been closed in place. The UST Site ID is 10855.

According to the 1945 report *Sources of Pollution in the Duwamish-Green River Drainage Area*, **Continental Can Co.**, one of the largest machine shops in the Northwest, was located on this parcel (Foster 1945). Cooling water from their compressor was discharged directly to the Duwamish. Some cutting oil may have also been spilled on the ground and could have reached the LDW after filtering through the soils before reaching the LDW.

Seattle Concrete Pipe Company may have been located on one of these parcels or further south along the Duwamish, within the RM 2.3-2.8 East source control area. Waste from the pipe company included machine cleanings consisting of dry mixture concrete, which was dumped on the river bank to create fill above the high tide line (Foster 1945).

Maust Trucking is mentioned as a previous operator at the current Seattle Iron & Metals facility in the City of Seattle's Analysis and Decision Document for Seattle Iron & Metals' construction and land use permit (City of Seattle 1998). No additional information regarding this company was available in the files reviewed by SAIC.

4.3.3 Environmental Investigations and Cleanups

According to City of Seattle records, soil studies were conducted to determine the nature and extent of contamination and environmental cleanup at the property (City of Seattle 1998). Othello Street Warehouse Corporation conducted an Independent Remedial Action at the 606 S. Myrtle Street property (Ecology Facility/Site ID 12153465) prior to 1998. Residual concentrations of petroleum hydrocarbons and copper in soil and groundwater were in exceedance of the Model Toxics Control Act (MTCA) residential cleanup levels for soil and groundwater following the completion of the Independent Remedial Action. The property was capped and a restrictive covenant was placed on the property.

Following cleanup activities, Ecology issued a “No Further Action” letter for the property. The restrictive covenant states that the property is restricted to industrial use, the groundwater cannot be used without prior approval from Ecology, and no release or removal of soil that may result in an exposure pathway is allowed (City of Seattle 1998, Ecology 1998a). The Independent Remedial Action is documented in Hart Crowser’s *Voluntary Cleanup Action Report, 606 South Myrtle Street, Seattle, Washington*, dated March 23, 1998 (Hart Crowser 1998 as cited Ecology 1998a). Hart Crowser’s report was not available to SAIC for review.

A 1998 e-mail from Ecology indicates that there are six monitoring wells on the property (Ecology 1998c).

Eleven surface sediment samples and one subsurface sediment sample have been collected from the LDW adjacent to the Seattle Iron & Metals facility. PAHs, PCBs, and metals were detected in the surface and subsurface sediment samples at concentrations below the SQS. PCB concentrations in samples 685 and 717 exceeded the SQS by factors of 1.2 and 1.02, respectively (Table 1). Furans were detected in samples 682, 683, 684, 685, and 717. Tributyltin was detected in samples 683 and 717.

4.3.4 Potential for Sediment Recontamination

Seattle Iron & Metals has been operating at this location since 1999. Prior to this time, an independent cleanup was conducted and, due to the presence of residual concentrations of petroleum hydrocarbons and copper in soil and groundwater, a restrictive covenant was placed on the property. PCBs above the SQS are present in sediments near the Seattle Iron & Metals facility; in addition, metals, PAHs, furans and tributyltin have been detected in sediment samples.

Potential Pathways to RM 2.3-2.8 Sediments

The potential for sediment recontamination associated with this property is summarized by transport pathway below.

Stormwater

This facility has an individual NPDES industrial stormwater discharge permit. Operations at this Seattle Iron & Metals have resulted in violations of the facility’s stormwater permit. Little information regarding current discharge monitoring activities at the facility was available.

Several facility inspections were completed during 2007 by Ecology prior to issuing the individual NPDES permit. During the most recent inspection, Ecology inspectors expressed concern about processing too close to the Duwamish and if the facility's stormwater treatment system had the capacity for heavy rain events. Stormwater is therefore considered a potential source of sediment recontamination.

Soil and Groundwater

Residual petroleum hydrocarbons and metals are present in soil and groundwater beneath this facility. Current soil and groundwater concentrations are unknown. The ground surface has been covered with a protective 10-inch concrete cap to minimize infiltration and transport of contaminants to the LDW. There is a restrictive covenant in place that prevents use of groundwater from the property without prior approval from Ecology. Transport of contaminants to the LDW via groundwater may occur, however the presence of a concrete cap reduces the potential for this to occur.

Bank Erosion/Leaching

Little information was available on the construction of the banks in this area and the potential for sediment recontamination via this pathway. Contaminants in soils along the banks of the LDW could be released directly to sediments via erosion.

Surface Runoff

This property is serviced by a stormwater collection system. The potential for sediment recontamination via surface runoff is considered unlikely.

Spills Directly to the LDW

Activities at Seattle Iron & Metals include loading and unloading of scrap metal into barges. Scrap metal from Seattle Iron & Metals spilled into the LDW in 2006. Spills are therefore considered a potential pathway for sediment recontamination.

Atmospheric Deposition

The adjacent facility, Seattle Boiler Works, has expressed concern that residue from Seattle Iron & Metals' automobile shredder will elevate chemical concentrations in stormwater originating from Seattle Boiler Works. Shredder residue and particulates reportedly emanating from auto shredder explosions have the potential to enter the LDW and may be a source of sediment recontamination.

4.3.5 Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Seattle Iron & Metal property is listed below.

Stormwater Discharge

- Ecology directed Seattle Iron & Metals to sample sludge material from the stormwater treatment system for metals in August 2006. No further information regarding this required sampling was found in the files. Additional data are needed to determine if the sludge should be handled as a hazardous waste and to determine if this sludge has the potential to reach the LDW.
- No information is available regarding any follow-up to the December 2007 stormwater compliance inspection.

Groundwater Discharge

- Hart Crowser's 1998 *Voluntary Cleanup Action Report, 606 South Myrtle Street, Seattle, Washington* should be located and reviewed to evaluate the extent of soil and groundwater sampling that has been conducted at this property and to identify whether sediment COCs were detected in soil or groundwater samples.

Bank Erosion/Leaching

- Additional information on the construction of the banks in this area is needed. Residual soil contamination is present at this property, therefore if bank erosion is likely, then data on contaminant concentrations in bank soils is necessary to evaluate the potential for sediment recontamination via this pathway.

Atmospheric Deposition

- Investigation is needed to determine if the shredder residue is reaching the LDW directly or via the Seattle Boiler Works storm drain system. Additional data are needed to determine if the residue contains COCs.
- The status of the furnace used to burn insulation off electrical wire should be investigated to determine if it was relocated from the Harbor Island facility to Seattle Iron & Metals Corporation's current facility. Additionally, current furnace operations, if any, should be determined.

4.4 Puget Sound Truck Lines

Facility Summary: Puget Sound Truck Lines	
Address	7303 8 th Avenue S. (Puget Sound Truck Lines) 7401 8 th Avenue S. (Phil's Finishing Touch)
Tax Parcel No.	2136200681 and 2136200670
Property Owner	R&A Properties, LLC (Parcel 0681) Puget Sound Truck Lines (Parcel 0670)
Parcel Size	Parcel 0681: 3.83 acres (166,835 sq. ft.) Parcel 0670: 2.50 acres (108,900 sq. ft.)
Facility/Site ID	41684823 (Puget Sound Truck Lines) 26468911 (Phil's Finishing Touch)

Facility Summary: Puget Sound Truck Lines	
SIC Code	7538: General Automotive Repair Shops 4231: Terminal Maintenance Facilities for Motor Freight Transportation 7532: Top, Body, and Upholstery Repair Shops and Paint Shops
EPA ID No.	WAD173274499 (inactive) WAD982653271 (inactive)
NPDES Permit No.	WAR000949
UST/LUST ID No.	7820

Puget Sound Truck Lines occupies two adjacent parcels (0681 and 0670; Figure 4). Puget Sound Truck Lines leases the northern parcel (0681) from R&A Properties LLC and owns the southern parcel (0670). An automobile detailing business, Phil’s Finishing Touch, operates in a building on the southern parcel.

The facility is located near the LDW in an industrial area of Seattle (Figure 2). The two parcels form a triangle that is bordered on the north by Seattle Iron & Metals and S. Othello Street, on the west by the LDW, on the south and east by Seattle City Light and 8th Avenue S.

The addresses for the parcels are 7303 8th Avenue S. (parcel 0081) and 7401 8th Avenue S. (parcel 0670), with 7303 8th Avenue S. used as the primary address for Puget Sound Truck Lines. The northern parcel is 3.83 acres and the southern parcel is 2.50 acres. Three buildings are present on the parcels:

- A 12,440-sq. ft. office and garage built in 1966 on the northern parcel,
- An 11,280-sq. ft. warehouse used as a garage for service and repair built in 1954 on the southern parcel (building used by Phil’s Finishing Touch),
- A 2,000-sq. ft. warehouse used as a garage for service and repair built in 1956 on the southern parcel.

Parcel 0081 is listed on the UST and LUST lists. Four USTs (ID Numbers 43813, 43844, 43889, 43924) have been removed from the property. The contents of USTs 43813 and 43924 were leaded gasoline and used-oil, respectively. The UST site ID is 7820. According to the LUST list, the release ID is 2352 and soil cleanup was finished in September 1995.

4.4.1 Current Operations

Puget Sound Truck Lines is a regional truckload carrier of general freight commodities and bulk wood residuals.¹⁵ The company operates at this property under SIC Codes 7538 (General Automotive Repair Shops) and 4231 (Terminal and Joint Terminal Maintenance Facilities for Motor Freight Transportation).

The following information regarding Puget Sound Truck Lines was gathered from EPA and Ecology databases:

¹⁵ Puget Sound Truck Lines website: <http://www.psfl.com/>

- EPA ID No.: WAD173274499 (inactive according to Ecology's website, but compliant 1st Quarter 2005 through 4th Quarter 2007 according to EPA)
- Ecology Facility/Site ID: 41684823
- Industrial Stormwater General Permit No. SO3000949.

The site is paved. Ecology inspectors noted the following facilities at the property during a 2005 site inspection (2005d):

- An onsite fueling station which discharges to sanitary sewer. There is no cover over the fueling pad, and Ecology inspectors noted that there is potential for large spills to miss the sanitary sewer and enter stormwater system.
- Multiple and distinct series of catch basins discharging to the LDW. The catch basin series nearest the fueling station has a shut-off valve which can be closed in the event of a spill.
- A washing pad which discharges to the sanitary sewer.
- A truck maintenance area.

Regulatory History

Ecology performed a stormwater compliance inspection at Puget Sound Truck Lines on June 9, 2005, at the facility's request. Puget Sound Truck Lines acknowledged that it was not meeting the discharge sampling and monitoring requirements of the general NPDES permit and asked for clarification of the permit requirements. The Ecology inspector noted that the onsite catch basins needed to be cleaned and recommended that materials and oily parts be stored under cover, empty containers be removed, and the pavement swept (Ecology 2005d). No information on any follow-up inspections was identified.

Stormwater Discharges

The facility has a stormwater conveyance system (Ecology 2005d). A photograph of Puget Sound Truck Lines' facility plan is included as Appendix C. There are five stormwater outfalls on the Puget Sound Truck Lines parcels (Section 3.2). Outfall 2036 is owned by Puget Sound Truck Lines, while outfalls 2037, 2038, 2039, and 2040 are owned by R&A Properties. According to the Draft LDW Phase 2 RI, Outfall 2036 may also drain the adjacent street surfaces (Windward 2007c).

Phil's Finishing Touch, which specializes in paint and auto body repair and services to classic automobiles, is located at 7401 8th Avenue S. The business operates in a building on parcel 0670, which is owned by Puget Sound Truck Lines.

The following information regarding Phil's Finishing Touch was gathered from EPA and Ecology databases:

- EPA ID No. WAD982653271 (inactive according to Ecology's website, but compliant from 1st Quarter 2005 through 4th Quarter 2007 according to EPA)

- Ecology Facility/Site ID 26468911,
- SIC Codes: 7532, Top, Body, and Upholstery Repair Shops and Paint Shops

No additional information regarding this parcel was available in the files reviewed by SAIC.

4.4.2 Historical Operations

One of these two parcels may have been the historical location of **Seattle Concrete Pipe Company** (Foster 1945; see also Section 4.3.2). No other information on historical operations was available.

4.4.3 Environmental Investigations and Cleanups

According to Ecology's LUST list, soil cleanup activities were completed in September 1995. No records of environmental investigations or cleanups for the Puget Sound Truck Lines parcels were found in the files reviewed by SAIC.

Fifteen surface sediment and two subsurface sediment samples have been collected from the LDW adjacent to the Puget Sound Truck Lines. PAHs, PCBs, and metals were detected at concentrations below the SQS in these samples. Furans and tributyltin were detected in sample 740.

PCB concentrations in five surface sediment samples (SS88, 82, 166, 169, and 740) exceeded the SQS. The PCB concentration reported for samples SS88 and SS89 (collected in 2005) exceeded the SQS by factors 3.2 and 15, the highest exceedances for this area. PCB concentrations reported for later samples SS333 and SS334 (collected in 2006) were below the SQS. Mercury was detected above the SQS in sample SS88 by a factor of 1.5. Chrysene and fluoranthene were detected above the SQS in sample 740 by factors of 1.03 and 1.1, respectively (Table 1).

4.4.4 Potential for Sediment Recontamination

Puget Sound Truck Lines conducts truck maintenance and repair at this location; Phil's Finishing Touch operates an auto body repair shop on a portion of the property. No information on historical site uses was available. PCBs, PAHs, and mercury have been detected at concentrations above the SQS in LDW sediments adjacent to this property.

Potential Pathways to RM 2.3-2.8 Sediments

The potential for sediment recontamination associated with this property is summarized by transport pathway below.

Stormwater

This facility operates under an Industrial Stormwater General Permit. The most recent stormwater compliance inspection (June 2005) indicated that Puget Sound Truck Lines is not in compliance with discharge sampling and monitoring requirements. Ecology inspectors noted that the catch basins needed to be cleaned, in addition to other housekeeping deficiencies. Therefore,

contaminants may enter the onsite storm drain system and be discharged to the LDW through the outfalls located on the west side of the parcel. In addition, storm drainage from the streets surrounding Puget Sound Truck Lines may transport contaminants to LDW sediments.

Soil and Groundwater

The potential for sediment recontamination via soil and groundwater pathways is unknown. Although the LUST list indicates that soil cleanup activities were completed in 1995, no additional information was found in the files reviewed by SAIC.

Bank Erosion/Leaching

Little information was available on the construction of the banks in this area and the potential for sediment recontamination via this pathway. Contaminants in soils along the banks of the LDW could be released directly to sediments via erosion.

Surface Runoff

This property is serviced by a stormwater collection system. The potential for sediment recontamination via surface runoff is considered unlikely.

4.4.5 Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Puget Sound Truck Lines property is listed below.

Stormwater Discharge

- A stormwater compliance inspection was last conducted in 2005. A follow-up inspection is needed to determine whether catch basins have been cleaned and housekeeping has been improved, and whether the facility is in compliance with discharge monitoring and other permit requirements and stormwater BMPs.

Groundwater Discharge

- Ecology's LUST list indicates that soil cleanup was completed at the facility in September 1995; however, no records of cleanup activities were found in the files reviewed by SAIC. Satisfactory completion of cleanup activities should be confirmed to eliminate groundwater discharge as a potential sediment recontamination pathway for this property.

Surface Runoff

- A facility plan showing the locations of all catch basins and storm drains is needed to evaluate whether any stormwater may be entering the LDW directly via surface runoff.

4.5 Seattle City Light

The address for Seattle City Light Parcel No. 2136200666 is 7551 8th Avenue S. According to King County Tax Assessor records, Seattle City Light is the taxpayer and Ms. Sandra L. Campbell is the property owner. A pumping station is present on the 0.27 acre (11,761-sq. ft.) parcel. The parcel is bordered by the LDW to the south, Puget Sound Truck Lines to the west and 8th Avenue S. to the east (Figure 4).

A 4-inch diameter concrete pipe, previously listed as Outfall 2041 (171E) is located on this parcel. This pipe is not an outfall, but is the old water intake for the Georgetown Steam Plant (Windward 2007c).

No records of environmental investigations or cleanups for the Seattle City Light parcel were found in the files reviewed by SAIC; no additional information regarding this parcel was available in the files reviewed by SAIC. This property is not likely to pose a significant risk for recontamination of RM 2.3-2.8 East sediments.

4.6 Crowley Marine Services

Facility Summary: Crowley Marine Services	
Address	7400 8 th Avenue S.
Tax Parcel No.	2136200641
Property Owner	Crowley Marine Services
Parcel Size	15.86 acres (690,862 sq. ft.)
Facility/Site ID	1940187 (Crowley Marine Services) 63123962 (Alaska Logistics, LLC)
SIC Code	4492: Towing and Tugboat Services 4449: Water Transportation of Freight 4491: Marine Cargo Handling
EPA ID No.	WAD988470647 (Alaska Logistics, LLC) WAD980981846 (Samson Tug & Barge) WAD981768377 (Crowley Marine Services; inactive)
NPDES Permit No.	WAR009728 (Construction Stormwater General Permit)
UST/LUST ID No.	None

Crowley Marine Services owns parcel 2136200641, which is subdivided into two parcels, D and F. Parcel D comprises the southern two-thirds of the parcel and Parcel F forms the northern third of the parcel. The city of Seattle purchased a portion of the property near the head of Slip 4 in October 2007. Crowley leases the parcels to several businesses including Alaska Logistics, LLC (Alaska Logistics), Samson Tug and Barge (Samson), and Union Pacific Domestic Container Terminal (Union Pacific).

The property address is 7400 8th Avenue S. Crowley purchased the 15.86-acre property from Evergreen Marine Leasing in December 1992. According to tax records, there are no permanent structures on the property. Business offices are housed in semi-permanent trailers. There is a

covered area at the northern end of the property which appears to be used by Union Pacific. Buildings adjacent to E Marginal Way S. appear to be abandoned.

The facility was listed on the CSCSL on August 31, 2007, with a site status of Awaiting Site Hazard Assessment (SHA). Site drive-bys were made in December 2007 and January 2008 to confirm environmental features of the site regarding containment features such as paving and buildings in order to complete the SHA. The SHA was completed in February 2008 and the facility received a ranking of 2 on a scale of 1 to 5, where 1 represents the highest risk and 5 represents the lowest (Ecology 2008b).

This property is also included in the Early Action 3 (Slip 4) source control area. Comprehensive descriptions of the property's history and previous environmental investigations are available in the *Lower Duwamish Waterway Slip 4 Early Action Area, Engineering Evaluation/Cost Analysis* (Integral 2006) and the *LDW Source Control Action Plan for the Slip 4 Early Action Area* (Ecology 2006h).

Geological and Hydrogeological Information

The property is underlain by approximately 4 to 14 feet of sand to silty sand fill overlying native tide flat and river deposits. The native soils consist primarily of interbedded sands and silts. A shallow, water-table aquifer is developed in these materials, and based on regional studies, it is thought to extend to a depth of 70 to 80 feet bgs where the alluvial materials become significantly finer grained and less permeable (SAIC 2006b).

The water table is tidally influence and ranges in depth across the property from about 6 to 10 feet bgs at high tide and about 7 to 14 feet bgs at low tide. Groundwater from the extreme south and west margins discharges directly to the LDW, within the RM 2.3-2.8 East area (SAIC 2006b).

Wastewater Discharges

Wastewater is presumably discharged to the sanitary sewer. It is not clear if Crowley, Alaska Logistics, Samson, or Union Pacific perform any vehicle or container washing activities at the property, and if so, where wash water is discharged.

Stormwater Discharges

Surface drainage for this property discharges to six 8-inch outfalls located along the north side of Slip 4 and the LDW. Two of these outfalls (2042 and 5006) are within the RM 2.3-2.8 East source control area (Figures 5 and 7). These are described in Section 3.2.

During a joint SPU/Ecology inspection of the Crowley property in June 2004, a solids sample was collected from one of the onsite catch basins. The catch basin contained zinc (1,220 mg/kg DW) at levels above the SQS. Bis(2-ethylhexyl)phthalate (BEHP) was measured at 1.6 mg/kg DW, but did not exceed the SQS when the data were OC-normalized (SPU 2004). PCBs were below the detection limit.

4.6.1 Current Operations

The following information regarding **Crowley Marine Services** was gathered from EPA and Ecology databases:

- EPA ID WAD988470647, WAD981768377 (inactive)
- Ecology Facility/Site ID 1940187
- SIC Codes: 4492 (Towing and Tugboat Services), 4449 (Water Transportation of Freight), 4491 (Marine Cargo Handling)
- NAICS Code 483211 (Inland Water Freight Transportation)

A Construction Stormwater General Permit (WAR009728) was issued to Crowley Marine Services on August 15, 2007 and expires on May 31, 2008.

Service Specialties Inc. is listed as an alternative name for Crowley on the EPA Envirofacts Warehouse website. Service Specialties Inc.'s NAICS Code is 36611 (Ship Building and Repairing).

Alaska Logistics, Inc., a current tenant at the property, transfers containers for shipment to and from Alaska. The business was registered with Washington State in February 2003. The facility was subject to a joint Ecology/SPU inspection during 2005; during this site visit, outfalls and drainage destination were identified.

The upland area of the parcel is used by Alaska Logistics for cargo container storage. Most of the facility is paved, with only the area adjacent to East Marginal Way S. remaining unpaved. Some minor vehicle maintenance occurs on the site. Equipment and vehicles being transported occasionally leak oils and other fluids. During a recent inspection, spill control materials were available onsite, but no spill response plan was available (SPU 2004 as cited in Ecology 2006h).

The following information regarding Alaska Logistics was gathered from EPA and Ecology databases:

- EPA ID WAD988470647 (compliant with RCRA from 1st Quarter 2005 through 4th Quarter 2007 according to the ECHO website); this is the same RCRA ID as Crowley
- Ecology Facility/Site ID 63123962
- SIC Codes: 4492 (Towing and Tugboat Services), 4449 (Water Transportation of Freight), 4491 (Marine Cargo Handling)
- NAICS Code: 483211 (Inland Water Freight Transportation)

Samson Tug and Barge was founded in 1937 with a single tug providing freight hauling services throughout Southeast Alaska. The Samson fleet expanded and by the 1980s, a military contract for freight services to Adak was awarded to the company. This propelled Samson into the large-scale freight hauling arena and led to a service a route which encompassed the entire Pacific Rim of Alaska.

Samson provides shipment of 20-foot and 40-foot dry containers and 20-foot shipping platforms. Samson transports 5,000-gallon International Standards Organization (ISO) tanks and bulk Liquefied Petroleum Gas (LPG) tanks. Samson offers trucking services in Seattle as well as connecting carrier agreements to transport cargo around the world. Samson is certified by the EPA to transport hazardous materials and hazardous waste.

Samson operates at two parcels within the RM 2.3-2.8 East Source Control Area. The yard is on the Crowley parcel at the 7400 8th Avenue S. address. Samson also leases warehouse space at the Pioneer Distribution facility (see Section 5.5). The warehouse receiving address is:

Pioneer Industries Warehouse - Bays 5, 6 & 7
660 South Othello Street
Seattle, WA 98108.¹⁶

Samson's EPA ID No. is WAD980981849. According to EPA's ECHO website, Samson is compliant with RCRA from 1st Quarter 2005 through 4th Quarter 2007. Ecology has not assigned a Facility/Site ID to Samson for this location.

4.6.2 Historical Operations

Northland Services, Inc. previously leased a portion of this parcel. Northland carried an Industrial Stormwater General Permit (No. SO3003646) while operating at this property. The EPA ID for Northland was WAH000012096 (Ecology 2002a).

Ecology performed a facility inspection in February 2002. Dangerous waste was stored at the facility. The Ecology inspector recommended revision of the facility's emergency action plan, improvements to general facility documents, and regular refresher training for employees handling dangerous waste (Ecology 2002a). Northland implemented these recommendations to Ecology's satisfaction by July 2002 (Ecology 2002d; Northland 2002b).

Historical sources indicate other operations that were conducted at this property include wood treating, pipe dipping, log storage, and aluminum window manufacturing operations. Portions of the property were unpaved for much of its history. Large equipment has been used at the facility for much of its history. Soil and groundwater contamination is associated with USTs at the property. Companies that have previously operated at this property are (Foster 1945, Ecology 2007e):

- Pankrantz Lumber
- Washington Excelsior and Manufacturing
- Puget Timber
- Washington Supply Manufacturing Company
- Layrite Concrete Products
- Hydraulic Supply Manufacturing
- Port of Seattle (part of Terminal 118)

¹⁶ Samson Tug and Barge website: <http://www.samsontug.com/>

- Marine Power & Equipment
- Evergreen Marine Leasing

4.6.3 Environmental Investigations and Cleanups

Environmental investigations at Parcels D and F of the Crowley property were previously summarized in the *Lower Duwamish Waterway Slip 4 Early Action Area, Engineering Evaluation/Cost Analysis* (Integral 2006), the *LDW Source Control Action Plan for the Slip 4 Early Action Area* (Ecology 2006h), and *Technical Memorandum, Crowley and First South Properties, Potential for Slip 4 Sediment Recontamination via Groundwater Discharge* (SAIC 2006b), and are summarized below. Tables 4 and 5 present chemical concentrations detected above screening levels in soil and groundwater samples, respectively. Figures 8 and 9 show areas of the property where chemicals have been detected above screening levels in soil and groundwater.

Parcel D. Several investigations to assess conditions resulting from past site uses have been conducted at Parcel D (SEA 2004). Soil samples collected in 1988 through 1990 detected several contaminants in soil at concentrations above MTCA cleanup levels: arsenic (up to 2,800 mg/kg), total petroleum hydrocarbons (TPH; up to 29,000 mg/kg), carcinogenic PAHs (cPAH; up to 1,396 mg/kg), and PCBs (up to 2.5 mg/kg). The elevated arsenic appeared to be localized in the vicinity of a former pole-dipping facility. Hart Crowser estimated that approximately 9,000 cubic yards of soil exceeded cleanup levels (Hart Crowser 1989b). Monitoring wells installed and sampled during 1988 through 1990 detected arsenic, copper, and cPAHs above surface water quality criteria (SEA 2004). Additional information about environmental sampling at Parcel D is provided in Appendix D. There is no record of soil or groundwater remediation on Parcel D.

Parcel F. Several investigations to assess conditions resulting from past site use have been conducted at Parcel F (SEA 2004). Soil samples collected in 1989 and 1990 detected several contaminants including PCBs, but only TPH was detected above MTCA cleanup levels (Hart Crowser 1989b). Copper and BEHP were detected above surface water quality criteria in groundwater samples (Hart Crowser 1989a, 1991). PCBs were not detected in groundwater. Additional information about environmental sampling at Parcel F is provided in Appendix D. Except for the removal of two underground storage tanks, there are no records of soil or groundwater remediation on Parcel F.

In its *Technical Memorandum, Crowley and First South Properties, Potential for Slip 4 Sediment Recontamination* (SAIC 2006b), SAIC compared historical concentrations of contaminants of concern in soil and groundwater to draft sediment screening levels (SLs).¹⁷ While this technical

¹⁷ These screening levels were developed to assist in the identification of upland properties which may pose a potential risk of recontamination of sediments at Slip 4. The screening levels incorporate a number of conservative assumptions, including the absence of contaminant dilution and ample time for contaminant concentrations in soil, sediment, and groundwater to achieve equilibrium. In addition, the screening levels do not address issues of contaminant mass flux from upland to sediments nor do they address the area or volume of sediment that might be affected by upland contaminants. Because of these assumptions and uncertainties, these screening levels are most appropriately used for one-sided comparisons. If contaminant concentrations in upland soil or groundwater are below these screening levels, then it is unlikely that they will lead to exceedance of marine sediment CSLs. However, upland concentrations that exceed these screening levels *may or may not* pose a threat to marine sediments; additional site-specific information must be considered in order to make such an assessment.

memorandum focused on the potential for sediment recontamination in Slip 4, it also provides valuable information regarding the potential for recontamination of sediments in the RM 2.3-2.8 East area. Information from the memorandum that is pertinent to the RM 2.3-2.8 Source Control Area is presented below.

PAHs exceeded soil-to-sediment screening levels in soil samples in roughly half the borings in Parcel D; these exceedances were distributed throughout most of the areas in Parcel D that have been investigated. The highest exceedances were found in three soil borings in northwestern and central portions of Parcel D. Soil borings with exceedances in the western and southern portions of Parcel D were DB-2 through DB-4, HC-103, and HC-110. There were no PAH exceedances of soil-to-sediment screening levels in soil samples in the northern portion of Parcel F (Figure 8).

Soil samples where PAHs exceeded screening levels ranged in depth from approximately 2 to 17 feet bgs; most such samples were from depths of less than 6 feet. Examination of individual boring logs and/or water-table elevation data indicated that most soils exceeding screening levels were located above the high-tide water table. However, the highest PAH concentrations in groundwater were associated with areas of deeper soil contamination. Groundwater in the area of well DMW-3, which had the highest exceedance for PAHs, flows towards the RM 2.3-2.8 East portion of the LDW during low tide (Appendix D-4).

PAHs exceeded groundwater-to-sediment screening levels in groundwater samples from roughly half the monitoring wells in Parcel D; these wells were located in or near borings where soil also exceeded screening levels. Groundwater exceeded screening levels by a factor of up to 27 in these wells. There were no PAH exceedances of screening levels in monitoring wells in Parcel F (Figure 9).

Groundwater in the western and southern portions of the property discharges to the LDW within the RM 2.3-2.8 East area (Figure 9). The downgradient extent of groundwater with significant PAH exceedances of SLs, particularly in the vicinity of DMW-3, is poorly defined. According to groundwater elevation and flow direction maps, groundwater in the vicinity of this well flows towards RM 2.3-2.8 East during low tide. However, there are no monitoring data that allow direct assessment of whether COCs are currently discharging to RM 2.3-2.8 East in this area and at what concentrations.

Six surface sediment samples (84, 170, 171, 741, SS92 and SS94) and one subsurface sediment sample (SC45) have been collected in the LDW near the Crowley parcel within the RM 2.3-2.8 East area. PCBs, PAHs, and metals were detected in these samples at concentrations above the SQS. Furans were detected in sample 741. Concentrations of the PAHs benzo(a)anthracene, chrysene, dibenzofuran, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene, total HPAH and total LPAH exceeded the SQS as discussed in Section 2.2.2 and shown in Table 1. PCB concentrations in surface sediment sample SS92 and the 2- to 4-foot depth interval in subsurface sample location SC45 exceeded the SQS by factors of 6.3 and 4.4, respectively (Tables 1 and 2).

4.6.4 Potential for Sediment Recontamination

The Crowley Marine Services property has a long history of industrial operations that may have resulted in soil and groundwater contamination. Available soil and groundwater data indicate that metals, TPH, PAHs and other SVOCs, and PCBs are present at this property at concentrations above MTCA Method A cleanup levels and/or soil-to-sediment or groundwater-to-sediment SLs. PCBs, PAHs, and metals have been detected at concentrations above the SQS in LDW sediments adjacent to this property.

Potential Pathways to RM 2.3-2.8 Sediments

The potential for sediment recontamination associated with this property is summarized by transport pathway below.

Stormwater

The property is paved, except for the area adjacent to East Marginal Way S., which reduces the likelihood that historical soil contaminants are carried into the LDW by stormwater. The current operator at the property does not have a stormwater permit. Spills and releases from current operations at the property could enter the onsite storm drain system and be discharged to the LDW through the outfalls located on the west side of the parcel.

Soil and Groundwater

Soil and groundwater contamination is present at this property in concentrations above soil-to-sediment and/or groundwater-to-sediment SLs. Based on groundwater flow directions shown in Figure 9, these contaminants could be transported to RM 2.3-2.8 East during low tide. Groundwater in this area is shallow, and the area reportedly has a high seepage level. Filtered and unfiltered seep samples collected adjacent to the Crowley property exceeded chronic and acute water quality criteria (Table 3).

Bank Erosion/Leaching

Little information was available on the construction of the banks in this area and the potential for sediment recontamination via this pathway. If contaminants are present in soils along the banks of the LDW, they could be released directly to sediments via erosion.

Surface Runoff

This property is serviced by a stormwater collection system. The potential for sediment recontamination via surface runoff is not considered a significant pathway for sediment recontamination at this property.

Spills Directly to the LDW

Activities at the Crowley Marine Services property include loading and unloading of cargo containers and liquid fuels. Accidental releases during loading or unloading operations are considered a potential pathway for sediment recontamination.

4.6.5 Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Crowley Marine Services property is listed below.

Stormwater Discharge

- The current property occupants (Alaska Logistics, Samson Tug and Barge, Union Pacific) do not have a stormwater permit or a SWPPP. Inspections are needed at these facilities to evaluate whether current operations at the property could be a source of LDW sediment recontamination.
- Stormwater runoff and inline solids data from the storm drain lines that discharge to RM 2.3-2.8 East are needed to evaluate the potential for transport of contaminants to the LDW via stormwater.

Groundwater Discharge

- Additional data on contaminant concentrations in soil and groundwater at the western and southern portions of the property that abut the LDW are needed to evaluate the potential for groundwater from this property to recontaminate RM 2.3-2.8 East sediments.

Bank Erosion/Leaching

- Additional information on the construction of the banks in this area is needed. Soil contamination is present at this property. Therefore, if bank erosion is likely, then data on contaminant concentrations in bank soils is necessary to evaluate the potential for sediment recontamination via this pathway.

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5.0 Potential for Sediment Recontamination from Upland Properties

Upland properties that could potentially affect RM 2.3-2.8 East sediments include:

- Fox Avenue Building/Fox Avenue Building #2 (Section 5.1)
- Whitehead Company/Former Tyee Industries (Section 5.2)
- Whitehead Company/Former Perkins Lot (Section 5.3)
- Trim Systems (Section 5.4)
- Nitze-Stagen/Frye Parcels (Section 5.5)
- Nelson Trucking (Section 5.6)
- Former Sternoff Parcel (Section 5.7)
- Markey Machinery Company (Section 5.8)
- El Gallo D'Oro/James Dore (Section 5.9)

Because these properties are not adjacent to the LDW, surface runoff directly to the waterway, bank erosion, and spills directly to the waterway are not potential sediment recontamination pathways and therefore are not discussed further in this section. Contaminants from upland properties could be transported to the LDW via stormwater and groundwater pathways.

The Whitehead Parcel/Former Perkins Lot, the former Trim Systems parcel, the larger Nitze-Stagen/Frye Parcel (current Pioneer Distribution), and the Former Sternoff Parcel are connected to municipal storm drain and sewer systems. However, based on storm drain and sewer line maps provided by SPU, stormwater and surface water originating from these properties may enter nearby, off-property storm drains that connect to the municipal outfalls discharging to the LDW. Current operational practices at these parcels may contribute to the movement of contaminants to the LDW; however, the potential for sediment recontamination via this pathway is low.

5.1 Fox Avenue Building and Fox Avenue Building #2

Facility Summary: Fox Avenue Building and Fox Avenue Building #2	
Address	6900 Fox Avenue S.
Tax Parcel No.	0001800087 and 0001800089
Property Owner	Fox Avenue Building, LLC
Parcel Size	Parcel 0087: 2.53 acres (110,207 sq. ft.) Parcel 0089: 1.19 acres (51,836 sq. ft.)
Facility/Site ID	2282
SIC Code	5169 (Chemical and Allied Products - Wholesale): Cascade Columbia Distribution
EPA ID No.	WAD008957961
NPDES Permit No.	None
UST/LUST ID No.	3803

Parcel 0087 is located at 6900 Fox Avenue S. with parcel 0089 immediately adjacent to the east. No address is listed for parcel 0089. The parcels are located in an industrial area of Seattle (Figure 4). The parcels are bordered by Shultz Distributing and S. Willow Street to the north, East Marginal Way S. to the east, the Whitehead Company, Inc./Former Tyee Industries parcel to the south, and Dawn Food Products and Fox Avenue S. to the west.

Parcel 0087 is owned by Fox Avenue Building LLC. There are two buildings on the 2.53-acre parcel, a 38,650-sq. ft. warehouse and office building built in 1959 and a 4,000-sq. ft. warehouse built in 1929. This parcel is listed on the CSCSL as the “Fox Avenue Building” for confirmed halogenated organics, non-halogenated solvent, petroleum product, and PAH contamination in soil and groundwater. The Ecology Facility/Site ID is 2282.

Great Western Chemical (GWC) Properties LLC sold adjacent parcel 0089 to Fox Avenue Building #2 LLC in February 2005. The 1.19-acre lot is currently vacant.

The following information for the Fox Avenue Building was collected from EPA and Ecology databases:

- EPA ID WAD008957961
- LUST 3803.

Twenty-six (26) USTs are listed for GWC (former property owner) on the UST list. Twenty of the USTs have been removed and the remaining six USTs were closed in place. The former contents for 17 of the USTs are listed as a Hazardous Substance, and no information regarding the former contents of the remaining USTs is listed. The UST ID numbers are 9556, 9575, 9586, 9612, 9624, 9637, 9650, 9664, 9694, 15864, 15936, 15946, 16005, 16024, 16059, 16086, 16102, 16139, 16207, 21073, 21082, 21141, 21222, 21271, 21338, and 21348. The UST site ID is 3803, and the LUST release ID is 1819. Soil cleanup began in June 1995; no completion date is listed.

The histories of Fox Avenue Building, Cascade Columbia Distribution (Cascade Columbia) and GWC were previously summarized in Ecology and Environment’s (E&E) draft Data Gaps report for RM 2.0-2.3 East (Slip 3; E&E 2008), dated January 2008. Information regarding the current facilities and operations at Cascade Columbia, including stormwater discharges associated with this facility, is also available in E&E’s report. Stormwater discharges from this property are conveyed to Slip 3. Groundwater beneath this property, however, flows towards the S. Myrtle Street Embayment, which is within the RM 2.3-2.8 East source control area. Pertinent information from E&E’s report, as it relates to the RM 2.3-2.8 East source control area, is cited and summarized within this section.

5.1.1 Current Operations

Cascade Columbia Distribution Company currently operates at 6900 Fox Avenue S. Cascade Columbia is a Northwest-based company that provides chemicals for aerospace, electronics, food manufacturing, personal care, metal plating, and water treatment industries.¹⁸

¹⁸ Cascade Columbia Distribution Company website: <http://www.cascadecolumbia.com/Home/tabid/58/Default.aspx>

5.1.2 Historical Operations

Great Western Chemical Company (GWCC), a Division of McCall Oil and Chemical Corporation (Ecology 1986g) formerly operated at 6900 Fox Avenue S. GWCC handled the following chemical classes and product types at the property (Terra Vac and Floyd & Snider 2000a):

- Ketones: methyl ethyl ketone, methyl *iso*-butyl ketone, and acetone
- Monocyclic aromatic solvents: toluene and xylenes
- Alcohols and glycols: isopropyl alcohol, ethyl alcohol, methyl alcohol, ethylene glycol, and propylene glycol
- Mineral spirits/petroleum solvents: kerosene and Chevron solvents 325, 350-B, 410, and 450
- Chlorinated compounds: methylene chloride, tetrachloroethene (PCE), pentachlorophenol, trichloroethylene (TCE), and 1,1,1-TCE
- Acids: nitric, sulfuric, and muriatic (hydrochloric) acids
- Dry products: phosphates, soda ash, titanium dioxide, borax and boric acid, calcium chloride, and calcium sulfate
- Miscellaneous chemicals: ferric and ammonium chloride etchants, phenols, hydrogen peroxide, and linseed oil
- Stoddard solvents
- Sodium chlorate
- Potassium carbonate
- Caustic soda.

Regulatory History

GWCC or Great Western International (GWI) and now Fox Avenue Building LLC entered into Agreed Order No. DE TC91-N203 with Ecology effective September 30, 1991 (Terra Vac and Floyd & Snider 2000a as cited in E&E 2008).

An interim action is in process, which began in December 1993, to be completed by January 2010. An RI/FS is in process under Ecology's Agreed Order; it began in August 1991 and is scheduled to be completed by December 2008. Also under the Agreed Order, a hazardous sites listing and SHA were completed in 1994. A site discovery/report, early notice letter, and initial investigation were completed in 1990. The site status is listed as "remedial action in progress" (Ecology 2007d as cited in E&E 2008).

5.1.3 Environmental Investigations and Cleanups

Numerous environmental investigations and cleanups relating to GWCC's past operations occurred between 1989 and 2001. Over 100 soil borings and 70 temporary and permanent

groundwater monitoring wells have been installed on and adjacent to the property to determine the nature and extent of groundwater and soil contamination beneath the property. Off-property groundwater monitoring wells were installed on S. Willow Street between Fox Avenue S. and East Marginal Way S., on Fox Avenue S. between S. Willow and S. Myrtle Streets, and on S. Myrtle Street between the LDW and the Whitehead Company, Inc./Former Tyee Industries parcel.

Groundwater beneath the property occurs in two water-bearing zones (WBZs), referred to as the 1st WBZ and the 2nd WBZ. The 1st WBZ is the uppermost groundwater-bearing unit beneath the GWI site; it is unconfined with depth to the water table ranging between 7 to 13 feet bgs. The 1st WBZ is most vulnerable to impacts from surface activities. The 2nd WBZ ranges in depth from 15 to 45 feet bgs and is contained within a semi-confined (i.e., locally unconfined) aquifer. Groundwater flow direction is to the southwest, towards the S. Myrtle Street Embayment (Terra Vac and Floyd & Snider 2000a).

Groundwater monitoring wells and seeps located in the S. Myrtle Street Embayment were sampled annually from 1993 to 1999. A detailed summary of the environmental activities related to the former GWCC facility is provided in E&E's Slip 3 Data Gaps report (E&E 2008). Relevant figures from this report illustrating the extent of the groundwater plume are included in Appendix E. Specific results relating to the potential for sediment recontamination in the RM 2.3-2.8 East source control area are discussed below. Additional information regarding previous environmental investigations at the property is included in Appendix E.

Soil Contamination

Soil beneath the property has been contaminated as a result of historical operations at the former GWCC facility. Table E-1 presents sampling results for all chemicals detected in soil at this property. Areas of the property where chemical concentrations in soil exceed screening levels are shown on Figure 10. Table 6 provides a list of chemicals detected in soil samples at concentrations above MTCA Method A or B cleanup levels or the soil-to-sediment SLs. Chemicals with exceedances greater than 10 and the greatest exceedance factor are listed below:

Chemical	Soil Conc'n (mg/kg DW)		MTCA Cleanup Level ^a (mg/kg)	Soil-to-Sediment Screening Level (Based on CSL) ^b (mg/kg)	Exceedance Factor
1,1,1-TCA	160		2		80
1,2-Dichlorobenzene	18		15	0.0038	4,737
1,4-Dichlorobenzene	5.9		42	0.015	393
1,4-Dimethylbenzene	0.5	J	42	0.015	33
2,4-Dimethylphenol	0.52		1,600	0.037	14
2-Methylnaphthalene	2.8		320	0.073	38
Benzene	12		0.03		400
Benzo(a)pyrene	1		0.1	4.2	10
Bis(2-Ethylhexyl)Phthalate	110		71	0.078	1,410
Butylbenzylphthalate	1.3		16,000	0.066	20

Chemical	Soil Conc'n (mg/kg DW)		MTCA Cleanup Level ^a (mg/kg)	Soil-to-Sediment Screening Level (Based on CSL) ^b (mg/kg)	Exceedance Factor
Di-n-butyl phthalate	110	B	8,000	2.0	55
Ethylbenzene	470		6		78
Gasoline-Range Hydrocarbons	6,500		30		217
Mercury	8.8		2	0.030	293
Methylene Chloride	780	B	0.02		39,000
Naphthalene	4.6		5	0.20	23
PCE	19,000		0.05		380,000
Pentachlorophenol	490	D	8.3	0.037	13,243
TCE	1,100		0.03		36,667
Toluene	1,800	J	7		257
Total Hydrocarbons (Light)	20,000		30		667
Xylenes (total)	1,200		9		133

a - The lower of MTCA Method A or B cleanup levels was selected, from

<https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>

b - From: SAIC 2006a

Groundwater Contamination

Groundwater beneath the property has been contaminated as a result of historical operations at the former GWCC facility. Table E-2 presents sampling results for all chemicals detected in groundwater at this property. The PCE, TCE, 1,2-dichloroethene (DCE), and vinyl chloride (VC) groundwater plume originating from the former GWCC facility extends southwest through the Seattle Boiler Works property to the S. Myrtle Street Embayment. Concentrations of these contaminants exceed MTCA Method A cleanup levels. The groundwater plume is present in both water-bearing zones. High concentrations of DCE and VC exceeding cleanup levels are present in the 2nd WBZ groundwater and discharge from Seep S-13 in the S. Myrtle Street Embayment (Terra Vac and Floyd & Snider 2000a). Areas of the property where chemical concentrations in groundwater exceed screening levels are shown on Figure 11.

Table 7 provides a list of chemicals detected in groundwater samples at concentrations above MTCA Method A or B cleanup levels or the groundwater-to-sediment SLs. Chemicals with exceedances greater than 10 and the greatest exceedance factor are listed below:

Chemical	GW Conc'n (ug/L)		MTCA Cleanup Level ^a (ug/L)	GW-to-Sediment Screening Level (Based on CSL) ^b (ug/L)	Exceedance Factor
1,1,1-TCA	16,000		200		80
1,1,2-TCA	68	J	0.77		88
1,2,4-Trimethylbenzene	11,000		400		28
1,2-DCA	200		5		40

Summary of Existing Information and Identification of Data Gaps

Chemical	GW Conc'n (ug/L)		MTCA Cleanup Level ^a (ug/L)	GW-to-Sediment Screening Level (Based on CSL) ^b (ug/L)	Exceedance Factor
1,2-DCE (total)	73,000		72		1,014
1,2-Dichlorobenzene	1,000		720	5.2	192
1,2-Dichloropropane	82	J	0.64		128
1,3,5-Trimethylbenzene	9,600		400		24
1,4-Dichlorobenzene	290		1.8	21	161
2-Butanone	170,000		4,800		35
2-Methylphenol	750		400	7.1	106
4-Methyl-2-Pentanone	14,000		640		22
Acetone	18,000		800		23
Arsenic (total)	140		5	370	28
Benzene	1,300		0.8		1,625
Bis(2-Ethylhexyl)Phthalate	76		6.3	0.47	162
Chromium (total)	16,000		50	320	320
cis-1,2-DCE	75,000		80		938
Diesel-Range Hydrocarbons	19,000		500		38
Gasoline-Range Hydrocarbons	120,000		800		150
Lead (total)	140		15	13	11
Mercury (total)	6.2		2	0.0074	838
Methanol	40,000		4,000		10
Methylene Chloride	23,000		5		4,600
PCE	160,000		5		32,000
Pentachlorophenol	11,000		0.73	10	15,068
Phosphorus (total)	2,600		0.16		16,250
Styrene	2,500	J	1.5		1,667
TCE	94,000		0.11		854,545
Toluene	76,000		640		119
Vinyl Chloride	25,000		0.029		862,069
Zinc (total)	1,300		4,800	76	17

a - The lower of MTCA Method A or B cleanup levels was selected, from

<https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>

b - From: SAIC 2006a

S. Myrtle Street Embayment Study

GWI conducted an investigation to determine whether groundwater is discharging into the S. Myrtle Street Embayment through a finite number of seeps, or through broad areas of groundwater upwelling through the S. Myrtle Street Embayment sediments. The study indicated that no generalized upwelling was measurable (Terra Vac and Floyd & Snider 2000b).

As part of the S. Myrtle Street Embayment study, Terra Vac and Floyd & Snider analyzed 1999 groundwater monitoring data to determine typical concentrations of PCE, TCE, total DCE, and VC in wells adjacent to the S. Myrtle Street Embayment and seeps:

Chemical of Concern ($\mu\text{g/L}$)	Wells screened in the 1 st WBZ Groundwater	Wells screened in the 2 nd WBZ Groundwater	Seeps
PCE	11	130	4 to 200
TCE	5.7	<100	2 to 270
Total-DCE	7.6	21,200	5 to 3,200
VC	2.2	23,000	<1 to 3,500

Seep sampling locations are shown in Figure 12. Additional information regarding the S. Myrtle Street Embayment Study is included in Appendix E.

5.1.4 Potential for Sediment Recontamination

Soil and groundwater contamination have been documented at the Fox Avenue Building/Fox Avenue Building #2 property. Available data indicate that VOCs, SVOCs, metals, and petroleum hydrocarbons are present at this property above MTCA cleanup levels and soil-to-sediment or groundwater-to-sediment screening levels.

Potential Pathways to RM 2.3-2.8 Sediments

The potential for sediment recontamination associated with this property is summarized by transport pathway below.

Stormwater

Stormwater from this facility is conveyed to Slip 3, which is north of RM 2.3-2.8 East. Therefore, this property does not represent a potential source of sediment recontamination to the RM 2.3-2.8 East source control area.

Soil and Groundwater

Soil and groundwater beneath the Fox Avenue Building is contaminated. Previous environmental investigations have shown that contaminants originating from soil and groundwater beneath the property are transported via groundwater to the S. Myrtle Street Embayment. Contaminated groundwater from this facility may be an ongoing source of sediment recontamination to RM 2.3-2.8 East sediments.

5.1.5 Data Gaps

An RI/FS is in progress at this property, under an Agreed Order with Ecology, to investigate and remediate soil and groundwater contamination.

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Fox Avenue Building property is listed below. Data gaps

associated with the stormwater pathway were identified in E&E's Draft Slip 3 Data Gaps report. The data gaps listed below apply to the RM 2.3-2.8 East source control area since groundwater from this facility flows towards the S. Myrtle Street Embayment.

Groundwater Discharge

- Dioxins and furans were detected in some environmental samples collected from the property, additional data are needed to determine the extent of contamination and to determine potential pathways for sediment recontamination.
- Annual groundwater, seep, and porewater data monitoring has not been conducted since 1999. Additional data are needed to determine the current levels of contamination in these media in order to evaluate this pathway as a source of sediment recontamination.
- No information was available to document implementation of the expanded Soil Vapor Extraction pilot study.

5.2 Whitehead Company, Inc./Former Tyee Industries

Facility Summary: Whitehead Company, Inc./Former Tyee Industries	
Address	730 S. Myrtle Street
Tax Parcel No.	2734100270
Property Owner	Whitehead Company, Inc.
Parcel Size	3.22 acres (140,263 sq. ft.)
Facility/Site ID	48578491
SIC Code	Unknown
EPA ID No.	WAD009244179 (inactive)
NPDES Permit No.	None
UST/LUST ID No.	None

This 3.22-acre, vacant parcel is owned by Whitehead Company, Inc. and the taxpayer is Reliable Transportation and Storage. The parcel address is 730 S. Myrtle Street. The parcel is located in an industrial area of Seattle (Figure 4). The parcel is bordered by the Fox Avenue Building parcels to the north, El Gallo d'Oro Restaurant to the east, the Whitehead Company, Inc./Former Perkins Lot parcel, Seattle Iron & Metals and S. Myrtle Street to the south, and Seattle Boiler Works and Fox Avenue S. to the west.

5.2.1 Current Operations

Seattle Iron & Metals leases the parcel for employee parking and truck storage. Based on a reconnaissance visit conducted in January 2008, the parcel appears to be unpaved. SPU storm drain and sewer line maps indicate that surface water from this parcel drains to the combined sewer overflow (CSO).

5.2.2 Historical Operations

Tyee Industries (Tyee) was previously located at 765 S. Myrtle Street. Based on this address, Tyee's former location should have been on the south side of S. Myrtle Street. Tyee operated at the property from approximately 1906. The improvements on the property were purchased by CECO Corporation in 1982. The property owners, Messrs. Paul Duncan and Arnie Thorson, were operating a pentachlorophenol dip tank at the property. CECO discontinued use of the tank when it took over operations in 1982 (Ecology 1986a).

The following information regarding Tyee Industries was collected from EPA and Ecology databases:

- EPA ID WAD009244179 (inactive)
- Ecology Facility/Site ID 48578491
- Alternative Name: Tyee Dry Kilns, Inc.

Regulatory History

Ecology performed a facility inspection following a complaint from METRO of a milky white liquid from a pipe at the back of the facility. The Ecology inspector found that the liquid discharged to an open pit, then flowed to another pit equipped with a sump pump. Overflow from the second pit was conveyed to the Fox Avenue storm drain via the loading dock area and another sump pump (Ecology 1986a; METRO 1986). The Tyee plant manager identified the discharge as polyvinyl acetate glue and stated that the discharge had occurred daily for years. Historically the glue contained high concentrations of metals, but the current formula contained much lower metals concentrations (Ecology 1986a). METRO collected samples of the discharge for laboratory analysis; concentrations of copper exceeded marine acute standards and nickel exceeded marine chronic standards (METRO 1986).

A Cease Discharge Order was issued to Tyee Lumber by Ecology in February 1986 (King County Department of Metropolitan Services [METRO] 1987).

Approximately 300 gallons of pentachlorophenol were removed from an UST at this site in early 1986 and confirmation soil samples were collected (Ecology 1986b, 1986i). Soil sample results were not found in the files reviewed by SAIC.

In June 1986, Ecology performed an inspection. Tyee was in the process of closing operations in Seattle and relocating to Lacey, Washington (Ecology 1986h).

Ecology performed another facility inspection on March 6, 1987, following a complaint from METRO. Ecology noted that stormwater was conveyed to the LDW at Slip 3 via the Fox Avenue storm sewer. Tyee's tenant, Freelance Woodworking, had covered a radiator vent, which misdirected radiator condensate to the storm sewer (Ecology 1987b).

5.2.3 Environmental Investigations and Cleanups

Supplemental Investigation Report on the Whitehead Property

A Supplemental Investigation was conducted at the Whitehead Property to further assess and document VOC and SVOC contamination in soil and groundwater on the property. Eleven temporary wells were installed at the Whitehead property and sampling was conducted from August 9 to August 11, 2000. A total of 31 soil samples and 11 groundwater samples were collected during the investigation and selected samples were analyzed for VOCs, SVOCs, TPH, non-aqueous phase liquid (NAPL), and TOC (Terra Vac and Floyd & Snider 2001b).

The primary VOCs detected in soil samples from this investigation were PCE, TCE, DCE, VC, toluene, and gasoline-range TPHs. Concentrations did not exceed 5 mg/kg, with the exception of one cis-DCE concentration of 6.6 mg/kg (Terra Vac and Floyd & Snider 2001b).

Based on the groundwater data collected during the supplemental investigation, chlorinated hydrocarbons were present in groundwater beneath the property. These impacts extended to the western property boundary and southwest of the property boundary to Fox Avenue S. The easterly extent of these groundwater impacts could not be determined from the data collected during this investigation. Groundwater at the property contained detectable concentrations of PCE, TCE, DCE, VC, toluene, and TPHs (Terra Vac and Floyd & Snider 2001b).

Tables 8 and 9 summarize the chemical concentrations detected above screening levels in soil and groundwater samples, respectively. Additional information regarding this environmental investigation is included in Appendix F.

5.2.4 Potential for Sediment Recontamination

Soil and groundwater contamination have been documented at the Whitehead Company/Former Tyee Industries property. Available indicate that VOCs, pentachlorophenol, and petroleum hydrocarbons are present at this property above MTCA cleanup levels and soil-to-sediment or groundwater-to-sediment screening levels.

Potential Pathways to RM 2.3-2.8 Sediments

The potential for sediment recontamination associated with this property is summarized by transport pathway below.

Stormwater

Stormwater from this facility is conveyed to Slip 3, which is north of RM 2.3-2.8 East. Therefore, this property does not represent a potential source of sediment recontamination to the RM 2.3-2.8 East source control area.

Soil and Groundwater

Groundwater beneath this property is contaminated with VOCs and other chemicals. Based on previous environmental investigations, groundwater flow direction in this area is towards the S.

Myrtle Street Embayment and the LDW. VOCs have also been detected in seep water samples collected at the S. Myrtle Street Embayment. Contaminated groundwater from this facility may be an ongoing source of sediment recontamination to RM 2.3-2.8 East sediments.

Seattle Iron & Metals leases the parcel from the Whitehead Company for employee parking. Based on a parcel reconnaissance visit in January 2008, the parcel appears to be unpaved. Small leaks from vehicles in the lot may infiltrate the unpaved surface of the lot and percolate into the deeper soil and could further contribute to groundwater contamination.

5.2.5 Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Whitehead Company/Former Tyee Industries property is listed below. Data gaps associated with the stormwater pathway were identified in E&E's Draft Slip 3 Data Gaps report. The data gaps listed below apply to the RM 2.3-2.8 East source control area since groundwater from this facility flows towards the S. Myrtle Street Embayment.

Groundwater Discharge

- Recent aerial photos indicate that the site may be used for activities other than Seattle Iron & Metals employee parking. A property inspection is needed to determine current use of the property.
- Additional soil and groundwater data are needed to determine the current levels of contamination in soil and groundwater beneath and downgradient of the property.

5.3 Whitehead Company, Inc./Former Perkins Lot

Facility Summary: Whitehead Company, Inc./Former Perkins Lot	
Address	719 S. Myrtle Street 711 S. Myrtle Street 700 S. Orchard Street 745 S. Myrtle Street
Tax Parcel No.	2136200525
Property Owner	Whitehead Company, Inc.
Parcel Size	2.78 acres (121,097 sq. ft.)
Facility/Site ID	56476471 (Commercial Welding & Fabrication) 43114188 (Perkins Lot) 65495133 (Royal Line Cabinet Company) 29782814 (American Dry Ice Corporation)
SIC Code	3441: Fabricated Structural Metal 3443: Fabricated Plate Work (Boiler Shops) 3449: Miscellaneous Structural Metal Work 484: Truck Transportation 4214: Local Trucking with Storage 2435: Hardwood Veneer and Plywood 2813: Industrial Gases

Facility Summary: Whitehead Company, Inc./Former Perkins Lot	
EPA ID No.	WAD988484556 (Commercial Welding & Fabrication; inactive) WAD099039489 (Royal Line Cabinet Company; inactive) CRK000039150 (American Dry Ice Corp.; inactive)
NPDES Permit No.	None
UST/LUST ID No.	522 (Nelson Trucking and Perkins Lot)

Parcel 2136200525 is located at 719 S. Myrtle Street in an industrial area of Seattle (Figure 4). The parcel is bordered by the Seattle Iron & Metals employee parking lot and S. Myrtle Street to the north, Nelson Trucking and 8th Avenue S. to the east, Trim Systems/CVG Commercial Vehicle Group, the smaller of the two Frye parcels, and S. Orchard Street to the south, and Seattle Iron & Metals and 7th Avenue S. to the west.

The 2.78-acre parcel is owned by Whitehead Company, Inc. According to King County Tax Assessor Records, the property name is Nelson Trucking.

There are five buildings on the property:

- A 9,000-sq. ft. industrial light manufacturing building, constructed in 1940,
- A 25,190-sq. ft. industrial light manufacturing building constructed in 1936,
- A 6,000-sq. ft. warehouse built in 1967,
- A 5,064-sq. ft. warehouse and office built in 1981, and
- A 3,888-sq. ft. office building constructed in 1951.

Nelson Trucking is listed as the property owner in some Ecology records. According to the UST list, there were three USTs at this property, which were registered to Nelson Trucking Company/Leaseway Corporation. The USTs have been removed. The UST ID numbers are 7855, 7917, and 7946; UST 7855 was used to store used oil. The Ecology Facility/Site ID is 43114188 and the UST site ID is 522.

5.3.1 Current Operations

The approximate locations of each facility currently operating at this parcel are shown on Figure 13.

Commercial Welding and Fabrication operates at 711 S. Myrtle Street. The following information regarding Commercial Welding and Fabrication was gathered from EPA and Ecology databases:

- EPA ID WAD988484556 (inactive),
- Ecology Facility/Site ID 56476471,
- SIC Codes: 3441 (Fabricated Structural Metal), 3443 (Fabricated Plate Work - Boiler Shops) and 3449 (Miscellaneous Structural Metal Work),
- NAICS Code: 3323312 (Fabricated Structural Metal Manufacturing).

No additional information regarding this facility was available in the files reviewed by SAIC.

Caffe D'Arte Roasting Plant currently operates at 719 S. Myrtle Street. Caffe D'Arte began operations in 1985. Caffe D'Arte coffee blends are roasted in small wood fired roasters and gas fired roasters.¹⁹ The primary SIC and NAICS descriptions for Caffe D'Arte are Roasted Coffee and Coffee and Tea Manufacturing, respectively. No additional information regarding this facility was available in the files reviewed by SAIC.

Taxi King Auto Wrecking currently operates at 720 S. Orchard Street. According to Ecology's Perkins Lot file, this is the same address as 719 S. Myrtle Street. Taxi King Auto Wrecking apparently subleased a portion of its facility to Sam Perkins (see Section 5.3.2 and Figure 13). The facility is a salvage yard primarily for police cars and taxis (SPU 2005b). Car parts including doors, tires, steering wheels and other parts are removed from the cars and sold.

A stormwater pollution prevention inspection was conducted by SPU on November 14, 2005 (SPU 2005b). At that time, the facility generated waste antifreeze, batteries, and oils. The inspector noted that the shop was fairly clean, however a sheen was observed in front of the building. There are no catch basins located on this property; stormwater flows to a catch basin at the end of S. Orchard Street. A fenced-in dirt yard (leased to Sam Perkins, see Section 5.3.2 below) was located next to this facility. The facility was requested to prepare a written spill prevention and cleanup plan, post it at appropriate locations, obtain spill containment and cleanup materials, and educate employees about the spill plan and containment/cleanup materials (SPU 2005c). A re-inspection conducted on December 20, 2005 indicated that the spill plan had been prepared and posted, and the facility was judged to be in compliance (SPU 2005f, 2005g).

United Rentals Trench Safety currently operates at 7135 8th Avenue S. Nelson Trucking formerly occupied this portion of the Whitehead parcel (Seattle Fire Department 1990, 1991).

In November 1991, one 12,000-gallon diesel UST was removed from the Whitehead parcel at the 7135 8th Avenue S. address. Three soil samples were collected from the UST excavation and submitted for laboratory analysis; diesel-range hydrocarbons were reported in one sample at a concentration below MTCA Method A cleanup levels (Seattle Fire Department 1990, 1991; Laucks 1991). This is one of the three USTs assigned to Nelson Trucking under UST ID 522.

5.3.2 Historical Operations

The **Former Perkins Lot** is an area of the Whitehead parcel immediately east of Taxi King Auto Wrecking. It is called the Perkins Lot because a Mr. Sam Perkins used the area to store, dismantle, and repair automobiles. Based on information in the files reviewed by SAIC, it appears that Mr. Perkins was not authorized to perform these activities and that Ecology assigned the 719 S. Myrtle Street address to this area of the property.

The following information regarding the former Perkins Lot was collected from Ecology databases:

¹⁹Coffee Universe website: <http://coffeeuniverse.com/expo/coffee-roasters>.

- Ecology Facility/Site ID 43114188
- SIC Codes: 484 (Truck Transportation), 4214 (Local Trucking with Storage)
- ERTS ID 550992

In November 1990, one 8,000-gallon diesel UST and one used-oil UST (size unknown) were removed from the Whitehead Parcel at the 719 S. Myrtle Street address. According to the Seattle Fire Department's records, the USTs were not replaced and no soil contamination was found in the excavated area (Seattle Fire Department 1990, 1991). These are two of the three USTs assigned to Nelson Trucking under UST site ID 522.

A stormwater pollution prevention inspection was conducted by SPU on November 14, 2005 (SPU 2005a). The fenced-in dirt and gravel lot that makes up this site has no direct discharge to a catch basin, however surface flow was observed to catch basins along the adjacent street. At the time of the inspection, about 20 cars were stored on the lot. Evidence of spills, drips, and leaking vehicles was observed. The facility was requested to prepare a written spill prevention and cleanup plan, obtain spill containment and cleanup materials, and properly capture and dispose of fluids drained or dripping from vehicles (SPU 2005d).

In December 2005, Ecology staff visited the site and were told that Mr. Perkins had been evicted from the property, and that the lot would be cleaned by December 9, 2005 (Szelag 2005). Several vehicles, lead acid batteries, and two unlabeled 55-gallon drums had been removed from the property, however several tire piles and propane tanks were still onsite.

On January 31, 2006, SPU re-inspected the facility (SPU 2006a); several trucks were parked in the planting strip and other materials were still present at the site. Ecology had received a complaint about an oil sheen running down the street in this area. SPU informed Mr. Perkins that he is not allowed to park vehicles on the planting strip in front of Taxi King because he is no longer leasing space. He was informed that drip pans should be placed under leaking vehicles, and that the vehicles should be removed. No information was available to determine whether these actions were completed.

In February 2006, the former Perkins Lot was listed on Ecology's CSCSL due to the presence of petroleum soil staining on the property. Three soil samples were collected at the lot in April 2006 by Seattle-King County Department of Public Health (SKCDPH); analytical results indicated the presence of diesel- and heavy oil-range hydrocarbons and lead at concentrations below MTCA Method A cleanup levels. The SHA prepared by SKCDPH notes that little surface water leaves the lot. SKCDPH recommended "No Further Action" for the former Perkins Lot (SKCDPH 2006a).

In September 2007, Ecology received a complaint of an "oil and grease mess" from auto-wrecking operations and possible soil contamination at the former Perkins Lot. Ecology notified the property owners, the Whitehead family (Ecology 2007c). Additional information regarding the former Perkins Lot is included as Appendix G.

Files reviewed by SAIC indicate that the following businesses have operated at the Whitehead Company parcel; however, the period of operations was not identified.

Royal Line Cabinet Company (Royal Line) operates or has previously operated on, the Whitehead Company, Inc./Former Perkins Lot parcel using the address 700 S. Orchard Street.

The following information was collected from Ecology's Facility/Site database:

- Ecology Facility/Site ID: 65495133
- SIC Code: 2435 Hardwood Veneer and plywood
- NAICS Code: 321211 Hardwood veneer and plywood manufacturing

In April 1991, Royal Line revised its Notification of Dangerous Waste Activities status with Ecology. Royal Line estimated that it would generate approximately 25 pounds waste lacquer wash thinner annually (Royal Line Cabinet Company 1991). In April 1996, Ecology attempted to conduct a site visit to provide business assistance to 1993 delinquent dangerous waste activity reporters. No one from Royal Line was present at the site. Ecology later spoke to the site contact person and sent the forms required to withdraw the facility's RCRA ID (Ecology 1996c). No additional information regarding this facility was found in the files reviewed by SAIC.

American Dry Ice Corporation, Repair Division operates or has previously operated on, the Whitehead Company, Inc./Former Perkins Lot parcel using the address 745 S. Myrtle Street.

The following information was collected from Ecology's Facility/Site database:

- Ecology Facility/Site ID 29782814,
- SIC Code: 2813 (Industrial Gases).

Bigley's hand-made furniture facility opposed the Seattle Iron & Metals move to S. Myrtle Street because it involved widening the road, which eliminated Bigley's parking (Ecology 1998c). No additional information regarding this facility was found in the files reviewed by SAIC.

5.3.3 Environmental Investigations and Cleanups

Except for the UST removal activities noted in Sections 5.3 and 5.3.2, no other records of environmental investigations or cleanups for the Whitehead Company, Inc./Former Perkins Lot parcel were found in the files reviewed by SAIC. Chromium was detected above the MTCA Cleanup Level in soil (Table 10).

5.3.4 Potential for Sediment Recontamination

The potential for sediment recontamination associated with this property is summarized by transport pathway below.

Stormwater

Based on information from SPU, stormwater from this property discharges to the city of Seattle storm drain outfall located at the S. Myrtle Street Embayment. Spills that may occur at the property could enter the onsite storm drain system and be discharged to the LDW through this outfall.

Soil and Groundwater

Soil samples collected at this parcel following UST removal activities indicate that the soil is not contaminated. Based on SAIC's file review, it is not known if groundwater beneath this facility is contaminated. A SHA was prepared and no further action was recommended by SKCDPH. Therefore, the potential for sediment recontamination due to groundwater transport is considered low.

5.3.5 Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Whitehead Company/Former Perkins Lot property is listed below.

Stormwater Discharge

- Little information regarding the operations of the businesses currently occupying the property was available. Facility inspections should be completed to determine if any of the activities at these facilities require an NPDES permit, and if required, to ensure compliance with permit requirements and stormwater BMPs to prevent release of contaminants to the LDW.
- Facility plans for each business showing the locations of all catch basins and storm drains should be generated and made available.
- A list of previous tenants is needed to determine if operations at the property could have resulted in soil and groundwater contamination.

5.4 Trim Systems

Facility Summary: Trim Systems	
Address	701 S. Orchard Street
Tax Parcel No.	2136200380
Property Owner	Tempress, Inc.
Parcel Size	2.45 acres (106,722 sq. ft.)
Facility/Site ID	93184477
SIC Code	544: Species Dies and Tools 3089: Plastic Products 3079, 3949: Sporting and Athletic Goods
EPA ID No.	WAD004906376
NPDES Permit No.	None
UST/LUST ID No.	None

Trim Systems (Parcel 2136200380) is located at 701 S. Orchard Street in an industrial area of Seattle (Figure 4). The parcel is bordered by the Whitehead Company, Inc./Former Perkins Lot parcel and S. Orchard Street to the north, the smaller of the two Frye parcels to the east, S. Garden Street and Pioneer Distribution to the south, and Seattle Iron & Metals to the west.

The parcel taxpayer is Tempress Inc. (Tempress). Tempress purchased the parcel from Manson Construction and Engineering in August 1986. The property name is Trim Systems. There are five buildings on the 2.45-acre parcel. These include:

- A 131,400-sq. ft. office and factory built in 1933,
- A 2,160-sq. ft. industrial light manufacturing shop built in 1975,
- A 3,072-sq. ft. storage warehouse/shed built in 1975,
- A 720-sq. ft. materials storage shed built in 1980, and
- A 768-sq. ft. materials storage shed built in 1975.

5.4.1 Current Operations

Trim Systems/CVG Commercial Vehicle Group/Tempress began operations in Ballard in 1967 under the name Ace Tool & Die. The facility moved operations to South Park in 1970 and to 701 S. Orchard Street in 1974 (Kleinfelder 1988). Tempress/Trim Systems has been at this location for 36 years; Tempress was acquired by Trim Systems in October 1998. Trim Systems is an Interior Systems Division of CVG Commercial Vehicle Group. Based on files reviewed by SAIC, it appears that Trim Systems was acquired by CVG sometime after October 1998.

Trim Systems currently operates at 701 S. Orchard Street. The following information regarding Trim Systems was collected from EPA and Ecology databases:

- EPA ID: WAD004906376,
- Ecology Facility/Site ID: 93184477,
- SIC Codes: 3544 (Special Dies and Tools, Die Sets, Jigs and Fixtures, and Industrial Molds), 3089 (Plastics Products), 3079, 3949 (Sporting and Athletic Goods).
- NAICS Codes: 326199 (Plastics Product Manufacturing), 333514 (Special Die and Tool, Die Set, Jig and Fixture Manufacturing), 33992 (Sporting and Athletic Goods Manufacturing)

Tempress operated using SIC Codes: 3544, 3949, 3079 (Tempress 1988b).

Trim Systems is closing the Seattle facility. The company's operations have recently moved to North Carolina, and Vancouver and Kent, Washington.

Materials Used in Operations

Trim Systems designs, engineers, manufactures, and delivers interior soft trim and hard trim products for the trucking industry. Electronic and electrical distribution systems from its wire harness business are also incorporated into the trim products. Soft trim products are produced using 2D, dielectric, and cut-and-sew processes. Hard trim products are manufactured using rotary thermoforming, injection molding, vacuum forming, six axis router cutting, reinforced vinyl clad RIM, and 3D compression molding processes.²⁰

²⁰ CVG Commercial Vehicle Group website:

<http://www.cvg.com/trim.aspx?terms=&searchtype=1&fragment=True>

Tempress manufactured car dashboard parts for trucking and fishing industries (Ecology 1998d). Parts were made of molded polyurethane resins. Mineral spirits and silicone were sprayed into molds for easy removal of cured resin. Methylene chloride was used to clean resin line after molds were poured. The primary materials used in production were solid styrene shot, urethanes, isocyanates, mold release wax with 20% methylene chloride, machine cleaning/flushing off-specification products made of dimethyldiisocyanate (MDI) and poly-ol, and paint line purging solvents (Ecology 1998f, 1988b).

Wastes Generated and Waste Handling

Historically, Tempress was classified as a small-quantity hazardous waste generator. Tempress's waste streams included: methylene chloride purge, n-methyl-pyrrolidone, fluorescent tubes (Ecology 1998f), paper towels contaminated with solvent mixture, methylene chloride waste and sludge, organic solvent, methylene chloride mixtures, mineral spirits and silicone mixture, MDI, propylene glycol, floor dry, and safety clothes. Tempress estimated 10,000 pounds of waste generated per month (Tempress 1988b).

Kleinfelder identified areas of improper dangerous and hazardous waste handling and made recommendations to Tempress to correct the deficiencies cited by Ecology (see Regulatory History) (Ecology 1988b, Kleinfelder 1988).

In September 1989, Tempress received SKCDPH's approval to dispose of approximately 7 tons per day of waste in Cedar Hills Landfill (SKCDPH 1989). The only permitted wastes were:

- Packing waste, scrap plastic,
- Empty containers,
- Scrap wood and sawdust,
- Maintenance refuse,
- Quick sorb (traction promoter),
- Reacted polyurethane foam,
- Sand and abrasives,
- Gel pack ice,
- Grinding dust,
- Scrap Vinyl,
- Expanded polystyrene, and
- Scrap paper.

Currently, Trim Systems transfers wastes to offsite locations for treatment and disposal. From 1987 to 2005, over 133,000 pounds of dichloromethane was disposed of at various private treatment facilities. From 1987 to 1994 over 30,000 pounds of methylenebis (phenylisocyanate) were transferred to Burlington Environmental and Chempro.

Trim Systems has sold surplus urethane raw materials including poly-ol and isocyanates to Chemstar Urethanes, Inc. (Chemstar) for reuse and repackaging into new urethane products. The surplus would otherwise be sent to a landfill for disposal (Chemstar 1999).

Known Releases

The following releases from Trim Systems were reported on EPA's Toxics Release Inventory (TRI) database:

- 1,995 pounds of dichloromethane were released to the environment in 2005.
- Less than 500 pounds of ethylene glycol were released annually from 1987 to 2005.
- Air Emissions: Over 420,000 pounds from 1987 to 2005; approximately 4,850 pounds released in 2005 (last year reported). Chemicals released were dichloromethane (all years reported), diisocyanates (1995), methylenebis (phenylisocyanate) 1987 to 1994, trichlorofluoromethane (1987 to 1995).

In 1988, Ecology found that Tempress was illegally venting methylene chloride to the atmosphere (Ecology 1988b).

Regulatory History

On August 25, 1983, Tempress submitted a Notification of Dangerous Waste Activities form indicating that it was a generator of aged MDI, a dangerous waste (Tempress 1983). Ecology assigned EPA/State ID No. WAD004906376 to Tempress in September 1983 (Ecology 1983).

Ecology conducted a RCRA Compliance Inspection at the facility in April 1988 and in July 1988 Ecology issued a warning letter to Tempress along with a copy of its inspection report (Ecology 1988b). In November 1988, Tempress was cited and fined by Ecology for the following hazardous waste handling deficiencies:

- Illegal land disposal of hazardous waste,
- No labeling or dating of hazardous waste containers,
- No hazardous waste personnel training plans,
- No hazardous waste preparedness and prevention plan,
- No contingency plan,
- Inadequate management of containers,
- No weekly inspection reports for hazardous waste containers, and
- No secondary containment for hazardous waste containers (Ecology 1988a, 1988c).

As of August 1989, Tempress was taking "extraordinary efforts" to alter its manufacturing processes to eliminate hazardous waste generation (Ecology 1989).

Ecology inspected Tempress on November 3, 1998, following its acquisition on October 29, 1998 by Trim Systems. The purpose of the inspection was to determine Tempress' level of compliance with the Washington State Dangerous Waste Regulations (Chapter 173-303 WAC). Tempress was renamed Trim Systems after the acquisition. Tempress was working on removing methylene chloride from its processes by January 1, 1999 (Ecology 1998d, 1998e, 1998f).

Ecology inspected Trim Systems on March 27, 2008. Most manufacturing equipment had been removed though some manufacturing continued on the second floor. Trim Systems planned to

remove all equipment from the building by the end of March 2008. No hazardous waste violations were found at the facility; however, Ecology recommended that Trim systems appropriately label and keep tightly closed all accumulated wastes awaiting designation (i.e., hazardous or non-hazardous) (Ecology, 2008d).

5.4.2 Historical Operations

Manson Construction previously operated at this parcel. Manson Construction's activities included material and equipment storage, cargo marshaling, packing, shop and storage buildings, and vessel moorage (City of Seattle 1984).

Based on shoreline development permits reviewed by SAIC, Manson Construction may have constructed a new wharf in the southern portion of the S. Myrtle Street Embayment in the mid 1980s (City of Seattle 1984, Manson Construction 1984); however, aerial photographs from 1980, 1985, and 1990 do not show any major differences in the shoreline of the embayment (Appendix B).

Northwest Container Services, Inc. (Northwest Container) previously operated at 600 S. Garden Street. The company currently operates at 110 W. Marginal Way SW (Terminal 115) and 635 S. Edmunds, Seattle.

The following information regarding Northwest Container for the 600 S. Garden Street facility was collected from EPA and Ecology databases:

- EPA ID WAD988517744 (compliant from 1st Quarter 05 through 4th Quarter 07, inactive according to Ecology),
- EPA ID WAD008957961 (inactive),
- Ecology Facility/Site ID 4524834,
- SIC Codes: 3799 (Transportation Equipment), 4491 (Marine Cargo Handling).

According to EPA's Envirofacts Warehouse, the facility had an NPDES Stormwater Permit; however a permit number was not located in the files reviewed by SAIC.

Following a traffic accident on May 23, 1997, approximately 30 to 40 gallons of diesel fuel spilled at the corner of E. Marginal Way S. and Brighton Street. Northwest Container recovered approximately 15 to 20 gallons of fuel with absorbent pads. The spill area was approximately 6 feet by 5 feet in size. On May 29, 1997, Northwest Container's consultant removed approximately 10 tons of contaminated soil and transported it to Holnam/Evergreen Inc. for treatment. The excavated area measured approximately 10 feet by 7 feet by 5 feet deep. Soils were removed until no visible stains or odors were present (Ecology 1997b, Foss 1997). No fuel was discharged to a nearby storm drain (Ecology 1997a). It should be noted that this accident and cleanup occurred in the RM 2.0-2.3 East source control area, to the north of the RM 2.3-2.8 East source control area.

In March 1992, **Northland Services, Inc.** filed a Notification of Dangerous Waste Activities form with Ecology. The form indicates that Northland was operating as a generator and transporter of dangerous waste. The EPA Site ID is listed as WAD981773005. The address for

these activities is listed as 600 S. Garden Street, which indicates that Northland was operating at this parcel (Northland 1992).

Files reviewed by SAIC indicate that the following businesses have also operated at the Trim Systems parcel; however, the period of operations was not identified. The information listed for each business is the only information available in the files reviewed by SAIC.

- **Orchard Street Drums**

701 S Orchard Street
EPA ID WAD988474557 (inactive)

- **AT&T Wireless Tempres**

701 S. Orchard Street
Ecology Facility/Site ID 6254510
SIC Code: 4812 (RadioTelephone Communications)

- **Coastal Alaska Marine Lines**

745 S Orchard Street
EPA ID WAD980834527 (inactive)
Ecology Facility/Site ID 67744521
NAICS Code: 483113 (Coastal and Great Lakes Freight Transportation)

5.4.3 Environmental Investigations and Cleanups

No records of environmental investigations or cleanups for the Trim Systems parcel were found in the files reviewed by SAIC.

5.4.4 Potential for Sediment Recontamination

The potential for sediment recontamination associated with this property is summarized by transport pathway below.

Stormwater

Manufacturing at this facility apparently took place indoors and all waste were reportedly transferred offsite for treatment and disposal. Presumably all spills that occurred as a part of the manufacturing process took place indoors and did not reach the storm drain or sewer system. One previous site tenant, Northwest Container Services, may have had an NPDES permit.

Spills that occur at uncovered areas of the property could enter the city of Seattle storm drain system and be discharged to the LDW through the storm drain outfall located at S. Garden Street, based on storm drain system maps obtained from SPU.

Soil and Groundwater

The potential for sediment recontamination via soil and groundwater pathways is unknown. Although Tempres was cited by Ecology for hazardous waste handling deficiencies in 1988,

there is no information to indicate that spills at this property may have resulted in soil or groundwater contamination. The potential for sediment recontamination via groundwater transport is believed to be low.

5.4.5 Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Trim Systems property is listed below.

Stormwater Discharge

- After a new tenant occupies this property, a business inspection is needed to ensure that operations at the facility are in compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW. A facility plan showing the locations of all catch basins and storm drains (if any) should be generated.

5.5 Nitze-Stagen/Frye Parcels

Facility Summary: Nitze-Stagen/Frye Parcels	
Address	660 S. Othello Street 7101 8 th Avenue S.
Tax Parcel No.	2136200695 and 2136200375
Property Owner	Nitze-Stagen & Company (taxpayer) Charles & Emma Frye Free Public Art Museum (owner)
Parcel Size	Parcel 2136200695: 3.54 acres (154,202 sq. ft.) Parcel 2136200375: 0.46 acre (20,038 sq. ft.)
Facility/Site ID	41689573 (Pacific Terminals Ltd.) 76518153 (Dinol US)
SIC Code	4321: Terminal Maintenance Facilities for Motor Freight Transportation 4225: General Warehousing and Storage 2869: Industrial Organic Chemicals
EPA ID No.	WAD988467700 (Pacific Terminals Ltd.; inactive) WAH000005264 (Dinol US; inactive)
NPDES Permit No.	None
UST/LUST ID No.	None

Parcel 0695 is located at 660 S. Othello Street in an industrial area of Seattle (Figure 4). The parcel is bordered by Trim Systems/CVG Commercial Vehicle Group, the smaller of the two Frye Parcels and S. Garden Street to the north, by Markey Machinery Company and 8th Avenue S. to the east, by Puget Sound Truck Lines and S. Othello Street to the south, and by Seattle Iron & Metals to the west.

The parcel is 3.54 acres in size with one building on the property, a 119,661-sq. ft. warehouse which was built in 1960. The parcel taxpayer is Nitze-Stagen & Co. Inc., a real estate investment

firm. According to the Nitze-Stagen & Co., Inc. website, this property is called the Frye Distribution Center and two warehouse bays are vacant.²¹

Pioneer Human Services purchased the property from the Othello Street Warehouse Corporation in October 1998 and sold it to Charles & Emma Frye Free Public Art Museum in November 2004.

Parcel No. 0375, which is adjacent to parcel 0380 (Trim Systems), has the same owner/taxpayer history as parcel 0695. The 0.46-acre parcel is vacant. Tax assessor records indicate it is used as a storage yard. The address for this parcel is 7101 8th Avenue S. The parcel is bordered by the Whitehead parcel and S. Orchard Street to the north, the former Sternoff parcel and 8th Avenue S. to the east, Pioneer Distribution (larger Frye parcel) and S. Garden Street to the south, and by Trim Systems to the west.

5.5.1 Current Operations

As of January 2008, building signage is for **Pioneer Distribution**. No information regarding Pioneer Distribution was found in the files reviewed by SAIC.

5.5.2 Historical Operations

Pacific Terminals Ltd. previously operated the warehouse at this parcel. In June 1989, Pacific Terminals was given EPA ID No. WAD988467700 as a generator of hazardous waste. In October 1989 this number was cancelled. The following information for Pacific Terminals was collected from Ecology's Facility/Site Database:

- Ecology Facility/Site ID 41689573,
- SIC Codes: 4231 (Terminal and Joint Terminal Maintenance Facilities for Motor Freight Transportation), 4225 (General Warehousing and Storage),
- NAICS Code: 48849 Other Support Activities for Road Transportation.

Pacific Terminals is currently located between Port of Seattle Terminals 5 and 18. No additional information regarding Pacific Terminals was available in the files reviewed by SAIC.

Dinol US previously operated at 650 S. Othello Street. Dinol US produces products for the aerospace and automotive aftermarket industries and general industry. Aerospace products include corrosion inhibiting compounds for prolonging the life of commercial, military, and private aircraft. Automotive aftermarket products include car care, body repair products, and bonding products for auto glass replacement and for the manufacturing of buses and trucks. Industrial products include Dinitrol rust preventative waxes, paint primers, lacquers and corrosion preventative fluids.²²

The following information regarding Dinol US was collected from EPA and Ecology databases:

²¹ Nitze-Stagen website: <http://www.officespace.com/BldSpC.cfm?BuildingID=1359571751&OSOFmt=Nitze-Stagen>

²² Dinol US website: <http://www.tuffkote.co.kr/tuffkote/dinolus/products1.htm> and Glass on Web website: <http://www.glassonweb.com/directory/details.php?id=1626&page=products>

- Ecology Facility/Site ID 76518153
- EPA ID WAH000005264 (inactive),
- SIC Code: 2869 (Industrial Organic Chemicals)
- NAICS Code: 325199 (Basic Organic Chemical Manufacturing)

5.5.3 Environmental Investigations and Cleanups

No records of environmental investigations or cleanups for the Nitze-Stagen parcels were found in the files reviewed by SAIC.

5.5.4 Potential for Sediment Recontamination

The potential for sediment recontamination associated with this property is summarized by transport pathway below.

Stormwater

Based on sewer line maps obtained from SPU, spills that may occur at uncovered areas of the larger parcel could enter the city of Seattle storm drain system and be discharged to the LDW through the Puget Sound Truck Lines Outfall No. 2046 located at S. Othello Street. Spills that may occur at the smaller Frye parcel may enter the city storm drain system and be discharged to the RM 2.3-2.8 East via the S. Garden Street outfall.

Soil and Groundwater

The potential for sediment recontamination via soil and groundwater pathways is unknown. No information was found that would indicate that soil or groundwater contamination is present at this property. Therefore, the potential for sediment recontamination via groundwater transport is believed to be low.

5.5.5 Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Nitze-Stagen/Frye parcels is listed below.

Stormwater Discharge

- A business inspection is needed at this property to ensure that operations at the Pioneer Distribution facility are in compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW. A facility plan showing the locations of all catch basins and storm drains (if any) should be generated.

5.6 Nelson Trucking

Facility Summary: Nelson Trucking	
Address	7130 8 th Avenue S.
Tax Parcel No.	2136200035
Property Owner	Reliable Transportation and Storage
Parcel Size	0.32 acre (13,939 sq. ft.)
Facility/Site ID	66879333
SIC Code	9999: Nonclassifiable Establishment
EPA ID No.	WAD981765779 (inactive) WAD150089787 (inactive)
NPDES Permit No.	None
UST/LUST ID No.	None

Nelson Trucking (Parcel 0035) is located at 7123 East Marginal Way S. in an industrial area of Seattle (Figure 2). The 0.32-acre parcel is triangularly shaped and is bordered by El Gallo d'Oro Restaurant and S. Myrtle Street to the north, East Marginal Way S. to the east, the former Sternoff parcel to the south, and the Whitehead Company, Inc./Former Perkins Lot parcel and 8th Avenue S. to the west. The taxpayer is Reliable Transportation and Storage. A 7,678-sq. ft. service garage, built in 1980, is the only building on the property.

Nelson Trucking currently occupies this parcel. The business address for the location is 7130 8th Avenue S. The following information was obtained using EPA and Ecology databases:

- EPA ID WAD981765779 (inactive), WAD150089787 (inactive)
- Ecology Facility/Site ID 66879333
- NAICS Code: 48411 (General Freight Trucking, Local)

According to their website, Nelson Trucking provides the following services²³:

- Machinery Moving,
- Printing Equipment Experts,
- Rigging & Crane Service,
- Rigging Forklifts up to 80,000 lb. Capacity,
- Hydraulic Gantry for Heavy-Lift of up to 400 tons,
- Heavy Hauling (up to 12 axles) to 150,000 lbs.,
- Flatbed/Stepdeck/Double-Drop & Canopy trailers,
- Air-ride tractors for delicate/sensitive freight, and
- Crating Service.

No additional information regarding Nelson Trucking's operations at this property was available in the files reviewed by SAIC.

²³ Nelson Trucking website: <http://www.nelsontrucking.com/>

5.6.1 Environmental Investigations and Cleanups

No records of environmental investigations or cleanups for the Nelson Trucking parcel were found in the files reviewed by SAIC.

5.6.2 Potential for Sediment Recontamination

The potential for sediment recontamination associated with this property is summarized by transport pathway below.

Stormwater

Based on storm drain system maps obtained from SPU, stormwater from this facility does not drain to RM 2.3-2.8 East. Spills that may occur at the outdoor areas of this property and stormwater are likely conveyed to the combined sewer line at East Marginal Way S. Therefore, there is little potential for contaminants to be transported to RM 2.3-2.8 East sediments via stormwater.

Soil and Groundwater

The potential for sediment recontamination via soil and groundwater pathways is unknown. No information was found that would indicate that soil or groundwater contamination is present at this property. Therefore, the potential for sediment recontamination via groundwater transport is believed to be low.

5.6.3 Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Nelson Trucking property is listed below.

Stormwater Discharge

- A business inspection should be conducted at this property to confirm that stormwater does not drain to RM 2.3-2.8 East, and to ensure that operations at the Nelson Trucking facility are in compliance with applicable regulations and BMPs. A facility plan showing the locations of all catch basins and storm drains (if any) should be generated.

5.7 Former Sternoff Parcel

Facility Summary: Former Sternoff Parcel	
Address	7201 East Marginal Way S.
Tax Parcel No.	2136200075
Property Owner	Ellis Garage, LLC
Parcel Size	1.85 acre (80,586 sq. ft.)
Facility/Site ID	2057
SIC Code	33: Primary Metal Industries

Facility Summary: Former Sternoff Parcel	
EPA ID No.	WAH000023432 (inactive)
NPDES Permit No.	None
UST/LUST ID No.	None

The former Sternoff Parcel (No. 0075) is located at 7201 East Marginal Way S. in an industrial area of Seattle (Figure 4). The parcel is bordered to the north by Nelson Trucking, to the east by East Marginal Way S., to the south by Markey Machinery Company, Crowley Parcel F, and S. Garden Street, and to the north by the smaller Frye parcel and 8th Avenue S.

The parcel is currently owned by Ellis Garage, LLC. The parcel was vacant farmland until it was purchased by the Sternoff family in the early 1940s. The parcel was sold to Robert Goodstein in the 1980s. Dennis and Patricia McLeod bought the property from Robert Goodstein in July 1998. Then in June 2004, the parcel was purchased by Noble Homes LLC and sold to Ellis Garage LLC on the same day.

According to tax records, the parcel is 1.85 acres in size and there are no permanent structures on the property. However, previous environmental investigations describe the presence of asbestos-containing materials in the facility's aluminum smelter office, locker rooms, and office buildings. Additionally in the 1995 aerial photograph, at least two buildings are present on the property (Appendix B).

Depth to groundwater is approximately 10 to 11 feet bgs and groundwater flows both westerly towards the LDW and southerly to Slip 4, and may be tidally influenced (Terra Associates [Terra] 1987, SEACOR 1991)

The parcel is listed on the CSCSL under the name Sternoff Metals. Contamination of soil and groundwater have been confirmed by Ecology and contamination of surface water is suspected. COCs include priority pollutant metals, PCBs, and petroleum products (in groundwater only). The Ecology Facility/Site ID is 2057.

5.7.1 Current Operations

CDL Recycle is a receiver and processor of construction, demolition, and land-clearing debris (CDL). CDL Recycle receives co-mingled loads of recyclable waste materials from construction projects and sorts those loads into re-usable and recyclable commodities. CDL Recycle's Material Recovery Facility is a full scale facility capable of processing up to 60,000 tons of fully co-mingled CDL material per year. CDL Recycle recovers wood, metals, old corrugated cardboard, plastics, carpeting, soil mix, concrete and aggregates.²⁴

No additional information regarding CDL Recycle was available in the files reviewed by SAIC.

²⁴ CDL Recycle website: <http://www.cdltreecycle.com/>

5.7.2 Historical Operations

Sternoff Metals Corporation/Remedco. The Sternoff family manufactured trailers for logging trucks and operated a metal salvage yard at the property. Except for areas covered by buildings, the site was unpaved until the 1970s (SEACOR 1991).

The scrap metal salvage yard operated at the property for 45 years until approximately 1986. Until the 1970s, the facility received electrical transformers and capacitors which were sometimes filled with oils potentially containing PCBs (Terra 1987, SEACOR 1991). The salvage yard's facilities included an aluminum smelter (SEACOR 1991), an auto crusher near 8th Avenue S. (Ecology 1987d), and a nonferrous metal building in the northwest portion of the property.

Scrap metal was crushed, cut and bailed using hydraulic equipment. The primary sources of the scrap metal were automobiles and the airline manufacturing industry. Several thousand automobile batteries were reportedly stored between the aluminum smelter and warehouse buildings. A portable furnace powered by diesel and transformer oil was used to melt aluminum prior to the installation of the aluminum smelter in the 1970s. Iron and other ferrous metals were stored in the southeastern portion of the property (SEACOR 1991).

The nonferrous metal building was used to sort brass and copper. A natural gas-powered incinerator was used to melt insulation from copper wiring and the resulting ash was sold for additional reclamation processing due to the high metal content of the ash. This activity began in the late 1960s and continued intermittently until the 1980s (SEACOR 1991).

In the early 1980s a tenant used the property for equipment storage and metal storage container fabrication. The tenant's manufacturing process including painting, and xylenes were stored near the painting area (SEACOR 1991). In the 1990s, the Sternoff family leased the property to Nelson Trucking for truck and container storage. Nelson Trucking leased the site for dead storage of trucks and containers.

Nelson left the property in the mid 1990s. Ecology records indicate that Darrin Pickering of the Pickering Farms family occupied the property as early as February 1996. Mr. Pickering operated Remedco, a thermal treatment company. Mr. Pickering allegedly had contracts with King County and the City of Seattle to treat petroleum contaminated soil (PCS) (Ecology 1996b). According to Ecology notes, Remedco had applied for permits to treat soil at the facility but was unable to obtain an air quality permit to treat the soil. During a site inspection, the SKCDPH found that accumulated soils at the facility were contaminated with materials other than petroleum (e.g., metals, solvents, etc.). Remedco eventually went bankrupt and it is unclear whether the accumulated soils were ever treated or disposed of properly (Ecology 2005c).

Stormwater Discharges

A stormwater collection system was installed at the site in the early 1950s. The system consisted of seven catch basins draining to a sump located on 8th Avenue S. The sump pump was activated by a water level switch. The pump conveyed the water to the city storm drains discharging to METRO sewer (Ecology 1986c). As of the 1990s the pump had not been operational in "several

years” and SEACOR reported that the system was filled with sediment and water, which resulted in water puddles forming on the property (SEACOR 1991).

Regulatory History

On September 3, 1980, Sternoff submitted a U.S. EPA Notification of Hazardous Waste Activity form indicating that Sternoff was a generator and transporter of non-federal toxic hazardous wastes (Sternoff 1980).

In 1981, Sternoff requested analysis of the Reverb furnace waste for Extraction Procedure (EP) toxic metallic contaminants. The laboratory analytical results indicated that the waste did not exceed the EP toxic metals limits (Clayton 1981).

Ecology performed an inspection on May 2, 1986, at the request of Terra Associates on behalf of their client, Merlino Construction. Merlino Construction desired to open a portable cement batch plant at the property and wanted to understand Ecology’s concerns regarding the potential batch plant. Terra indicated the presence of PCBs over 75 parts per million (ppm) in the southern corner of the property (Ecology 1986c).

Ecology performed an inspection on May 13, 1986. The receiving water is the METRO sanitary sewer. The inspector noted the water treatment system consisted of a sump with an aging homemade oil-water separator (Ecology 1986e).

Water samples collected downstream from the facility in August 1986 contained concentrations of PCBs (Ecology 1986j, 1986l). Ecology collected a water sample from a facility sump in September 1986; PCBs were detected in the sample (Ecology 1987a). The sample consisted of the washwater from cleaning the sump and storm drains on the facility. Ecology notified Irving Sternoff that the water was considered extremely hazardous and required Sternoff to apply for a Hazardous Waste Transporter number (Ecology 1986k).

A revised Notification of Dangerous Waste Activities dated October 31, 1986, indicates that waste streams at Sternoff consist of miscellaneous metals and that Sternoff discontinued hazardous waste generator activities in February 1985 (Sternoff 1986).

In 1987, storm drain sediments were cleaned out, but no verification sampling was performed. Ecology determined that once verification sampling was complete, Sternoff could fill and close the system. It was assumed that the system discharged to the sanitary sewer since METRO was involved in defining the contamination in the system (Ecology 1987d). The Sternoff facility was referred to the EPA’s Toxic Substance Control Act (TSCA) office in May 1987 (Ecology 1987c).

Auburn West Enterprises was a dump truck hauler. The company operated 19 to 20 trucks. Three buildings were present at the site, and a loading dock area had a catch basin. During a March 30, 2006 SPU and Ecology inspection, the loading area was full of water because the catch basin was not draining properly (SPU 2006b). SPU subsequently conducted a dye test and determined that the four catch basins at this property drain to the combined sewer system and therefore do not flow to RM 2.3-2.8 East. The following corrective actions were required as a result of the inspection (SPU 2006c):

- Clean catch basins in the center of the property;
- Complete a written spill prevention and cleanup plan and post at appropriate locations;
- Obtain spill containment and cleanup materials;
- Educate employees about the spill plan and spill containment/cleanup materials;
- Label containers appropriately;
- Store ground treatment chemicals in a covered area.

An August 2006 re-inspection indicated that actions had been completed and the facility was in compliance (SPU 2006d).

Commercial Renovators, LLC and **D and P McLeod, LLC** are other companies associated with the 7201 E Marginal Way S. address. D and P McLeod, LLC had a RCRA ID No. WAH000023432 (inactive). D and P McLeod, LLC owned the property prior to Ellis Garage, LLC (the current property owner).

5.7.3 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the former Sternoff parcel. Figures from these investigations (if available) are included as Appendix H. Tables 11, 12, and 13 list the chemicals present at concentrations above screening levels in soil, floor drain and storm drain solids, and groundwater samples, respectively.

Soil and Groundwater Sampling and Testing, Sternoff Metals Site (Terra 1987)

Terra performed an investigation for Bogle and Gates. Terra installed two groundwater monitoring wells and collected soil samples from four soil test holes. Soil samples were analyzed for PCBs and heavy metals. Terra also collected a sample from a trash pile to determine if it should be designated as hazardous waste. Terra had previously identified PCBs on the property in the spring of 1986. PCB concentrations in soil up to 75 mg/kg were detected, with the highest concentrations limited to the southwest corner of the property. PCB concentrations in groundwater were 2.57 µg/L. Metals concentrations in soil and groundwater were below the criteria for designation as dangerous waste. Terra recommended placement of an impermeable cap over the surface, installing a redesigned storm drainage system, and removing and disposing of the soil containing higher concentrations of PCBs from the southwest corner of the site. With regard to the trash pile, Terra recommended that it be cleaned up and treated as hazardous waste.

The 1986 investigation included excavation of 10 test pits. Analytical results showed that shallow soil samples contained relatively high concentrations of lead, cadmium, copper, and TPH; however, concentrations of these contaminants were significantly lower in deep samples indicating contaminants were not migrating vertically through the property.

Preliminary Results, Soil and Groundwater Investigation (SEACOR 1990)

SEACOR advanced nine soil borings and installed two groundwater monitoring wells at this property. Concentrations of metals, TPH, BTEX, PCBs, PAHs, and cyanides were detected in soil samples. SEACOR collected four floor drains samples and seven sediment samples; metals, PCBs, and TPH were detected in all samples (see Appendix H). Groundwater samples were

collected from wells MW-1 through MW-3. Due to the presence of heavy oil free product in well MW-4, the well was not sampled. Low concentrations of metals and TPH were detected in the groundwater samples. PCBs were not detected in the groundwater samples. One water sample was collected from a sump; only TPH (at a low concentration) was detected in the sump sample (SEACOR 1990).

Feasibility Study Report (SEACOR 1991)

Sediment samples were collected from two storm drains by Ecology, seven storm drain samples by SEACOR, and the floor drain in the nonferrous scrap metal building. Approximately 70 cubic yards of material exceeded the MTCA Method A and/or C soil cleanups levels for copper, lead, mercury, PCBs, and TPH.

COCs in soil were identified as lead, mercury, PCBs, and TPH. MTCA Method A and/or C soil cleanup levels were exceeded for these chemicals in approximately 20,000 cubic yards of soil. The vertical extent of contamination was typically between 2.0 and 3.5 feet bgs; however, metals and TPH concentrations above MTCA levels were also encountered just above the water table, below 10 feet bgs. The lateral extent of contamination was not defined, but soil samples collected from central and southern portions of the property contained the highest concentrations of the chemicals of concern.

According to SEACOR, the soil contamination likely extended offsite into the 20-foot wide easement along S. Garden Street. The easement was owned by the city of Seattle and Sternoff stored salvaged automobile bodies in this area.

Groundwater samples from three monitoring wells on the property exceeded the EPA primary drinking water standard maximum contaminant level (MCL) for chromium. The sample from one well exceeded both the MCL and MTCA Method A cleanup level for lead. TPH concentrations in three wells exceeded MTCA Method A cleanup levels. Separate phase hydrocarbons were identified in wells MW-4 and MW-7.

Additionally SEACOR noted the presence of asbestos-containing materials in the aluminum smelter office, locker room, and office buildings at the property.

Groundwater Well Monitoring Report (Environmental Hazards Control, as cited in Ecology 1999c)

Groundwater was sampled by Environmental Hazards Control during April 1999. Two wells contained diesel and heavy oil range petroleum at concentrations of 1.3 milligrams per Liter (mg/L). One well, MW-4 contained 1,100 mg/L diesel; 5,500 mg heavy oil; and 18 µg/L PCBs (Aroclor-1254). Prior sampling in 1998 had found Aroclor-1260 at 760 µg/L and elevated levels of lead (570 µg/L).

Polychlorinated Biphenyls Contaminated Soils Report (Environmental Hazards Control, as cited in Ecology 1999c)

A pile of debris and soil known as the “trash pile” was sampled and found to contain 69 to 120 mg/kg PCBs. The property owner consulted with EPA and the trash pile and underlying soils

were removed from the site on May 21, 1999. An estimated 52,187 pounds of soil was disposed at Waste Management in Arlington, Oregon. Sampling after removal showed soils at the sides and bottom of excavation still contained PCBs (9 to 77 mg/kg).

5.7.4 Potential for Sediment Recontamination

The potential for sediment recontamination associated with this property is summarized by transport pathway below.

Stormwater

Stormwater at this property is conveyed to the King County combined sewer system. Stormwater runoff is therefore not considered to be a potential source of RM 2.3-2.8 East sediment recontamination.

Soil and Groundwater

Soil, groundwater, and sediment samples collected from this facility are contaminated with PCBs, PAHs, metals, and TPH at concentrations above soil-to-sediment and groundwater-to-sediment SLs (Tables 11 to 13). Historical groundwater investigations have shown that groundwater flow beneath the site has a westerly component and may discharge to the LDW. Sediment samples in the LDW downgradient from the former Sternoff parcel contained concentrations of PCBs above the SQS (Figure 3 and Table 1). Based on SAIC's review of the available files, the former metal salvage yard that operated at this property may be a source of PCBs and other COCs to the RM 2.3-2.8 East source control area. CDL Recycle's current operations likely do not contribute to the existing PCB contamination at this parcel.

5.7.5 Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Former Sternoff Parcel is listed below.

Groundwater Discharge

- No soil or groundwater samples have been collected at the property since at least 1999. Additional soil and groundwater data are needed to determine the potential for sediment recontamination via this pathway.
- Additional information on groundwater flow directions is needed to assess whether groundwater at this property may be transporting contaminants to RM 2.3-2.8 East.
- According to an Ecology memorandum summarizing a report prepared by Environmental Hazards Control, a PCB-contaminated "trash pile" and approximately 52,187 pounds of contaminated soil have been removed from the site; however, documents verifying Ecology's summary were not available for review.
- The disposition of PCS stockpiled at the property by Remedco is unknown.

5.8 Markey Machinery Company

Facility Summary: Markey Machinery Company	
Address	7266 8 th Avenue S.
Tax Parcel No.	2136200210
Property Owner	Markey Machinery Company
Parcel Size	1.31 acre
Facility/Site ID	None
SIC Code	Unknown
EPA ID No.	None
NPDES Permit No.	None
UST/LUST ID No.	None

Markey Machinery (Parcel 0210) is located at 7266 8th Avenue S. in an industrial area of Seattle. The parcel is bordered by the former Sternoff parcel and S. Garden Street to the north, Crowley Parcel F to the east, Crowley Parcel D and S. Othello Street to the south, and Pioneer Distribution (larger Frye Parcel) and 8th Avenue S. to the west (Figure 4). The 1.31-acre parcel is owned by Markey Machinery Company. Two buildings are present on the property; both were built in 1941. The buildings are 12,000 sq. ft. and 8,000 sq. ft. in size. The buildings are identified as Plant 2 – Welding Shop and Plant 3 – Machine Shop.

Ecology inspected the facility on May 16, 1986. No floor drains were present in either shop except in restrooms. No water is used in the buildings except in restrooms and for fire suppression. Oil is stored in the buildings. Fuel for a forklift was stored in 80-gallon barrel on a metal frame. Markey planned fabricate a catch pan to place under the tank. Plant heating fuel is stored in USTs. Paint is stored in shed with large metal floor plan with a 4-inch lip (Ecology 1986f).

5.8.1 Environmental Investigations and Cleanups

No records of environmental investigations or cleanups for the Markey Machinery parcel were found in the files reviewed by SAIC.

5.8.2 Potential for Sediment Recontamination

The potential for sediment recontamination associated with this property is summarized by transport pathway below.

Stormwater

Based on storm drain system maps obtained from SPU, stormwater from the Markey parcel is conveyed to the combined sewer line along East Marginal Way S. Therefore, stormwater does not represent a potential pathway for contaminants to RM 2.3-2.8 East sediments.

Soil and Groundwater

The potential for sediment recontamination via soil and groundwater pathways is unknown. However, no information was found that would indicate that soil or groundwater contamination is present at this property. Therefore, the potential for sediment recontamination via groundwater transport is believed to be low.

5.8.3 Data Gaps

No data gaps were identified for this property.

5.9 El Gallo D'Oro/James Dore

Facility Summary: El Gallo D'Oro/James Dore	
Address	7047 East Marginal Way S.
Tax Parcel No.	2734100260
Property Owner	James Dore Jr.
Parcel Size	0.27 acre
Facility/Site ID	None
SIC Code	Unknown
EPA ID No.	None
NPDES Permit No.	None
UST/LUST ID No.	None

James Dore Jr. owns Parcel 0260. The parcel address is 7047 East Marginal Way S. The semi-triangular shaped parcel is bordered on the west by the Whitehead Company, Inc./Former Tye Industries parcel, on the northeast and east by East Marginal Way S., and to the south by the Whitehead Company, Inc./Former Perkins Lot parcel and S. Myrtle Street. The parcel is 0.27 acre in size and there is one 5,676-sq. ft. building on the parcel.

Historically the building has been used as a nightclub, tavern, and restaurant. The current building occupant is El Gallo d'Oro Restaurant. According to SPU storm drain system maps, the stormwater from the property is discharged to the sanitary sewer. No additional information regarding this property was found in the files reviewed by SAIC.

5.9.1 Potential for Sediment Recontamination

Stormwater

Based on storm drain system maps obtained from SPU, stormwater from this parcel flows to the combined sewer system. Therefore, stormwater does not represent a potential pathway for contaminants to RM 2.3-2.8 East sediments.

Soil and Groundwater

The potential for sediment recontamination via soil and groundwater pathways is unknown. However, no information was found that would indicate that soil or groundwater contamination is present at this property. Therefore, the potential for sediment recontamination via groundwater transport is believed to be low.

5.9.2 Data Gaps

No data gaps were identified for this property.

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6.0 Summary of Data Gaps

Data gaps have been identified for outfalls, adjacent properties, and upland properties in Sections 3 through 5, respectively. These data gaps are summarized below, listed by potential sediment recontamination pathway.

6.1 Stormwater Discharge

Outfalls

- Data on contaminant concentrations in storm drain solids and stormwater near the S. Myrtle Street and S. Garden Street outfalls are needed to evaluate whether contaminants are being transported to RM 2.3-2.8 East sediments.
- If contaminants are present at concentrations of potential concern near these outfalls, then source tracing samples are needed to identify potential source(s) of contaminants.

Guimont Parcel

- A business inspection is needed at this property to ensure that operations at the Dawn facility are in compliance with applicable regulations and best management practices (BMPs) to prevent the release of contaminants to the LDW.
- If stormwater flows to the LDW, a facility plan showing the locations of catch basins and storm drains should be generated.

Seattle Boiler Works, Inc.

- A June 2007 stormwater compliance inspection noted several deficiencies. No follow-up inspections of this facility have been conducted. Operations at this facility should be monitored to ensure compliance with permit requirements and stormwater BMPs to prevent release of contaminants to the Duwamish.
- Six outfalls to the LDW are located on Seattle Boiler Works property, however only one outfall is identified in the facility's stormwater permit. Information on the sources of discharges (if any) to these outfalls is needed.
- Stormwater and stormwater solids samples are needed to assess the potential for transport of contaminants to the LDW via this pathway. In addition, a facility plan showing the locations of all catch basins and stormwater conveyance lines should be generated and made available, and a line tracing survey should be conducted at this facility.

Seattle Iron & Metals Corporation

- Ecology directed Seattle Iron & Metals to sample sludge material from the stormwater treatment system for metals in August 2006. No further information regarding this required sampling was found in the files. Additional data are needed to determine if the sludge should be handled as a hazardous waste and to determine if this sludge has the potential to reach the LDW.

- No information is available regarding any follow-up to the December 2007 stormwater compliance inspection.

Puget Sound Truck Lines

- A stormwater compliance inspection was last conducted in 2005. A follow-up inspection is needed to determine whether catch basins have been cleaned and housekeeping has been improved, and whether the facility is in compliance with discharge monitoring and other permit requirements and stormwater BMPs.

Crowley Marine Services

- The current property occupants (Alaska Logistics, Samson Tug and Barge, Union Pacific) do not have a stormwater permit or a SWPPP. Inspections are needed at these facilities to evaluate whether current operations at the property could be a source of LDW sediment recontamination.
- Stormwater runoff and inline solids data from the storm drain lines that discharge to RM 2.3-2.8 East are needed to evaluate the potential for transport of contaminants to the LDW via stormwater.

Whitehead Company, Inc./Former Perkins Lot

- Little information regarding the operations of the businesses currently occupying the property was available. Facility inspections should be completed to determine if any of the activities at these facilities require an NPDES permit, and if required, to ensure compliance with permit requirements and stormwater BMPs to prevent release of contaminants to the LDW.
- Facility plans for each business showing the locations of all catch basins and storm drains should be generated and made available.
- A list of previous tenants is needed to determine if operations at the property could have resulted in soil and groundwater contamination.

Trim Systems

- After a new tenant occupies this property, a business inspection is needed to ensure that operations at the facility are in compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW. A facility plan showing the locations of all catch basins and storm drains (if any) should be generated.

Nitze-Stagen/Frye Parcels

- A business inspection is needed at this property to ensure that operations at the Pioneer Distribution facility are in compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW. A facility plan showing the locations of all catch basins and storm drains (if any) should be generated.

Nelson Trucking

- A business inspection should be conducted at this property to confirm that stormwater does not drain to RM 2.3-2.8 East, and to ensure that operations at the Nelson Trucking facility are in compliance with applicable regulations and BMPs. A facility plan showing the locations of all catch basins and storm drains (if any) should be generated.

6.2 Groundwater Discharge

Seattle Boiler Works

- Due to the presence of dioxins and PCBs in sediments adjacent to this property, data on contaminant concentrations in soil and groundwater are needed in order to evaluate the potential for groundwater from this site to recontaminate RM 2.3-2.8 East sediments.

Seattle Iron & Metals Corporation

- Hart Crowser's 1998 *Voluntary Cleanup Action Report, 606 South Myrtle Street, Seattle, Washington* should be located and reviewed to evaluate the extent of soil and groundwater sampling that has been conducted at this property and to identify whether sediment COCs were detected in soil or groundwater samples.

Puget Sound Truck Lines

- Ecology's LUST list indicates that soil cleanup was completed at the facility in September 1995; however, no records of cleanup activities were found in the files reviewed by SAIC. Satisfactory completion of cleanup activities should be confirmed to eliminate groundwater discharge as a potential sediment recontamination pathway for this property.

Crowley Marine Services

- Additional data on contaminant concentrations in soil and groundwater at the western and southern portions of the property that abut the LDW are needed to evaluate the potential for groundwater from this property to recontaminate RM 2.3-2.8 East sediments.

Fox Avenue Building/Fox Avenue Building #2

- Dioxins and furans were detected in some environmental samples collected from the property, additional data are needed to determine the extent of contamination and to determine potential pathways for sediment recontamination.
- Annual groundwater, seep, and porewater data monitoring has not been conducted since 1999. Additional data are needed to determine the current levels of contamination in these media in order to evaluate this pathway as a source of sediment recontamination.
- No information was available to document implementation of the expanded Soil Vapor Extraction pilot study.

Whitehead Company, Inc./Former Tyee Industries

- Recent aerial photos indicate that the site may be used for activities other than Seattle Iron & Metals employee parking. A property inspection is needed to determine current use of the property.
- Additional soil and groundwater data are needed to determine the current levels of contamination in soil and groundwater beneath and downgradient of the property.

Former Sternoff Parcel

- No soil or groundwater samples have been collected at the property since at least 1999. Additional soil and groundwater data are needed to determine the potential for sediment recontamination via this pathway.
- Additional information on groundwater flow directions is needed to assess whether groundwater at this property may be transporting contaminants to RM 2.3-2.8 East.
- According to an Ecology memorandum summarizing a report prepared by Environmental Hazards Control, a PCB-contaminated “trash pile” and approximately 52,187 pounds of contaminated soil have been removed from the site; however, documents verifying Ecology’s summary were not available for review.
- The disposition of PCS stockpiled at the property by Remedco is unknown.

6.3 Surface Runoff

Guimont Parcel

- A business inspection is needed to evaluate whether surface runoff from current operations at this property could transport contaminants to RM 2.3-2.8 East.

Seattle Boiler Works

- Additional information on the stormwater system configuration at this property is needed to evaluate the potential for contaminant transport to the LDW via surface runoff.

Puget Sound Truck Lines

- A facility plan showing the locations of all catch basins and storm drains is needed to evaluate whether any stormwater may be entering the LDW directly via surface runoff.

6.4 Bank Erosion/Leaching

Seattle Boiler Works

- If soil or groundwater contamination is present at this property, a bank survey should be conducted to evaluate the potential that contaminants are entering the LDW via bank erosion or leaching.

Seattle Iron & Metals Corporation

- Additional information on the construction of the banks in this area is needed. Residual soil contamination is present at this property, therefore if bank erosion is likely, then data on contaminant concentrations in bank soils is necessary to evaluate the potential for sediment recontamination via this pathway.

Crowley Marine Services

- Additional information on the construction of the banks in this area is needed. Soil contamination is present at this property. Therefore, if bank erosion is likely, then data on contaminant concentrations in bank soils is necessary to evaluate the potential for sediment recontamination via this pathway.

6.5 Atmospheric Deposition

Seattle Iron & Metals Corporation

- Investigation is needed to determine if the shredder residue is reaching the LDW directly or via the Seattle Boiler Works storm drain system. Additional data are needed to determine if the residue contains COCs.
- The status of the furnace used to burn insulation off electrical wire should be investigated to determine if it was relocated from the Harbor Island facility to Seattle Iron & Metals Corporation's current facility. Additionally, current furnace operations, if any, should be determined.

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