Lower Duwamish Waterway Early Action Area 1 Duwamish/Diagonal Way (RM 0.1 to 0.9 East)

Summary of Existing Information and Identification of Data Gaps for the Duwamish/Diagonal CSO/SD Basin

Prepared for

Toxics Cleanup Program
Northwest Regional Office
Washington State Department of Ecology
Bellevue, Washington

Prepared by

Science Applications International Corporation
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

August 2009

Volume I. Report

Table of Contents

Page

1.0 Introduction 1
1.1 Background and Purpose 1
1.2 Report Organization 2
1.3 Scope of Report 3

2.0 EAA-1 and the Duwamish/Diagonal CSO/SD 5
2.1 Site Description 5
2.1.1 EAA-1 (Duwamish/Diagonal Way) 5
2.1.2 Duwamish/Diagonal CSO/SD 6
2.2 Potential Pathways to Sediment 11
2.2.1 Direct Discharges via Outfalls 11
2.2.2 Surface Runoff (Sheet Flow) 12
2.2.3 Spills to the LDW 12
2.2.4 Groundwater Discharges 12
2.2.5 Bank Erosion 12
2.2.6 Atmospheric Deposition 12

3.0 Potential for Sediment Recontamination from South Idaho and South Nevada Street Properties 15
3.1 Summary of Data Gaps and Action Items for S Nevada Street and S Idaho Street Properties 16
3.1.1 Summary of Data Gaps 16
3.1.2 Summary of Action Items 16
3.2 S Nevada Street and S Idaho Street Properties 18
3.2.1 Former Seattle Dye Works and B&G Machine 18
3.2.2 Blue Origin, LLC Property 21
3.2.3 Former Griffin Envelope, Inc./Habitat for Humanity Home Improvement Outlet 23
3.2.4 Former Van Vetter, Inc./Global Fulfillment 26
3.2.5 Former Hamilton Engine Sales/Spud! Seattle 28
3.2.6 MEECO Manufacturing Company, Inc. 30
3.2.7 Former Bindery Service Center/Zevia LLC 32
3.2.8 Stewart Industries 34
3.2.9 Former Jacks, Inc./Former Chemical Distributors, Inc./Fiberlay, Inc. 37
3.2.10 Washington State Liquor Control Board 39

4.0 Potential for Sediment Recontamination from CSCSL Properties within the Duwamish/Diagonal CSO/SD Basin 43
4.1 Summary of Data Gaps and Action Items for CSCSL Properties 43
4.1.1 Summary of Data Gaps 44
4.1.2 Summary of Action Items 44
4.2 CSCSL Properties within the Diagonal Avenue S SD Basin 46
4.2.1 Alaskan Copper Works – 6th Avenue S Facility 46
4.2.2 Seattle City Light – South Service Center 54
4.2.3 Seattle Public Utilities Operations Center 60

4.2.4 Former Seattle Technical Finishing 64
4.2.5 Spear Trust Warehouse 66
4.3 Facilities Listed on the CSCSL within the Duwamish/Diagonal CSO/SD Basin 68
4.3.1 Former 3A Industries 69
4.3.2 Alaska Street Property and Alaska Street Property 2 72
4.3.3 Allied Dome CQ 77
4.3.4 Former Belshaw Brothers, Inc. 80
4.3.5 Bloch Steel Industries 84
4.3.6 Dearborn Corporation Campus Goodwill & Goodwill Industries Seattle 90
4.3.7 Former Northwest Plating 95
4.3.8 Former Ocean Beauty Seafood aka Perfection Smokery 97
4.3.9 Former Penthouse Drapery and City Commerce Park 100
4.3.10 Former Rainier Brewery 106
4.3.11 Ralph's Concrete 112
4.3.12 Ralph's Concrete Pumping and Vacant Lot 115
4.3.13 Former SAMIS Land Co. and FedEx Express BFIA 119
4.3.14 Seattle Barrel & Cooperage 123
4.3.15 Seattle City Light – 4th Avenue South Facility 127
4.3.16 Seattle Parks – Colman School 130
4.3.17 Former Signal Equipment, Inc. 132
4.3.18 Swanson Property 134
4.3.19 Former Time Oil Company 216 136
4.3.20 Former Totem Equipment Seattle 139
4.3.21 Former Van Waters & Rogers/Former Univar USA, Inc. 145
4.3.22 Warehouse Site 151
4.3.23 Former Washington Trucking Association 154
4.4 CSCSL Properties within the Diagonal Avenue S CSO Basin 157
4.4.1 Former Chubby & Tubby 158
4.4.2 Former Clayton VW Repair 160
4.4.3 Former Colman Building 162
4.4.4 Former Genesee Landfill 164
4.4.5 Former Jefferson Street Bus Barn 166
4.4.6 Former Jim's Auto Repair 168
4.4.7 Former Kwik Cleaners 169
4.4.8 Lloyd's Rocket & Heating Oil Co. 171
4.4.9 Former Metal Laundry Incorporated and the Stanley & Shirley Young Charitable Remainder 173
4.4.10 Former Pearson Property/First Hill Property 176
4.4.11 Qwest Corporation W00291 179
4.4.12 Rainier Court, Rainier Court SW, and Former D. Leonard & Sons 182
4.4.13 Rainier Mall 196
4.4.14 Rainier Plaza 197
4.4.15 Seattle Best Cleaners 202
4.4.16 Seattle Housing Authority – Brownfield Properties 204

5.0 Potential for Sediment Recontamination from Facilities with NPDES or KCIW Permits within the Duwamish/Diagonal CSO/SD Basin 209
5.1 Summary of Data Gaps and Action Items for Facilities with NPDES or KCIW Permits 209
5.1.1 Summary of Data Gaps 209
5.1.2 Summary of Action Items 210
5.2 Facilities Holding NPDES Permits within the Diagonal Avenue S SD Basin 211
5.2.1 ColorGraphics, Inc. 211
5.2.2 Owl Transfer & Storage Company, Inc. 214
5.3 Facilities Holding NPDES Permits within the Duwamish/Diagonal CSO/SD Basin...216
5.3.1 Alaska Street Reload & Recycling 216
5.3.2 Arctic Ice Cream Novelties 224
5.3.3 Lighthouse for the Blind 226
5.3.4 MacMillan-Piper Inc. – Airport Way Facility 229
5.3.5 North Star Casteel Products, Inc. 232
5.3.6 Pepsi Bottling Group – Seattle Plant (ALPAC Corp.) 238
5.3.7 Recycling Depot, Inc. 243
5.3.8 Skyline Electric & Manufacturing Company, Inc. 245
5.3.9 United Parcel Service – WASAU 248
5.3.10 United Parcel Service – Seattle HUB 250
5.4 Facilities Holding NPDES Permits within the Diagonal Avenue S CSO Basin.....252
5.4.1 Saint Gobain Performance Plastics 252
5.4.2 Former Westfarm Foods Seattle 254
5.5 Facilities with KCIW Discharge Authorizations or Permits within the Duwamish/Diagonal CSO/SD Basin 258
5.5.1 Gai's Seattle French Bakery 258
5.5.2 Plymouth Poultry Company 260
5.5.3 Praxair Distribution, Inc. 262
5.5.4 University of Washington – Consolidated Laundry 264
5.5.5 University of Washington – Pacific Medical Center & Dynacare Beacon Hill Lab 266
5.6 Facilities with KCIW Discharge Authorizations or Permits within the Diagonal Avenue S CSO Basin 268
5.6.1 Dynacare Northwest Inc. – Rapid Response Lab 268
5.6.2 Swedish Medical Center – Providence Campus 270
5.6.3 University of Washington – Harborview Medical Center 273

6.0 Leaking Underground Storage Tank Facilities within the Duwamish/Diagonal CSO/SD Basin 275
6.1 Summary of Data Gaps and Action Items for LUST Facilities 276
6.1.1 Summary of Data Gaps 277
6.1.2 Summary of Action Items 277
6.2 LUST Facilities within the Diagonal Avenue S SD Basin 278
6.2.1 Former Business Pro Computers 278
6.2.2 Purolator Courier Corporation – UST 5561 280
6.2.3 WA Department of Transportation – Spokane Street Maintenance Facility 281
6.3 LUST Facilities within the Duwamish/Diagonal CSO/SD Basin.....283

6.3.1 Acme Poultry Company, Inc. 283
6.3.2 Camcal Company, Inc. 285
6.3.3 Cecil Leung Property 287
6.3.4 Deeny Construction Company, Inc. 289
6.3.5 Former Pacific Fruit & Produce and Former United Motor Freight, Inc. 292
6.3.6 Seattle Public Utilities – Beacon Hill Reservoir and Seattle Fire Station 13 295
6.3.7 UHaul Company 297
6.3.8 VA Puget Sound Health Care Systems 299
6.3.9 Western Peterbilt, Inc. 302
6.4 LUST Facilities within the Diagonal Avenue S CSO Basin 304
6.4.1 ARCO 5445 304
6.4.2 Former B&B Auto Repair 307
6.4.3 Damascus Baptist Church 308

7.0 Additional Facilities within the Duwamish/Diagonal CSO/SD Basin 311
7.1 Business Inspections 311
7.2 Review Responses to EPA CERCLA Section 104(e) Request for Information Letter Reviews 312
7.3 Industrial Stormwater General Permits 312
7.4 Facility-Specific Data Gaps and Action Items 313

8.0 Summary of Data Gaps 315
8.1 Summary of Data Gaps for Properties within the Duwamish/Diagonal CSO/SD Basin 315
8.2 Summary of Action Items for Properties within the Duwamish/Diagonal CSO/SD Basin 315
8.2.1 Business Inspections 315
8.2.2 Review Responses to EPA CERCLA Section 104(e) Request for Information Letters 321
8.2.3 Industrial Stormwater General Permits 322
8.3 Facility-Specific Data Gaps and Action Items 323

9.0 Documents Cited 325

Volume II.

Figures

Figure 1. Lower Duwamish Waterway Source Control Areas
Figure 2. Early Action Area 1 (Duwamish/Diagonal Way)
Figure 3. Duwamish/Diagonal CSO/SD Basin
Figure 4. Facilities and Properties within the Duwamish/Diagonal CSO/SD Basin with Ecology Facility/Site ID Numbers
Figure 5. S Nevada Street and S Idaho Street Properties
Figure 6. CSCSL Properties within the Duwamish/Diagonal CSO/SD Basin
Figure 7. Alaskan Copper Works – 6th Avenue S Facility Plan
Figure 8. Seattle City Light – South Service Center Facility Plan
Figure 9. Seattle Public Utilities Operations Center Facility Plan
Figure 10. Former Belshaw Brothers Facility Plan
Figure 11. Bloch Steel Industries Facility Plan
Figure 12. City Commerce Park Historical Facility Plan
Figure 13. SAMIS Land Company Historical Facility Plan
Figure 14. Seattle Barrel & Cooperage Airport Way Facility Plan
Figure 15 Facilities with NPDES Permits within the Duwamish/Diagonal CSO/SD Basin
Figure 16. Facilities with KCIW Discharge Permits or Authorizations within the Duwamish/Diagonal CSO/SD Basin
Figure 17. LUST Properties within the Duwamish/Diagonal CSO/SD Basin

Tables

Table 1. Facilities and Properties within the Duwamish/Diagonal CSO/SD Basin with Ecology Facility/Site ID Numbers
Table 2. CSCSL Properties within the Duwamish/Diagonal CSO/SD Basin
Table 3. Facilities with NPDES Permits within the Duwamish/Diagonal CSO/SD Basin
Table 4. Facilities with KCIW Discharge Permits or Authorizations within the Duwamish/Diagonal CSO/SD Basin
Table 5. LUST Properties within the Duwamish/Diagonal CSO/SD Basin
Table 6. UST Properties within the Duwamish/Diagonal CSO/SD Basin
Table 7. Facility and Property Listing Changes Since the Publication of the 2004 EAA-1 SCAP
Table 8. CSO/EOF Discharges to the Lower Duwamish Waterway
Table 9. SPU Inspections from March 2003 to December 2008
Table 10. Ecology Inspections from January 2008 to July 2009

Appendices

Appendix A Duwamish/Diagonal CSO/SD Facility Information and Maps
A-1 Duwamish/Diagonal CSO/SD Basin Facilities Drainage Maps
A-2 Duwamish/Diagonal CSO/SD Basin Facilities Tables
A-3 Duwamish/Diagonal CSO/SD UST Properties

Appendix B Photographs
B-1 S Nevada Street and S Idaho Street Properties
B-2 CSCSL Properties
B-3 NPDES and KCIW Facilities
B-4 LUST Properties

Appendix C Documents Reviewed

Acronyms and Abbreviations

aka	also known as
AST	aboveground storage tank
BEHP	bis(2-ethylhexyl)phthalate
bgs	below ground surface
BMP	best management practice
BNSF	Burlington Northern Santa Fe
BTEX	benzene, toluene, ethylbenzene, and xylenes
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CB	catch basin
CDI	Chemical Distributors, Inc.
COC	chemical of concern
cPAH	carcinogenic polycyclic aromatic hydrocarbon
CPSRTA	Central Puget Sound Regional Transit Authority
CSCSL	Confirmed or Suspected Contaminated Sites List
CSO	combined sewer overflow
DCA	dichloroethane
DCE	dichloroethene
DCLU	Seattle Department of Design, Construction and Land Use
DPE	dual-phase extraction
E&E	Ecology & Environment, Inc.
ECHO	Enforcement and Compliance History Online
Ecology	Washington State Department of Ecology
EOF	emergency overflow
EPA	U.S. Environmental Protection Agency
ERTS	Environmental Report Tracking System
ESA	environmental site assessment
FD	floor drain
GIS	Geographic Information Systems
GPR	ground penetrating radar
HWTR	Hazardous Waste & Toxics Reduction
I-5	Interstate 5
I-90	Interstate 90
ID	Identification
ISGP	Industrial Stormwater General Permit
ISIS	Integrated Site Information System
KCDNR	King County Department of Natural Resources
KCIW	King County Industrial Waste
LDW	Lower Duwamish Waterway
LDWG	Lower Duwamish Waterway Group
LUST	leaking underground storage tank
MEK	methyl ethyl ketone
mg/kg	milligrams per kilogram
mgy	million gallons per year
MOU	Memorandum of Understanding

Acronyms and Abbreviations (Continued)

MRW	moderate-risk waste
MTBE	methyl tertiary-butyl ether
MTCA	Model Toxics Control Act
NAICS	North American Industry Classification System
NFA	No Further Action
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NWRO	Northwest Regional Office
OWS	oil/water separator
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PID	photoionization detector
PNB	Pacific Northwest Bell Telephone Company
PNTA	Pacific Northwest Theatre Associates, Inc.
ppm	parts per million
ppmv	parts per million by volume
PSCAA	Puget Sound Clean Air Agency
RC Parcel	Rainier Court Parcel
RCRA	Resource Conservation and Recovery Act
RCSW	Rainier Court SW
RI/FS	Remedial Investigation/Feasibility Study
RM	River Mile
SAIC	Science Applications International Corporation
SCAP	Source Control Action Plan
SCL	Seattle City Light
SEED	Southeast Effective Development
SES	Sound Environmental Strategies
SKCDPH	Seattle-King County Department of Public Health
SD	storm drain
SDOT	Seattle Department of Transportation
SIC	Standard Industrial Classification
SMS	Sediment Management Standards
SPU	Seattle Public Utilities
sq ft	square foot or feet
SS	sanitary sewer
SVE	soil vapor extraction
SVOC	semivolatile organic compound
SWPPP	Stormwater Pollution Prevention Plan
T-106	Terminal 106
T-108	Terminal 108
TCA	trichlorethane
TCE	trichloroethene
TPH	total petroleum hydrocarbons

Acronyms and Abbreviations (Continued)

TPH-diesel	total petroleum hydrocarbons as diesel
TPH-gas	total petroleum hydrocarbons as gasoline
TPH-oil	total petroleum hydrocarbons as heavy oil-range hydrocarbons
TRPH	total recoverable petroleum hydrocarbons
UPRR	Union Pacific Railroad
UPS	United Parcel Service
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
VA PSHCS	Veterans' Administration Puget Sound Health Care Systems
VCP	Voluntary Cleanup Program
VOC	volatile organic compound
VW&R	Van Waters & Rogers
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation
WTA	Washington Trucking Association
WWTP	wastewater treatment plant
µg/kg	micrograms per kilogram
µg/L	micrograms per liter

This page intentionally left blank.

1.0 Introduction

1.1 Background and Purpose

Early Action Area 1 (EAA-1) is one of several source control areas identified as part of the overall cleanup process for the Lower Duwamish Waterway (LDW) Site (Figure 1). The Washington State Department of Ecology (Ecology) published a Source Control Action Plan (SCAP) for EAA-1 in December 2004 (Ecology 2004h). The SCAP included evaluations of several facilities located adjacent to the LDW within the Duwamish/Diagonal combined sewer overflow (CSO) and storm drain (SD) basins. In addition, the SCAP identified upland sites within the CSO/SD basin that may contribute to recontamination of EAA-1 sediments after cleanup, including 37 sites on Ecology's Confirmed or Suspected Contaminated Sites List (CSCSL), 105 leaking underground storage tanks (LUST) sites, and 196 underground storage tank (UST) sites. The SCAP deferred assessment of these facilities to a later date, subject to funding. As part of the source control efforts for EAA-1, Ecology requested Science Applications International Corporation (SAIC) to prepare this *Summary of Existing Information and Identification of Data Gaps Report* (Data Gaps Report). Facilities that were evaluated as part of the 2004 SCAP (Section 2.0) are not included in this document.

This Data Gaps Report has been prepared to summarize readily available information regarding upland properties in the CSO/SD basin. There are currently 65 facilities on the CSCSL, 82 LUST facilities, and 173 UST facilities within the CSO/SD basin. There are 38 facilities that hold National Pollutant Discharge Elimination System (NPDES) permits and/or King County Industrial Waste (KCIW) discharge authorizations or permits that are within the CSO/SD basin. In addition, several facilities along S Idaho and S Nevada Streets that were not addressed in the 2004 EAA-1 SCAP have been identified. The purpose of the Data Gaps Report is to:

- Evaluate potential contaminant migration pathways to EAA-1 sediments from properties located in the Duwamish/Diagonal CSO/SD basin;
- Identify and describe potential 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.

Because a SCAP has already been published for EAA-1, this Data Gaps Report includes a listing of additional source control actions needed to minimize the potential for current and historical operations at upland sites within the Duwamish/Diagonal CSO/SD basin to recontaminate LDW sediments after cleanup.

The LDW consists of the 5.5 miles of the Duwamish Waterway as measured from the southern tip of Harbor Island. The LDW flows into Elliott Bay in Seattle, Washington. The LDW was added to the U.S. Environmental Protection Agency (USEPA or EPA) National Priorities List in September 2001 due to the presence of chemical contaminants in sediment. The key parties involved in the LDW site are EPA, Ecology, and the Lower Duwamish Waterway Group

(LDWG); which is composed of the City of Seattle, King County, the Port of Seattle, and The Boeing Company. In December 2000, EPA and Ecology signed an agreement with LDWG to LDWG conduct a Remedial Investigation/Feasibility Study (RI/FS) for the LDW site.

EPA is leading the effort to determine the most effective cleanup strategies for the LDW through the RI/FS process. Ecology is leading the effort to investigate upland sources of contamination and to develop plans to reduce contaminant migration to waterway sediments.[1] LDWG collected data during the Phase I RI that were used to identify locations that could be candidates for early cleanup action. Seven candidate early action areas (or Tier 1 sites) were identified. EAA-1 is one of these Tier 1 sites.

Ecology is the lead agency for source control for the LDW 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 2004a) describes the process for identifying source control issues and implementing effective controls for the LDW. The plan is to identify and manage potential sources of sediment recontamination in coordination with sediment cleanups. 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 (USEPA 2002), and the Washington State Sediment Management Standards (SMS) (Washington Administrative Code [WAC] 173-340-370[7] and WAC 173-204-400). The Source Control Strategy involves developing and implementing a series of detailed, area-specific SCAPs.

1.2 Report Organization

Section 2 of this report provides background information on EAA-1, including location, physical characteristics, chemicals of concern (COCs), and pathways by which contaminants may reach sediments. Sections 3 through 7 describe potential sources of contaminants and data gaps that must be addressed in order to minimize the potential for LDW sediment recontamination. Section 8 provides a summary of data gaps and action items, and Section 9 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;

[1] EPA and Ecology signed an interagency Memorandum of Understanding (MOU) in April 2002 and updated the MOU in April 2004. The MOU divides responsibilities for the site. EPA is the lead agency for the sediment RI/FS, while Ecology is the lead agency for source control issues (EPA and Ecology 2002, 2004).

- Ecology UST and LUST lists;
- Ecology Facility/Site Database;
- Ecology Integrated Site Information System (ISIS) Database;
- Washington CSCSL;
- EPA Enforcement and Compliance History Online (ECHO);
- EPA Envirofacts Warehouse;
- King County GIS Center Parcel Viewer, Property Tax Records, and iMap; and
- GIS shape files produced by SPU.

Information collected from the Facility/Site Database, ISIS, and the King County property tax records was current as of April 30, 2009. Recent updates to these databases may not be reflected in this report.

1.3 Scope of Report

This report documents readily available information relevant to potential sources of contaminants to sediments from facilities not previously assessed as part of the 2004 EAA-1 SCAP, including facilities along S Idaho and S Nevada Streets and upland properties within the Duwamish/Diagonal CSO/SD basin. Facilities that were evaluated as part of the 2004 SCAP (Section 2.0) are not included in this document.

Data from the Facility/Site Database, ISIS, and the GIS shape files produced by SPU were reviewed for 446 properties and facilities with Ecology Facility/Site Identification (ID) numbers (Table 1) to identify CSCSL, LUST, and UST properties and facilities in the Duwamish/Diagonal CSO/SD basin. SAIC determined that there are currently 65 properties on the CSCSL (Table 2), and 38 facilities that hold NPDES permits (Table 3) and/or KCIW discharge authorizations or permits (Table 4) that are within the Duwamish/Diagonal CSO/SD basin. There are 83 LUST facilities (Table 5), and 174 UST facilities (Table 6) within the Duwamish/Diagonal CSO/SD basin.

Additionally, SAIC reviewed the Facility/Site Database and ISIS to identify any properties or facilities that had been added to or had been removed from the CSCSL, LUST, and UST lists since the publication of the EAA-1 SCAP (Table 7).

Air pollution is a potential source of sediment contamination with origins outside of the EAA-1 source control area. 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 the sediments associated with the source control area. 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.

Information presented in this report is limited to the potential upland contaminant sources to EAA-1. This report focuses on sources that have the potential to recontaminate sediments

associated with the source control area following sediment remediation. It does not preclude the potential for recontamination from capped sediments.

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.

2.0 EAA-1 and the Duwamish/Diagonal CSO/SD

The EAA-1 source control area is located along the eastern side of the LDW Site between river mile (RM) 0.1 and 0.9 as measured from the southern end of Harbor Island (Figure 1). Several facilities are located directly adjacent to the LDW within the EAA-1 source control area (Figure 2). From north to south, these facilities are:

- Terminal 106 (T-106)West, which includes Container Care International (currently known as ConGlobal Industries);
- Terminal 108 (T-108); and
- Federal Center South.

Located to the east of these properties are Alaskan Way, East Marginal Way S, and other industrial facilities. To the north of T-106W is Ash Grove Cement and to the south of Federal Center South is Slip 1. These facilities, plus spills/releases at the Union Pacific Railroad (UPRR) Argo Street Rail Yard and the former JANCO United site, were described in the 2004 EAA-1 SCAP.

Additional information on facilities located within the Duwamish/Diagonal CSO/SD basin is presented in Section 2.1.2 below. There are nine outfalls discharging to the LDW within the EAA-1 source control area, including five public and four private outfalls (Figure 2). From north to south along the LDW these outfalls are:

- Nevada Street SD,
- Diagonal Avenue S CSO/SD (King County, SPU),
- Duwamish Pump Station/Emergency Overflow (EOF) (King County),
- Port of Seattle SD,
- Diagonal Avenue S SD (SPU), and
- Four private outfalls on the Federal Center South property.

These outfalls are described in the 2004 EAA-1 SCAP. Discharges from the Duwamish/Diagonal CSO/SD reach the LDW through the Diagonal Avenue S CSO/SD outfall.

2.1 Site Description

2.1.1 EAA-1 (Duwamish/Diagonal Way)

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 historical 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 EAA-1 include shipping container

repair and refurbishment, beverage and food products manufacturing and distribution, machine and tool companies, chemical distribution, and construction supplies distribution.

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

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). Groundwater flow in the vicinity of the source control area is generally to the west-southwest, toward the LDW.

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.

COCs in sediment EAA-1 were identified based on sediment sampling and modeling conducted between 1994 and 1999. The major COCs for EAA-1 are polychlorinated biphenyls (PCBs), mercury, bis(2-ethylhexyl)phthalate (BEHP), butyl benzyl phthalate, lead, and zinc (Ecology 2004h, 2008e)

2.1.2 Duwamish/Diagonal CSO/SD

Upland areas within the LDW are served by a combination of separated storm/sanitary systems and combined sewer systems. Storm drains convey stormwater runoff collected from pervious (yards, parks) and impervious surfaces (streets, parking lots, driveways, and rooftops) in the drainage basin. In the LDW, there are both public and private storm drain systems. Most of the waterfront properties are served by privately owned systems that discharge directly to the waterway. The other upland areas are served by a combination of private and publicly owned systems. Typically, private onsite storm drain systems discharge to the public storm drain in the street, which conveys runoff from private property and public rights-of-way to the LDW.

The sanitary sewer system collects municipal and industrial wastewater from throughout the LDW area and conveys it to King County's West Point wastewater treatment plant (WWTP), where it is treated before being discharged to Puget Sound. The smaller trunk sewer lines, which collect wastewater from individual properties, are owned and operated by the individual municipalities (e.g., cities of Seattle and Tukwila) and local sewer districts. The large interceptor system that collects wastewater from the trunk lines is owned and operated by King County. A King County interceptor extends along the west side of East Marginal Way S.

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 1970 when 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.

A mixture of untreated municipal/industrial wastewater and stormwater can potentially be discharged through CSOs to the LDW during these storm events. The city's CSO network has its own NPDES permit; the county's CSOs are administered under the NPDES permit established for the West Point WWTP.

KCIW estimates that industrial discharges comprise less than 0.5 percent of the total volume of a CSO event (Tiffany 2008). Typically, domestic users of the combined sewer system contribute a larger percentage of the chemical loading than industrial users. For example, KCIW testing has indicated that industrial users of the combined sewer system contribute less than 10 percent of the phthalate load, with the remainder coming from uncontrollable sources such as domestic users.

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.

There are 14 CSOs/EOFs in the LDW (Table 8). The county CSOs at Michigan Street, South Brandon Street, and Hanford No. 1 (discharging via the city's Duwamish/Diagonal CSO/SD outfall) had the highest average discharge volumes between 2000 and 2007. Annual stormwater discharge volumes are usually substantially higher than annual CSO discharges because storm drains discharge whenever it rains, while CSOs only occur when storm events exceed the system capacity. Annual stormwater discharges to the LDW have been estimated at approximately 4,000 mgy compared to less than 65 mgy from the county CSOs and less than 10 mgy from the city CSOs (Windward 2007).[2]

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 WWTP for secondary treatment. In some areas of the system, where flows cannot be conveyed to the plant, the overflows are sent to CSO treatment facilities for primary treatment and disinfection prior to discharge. County CSOs

[2] It should be noted that stormwater discharges are regulated under a separate NPDES permit.

discharge untreated wastewater only when flows exceed the capacity of these systems (King County 2007).[3]

As a result, some areas may overflow 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.

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.

The Diagonal Avenue S CSO basin covers approximately 4,890 acres, spanning roughly west-to-east from the LDW to Lake Washington and north-to-south from approximately E Madison Street to S Graham Street (Figure 3). The Diagonal West and East storm drain basins cover approximately 2,650 acres and are mostly contained within the Diagonal Avenue S CSO basin. The combined area, referred to as the Duwamish/Diagonal CSO/SD basin, is 5,250 acres.

From 2000 to 2007, combined wastewater and stormwater overflows were discharged through the Diagonal Avenue S CSO on average 30 times per year, with an annual average volume of approximately 34.6 million gallons per year (mgy) (Tiffany 2008).

Between August 2007 and June 2008, the City of Seattle cleaned over 4,200 SD system structures in the Duwamish/Diagonal CSO/SD basin (Ecology 2008l). SPU continues to conduct sediment trap sampling in the Duwamish/Diagonal CSO/SD system to identify sources of chemicals that may recontaminate sediments (Ecology 2008e). Zinc, heavy oil-range hydrocarbons (TPH-oil), and BEHP are the primary COCs in the system (Ecology 2008l).

2.1.2.1 Facilities within the Duwamish/Diagonal CSO/SD Basin

Within the Duwamish/Diagonal CSO/SD basin, 447[4] industrial, commercial, and residential facilities and properties have been assigned Ecology Facility/Site ID numbers (Table 1, Figure 4). Of the 447 facilities and properties:

- 49 facilities/properties are only within the SD basin.
- 261 facilities/properties are within the CSO and SD basins.

[3] City CSOs are generally smaller and flows are not treated prior to discharge.

[4] SAIC compared the Duwamish/Diagonal CSO/SD basin GIS Shapefile from SPU to the Facility/Site Database GIS Shapefile from Ecology to determine the facilities located within the Duwamish/Diagonal CSO/SD basin. This review indicated that there are 458 facilities with Facility/Site ID numbers in the basin; however, SAIC identified 11 facilities that are incorrectly plotted in Ecology's Facility/Site Database GIS Shapefile. The 11 facilities are listed in Appendix A-2, Table A-2.10.

- 136 facilities/properties are within the CSO basin only.
- 65 facilities/properties are listed on the CSCSL (Table 2):
  - 7 facilities are within the SD basin only,
  - 33 facilities are within the CSO and SD basins, and
  - 25 facilities/properties are within the CSO basin only.
- 18 facilities hold NPDES permits (Table 3) (6 of these facilities also hold KCIW discharge permits or authorizations):
  - 3 facilities are within the SD basin only,
  - 12 facilities are within the CSO and SD basin, and
  - 3 facilities are within the CSO basin only.
- 26 facilities have KCIW discharge authorizations or permits (Table 4) (6 of these facilities also hold NPDES permits):
  - 2 facilities are within the SD basin only,
  - 17 facilities are within the CSO and SD basin, and
  - 7 facilities are within the CSO basin only.
- 83 facilities are LUST facilities (Table 5):
  - 10 facilities are within the SD basin only,
  - 44 facilities are within the CSO and SD basin, and
  - 29 facilities are within the CSO basin only.
- 174 facilities are UST facilities (Table 6 and Appendix A-3):
  - 21 facilities are within the SD basin only (5 facilities are also included on the LUST list),
  - 96 facilities are within the CSO and SD basins (44 facilities are also included on the LUST list), and
  - 57 facilities are within the CSO basin only (29 facilities are also included on the LUST list).
- 135 facilities have active EPA ID numbers (Appendix A-2):
  - 20 facilities are within the SD basin only,
  - 76 facilities are within the CSO and SD basin, and
  - 39 facilities are within the CSO basin only.

Additional information regarding these facilities is presented in Appendix A-2. Twenty of the 447 facilities with Ecology Facility/Site ID numbers, including 5 CSCSL facilities and 1 facility holding an NPDES permit, are included in a source control area for which a Data Gaps Report or SCAP has already been prepared. Although activities at these 20 facilities may result in discharges that are eventually conveyed to the Duwamish/Diagonal CSO/SD, such as Ash Grove Cement and T-106, they are not discussed further in this Data Gaps Report because source control actions (if any) have been identified in previous reports and are considered to be adequate for source control with regard to the Duwamish/Diagonal CSO/SD.

Due to a potential conflict of interest, SAIC did not evaluate historical or current operations at eight of the facilities/properties listed on the CSCSL. These facilities are listed below:

Facility/ Site ID	Facility Name (alternate name[s])	Address	Drainage basin(s)
39228129	Chevron USA Inc. 90333 (Rainier Avenue Chevron)	2802 Rainier Avenue S	CSO & SD
66838715	East West Investments (Former Chevron Station)	6th Avenue & S Lane	CSO & SD
2242266	Seattle Housing Authority MLK Way (Chevron)	4561 Martin Luther King Jr Way S	CSO
98648877	Shell Station 121499 (Shell 47481, Texaco 121499)	700 12th Avenue	CSO
83711227	Shell Station 121607 (Texaco 63 232 0271, Gull Industries)	852 Rainier Avenue S	CSO & SD
27591293	Texaco Downstream 211558 (Former Texaco Service Station 128202, WDOT Bradner Place Apts, Chevron 211558)	1366 31st Avenue S	CSO & SD
73985266	Unocal 5473	401 Rainier Avenue S	CSO
77797311	Former Unocal 5477 (Beacon Hill 76)	2415 Beacon Avenue S	SD

The remaining 52 facilities listed on the CSCSL are discussed in this Data Gaps Report. Soil and/or groundwater contamination, which may be a source of sediment recontamination, is present at these properties.

Seventeen of the 18 facilities with NPDES permits are discussed in this Data Gaps Report. Stoneway Concrete was included in the RM 0 to 0.1 East SCAP. Two of the 28 facilities with KCIW discharge authorizations or permits, Ash Grove Cement West and UPRR Argo Yard, were included in previously published SCAPs; therefore, these facilities are not included in this supplemental Data Gaps Report.

Information in the ISIS database was used to assess the 83 facilities and properties on the LUST list. LUST facilities that have a Release Status of "Reported Cleaned Up" for soil are not included in this supplemental Data Gaps Report unless the facility is also listed on the CSCSL (24 facilities) or has an NPDES or KCIW permit (8 facilities).

The Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) codes associated with the activities performed at the remaining facilities within the Duwamish/Diagonal CSO/SD basin with Ecology Facility/Site ID numbers are listed in Appendix A-2.

Additionally, an unknown number of undocumented industrial operations may take place within the Duwamish/Diagonal CSO/SD basin. Unregulated industrial activities may be an ongoing source of contaminants to EAA-1 sediments. SPU has been inspecting businesses in areas that

discharge to the LDW through the city-owned storm drain system or the combined sanitary/storm sewer system since 2001. SPU's business inspection program addresses stormwater, hazardous waste, and industrial waste issues. SPU conducts source tracing by collecting samples of solids in catch basins and storm drain lines. This sampling has been used to identify sources that are not apparent during business inspections and to identify contaminated properties that are currently unknown to Ecology.

Under the Urban Waters Initiative, inspectors from multiple agencies, including SPU and Ecology's Water Quality and Hazardous Waste & Toxics Reduction (HWTR) departments, conduct source control inspections throughout the LDW basin. A list of the businesses within the Duwamish/Diagonal CSO/SD basin that were inspected by SPU from March 2003 through December 2008 is provided in Table 9. A list of inspections performed by Ecology from 2008 to 2009 is provided in Table 10.

2.2 Potential Pathways to Sediment

Potential sources of sediment recontamination associated with the EAA-1 source control area include storm drains and CSO outfalls, adjacent properties, and upland properties. Transport pathways that could contribute to the recontamination of sediments associated with the EAA-1 source control area 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 6.

2.2.1 Direct Discharges via Outfalls

Direct discharges may occur from public or private SD systems, CSOs, and EOFs. In the EAA-1 source control area, there are four private SDs, four public SDs, one CSO, and one EOF.

Although COCs from individual industrial and commercial facilities within the CSO basin are significantly diluted, the cumulative effects of CSO events could contribute to recontamination of EAA-1 sediments. Industrial and commercial facilities discharging industrial wastes and/or stormwater to the combined sewer system are therefore considered to represent potential but relatively minor sources of sediment recontamination.

Large spills of hazardous substances and waste materials containing COCs have the potential to impact sediment in the LDW. There is a potential for spills of COCs from many of the industrial and commercial businesses in the Duwamish/Diagonal CSO/SD drainage basin as well as from trucks and trains transporting hazardous substances and waste materials. Spills that occur in the upland portions of this source control area could enter the onsite or public storm drain system and be discharged to the LDW through the Duwamish/Diagonal CSO/SD. Spill prevention is a major element of the business inspections conducted by SPU, King County and Ecology. Many businesses are required to have spill prevention plans. In the event of a spill, Ecology and SPU respond to and track spill incidents.

2.2.2 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. Surface runoff from other properties adjacent to the LDW may be a source of contaminants to sediments associated with the EAA-1 source control area. This Data Gaps Report focuses on properties that are upland from the LDW; therefore, the surface runoff pathway is not discussed further in this report.

2.2.3 Spills to the LDW

Near-water and over-water activities have the potential to impact adjacent sediment from spills of material containing COCs. This Data Gaps Report focuses on properties that are upland from the LDW; therefore, the spills to the LDW are not discussed further in this report.

2.2.4 Groundwater Discharges

Contaminants in soil resulting from spills and releases to adjacent properties may be transported to groundwater and subsequently be released to the LDW and EAA-1. Contaminated groundwater and flow directions toward the LDW have been documented at properties within the Duwamish/Diagonal CSO/SD basin.

Seeps have been identified along the shoreline of the EAA-1 source control area, and the area north of the Nevada Street SD, along T-108, and the central portion of the Federal Center South property have been identified as areas of generally high seepage rates in the LDW (Windward 2004). Arsenic, cadmium, copper, lead, mercury, nickel, silver, and zinc have been detected in one seep (Seep 75) sampled adjacent to Federal Center South (Windward 2004).

2.2.5 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. This Data Gaps Report focuses on properties that are upland from the LDW; therefore, bank erosion is not discussed further in this report.

2.2.6 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. The following properties in the Duwamish/Diagonal CSO/SD basin are regulated as point sources of air emissions:

Facility	Air Facility System ID
Ash Grove Cement West, Inc.	5303300099
ColorGraphics, Inc.	5303318123
Franz Family Bakeries (Gai's Bakery)	5303300873

Contaminants originating from nearby properties and streets may be transported through the air and deposited in the LDW or in areas that drain to the LDW. Additional information on recent and ongoing atmospheric deposition studies in the LDW area is summarized in the LDW Source Control Status Report (Ecology 2007k and subsequent updates); Ecology will continue to monitor these efforts.

This page intentionally left blank.

3.0 Potential for Sediment Recontamination from South Idaho and South Nevada Street Properties

Tax parcels adjacent to S Nevada Street and S Idaho Street in the EAA-1 source control area are shown in Figure 5. Aerial photographs of the parcels are included as Appendix B-1.

The following properties located adjacent to S Nevada Street and S Idaho Street were identified as potential sources of contaminants to EAA-1 sediments:

- S Nevada and S Idaho Streets:
  - Port of Seattle T-106 (including Former Coastal Trailer Repair, ConGlobal Industries, and Flexi-Van Leasing Seattle)
- S Nevada Street Properties:
  - Former Seattle Dye Works and B&G Machine
  - Blue Origin LLC Warehouse, and
  - Former Griffin Envelope/Habitat for Humanity Home Improvement Outlet.
- S Idaho Street Properties:
  - Former Van Vetter, Inc./Global Fulfillment,
  - Former Hamilton Engine Sales/Spud! Seattle,
  - MEECO Manufacturing Company, Inc. (MEECO),
  - Former Bindery Service Center, Inc./Zevia, LLC,
  - Stewart Industries,
  - Former Jacks, Inc./Former Chemical Distributor, Inc./Fiberlay Inc., and
  - Washington State Liquor Control Board (Liquor Control Board).

If multiple names are listed for a property, historical operators are described as "former." Operator names are listed in chronological order.

Potential contamination sources on the Port of Seattle T-106 property (parcel 7666700390) and the former Coastal Trailer Repair[5] property were previously discussed in the EAA-1 SCAP (Ecology 2004h). ConGlobal Industries (formerly Container Care Seattle) and Flexi-Van Leasing currently operate on the former Coastal Trailer Repair property.

The S Idaho Street properties are within the Duwamish/Diagonal CSO/SD basin. The S Nevada Street properties are in the Diagonal Avenue S CSO basin, but are outside the Diagonal Avenue S SD basin. Stormwater from the S Nevada Street properties discharges to the LDW within EAA-1 via the S Nevada Street outfall.

A UPRR easement runs between the S Nevada Street and S Idaho Street properties. Many of the warehouses on these properties have access to the railroad line.

Little information regarding current and historical operations at these facilities and properties was available for review. With the exception of the former Griffin Envelope property, no records

[5] The Coastal Trailer Repair property was identified as Container Care Seattle in the EAA-1 SCAP.

of environmental investigations or cleanups were available for these properties. Facility and property-specific details are presented in Section 3.2.

3.1 Summary of Data Gaps and Action Items for S Nevada Street and S Idaho Street Properties

Data gaps and action items were identified for the S Nevada Street and S Idaho Street properties. These data gaps and action items are presented in this section.

3.1.1 Summary of Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at each of the S Nevada Street and S Idaho Street properties is listed below. Some of this information can be obtained during a business inspection or by reviewing responses to EPA requests for information.

- Information regarding any historical and/or ongoing industrial activities is needed to verify that these facilities are in compliance with all applicable regulations and best management practices (BMPs).
- Information on how and where any hazardous materials, chemicals, or hazardous wastes are stored or used at these facilities is needed to evaluate the potential for spills to commingle with wastewater and stormwater.
- Facility plans showing the locations of floor drains, catch basins, sewer connections and storm drains (if any) are needed to evaluate the potential for contaminants suspended in wastewater and stormwater (if any) to be transported to the LDW via combined sewer discharges.
- Information regarding any containment systems at these properties is needed to evaluate the adequacy of the systems and determine the potential for spills to commingle with wastewater and stormwater.

Information on the materials used to construct storm drain and sanitary sewer lines in this area and the age of the storm drain and sanitary sewer lines would be useful to assess the potential for contaminated groundwater to infiltrate the combined sewer system.

3.1.2 Summary of Action Items

Action items identified for the S Nevada Street and S Idaho Street properties are summarized below by action item category.

3.1.2.1 Business Inspections

Facility inspections have not been performed by Ecology, SPU, or KCIW at the following properties:

- Blue Origin LLC,
- Habitat for Humanity Home Improvement Outlet, and

- Former Hamilton Engine Sales/Spud! Seattle.

Ecology and/or SPU will perform initial facility inspections at Habitat for Humanity Home Improvement Outlet and Spud! Seattle. Facilities at the Blue Origin LLC property are currently vacant. A business inspection will be performed by Ecology and/or SPU when or if the facilities at the property are occupied.

Follow-up inspections are needed at the former Bindery Service Center/Zevia LLC property, the former Seattle Dye Works/B&G Machine property, MEECO, Stewart Industries, and the Liquor Control Board:

- SPU inspected Zevia LLC in April 2008 following a spill to the storm drain system. SPU will conduct a follow-up inspection to confirm that Zevia has complied with the corrective actions identified during the April 2008 inspection.
- B&G Machine was inspected by Ecology in October 2008. Ecology indicated that the facility may need to obtain coverage under the Industrial Stormwater General Permit (ISGP). B&G Machine submitted compliance certificates to Ecology in December 2008; however, the facility has not been re-inspected (Jeffers 2008f, 2009a). Based on B&G Machine's website (B&G Machine 2009) and SAIC's field reconnaissance visit in April 2009, it appears that B&G Machine no longer operates at the property.
- MEECO was inspected by Ecology in October 2008. Ecology indicated that the facility may need to obtain coverage under the ISGP. Corrective actions were identified by the Ecology inspector. As of January 2009, MEECO had not achieved compliance with the corrective actions (Jeffers 2008f, 2009a).
- Stewart Industries was inspected by Ecology in October 2008. Ecology indicated that the facility may need to obtain coverage under the ISGP and directed Stewart Industries to clean one catch basin on the property (Jeffers 2008f). A follow-up inspection has not been performed at the property.
- The Liquor Control Board was inspected in October 2008. Ecology indicated that the facility may need to obtain coverage under the ISGP. The Liquor Control Board submitted compliance certificates to Ecology in January 2009. The facility has not been re-inspected (Jeffers 2008f, 2009a).

In November 2008, Global Fulfillment (former Van Vetter, Inc. property) achieved compliance with corrective actions identified by SPU. A follow-up inspection is not needed at this time; however, Ecology and/or SPU may continue to inspect the property under the Urban Waters Initiative or other programs.

3.1.2.2 Review Responses to EPA CERCLA Section 104(e) Request for Information Letters

EPA has sent Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 104(e) Request for Information letters to the operators or property owners for the following S Nevada Street and S Idaho Street properties:

- S Nevada Street Properties:
  - Blue Origin LLC Warehouse.
- S Idaho Street Properties:
  - Former Van Vetter, Inc./Global Fulfillment,
  - Former Hamilton Engine Sales/Spud! Seattle,
  - MEECO,
  - Former Bindery Service Center, Inc./Zevia, LLC,
  - Stewart Industries,
  - Former Jacks, Inc./Former Chemical Distributor, Inc./Fiberlay Inc., and
  - Liquor Control Board.

Ecology will review the information submitted in response to the CERCLA Section 104(e) Request for Information, to determine if historical or current operations at the properties represent a potential source of contaminants to EAA-1 sediments.

CERCLA Section 104(e) letters were not sent to the operators or property owners of the former Seattle Dye Works/former B&G Machine and former Griffin Envelope/Habitat for Humanity properties.

3.1.2.3 Industrial Stormwater General Permit

During recent inspections, Ecology indicated that the following facilities should be evaluated for coverage under the ISGP:

- B&G Machine,
- MEECO,
- Stewart Industries, and
- Liquor Control Board.

Ecology will complete its evaluation of the operations at these facilities and will require the facilities to apply for coverage under the ISGP, if appropriate.

3.2 S Nevada Street and S Idaho Street Properties

Property and facility-specific details regarding the parcels and business located between S Nevada Street and S Idaho Street are presented in this section. The facilities with S Nevada Street addresses are presented first, from west to east, followed by the S Idaho Street properties, also listed from west to east. Aerial photographs of the properties are presented in Appendix B-1.

3.2.1 Former Seattle Dye Works and B&G Machine

Facility Summary: Former Seattle Dye Works and B&G Machine	
Tax Parcel No.	1824049011
Address	11 S Nevada Street
Property Owner	3BS Land Development LLC

Facility Summary: Former Seattle Dye Works and B&G Machine	
Parcel Size	0.48 acre (20,776 square feet [sq ft])
Facility/Site ID	6889930 (B&G Machine Inc. Nevada Street) 12822757 (Seattle Dye Works)
SIC Code(s)	9999 Nonclassifiable Establishments
EPA ID No.	WAD988473336
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID[6]	A4/126 (Former Seattle Dye Works) A4/127 (B&G Machine)

The property is bordered by S Nevada Street to the north, the Blue Origin LLC property to the east, the UPRR easement to the south and T-106 to the west. According to King County tax assessor records, there is one 15,632 sq ft light industrial manufacturing building, constructed in 1979, on the property. Tax assessor records indicate that the property name is B&G Machine.[7] Two remodeling permits have been issued for the facility, permit number 706749 on June 14, 1999, and permit number 749410 on March 30, 2005.

3.2.1.1 Current Operations

B&G Machine has operated at this facility as recently as October 2008; however, when SAIC performed a field reconnaissance of the area in April 2009, the building use was not apparent. Current operations at this facility are unknown.

A real estate listing for the property from April 2005 indicates that equipment for an industrial laundry site was intact inside the building. The building has four loading docks that are served by rail and by trucks (two of each). Utilities within the building include floor drains, air compressors, water tanks, boilers, and overhead plumbing for water and air (LoopNet 2009a).

3.2.1.2 Historical Operations

Seattle Dye Works formerly operated at the property at 11 S Nevada Street.

Ecology records indicate that B&G Machine has also occupied the property at 11 S Nevada Street. The company's website indicates that it currently operates at 6400 Corson Avenue S (B&G Machine 2009), which is located within the Michigan CSO basin.

The property was sold to 3BS Land Development in April 2005, according to tax assessor records. The mailing address for 3BS Land Development is 6400 Corson Avenue, which is the current operating address for B&G Machine.

[6] Map indicates the Map Grid (see Figure 4) and detailed map (see Appendix A-1) and Map ID is the number identifying the location of the facility on the maps.
[7] King County GIS Center Parcel Viewer:
http://www.kingcounty.gov/operations/GIS/PropResearch/ParcelViewer.aspx

3.2.1.3 Regulatory History

Ecology inspected the B&G Machine facility in October 2008 (Table 10). Ecology indicated that the facility may need to obtain coverage under the ISGP. Ecology directed the facility to clean storm drain catch basins, improve spill management, and improve storage and labeling of used oil and solvent containers. The inspector's report also indicates the Puget Sound Clean Air Agency (PSCAA) was permitting a new evaporator that was being installed on the property (Jeffers 2008f). B&G Machine submitted completed compliance certificates to Ecology in December 2008 (Jeffers 2009a).

Additional information regarding Seattle Dye Works and B&G Machine's historical operations at this property was not available for review.

3.2.1.4 Potential for Sediment Recontamination

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

Stormwater

Stormwater from this facility discharges to EAA-1 via the Nevada Street SD; therefore, it is considered to be a potential source of sediment recontamination.

CSO Discharges

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility (if any) may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

3.2.1.5 Data Gaps and Action Items

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the former Seattle Dye Works/B&G Machine property is listed below.

Pathway	Data Gap	Action Item
Stormwater	A follow-up facility inspection is needed to verify that compliance with the corrective actions identified by Ecology in October 2008 has been achieved.	Ecology will conduct a follow-up inspection at the B&G Machine facility. Ecology will determine if operations at B&G Machine require coverage under the ISGP.

3.2.2 Blue Origin, LLC Property

Facility Summary: Blue Origin, LLC Property	
Tax Parcel No.	1824049113
Address	13 S Nevada Street
Property Owner	JJD Land Development LLC
Parcel Size	0.57 acre (24,944 sq ft)
Facility/Site ID	1173695
SIC Code(s)	None
EPA ID No.	WAH000029527 (inactive) (Blue Origin, LLC)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	A4/123

The property is bordered by the former Seattle Dye Works/B&G Machine property to the west, S Nevada Street to the north, the former Griffin Envelope/Habitat for Humanity Home Improvement Outlet to the east, and the UPRR easement to the south. There is one building on the parcel, a 13,300 sq ft warehouse constructed in 1954, according to King County tax assessor records.

According to King County tax assessor records, Blue Properties, LLC sold the property to the Nevada Street LLC on September 26, 2007. Nevada Street LLC sold the property to JJD Land Development LLC two days later. The mailing address for JJD Land Development is the same as the mailing address for 3BS Land Development LLC and B&G Machine.

3.2.2.1 Current Operations

Current operations at this facility are unknown.

As of SAIC's reconnaissance visit in April 2009, building signage indicates that Blue Origin LLC continues to occupy the property at 13 S Nevada Street.

3.2.2.2 Historical Operations

The company's website indicates that it now operates in Kent, Washington, and western Texas (Blue Origin LLC 2009). Ecology performed an inspection of the Kent facility in March 2007, noting that Blue Origin had moved to the Kent location from Seattle approximately one year prior to the Kent facility inspection (Ecology 2007d). The NAICS code for Blue Origin LLC is 336414: Guided Missile and Space Vehicle Manufacturing.

3.2.2.3 Regulatory History

EPA has sent a CERCLA Section 104(e) Request for Information letter to Blue Properties, LLC, a previous property owner.

This property has not been inspected by Ecology, SPU, or KCIW.

3.2.2.4 Potential for Sediment Recontamination

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

Stormwater

Stormwater from this facility discharges to EAA-1 via the Nevada Street SD; therefore, it is considered to be a potential source of sediment recontamination.

CSO Discharges

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility (if any) may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

3.2.2.5 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at this facility comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at the facility. Ecology will review the property owner's response to the EPA CERCLA Section 104(e) letter.

3.2.3 Former Griffin Envelope, Inc./Habitat for Humanity Home Improvement Outlet

Facility Summary: Former Griffin Envelope/ Habitat for Humanity Home Improvement Outlet	
Tax Parcel No.	1824049074
Address	21 S Nevada Street.
Property Owner	JJD Land Development LLC
Parcel Size	1.44 acres (62,937 sq ft)
Facility/Site ID	4176649 (Former Griffin Envelope, Inc.) 79931991 (John Gunning)
SIC Code(s)	2677: Envelopes 2679: Converted Paper Product, not elsewhere classified
EPA ID No.	WAD980738603 (inactive) (Former Griffin Envelope)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	A4/125 (Former Griffin Envelope) A4/113 (John Gunning)

The property is bordered by the Blue Origin LLC property to the west, S Nevada Street to the north, East Marginal Way S to the east, and the UPRR easement to the south. King County tax assessor records indicate that the parcel name is Blue Operations. There is one building on the property, a 39,900 sq ft warehouse constructed in 1953. Two remodeling permits have been issued for the property: permit number 719123 in March 2001 and permit number 3007738 in October 2007.

3.2.3.1 Current Operations

The property is currently occupied by the Habitat for Humanity Home Improvement Outlet store. Items such as appliances, furniture, tools, paint, and building materials are available at the store (Habitat for Humanity 2009).

3.2.3.2 Historical Operations

Griffin Envelope previously operated at the 21 S Nevada Street property. Griffin Envelope used 4301 East Marginal Way S as its operating address. Griffin Envelope manufactured and distributed envelopes, letterhead, and business forms. Sunshine Biscuits of New Jersey owned the property during Griffin Envelopes' period of operation at this property (MJA Consulting, Inc. 1991).

3.2.3.3 Regulatory History

Griffin Envelope notified Ecology that soil contamination was present on the property as the result of leaking USTs (Ecology 1991h). No additional information regarding the regulatory history of the property was available for review.

The Habitat for Humanity Home Improvement Outlet store has not been inspected by Ecology, SPU, or KCIW.

3.2.3.4 Environmental Investigations and Cleanups

Two environmental investigations have been performed on the property. A remedial excavation was performed in 1992. Soils beneath the property consist of interbedded silty clay to silty sand and clay. Depth to groundwater is 8 feet below ground surface (bgs) (MJA Consulting, Inc. 1991).

Underground Storage Tank Removal (1991)

Five single-walled USTs were removed from the property in June and July 1991. The USTs were described as one 1,200-gallon gasoline tank and one 1,000-gallon gasoline tank, two 1,000-gallon heating oil tanks, and one 300-gallon heating fuel tank. The USTs appeared to be in good condition when removed. Product piping, vent lines, and dispensers were also removed from the property. Three USTs were located between the production warehouse and S Nevada Street and the two remaining USTs were located on the eastern side of the warehouse. Sixteen soil samples were collected from the excavated areas. Soil samples from the heating tank excavations were analyzed for total recoverable petroleum hydrocarbons (TRPH) and soil samples from the gasoline tank excavations were analyzed for total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, total xylenes (BTEX), and lead. TRPH, TPH, and lead were detected in soil (MJA Consulting, Inc. 1991).

Site Check and Site Assessment (1992)

Four USTs were removed from the property in April 1992. The USTs were described as one 2,000-gallon gasoline tank and three 500-gallon heating oil tanks. The contents of the gasoline UST were sampled and laboratory analysis indicated the presence of water-based ink in the sample. Twelve soil samples were collected, three each from the UST excavations, and analyzed for TPH as gasoline and as diesel (TPH-gas and TPH-diesel, respectively), BTEX, and volatile organic compounds (VOCs). Soil samples collected from the gasoline UST excavation (Tank 1) and one heating oil UST (Tank 4) excavation did not contain petroleum hydrocarbons.

Concentrations of petroleum hydrocarbons below Ecology cleanup levels were present in the excavation for Tank 3. Soil samples from the Tank 2 excavation indicated TPH-diesel contamination above Ecology cleanup levels.

In June and August 1992, contaminated soil from the Tank 2 excavation was excavated until there were no visual or aromatic signs of contamination, which resulted in an excavation measuring approximately 40 feet wide by 30 feet long by 8 to 9 feet deep. Laboratory analysis of soil samples confirmed that all contaminated soil was excavated. Approximately 200 tons of soil were removed from the property and disposed of by Rabanco Recycling, Inc. (Coastal Tank Cleaning, Inc. 1992).

3.2.3.5 Potential for Sediment Recontamination

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

Stormwater

Stormwater from this facility discharges to EAA-1 via the Nevada Street SD; therefore, it is considered to be a potential source of sediment recontamination.

CSO Discharges

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Results from previous environmental cleanups indicate that all contaminated soil has been removed from the property. Groundwater samples have not been collected beneath the property. Based on the previous environmental investigations and cleanups, the contaminants that were present in soil as a result of historical operations at the property are not sediment COCs.

3.2.3.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at the Habitat for Humanity Home Improvement Outlet comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at the facility.

3.2.4 Former Van Vetter, Inc./Global Fulfillment

Facility Summary: Former Van Vetter, Inc./Global Fulfillment	
Tax Parcel No.	7666700530
Address	4 S Idaho Street
Property Owner	Karla Yantz
Parcel Size	1.52 acres (66,171 sq ft)
Facility/Site ID	13183654 (Van Vetter, Inc.)
SIC Code(s)	9999 Nonclassifiable Establishments (Former Van Vetter, Inc.)
EPA ID No.	WAD980834733 (Inactive) (Former Van Vetter, Inc.)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	2783 (Inactive) (Former Van Vetter, Inc.)
Map/Map ID	A4/99 (Former Van Vetter, Inc.)

The property is bordered by T-106 to the west, the UPRR easement to the north, Spud! Seattle to the east, and S Idaho Street to the south. King County tax assessor records indicate that the property name is Union Manufacturing and there are three buildings on the property:

- A 16,520 sq ft storage warehouse constructed in 1956,
- An 18,840 sq ft industrial light manufacturing building constructed in 1957, and
- A 14, 004 sq ft industrial light manufacturing building constructed in 1961.

3.2.4.1 Current Operations

Global Fulfillment is a marketing services support firm and offers services such as database management, warehousing and inventory management, kitting and assembly, distribution, and project management. Global Fulfillment is the result of the partnership of Karla's Hand Bindery and Fulfillment Solutions (Global Fulfillment 2009). The company has operated at this location since 1998 (SPU 2008g).

Paper products are stored in the facility warehouse. Employees of the company maintain a garden area with a compost station and a water-catchment system (SPU 2008g).

Four storm drain catch basins are located on the property (SPU 2001k).

3.2.4.2 Historical Operations

Van Vetter, Inc. previously operated at this property. The type of operations performed at the property is unknown; however, the NAICS code for Van Vetter, Inc. is 23839: Other Building Finishing Contractors.

According to Ecology's ISIS database, one UST was closed-in-place on the property in August 1996. No additional information regarding the UST was available for review.

Global Fulfillment historically occupied the adjacent building at 8 S Idaho Street (SPU 2001k).

3.2.4.3 Regulatory History

SPU inspected Global Fulfillment in March 2001 and found that the facility was in compliance with the stormwater pollutant source control requirements under the City of Seattle code (SPU 2001a). The inspection report indicates that the parking area had been repaved recently and that no outside storage occurs at the facility (SPU 2001k).

SPU re-inspected Global Fulfillment in June 2001 and required the company to clean out a catch basin, prepare a spill prevention and cleanup plan, purchase spill containment and cleanup materials, and to educate its employees about the spill prevention and cleanup plan and the use of the spill containment and cleanup materials (SPU 2001e). SPU performed a follow-up inspection in November 2001 and found the facility to be in compliance with stormwater pollutant source control requirements (SPU 2001j).

SPU inspected the facility in August 2008. Sediment had accumulated in one of the catch basins, which was located in front of the office building (SPU 2008g). SPU directed Global Fulfillment to update its spill prevention and cleanup plan and to clean the catch basins on the property (SPU 2008h). Global Fulfillment achieved compliance with SPU's directives in November 2008 (SPU 2008n).

EPA has sent a CERCLA Section 104(e) Request for Information letter to Karla Yantz, the current property owner and co-founder of Global Fulfillment.

3.2.4.4 Potential for Sediment Recontamination

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

Stormwater

There are four storm drain catch basins on the property, which discharge to EAA-1 via the Diagonal Avenue S SD system. SPU reported sediment accumulation in one of the catch basins

in August 2008. Global Fulfillment was responsive to the corrective actions requested by SPU; however, stormwater discharge from the property is considered to be a potential source for sediment recontamination.

CSO Discharges

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

A UST was closed-in-place on the property in 1996; environmental samples were apparently not collected during the UST closure activities. It is assumed that the UST remains in place. There is no information available to determine if soil or groundwater contamination is present at this property.

3.2.4.5 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property; however, Ecology will review Karla Yantz's response to the EPA CERCLA Section 104(e) letter.

3.2.5 Former Hamilton Engine Sales/Spud! Seattle

Facility Summary: Former Hamilton Engine Sales/Spud! Seattle	
Tax Parcel No.	7666700531, 1824049073
Address	8 S Idaho Street
Property Owner	Richard Desimone & Co.
Parcel Size	0531: 0.47 acre (20,364 sq ft) 9073: 0.29 acre (12,687 sq ft)
Facility/Site ID	25677953 (Former Hamilton Engine Sales)
SIC Code(s)	9999 Nonclassifiable Establishments
EPA ID No.	WAD988474581 (Inactive) (Former Hamilton Engine Sales)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	A4/109 (Former Hamilton Engine Sales)

Spud! Seattle occupies two parcels on S Idaho Street. The property is bordered by Global Fulfillment on the west, by the UPRR easement on the north, MEECO on the east, and S Idaho Street on the south. According to King County tax assessor records, the property name is Alehouse Dist/G Raden & Sons. There is one 12,000 sq ft distribution warehouse, constructed in 1953, on parcel 0531 and one 10,500 sq ft distribution warehouse, constructed in 1986, on parcel 9073.

3.2.5.1 Current Operations

Spud! Seattle is a web-based grocery store (Spud! Seattle 2009). The company's distribution facility is located at 8 S Idaho Street.

3.2.5.2 Historical Operations

According to a 2001 SPU inspection report, Deschutes Brewery and Global Fulfillment previously operated on the property (SPU 2001k). Hamilton Engine Sales and Alehouse Distribution also previously operated at the property.

3.2.5.3 Regulatory History

EPA has sent CERLA Section 104(e) Request for Information letters to Richard Desimone & Co., the current property owner, and Richard L. Desimone Jr.

Spud! Seattle has not been inspected by Ecology, SPU, or KCIW.

3.2.5.4 Potential for Sediment Recontamination

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

Stormwater

Stormwater from this facility discharges to EAA-1 via the Diagonal Avenue S SD system; therefore, it is considered to be a potential source of sediment recontamination.

CSO Discharges

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

3.2.5.5 Data Gaps and Action Items

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the former Hamilton Engine Sales property is listed below.

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at Spud! Seattle comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at the facility. Ecology will review the property owner's response to the EPA CERCLA Section 104(e) letter.

3.2.6 MEECO Manufacturing Company, Inc.

Facility Summary: MEECO Manufacturing Company, Inc.	
Tax Parcel No.	1824049072
Address	12 S Idaho Street
Property Owner	S&B Building, LLC
Parcel Size	0.38 acre (16,646 sq ft)
Facility/Site ID	8624626
SIC Code(s)	Unknown
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	A4/108

According to King County tax assessor records, the property name is George S. Schuster Co. There is one building on the property, a 12,975 sq ft warehouse constructed in 1953. Building remodeling permit number 697690 was issued on March 18, 1998.

3.2.6.1 Current Operations

MEECO produces safety and maintenance products for wood stoves, pellet stoves, coal stoves, corn stoves and fireplaces, and the fuel oil and gas appliance industries (MEECO 2009).

The property is currently for sale. An April 2009 real estate listing indicates the building has a floor drain and two bays with rail access (LoopNet 2009b). According its website, MEECO continues to operate at 12 S Idaho Street (MEECO 2009).

3.2.6.2 Historical Operations

Since the property name in the tax assessor records is George S. Schuster Co., presumably, the company historically operated at this property. However, no information regarding the George S. Schuster Co. was available for review.

3.2.6.3 Regulatory History

Ecology inspected the MEECO facility in October 2008 (Table 10). Ecology indicated that the facility may need to obtain coverage under the ISGP. Potentially dangerous waste was improperly stored outdoors. Ecology referred the facility to KCIW. The inside wash area for processing equipment is plumbed to the sanitary sewer (Jeffers 2008f). Ecology performed follow-up inspections in December 2008 and January 2009; additional corrective actions were identified (Jeffers 2009a).

EPA has sent a CERCLA Section 104(e) Request for Information letter to S & B Building, LLC, the property owner.

3.2.6.4 Potential for Sediment Recontamination

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

Stormwater

Stormwater from this facility discharges to EAA-1 via the Diagonal Avenue S SD system; therefore, it is considered to be a potential source of sediment recontamination.

CSO Discharges

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

3.2.6.5 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A follow-up facility inspection is needed to verify that compliance with the corrective actions identified by Ecology in October 2008 has been achieved.	Ecology will conduct a follow-up inspection at MEECO. Ecology will determine if operations at MEECO require coverage under the ISGP. Ecology will review the property owner's response to the EPA CERCLA Section 104(e) letter.

3.2.7 Former Bindery Service Center/Zevia LLC

Facility Summary: Former Bindery Service Center/Zevia LLC	
Tax Parcel No.	1824049070
Address	14 S Idaho Street
Property Owner	R2R Investments, LLC
Parcel Size	0.59 acre (25,688 sq ft)
Facility/Site ID	53458671 (Former Bindery Service Center)
SIC Code(s)	9999: Nonclassifiable Establishments
EPA ID No.	WAD067149559 (Inactive) (Former Bindery Service Center)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	A4/102 (Former Bindery Service Center)

The property is bordered by MEECO on the west, the UPRR easement to the north, Stewart Industries to the east, and S Idaho Street to the south. According to King County tax assessor records, the property name is JC Wright Sales Company. There is one building on the property, a 21,900 sq ft warehouse constructed in 1952.

3.2.7.1 Current Operations

Zevia LLC (Zevia) currently operates on the property. The company produces and distributes soft drinks (Zevia 2009). One catch basin is located on the property (SPU 2008a).

3.2.7.2 Historical Operations

Bindery Service Center, JC Wright Sales Company, and The Anywear Shoe Co. have historically operated at this facility. No additional information regarding these companies was available for review.

3.2.7.3 Regulatory History

SPU performed an inspection at the property on March 26, 2003. The Anywear Shoe Co., Inc, was the operator at the facility at the time of the March 2003 inspection.

SPU performed an inspection at Zevia on April 25, 2008, as the result of spill. Following the April 2008 inspection, SPU issued a Notice of Violation (NOV) and Order for Corrective Action File Number: 2008-011. Approximately 190 gallons of waste soft drinks were discharged to the storm drain. SPU directed Zevia to discharge all waste soda to the sanitary sewer. Loading and unloading of solid and liquid materials is performed at the facility; therefore, SPU directed the facility to prepare a spill plan, purchase spill kits, and educate its employees (SPU 2008b).

EPA has sent a CERCLA Section 104(e) Request for Information letter to R2R Investments, LLC, the current property owner.

3.2.7.4 Potential for Sediment Recontamination

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

Stormwater

Stormwater from this facility discharges to EAA-1 via the Diagonal Avenue S SD system and a previous spill at the facility resulted in an illegal discharge to the LDW.[8]. Therefore, the stormwater pathway is considered to be a potential source of sediment recontamination.

CSO Discharges

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

[8] It should be noted that the ingredients in soft drinks are not sediment COCs.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

3.2.7.5 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A follow-up inspection is needed at Zevia to determine compliance with the corrective actions required by SPU.	SPU will perform a follow-up business inspection. Ecology will review the property owner's response to the EPA CERCLA Section 104(e) letter.

3.2.8 Stewart Industries

Facility Summary: Stewart Industries	
Tax Parcel No.	1824049066
Address	16 S Idaho Street
Property Owner	STC Industries
Parcel Size	0.47 acre (20,550 sq ft)
Facility/Site ID	4732987
SIC Code(s)	Unknown
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	A4/107

Stewart Industries is bordered by Zevia on the west, the UPRR easement on the north, Fiberlay on the east, and S Idaho Street on the south. According to King County tax assessor records, there is one building on the property, a 15,000 sq ft warehouse constructed in 1948.

3.2.8.1 Current Operations

Stewart Industries is a plastics injection molding company. The business has been in operation since 1947. Cooling water is used in the injection molding process. Chemicals used at the facility include hydraulic oil, Chem Aqua 1200, isopropyl alcohol, Natural Blue Cleaner, and EDM Oil (Pelladil). Waste hydraulic and EDM oils are containerized and hauled off site for disposal or

recycling (Stewart Industries 2002). From the information available for review it could not be determined if the cooling water is contact or non-contact cooling water. There was no information available on how the cooling water is handled.

There are three service bays on the property. Two service bays are located in the southwestern portion of the property adjacent to S Idaho Street. Only one service bay is in use in this area. The third service bay is located in the northern portion of the property; this bay is not in use (SPU 2001g).

There is one catch basin on the property. It is located on the west side of the property and down gradient from the service bay area adjacent to S Idaho Street. The catch basin is adjacent to the service bay that is not in use (SPU 2001g). The catch basin is inspected quarterly and cleaned approximately two times per year (Seattle-King County Department of Public Health [SKCDPH] 2003e).

3.2.8.2 Historical Operations

No information regarding historical operations at this facility was available for review; however, Stewart Industries has operated at this location since 1947.

3.2.8.3 Regulatory History

SPU inspected the facility in February 2001. Standing water and sediment were present in the catch basin on the property. Wood pallets and metal debris were present in the service bay area. SPU directed the facility to dispose of materials that were no longer needed (SPU 2001g). Additionally, SPU directed the facility to clean the catch basin and prepare a spill prevention and cleanup plan, purchase spill kits, and educate its employees (SPU 2001f). Stewart Industries achieved compliance with the corrective actions in September 2001 (SPU 2001i).

SKCDPH and SPU inspected the facility in March 2003 (SKCDPH 2003e). SPU determined that the facility was in compliance with the stormwater pollutant source control requirements under City of Seattle code. SKCDPH determined that the facility needed to provide secondary containment for a 55-gallon barrel used to collect waste oil, and a container used to dispose contaminated shop towels required labeling. Additionally, SKCDPH directed Stewart Industries to maintain the facility's forklift (SKCDPH 2003c). SKCDPH inspected the facility on May 29, 2003, and found the facility to be in compliance with applicable regulations (SKCDPH 2003f, 2004a).

Ecology inspected Stewart Industries in October 2008. Ecology indicated that the facility may need to obtain coverage under the ISGP. Additionally, Ecology directed Stewart Industries to clean one catch basin on the property (Jeffers 2008f).

EPA has sent a CERCLA Section 104(e) Request for Information letter to STC Industries, LLC, the current property owner.

3.2.8.4 Potential for Sediment Recontamination

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

Stormwater

Stormwater from this facility discharges to EAA-1 via the Diagonal Avenue S SD system; therefore, it is considered to be a potential source of sediment recontamination.

CSO Discharges

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

3.2.8.5 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A follow-up facility inspection is needed to verify that compliance with the corrective actions identified by Ecology in October 2008 has been achieved.	Ecology will conduct a follow-up inspection at Stewart Industries. Ecology will determine if operations at Stewart Industries require coverage under the ISGP. Ecology will review the property owner's response to the EPA CERCLA Section 104(e) letter.

3.2.9 Former Jacks, Inc./Former Chemical Distributors, Inc./Fiberlay, Inc.

Facility Summary: Former Jacks, Inc./ Former Chemical Distributors, Inc./Fiberlay, Inc.	
Tax Parcel No.	1824049012
Address	20 S Idaho Street
Property Owner	Miriam McNiven FBO TA/I
Parcel Size	1.18 acres (51,456 sq ft)
Facility/Site ID	2788207 (Fiberlay, Inc.) 50579456 (Former Chemical Distributors, Inc.) 75183894 (Former Jacks, Inc.)
SIC Code(s)	5099: Durable Goods, Not Elsewhere Classified (Former Jacks, Inc.) 5169: Chemicals & Allied Products, Not Elsewhere Classified (Former Chemical Distributors, Inc. and Fiberlay, Inc.) 5999: Miscellaneous Retail Stores, Not Elsewhere Classified (Former Jacks, Inc.) 7699: Repair Services, Not Elsewhere Classified (Former Jacks, Inc.)
EPA ID No.	CRK000045010 (Former Chemical Distributors, Inc.) WAD988503025 (Inactive) (Former Jacks, Inc.)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	A4/103 (Former Jacks, Inc.) A4/96 (Former Chemical Distributors, Inc.) A4/106 (Fiberlay, Inc.)

The property is bordered by Stewart Industries to the west, the UPRR easement to the north and northeast, East Marginal Way S to the east, and S Idaho Street to the south. According to King County tax assessor records, there are two buildings on the property: a 26,680 sq ft distribution warehouse constructed in 1955 and a 7,850 sq ft distribution warehouse constructed in 1959. Building remodeling permit number 750682 was issued in May 2005.

3.2.9.1 Current Operations

Fiberlay, Inc. is the current operator at this property. Fiberlay is a distributor of fiberglass supplies including epoxy and polyester resins, casting and molding supplies, abrasives, safety supplies, and composite materials (Fiberlay 2009). According to its website the company distributes products from a variety of manufacturers. Additional information regarding current operations at Fiberlay was not available for review.

One storm drain catch basin is located on the property (Jacks Inc. 2002b).

3.2.9.2 Historical Operations

Jacks Inc. historically operated at this property from 1984 to November 2003 (Jacks Inc. 2002a; SKCDPH 2004b). Jacks Inc. repaired hydraulic, pneumatic, and lubrication equipment. No water was used in operations at the facility. Wastes generated at the facility included hydraulic oil and waste solvents, which were hauled off site for disposal or recycling (Jacks Inc. 2002a). The facility maintained an aboveground storage tank (AST) (Jacks Inc. 2002b).

Chemical Distributors, Inc. (CDI) previously operated at this property, using 22 S Idaho Street as its operating address. The company currently operates at 2400 6th Avenue S, Seattle, which is outside the Duwamish/Diagonal CSO/SD basin. CDI supplies products such as pigments, viscosity modifiers, biocides, defoamers, lubricants, and vegetable oils to paint manufacturers, and the adhesives, ceramics, rubber, and plastics industries. (CDI 2009). No information regarding CDI's historical operations at this property was available for review.

3.2.9.3 Regulatory History

SKCDPH and SPU inspected Jacks Inc. in March 2003 (SKCDPH 2003b). SPU determined that the facility was in compliance with the stormwater pollutant source control requirements under the City of Seattle code. SKCDPH required the facility to properly label and provide secondary containment for all waste and product containers, recycle or dispose of fluorescent light tubes at a permitted facility, dispose of unwanted paint, and obtain material safety data sheets for all chemicals used at the facility (SKCDPH 2003d).

SKCDPH inspected Jacks, Inc. on May 29, 2003 and found the facility to be in compliance with applicable regulations (SKCDPH 2004c).

Ecology inspected Fiberlay, Inc. in October 2008 and determined the facility was in compliance with applicable regulations (Jeffers 2008f).

EPA has sent a CERCLA Section 104(e) Request for Information letter to McNiven FBO, the current property owner.

3.2.9.4 Potential for Sediment Recontamination

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

Stormwater

Stormwater from this facility discharges to EAA-1 via the Diagonal Avenue S SD system; therefore, it is considered to be a potential source of sediment recontamination.

CSO Discharges

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

3.2.9.5 Data Gaps and Action Items

No facility-specific data gaps were identified for this property; however, Ecology will review the property owner's response to the EPA CERCLA Section 104(e) letter.

3.2.10 Washington State Liquor Control Board

Facility Summary: Washington State Liquor Control Board	
Tax Parcel No.	1824049063
Address	4401 East Marginal Way S
Property Owner	State of Washington Liquor Control Board
Parcel Size	10.91 acres (475,440 sq ft)
Facility/Site ID	1891210
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	A4/92

The Liquor Control Board is bordered by T-106 to the west, S Idaho Street to the north, East Marginal Way S to the east, and a right-of-way or easement to the south. There are two buildings on the property: a 182,893 sq ft warehouse constructed in 1999 and a 60,151 sq ft warehouse constructed in 2007.

3.2.10.1 Current Operations

The facility is a distribution warehouse for the Liquor Control Board. Alcohol is shipped from and received at the facility. The shipping and receiving areas of the facility are covered. Spills in

this area are cleaned with a floor scrubber and wet vacuum (SPU 2007e). Broken glass is containerized and recycled (SPU 2003g).

Vehicle maintenance and repair activities are performed inside. Parts are washed in a bioremediating parts washer. Microbes break down oil in the washer system filter. Spent filters are thrown out as a non-regulated waste (SPU 2007e).

Wastes generated at the facility include batteries (1 set per year), fluorescent light tubes (48 per year, and petroleum/oils (55 gallons per year). Wastes are stored outdoors. The outdoor storage area is paved and covered and has secondary containment. The wastes are disposed of off site (SPU 2007e).

3.2.10.2 Historical Operations

Based on King County tax assessor records, it appears that the original Liquor Control Board warehouse was demolished prior to 1999 or significantly remodeled in 1999. Historical operations at the facility are not significantly different from current operations at the facility.

3.2.10.3 Regulatory History

Ecology performed a water quality and dangerous waste inspection at the facility in May 1992 (Ecology 1992d). Several violations and potential violations were noted during the inspection including:

- The facility discharged waste wash water from steam cleaning batteries and equipment to the storm drain catch basin and adjacent unpaved lot. Ecology directed the facility to cease all washing operations or make temporary arrangements to collect the wash water for treatment or disposal until a permanent wash water treatment system was installed on the property.
- Facility floors were washed with a caustic cleaning solution. Ecology recommended that the facility find an alternative floor cleaning method.
- The facility discharged spent antifreeze to the storm drain system. Ecology directed the facility to collect the spent antifreeze separately from other fluids and to either send the antifreeze off site for reprocessing or reprocess it on site for reuse at the facility.
- Drums of motor oil, transmission oil, waste oil, solvents, antifreeze, and other fluids were stored under cover but did not have secondary containment. Ecology directed the facility to provide secondary containment for the drums.
- The storm drain catch basins had heavy accumulations of dirt and were not cleaned regularly. Facility personnel indicated that when the catch basins were cleaned, the accumulated sediment was flushed down the storm drain line. Ecology directed the facility to clean the catch basins at least once per year and recommended hiring a drain cleaning company to maintain the drains regularly.
- Facility personnel could not access a potential oil/water separator (OWS) on the property and did not know which parts of the property drained to the structure. Ecology directed the facility to have the potential OWS cleaned by a qualified

contractor and to determine if it was an OWS or other separator and which areas of the property drained to the separator.

- Conveyer parts were stored outdoors in the parking lot. Ecology directed the facility to store the parts undercover to prevent stormwater from coming into contact with any oil, grease, or other contaminants that may have been present on the parts.

Ecology's letter indicates that METRO performed an inspection with regard to discharges to the sanitary sewer system at the facility (Ecology 1992d). Subsequently, the Liquor Control Board ceased battery and equipment cleaning operations and began corrective actions to address the remaining violations and potential violations described by Ecology (Liquor Control Board 1992a,b).

Ecology performed a follow-up inspection in December 1992. Drums were placed next to floor drains in the warehouse to collect broken bottles and their contents and to prevent glass and alcohol from entering the storm drain system via the floor drains. Spilled alcohol was diluted with water to METRO's standards for pH and then discharged to the sanitary sewer. A waste wash water treatment system for the equipment and battery wash water was present, but had not been installed. Facility personnel indicated that it would be connected prior to the next washing cycle. Standing water was observed in one storm drain catch basin on the west side of the building and debris was present around the drain. Equipment stored outdoors was covered with tarps and secondary containment pallets had been placed under the drums storing oils, solvents, antifreeze and other chemicals (Ecology 1992j).

In September and October 2003, SPU and METRO inspected the facility. At the time of the inspections, some vehicle maintenance was performed outdoors. Wash water from mop buckets was emptied outdoors. A drinking water fountain was plumbed to the storm drain system. Hazardous wastes and materials were not labeled properly. Scrap metal was stored outdoors without cover (SPU 2003g). SPU required the facility to improve spill plan and response procedures, cease discharge of wash water to the storm drain system, cover all materials and wastes stored outdoors to prevent contact with stormwater, and clean out the sump at the end of the battery washout station. SPU also provided information for recycling waste oil, fluorescent tubes, and industrial byproducts such as wood pallets and shrink wrap (SPU 2003i). SPU re-inspected the facility in March 2004 and determined that all corrective actions had been completed (SPU 2004c,d).

SPU performed an inspection of the facility in June 2007. Approximately 25 gallons of alcohol per day was discharged to the sanitary sewer system. The SPU inspector observed suds in some catch basins on the property and noticed sediment accumulation in the catch basins. Outdoor waste storage areas needed improvements. The drinking fountain plumbed to the outside had been removed (SPU 2007e). SPU required the facility to implement proper spill plan procedures, clean up cigarette butts on the property and provide containers for employees to properly dispose of cigarette butts, clean catch basins, provide secondary containment for all hazardous materials stored outdoors, and cease pressure washing activities that allowed wash water to enter the storm drain system (SPU 2007f). SPU re-inspected the facility in August and September 2007 and determined that all corrective actions had been achieved (SPU 2007g,h,i).

Ecology inspected the Liquor Control Board in October 2008 (Table 10). Ecology indicated that the facility may need to obtain coverage under the ISGP. Ecology directed the Liquor Control Board to improve spill procedures, training and parking lot housekeeping. The Ecology inspector noted accumulation of waste oils outside and containment pallets full of oil and water. Ecology also indicated that the facility may need a KCIW authorization to dispose of waste liquor to the sanitary sewer (Jeffers 2008f). The Liquor Control Board submitted completed compliance certificates to Ecology in January 2009; however, the facility has not been re-inspected (Jeffers 2009a).

EPA has sent a CERCLA Section 104(e) Request for Information letter to the Liquor Control Board.

3.2.10.4 Potential for Sediment Recontamination

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

Stormwater

Stormwater from this facility discharges to EAA-1 via the Diagonal Avenue S SD system; therefore, it is considered to be a potential source of sediment recontamination.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

3.2.10.5 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A follow-up facility inspection is needed to verify that compliance with the corrective actions identified by Ecology in October 2008 has been achieved.	Ecology will conduct a follow-up inspection at the Liquor Control Board. Ecology will determine if operations at the Liquor Control Board require coverage under the ISGP. Ecology will review the Liquor Control Board's response to the EPA CERCLA Section 104(e) letter.

4.0 Potential for Sediment Recontamination from CSCSL Properties within the Duwamish/Diagonal CSO/SD Basin

The Diagonal Avenue S CSO/SD serves an area of approximately 5,250 acres. A total of 65 CSCSL facilities are located in the CSO/SD basin. Stormwater from 40 of the 65 CSCSL properties drains to the LDW via the Diagonal Avenue S SD. The Diagonal Avenue S SD basin is divided into two sections, known as Diagonal West and Diagonal East (Figure 6).

Fifty-eight of the CSCSL properties are within the CSO basin (Figure 6). During periods of heavy rainfall, when the combined wastewater and stormwater flow exceeds the system capacity, the excess flow is discharged to the Diagonal Avenue S CSO structure. CSO discharges contain a mixture of wastewater and stormwater, with stormwater generally comprising the majority of the flow. Wastewater may carry concentrations of sediment COCs, particularly from those facilities that are permitted to discharge industrial wastes to the sanitary sewer (e.g., Seattle Barrel & Cooperage [Seattle Barrel]). Chemical residues present in catch basins on these properties or on adjacent roadways may become dissolved or suspended in stormwater. Contaminants suspended in the combined sewer discharge (if any) may be conveyed to EAA-1 during a CSO event.

Chemical concentrations in the combined sewer discharge are likely to be heavily diluted prior to discharge to the LDW. Therefore, the potential for sediment recontamination via this pathway is likely to be lower than for direct discharges from adjacent facilities and the stormwater drainage basin. However, given the frequency of discharge from the Diagonal Avenue S CSO (approximately 30 times per year with an average discharge of 34.6 mgy; Table 8) the cumulative effects of CSO discharges could contribute to recontamination of EAA-1 sediments.

Due to the distance between these facilities and the LDW, the potential for sediment recontamination via soil and groundwater is very low. Contaminated soil or groundwater may infiltrate to the combined sewer system, contributing to potential contaminant loads in the combined sewer discharge.

Soil and groundwater at several properties are contaminated with VOCs or petroleum hydrocarbons. While these contaminants are not sediment COCs, at sites where VOCs and petroleum products are present in the subsurface, naturally occurring arsenic in soil can be mobilized and migrate into groundwater (Harter and Rollins 2008). Arsenic is a COC for LDW sediments.

Aerial photographs of the tax parcels discussed in this section are included as Appendix B-2.

4.1 Summary of Data Gaps and Action Items for CSCSL Properties

Data gaps and action items were identified for the CSCSL properties located within the Duwamish/Diagonal CSO/SD basin. The data gaps and action items are presented in this section.

4.1.1 Summary of Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the facilities on the CSCSL in the Duwamish/Diagonal CSO/SD basin is listed below. Some of this information can be obtained during a business inspection or by reviewing responses to EPA requests for information.

- Information regarding any historical and/or ongoing industrial activities is needed to verify that these facilities are in compliance with all applicable regulations and BMPs.
- Information on how and where any hazardous materials, chemicals, or hazardous wastes are stored or used at these facilities is needed to evaluate the potential for spills to commingle with wastewater and stormwater.
- Facility plans showing the locations of floor drains, catch basins, sewer connections and storm drains (if any) are needed to evaluate the potential for contaminants suspended in wastewater and stormwater (if any) to be transported to the LDW via combined sewer discharges.
- Information regarding any containment systems at these properties to evaluate the adequacy of the systems and determine the potential for spills to commingle with wastewater and stormwater.

In addition, information on the materials used to construct storm drain and sanitary sewer lines in this area and the age of the storm drain and sanitary sewer lines would be useful to assess the potential for contaminated groundwater to infiltrate the combined sewer system.

Facility-specific data gaps are provided at the end of each facility section below.

4.1.2 Summary of Action Items

Action items identified for the CSCSL properties are listed below by action item category.

4.1.2.1 Business Inspections

Facility inspections have either not been performed by Ecology or SPU at the following properties or new businesses or new activities have been introduced at a facility since the last inspection. Initial facility inspections are needed at:

- Bamboo Hardwoods (former Washington Trucking Association [WTA] property);
- Brunzer LLC, Snarf LLC, and Sleepy Koala LLC (former Belshaw Brothers property);
- Crosscut Hardwoods (Warehouse Site)
- Former Jim's Auto Repair (current operations are unknown);
- Mailhandlers (new activity, Spear Trust Warehouse);
- Pacific Northwest Theatre Associates, Inc. (PNTA, new activity, Alaska Street Property and Alaska Street Property 2);

- Ralph's Concrete (current operations are unknown);
- Rising Produce Fruit and Vegetable (former Seattle Technical Finishing);
- Seattle City Light (SCL) – 4th Avenue South Facility (current operations are unknown);
- Sound Transit Maintenance and Operations facility (former Rainier Brewery); and
- Tiny's Organic (former Ocean Beauty Seafood also known as [aka] Perfection Smokery).

Corrective actions were identified at the following facilities during recent inspections. Follow-up inspections are needed at the following properties:

- FedEx Express BFIA,
- Seattle Barrel,
- Seattle Radiator, and
- the Swanson Property.

The remaining properties listed on the CSCSL may be inspected by Ecology and/or SPU as appropriate under various inspection programs such as the Urban Waters Initiative or HWTR inspections.

4.1.2.2 Review Responses to EPA CERCLA Section 104(e) Request for Information Letters

EPA has sent CERCLA Section 104(e) Request for Information letters to the operators or property owners for the following properties on the CSCSL:

- Rainier Commons (former Rainier Brewery),
- Tully's Coffee (former Rainier Brewery),
- Seattle Barrel & Cooperage, and
- Former Totem Equipment and Seattle Radiator (occupy same property).

Ecology will review the information submitted in response to EPA's CERCLA Section 104(e) Request for Information letters, to determine if historical or current operations at the properties represent a potential source of contaminants to EAA-1 sediments.

4.1.2.3 Industrial Stormwater General Permit

During recent inspections, Ecology indicated that the following facilities should obtain coverage or be evaluated for coverage under the ISGP:

- Cascade Designs (former Van Waters & Rogers [VW&R]/former Univar USA, Inc. property), and
- FedEx Express BFIA.

Ecology will complete its evaluation of operations at these facilities and, if appropriate, will require them to apply for coverage under the ISGP.

4.2 CSCSL Properties within the Diagonal Avenue S SD Basin

Stormwater from these properties drains to EAA-1 via the Diagonal Avenue S SD (Figure 5). Soil and/or groundwater contamination has been confirmed at the properties listed on the CSCSL; additional information regarding the contamination is included in the facility-specific descriptions. These properties are not located within the Diagonal Avenue S CSO basin.

The facilities listed on the CSCSL are presented in alphabetical order. The word "former" was ignored for the purpose of alphabetizing the facility names.

4.2.1 Alaskan Copper Works – 6th Avenue S Facility

Facility Summary: Alaskan Copper Works – 6th Avenue S Facility	
Tax Parcel No.	1327300012, 1327300065, 1327300066, 7666203736, 7666203765, 7666203785, 7666204155; 7666204171, 7666204172, 7666204175, 7674800055, 7674800075
Address	Operating: 3200 6th Avenue S 0012: 3300 6th Avenue S 0055: 3223 6th Avenue S 0065: 3317 6th Avenue S 0066: 3301 6th Avenue S 0075: 300 S Horton Street 3736: 2958 6th Avenue S 3765: 3200 6th Avenue S 4155: 3405 6th Avenue S 3785 & 4171: None 4172 & 4175: 400 S Hanford Street
Property Owner	0012, 0075, 3785, 4172, & 4175: ALCO Investment Company 0055, 0065, & 4155: Alaskan Copper Works 0066, 3765 & 4171: Rosen Investment Company 3736: Nesor Investment Company
Parcel Size	0012: 1.65 acres (71,979 sq ft) 0055: 1.53 acres (66,842 sq ft) 0065: 0.56 acre (24,300 sq ft) 0066: 0.99 acre (43,200 sq ft) 0075: 0.16 acre (7,108 sq ft) 3736: 2.38 acres (103,709 sq ft) 3765: 2.76 acres (120,163 sq ft) 3785: 2.11 acres (92,112 sq ft) 4155: 1.80 acres (78.570 sq ft) 4171: 0.35 acre (15,300 sq ft) 4172: 0.01 acre (470 sq ft)

Facility Summary: Alaskan Copper Works – 6th Avenue S Facility	
	4175: 0.03 acre (1,260 sq ft)
Facility/Site ID	2233
SIC Code(s)	3317: Steel Pipe and Tubes 3443: Fabricated Plate Work (Boiler Shops) 3498: Fabricated Pipe and Fittings
EPA ID No.	WAD980738546
NPDES Permit No.	SO3-000139
KCIW Discharge Permit/Authorization No.	7238 Permit
UST/LUST ID No.	None
Map/Map ID	B4/239

Alaskan Copper Works has facilities in several buildings located on several parcels on 6th Avenue S and S Hanford Street (Ecology 1996f; Alaskan Copper Works 2001). The Alaskan Copper Works facility is bordered by 5th Avenue S and UPRR and Burlington Northern Santa Fe (BNSF) easements to the west, S Hanford Street to the north, the Sound Transit Maintenance and Operations facility to the east (Section 4.3.10), and the WA Department of Transportation (WSDOT) – Spokane Street Maintenance Facility (Section 6.2.3) and other businesses to the south. The property is in the Diagonal West SD basin.

King County tax assessor records indicated the following information regarding each parcel:

- Parcel 0012: A 32,400 sq ft transit warehouse constructed in 1955 is located on this parcel. Four new building permits have been issued for the property: No. 734751 (April 2003), No. 736812 (July 2003), No. 738027 (September 2003), and No. 748595 (March 2005).
- Parcel 0055: Two light industrial manufacturing buildings are located on this parcel: a 2,400 sq ft building constructed in 1950 and a 41,308 sq ft building constructed in 1952.
- Parcel 0065: One building is located on this parcel, a 17,550 sq ft plate processing building constructed in 1975.
- Parcel 0066: One building is located on this parcel, a 32,400 sq ft warehouse constructed in 1979.
- Parcel 3736: Two buildings are located on this parcel: a 9,236 sq ft storage warehouse and office constructed in 1951 and a 4,290 sq ft repair garage constructed in 1944.
- Parcel 3765: Four buildings are located on this parcel: a 7,200 sq ft office and 21,520 sq ft warehouse, both constructed in 1946; and two light industrial manufacturing buildings constructed in 1970. The light industrial manufacturing buildings are 53,760 sq ft and 4,426 sq ft in area.
- Parcel 3785: Vacant
- Parcel 4155: Four buildings are located on this parcel: a 5,913 sq ft office building constructed in 1946, a 23,430 sq ft light industrial manufacturing building constructed

in 1946, a 1,000 sq ft storage warehouse constructed in 1946, and a 18,710 sq ft light industrial manufacturing building constructed in 1984.

- Parcel 4171: Based on aerial photographs available from King County iMap, it appears that Alaskan Copper Works uses this parcel as a storage yard (Appendix B-2).
- Parcels 0075, 4172, and 4175: The property is described as a "right-of-way/utility, road" in King County tax records. Based on aerial photographs, railroad tracks are located on these parcels (Appendix B-2)

A portion of the properties owned by Alaskan Copper Works, ALCO Investment Company, Rosen Investment Company, and Nesor Investment Company are under development for Sound Transit Link light rail system (Link light rail) (Ecology 2006h).

4.2.1.1 Current Operations

Alaskan Copper Works manufactures nonferrous metals, stainless steel, copper, and aluminum and products such as pipes and pipe fittings (Ecology 2003c). Building information and operations are shown on Figure 7 and are summarized below:

Building	Use	Hazardous Waste or Chemical Storage Area	Catch Basins (CB)/ Floor Drains (FD)	Storm Drain (SD)/ Sanitary Sewer (SS)	Containment
628 S Hanford Street	Vehicle and shop maintenance facility with a solvent parts washer, 90-day accumulation area and satellite collection areas are located behind the building	Hazardous Waste & Chemical	CB	Combined SD/SS	Dykes and secondary containment
2958 6th Avenue S	Office & storage warehouse – no hazardous substances or pollutants are stored in significant amounts	No	CB	Combined SD/SS	None
3200 6th Avenue S	Manufacturing shop with wastewater treatment system, solvent parts washer, X-ray testing and development, and a 90-day accumulation area	Waste treatment & chemical storage, dust and particulate generating process	CB, FD	CB and FD discharge to SS, roof drains to SD	Dykes and secondary containment
3223 6th Avenue S	Sales office and materials warehouse - no hazardous substances or pollutants are stored in significant amounts	None	CB	Combined SD/SS	None
3301 6th Avenue S	Plate Shop - no hazardous substances or pollutants are stored in significant amounts	None	No information	No information	None

Building	Use	Hazardous Waste or Chemical Storage Area	Catch Basins (CB)/ Floor Drains (FD)	Storm Drain (SD)/ Sanitary Sewer (SS)	Containment
3317 6th Avenue S	Plate shop with plasma cutting tables, 90-day accumulation area is located between the 3301 and 3317 buildings.	Hazardous Waste, dust and particulate generating process	FD, CB	Roof drains to SD, catch basins in alley shared with 3405, drain to SD	Dykes and secondary containment
3405 6th Avenue S	Fabrication Shop	Dust and particulate generating process	FD	No information	Dykes and secondary containment

Alaska Copper & Brass Company is operated by Alaskan Copper Works. Alaska Copper & Brass facilities are located at 3600 East Marginal Way S (Alaskan Copper Works 2001). The Alaska Copper & Brass facilities are located outside the Duwamish/Diagonal CSO/SD basin.

Materials Used in Operations

Raw chemicals used in operations include: nitric acid, sodium hydroxide, and ammonium fluoride (Rosen 1994).

Waste Streams

Plasma cutting generates a waste sludge or cutting slag that is classified as a hazardous waste. According to a 1996 Ecology inspection report, the 90-day accumulation area for drums of plasma cutting sludge is staged near a storm drain between buildings 3301 and 3317. When the slag is recovered from the plasma cutting tables and drummed, it contains water. The water is decanted from the drums over a period of a few days to two weeks (Ecology 1996f). The resulting solid chrome cake sludge is sent to a facility in Arizona for chrome reclamation. Filters from the parts washers are classified as a hazardous waste due to chrome concentrations. The filters are disposed of by a contractor (Ecology 2003c).

Spent x-ray developer and rinse water are discharged to the sanitary sewer. Spent developer is processed through an electrolytic silver recovery unit prior to discharge. Spent acid, caustic, and rinse water are treated in the wastewater treatment system prior to discharge to the sanitary sewer. The treatment includes pH adjustment, flocculation, and filter press (Ecology 1996f).

Other wastes generated at the facility include paints, solvents, cutting oils, lubricants, used rags, waste aerosols and oil, hydrochloric acid, and fluorescent light tubes. These wastes are accumulated at the 628 building 90-day accumulation area. As of the 2003 inspection, this area had secondary containment (Ecology 1996f, 2003b).

4.2.1.2 Historical Operations

Alaskan Copper Works has operated since 1913. The company first occupied the facilities at the 6th Avenue S location in the 1950s and began fabrication of products at this location in the 1970s (Ecology 1994c).

In July 1982, Alaskan Copper Works notified the EPA that the facility generated hazardous wastes (Alaskan Copper Works 1982). In February 1985, the company requested to have its EPA ID No. WAD980738546 withdrawn; the facility did not generate any dangerous wastes during 1984 (Alaskan Copper Works 1985a,b). Following an Ecology inspection in June 1989, Alaskan Copper Works requested that the number be reactivated because spent pickle liquor and sludge dangerous wastes were generated at the facility every 4 to 7 years (Alaskan Copper Works 1989).

A wastewater treatment system was installed at the facility in 1984 to treat wastewater prior to discharge to the sanitary sewer. A pickling tank and rinse water tank were located in the pickling shop for dipping steel parts. Rinse water overflows discharged to a sump that was plumbed to the wastewater treatment system. The treatment system was covered and spill containment beam was constructed around the main holding tank (Ecology 1985b). The system does not treat spent pickle liquor (Ecology 1989b).

SCL documented PCB levels in two of three transformers serving the Alaskan Copper Works facility. PCB concentrations in the transformers ranged from 3.0 to 11.2 parts per million (ppm). The third transformer was not tested for PCBs because the nameplate indicated that it contained mineral oil (SCL 1989a).

Waste Streams

1970s: Rinse water from a nitric hydrofluoric acid tank was discharged through a lime bed to the sewer system (METRO 1971). Alaskan Copper Works discharged approximately 15,000 to 20,000 gallons per day (gpd) of rinse water to the sanitary sewer in the early 1970s (Alaskan Copper Works 1971).

1980s: sludge from treatment of spent pickle liquor, waste nitric acid, solid ammonium fluoride salt, chromium, and copper wastes (USEPA 1981, 1982).

4.2.1.3 Regulatory History

1970s

In 1971, METRO sampled the point where rinse water from a nitric hydrofluoric acid tank were discharged to the sewer and analyzed the sample for pH and metals. METRO indicated that the discharge was compliant with applicable regulations at that time (METRO 1971).

In February 1972, Ecology issued waste discharge permit no. 3967 to Alaskan Copper Works allowing for discharge of up to 20,000 gpd of rinse water to the sanitary sewer. The facility was required to sample the rinse water for chromium at least once a month (Ecology 1972).

Waste discharges exceeded METRO limits for copper in November 1976 (METRO 1977); for pH in May, October, and December 1978, and July 1979 (METRO 1978a,b, 1979a,b); for chrome, copper, and nickel in October 1978 (METRO 1978b); and for nickel in December 1978 (METRO 1979a).

1980s

In March 1981, the EPA issued an emergency EPA ID number, WAP000008103, to allow Alaskan Copper Works to transport hazardous waste off the property. The emergency EPA ID number was for the disposal of wastes that had been accumulating since 1965 (USEPA 1981).

Waste discharges exceeded METRO limits for pH in February 1980 and March 1981 (METRO 1980a, 1981a); and for chrome, copper, and nickel in February and June 1980, May and September 1981, and September 1982 (METRO 1980a,b, 1981b,d, 1982).

In May 1984, Ecology performed a Resource Conservation and Recovery Act (RCRA)/Dangerous Waste Compliance Inspection at Alaskan Copper Works. The facility was in compliance with Washington State Dangerous Waste Regulations (Ecology 1984).

In July 1984, sediment from the stainless steel treatment operations were found to be non-hazardous and were approved for disposal at a local landfill (SKCDPH 1984).

In March 1985, Ecology performed a Dangerous Waste Compliance inspection at Alaskan Copper Works. The inspection was performed in response to a complaint that the company was placing sludge in a solid waste dumpster. The inspectors found that the sludge had been cleared for disposal in the dumpster by SKCDPH (Ecology 1985a).

In January 1987, chrome and nickel concentrations in discharges to the sanitary sewer exceeded METRO discharge permit limits. METRO directed Alaskan Copper Works to increase self-monitoring to one composite effluent sample per week and to take corrective actions to prevent future exceedances (METRO 1987).

In June 1989, Ecology performed a Dangerous Waste Compliance inspection at the Alaskan Copper Works facility. Several drums were labeled with hazardous waste stickers, but no accumulation dates were listed. Liquid from rusted drums appeared to have leaked into the subsurface near the 3223 building (Ecology 1989b).

In November 1989, Alaskan Copper Works informed Ecology that soil contaminated with nitric acid and sodium hydroxide solutions had been discovered under the concrete floor of a storage area (Ecology 1989f).

1990s

In January 1990, METRO issued Discharge Permit No. 7238 to Alaskan Copper Works at 3200 Sixth Avenue South, Seattle (METRO 1990). The permit was renewed in February 1995 (METRO 1995a).

In December 1992, Ecology granted coverage under the Storm Water Baseline General Permit to Alaskan Copper Works at 3200 6th Avenue S (Ecology 1992k). The permit was renewed in December 1995 (Ecology 1996a).

In September 1993, Alaskan Copper Works reported to METRO a copper exceedance in discharge to the sanitary sewer. METRO inspected the facility and found that the corrective actions taken to prevent future violations were acceptable and took no further action on the violation (METRO 1993c).

In June 1995, METRO issued a Compliance Order to Alaskan Copper Works following discharge violations in March and April 1995. Concentrations of chromium, copper, and nickel exceeded the discharge permit limits (METRO 1995b).

In August 1996, Ecology performed a Dangerous Waste Compliance inspection at the facility. Ecology directed the company to provide secondary containment for the 90-day and satellite accumulation areas at the 3317 and 628 buildings and to comply with the requirements of a satellite accumulation area. The requirements were not being met because the wastes were not at or near the point of generation, were not under the control of operator of the process that generated the waste, and the wastes were not secured to prevent improper or unauthorized access to the wastes (Ecology 1996f).

2000s

The facility's KCIW discharge permit was renewed in February 2000 (King County Department of Natural Resources [KCDNR] 2000a). The permit was renewed in February 2005 and is valid through February 2010 (KCDNR 2005a).

The facility's NPDES permit was renewed in November 2000 (Ecology 2000i).

SPU performed a stormwater pollution prevention inspection at the facility in April 2001. No corrective actions were required (SPU 2001b).

In February 2003, Ecology performed a Dangerous Waste Compliance inspection. Ecology determined that the facility needed to improve weekly inspection records of the hazardous waste storage areas and to improve labeling of storage containers (Ecology 2003c). Alaskan Copper Works satisfactorily corrected the items of non-compliance by May 2003 (Ecology 2003f).

SPU and KCIW performed a joint inspection of the facility in June 2003. The inspectors noted that housekeeping at the facility was excellent and no corrective actions were identified (SPU 2003a,d). A follow-up inspection was performed in September 2003 by SPU (Schmoyer 2009b). SPU determined the facility was in compliance (Table 9).

In October 2006, Ecology performed a Dangerous Waste Compliance inspection. The outdoor storage yards were cluttered because a portion of the property had been transferred to the light rail project. Alaskan Copper Works was in the process of finding additional property to create an adequate storage yard. Ecology inspectors noted several non-compliant items in the storage yard including improper labeling, lack of secondary containment for an oil drum, and chrome cakes

placed on the asphalt with no containment. Operations inside the facility were compliant with applicable dangerous waste regulations (Ecology 2006h). In November 2006, Alaskan Copper Works notified Ecology that it had completed all corrective actions (Alaskan Copper Works 2006).

In April 2008, Ecology performed a Stormwater Compliance inspection at the 3200 6th Avenue S facility. Uncovered drums of copper and copper-alloy grindings were stored outside, posing a threat to stormwater quality. A cardboard compactor was leaking hydraulic fluid. A petroleum spill was observed by a loading bay. The spill had not been properly cleaned up. Floor drains in the buildings on the west side of 6th Avenue S were not adequately or correctly mapped on facility plans. Stormwater was collecting in an uncovered diesel tank; a hole cut in the concrete containment structure around the tank appears to connect the system to the storm drain system. Petroleum staining was observed on the dirt under feed lines to waste oil tank in the maintenance shop. Significant petroleum accumulation was observed under pallets in the fenced hazardous waste area; Ecology inspectors noted that stormwater could carry contaminants to an unpaved area east of the hazardous waste area. Stormwater from the area is conveyed to the sanitary sewer (Ecology 2008d).

SPU performed a follow-up inspection in July 2008 (Table 9). The facility was in compliance (Schmoyer 2009b). The inspection report was not reviewed.

4.2.1.4 Environmental Investigations and Cleanups

Two environmental investigations have been conducted at Alaskan Copper Works.

Geotechnical Engineering Study (1989)

The geotechnical study was performed prior to the construction of an 8,000 sq ft building addition at the south end of the 3405 building. One exploratory soil boring was advanced. Groundwater was encountered in the boring at 12.5 feet bgs (Earth Consultants 1989a). The soil collected at 12.5 feet bgs had an apparent sheen and hydrocarbon odor (Earth Consultants 1989b).

Soil Assessment (1990)

In July 1990, one soil boring was advanced adjacent to the 1989 geotechnical soil boring. One soil sample was collected and analyzed for BTEX and TPH. No analytes were detected in the soil sample (Sweet-Edwards 1990).

4.2.1.5 Potential for Sediment Recontamination

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

Stormwater

The 2008 Stormwater Inspection report indicates that Ecology inspected the facility in April 2007. Ecology and SPU performed a dye test at the Alaskan Copper Works property in May 2007 to determine which catch basins at the facility discharge to the storm drain system (Ecology 2008d). Results from the 2007 dye testing were not available for review.

Stormwater from this facility is conveyed to the LDW and the sanitary sewer. Housekeeping practices at the facility during the 2008 stormwater compliance inspection were questionable and Ecology identified potential threats to stormwater from exposed copper wastes. Based on the available information, it appears that contaminants at the Alaskan Copper Works facility may be transported to the LDW via stormwater.

Soil and Groundwater

Very limited information on potential soil and groundwater contamination beneath the facility was available for review. Previous investigations have focused on potential petroleum contamination in soil and groundwater beneath the facility; however, no investigations have been performed to assess other environmental contaminants, such as metals, in soil and groundwater. The facility is approximately 0.75 mile east of the LDW. The potential for sediment recontamination via the soil and groundwater pathways are unknown, but is likely to be very low due to the distance between the facility and the LDW.

4.2.1.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A review of the 2007 dye testing data is needed to determine which catch basins at the facility are discharging to the storm drain system.	Ecology and/or SPU will review the results from the 2007 dye testing to determine which catch basins are discharging to the storm drain system.
	Updated facility plans are needed to determine the locations and plumbing of floor drains in the buildings located on the west side of 6th Avenue S.	Ecology will require Alaskan Copper Works to submit an updated facility plan.

4.2.2 Seattle City Light – South Service Center

Facility Summary: Seattle City Light – South Service Center	
Tax Parcel No.	7666205660, 7666205760
Address	Operating Address: 3613 4th Avenue S 5660: 400 S Spokane Street 5760: None
Property Owner	Seattle City Light

Facility Summary: Seattle City Light – South Service Center	
Parcel Size	5660: 19.03 acres (828,810 sq ft) 5760: 2.30 acres (100,175 sq ft)
Facility/Site ID	2171
SIC Code(s)	4911: Electric Services
EPA ID No.	WAD980726384
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	179 – Authorization, minor
UST/LUST ID No.	8827 (LUST-Inactive, UST-Active)
Map/Map ID	A4/208

SCL – South Service Center occupies two large parcels in the Diagonal West SD basin (Figure 8). The property is bordered by 2nd Avenue S and the Cascade Designs property (Section 4.3.21) to the west, S Spokane Street to the north, 4th Avenue S and the SCL 4th Avenue South Facility (Section 4.3.15) and parking to the east, and Diagonal Avenue S to the south. The former WTA properties (Section 4.3.23) are southeast of the South Service Center.

According to King County tax assessor records, there are five buildings on parcel 5660:

- A 179,161 sq ft office building constructed in 1924,
- A 50,000 sq ft garage constructed in 1965,
- A 1,292 sq ft office building constructed in 1962,
- A 7,620 sq ft warehouse constructed in 1954, and
- A 4,040 sq ft garage constructed in 1999.

Multiple permits have been issued for this property.

- Remodel (Permit No. Unknown) on September 17, 1996,
- Remodel Permit No. 698839 on May 7, 1998,
- Remodel Permit No. 704093 on January 29, 1999, and
- New Accessory Permit No. 6102559 on July 12, 2006.

Parcel 5670 is used as a storage yard. The parcel is bisected by Diagonal Avenue S.

4.2.2.1 Current Operations

The SCL South Service Center maintains SCL's fleet of vehicles (Parametrix 1991). There are currently three operational USTs at the property: two gasoline USTs and one diesel UST. The USTs are located at the Fueling Center in the northwest corner of the property, north of Maintenance Building B (Figure 8). The South Substation is located at the southeastern corner of the property. A pole yard is located in the southwest portion of the property (SKCDPH 2001a). The facility accepts hazardous and moderate-risk waste (MRW) generated during SCL

operations. These wastes are transferred off site for disposal. The MRW facility is located immediately north of the pole yard (SCL 1993c).

Catch basins are located in the pole yard, the South Substation, and the salvage yard, which is north of the MRW facility (Boateng 1997). The application for the construction of the MRW facility indicates that these catch basins convey stormwater to the LDW via the municipal storm drain system. The MRW facility has sloped flooring toward two central floor drains to collect any spilled chemicals and prevent discharge of wastes to the storm drain (SCL 1993a).

4.2.2.2 Historical Operations

1980s

A product used in cooling towers at the facility, Microcide CA-39, was confirmed to be toxic to fish. The cooling water was pumped to the storm drain (SCL 1980). Ecology recommended re-directing the discharge to the sanitary sewer because the concentration of Microcide CA-39 in the cooling water was unknown (Ecology 1981). METRO tested the effluent cooling water and approved of its discharge to the sanitary sewer (METRO 1981c).

In 1983, the South Service Center requested Ecology's assistance in characterizing pesticide and herbicide wastes prior to disposal. Ten different herbicides, 34 pesticides, and a plastic bag containing seven pounds of an unknown substance were documented (Ecology 1983).

In May 1985, SCL planned to scrap an unknown number of transformers, which had previously contained oil with up to 5 ppm PCBs and were stored at the South Service Center (SCL 1985a). The transformers were transferred to Ross Electric in Chehalis, Washington, where they were scrapped and incinerated (Ross Electric 1985). A July 1985 letter indicates that the South Service Center had at least 350 transformers awaiting disposal and that it was receiving approximately 150 transformers for disposal each month. SCL disposed of oil with less than 50 ppm PCBs through Petroleum Reclaiming (SCL 1985b).

1990s

As of 1991, 90 percent of the hazardous materials and wastes used or generated at the South Service Center included:

- Wood treated with pentachlorophenol or creosote;
- Solvents, alcohols, and fuels;
- Acids and bases;
- Oils, greases, and lubricants; and
- Paints, coatings, and sealants.

In 1991, 40 percent of SCL's hazardous waste stream was composed of PCBs (SCL 1992).

The processes at the South Service Center that involved hazardous materials and generated hazardous wastes included:

- Appliance Repair,
- Station Crews,
- Electric Services Division,
- Carpentry Shop,
- Electric/Bushing/Transformer Repair Shop,
- Machine Shop,
- Paint Shop, and
- Steel Shop.

Disposal of wood poles and cross arms generated the greatest volume of hazardous waste in 1991. This work was performed by the Electric Services Division. The Machine Shop had lathes, mills, and grinders (SCL 1992, 1993b). Scrap metal and dust wastes would have been generated while using this machinery.

4.2.2.3 Regulatory History

In October 1989, METRO issued a Metro Discharge Authorization for Minor Dischargers to the South Service Center (METRO 1989b).

In July 1993, SKCDPH proposed a Determination of Non-Significance related to upgrading the South Service Center to contemporary standards for hazardous waste handling and to include MRW (SKCDPH 1993).

In January 2000, SCL requested approval from Ecology to store dioxin-bearing wastes for a period longer than 90 days, due to scheduling delays with the disposal contractor (SCL 2000). Ecology approved the request (Ecology 2000a).

In 2001, SKCDPH performed a Site Hazard Assessment for the South Service Center. The facility was given a 5 ranking, indicating the lowest relative risk (SKCDPH 2001a).

Ecology inspected the MRW facility in March 2009 (Table 10) as part of the Urban Waters Initiative. No corrective actions were identified for the facility (Jeffers 2009b).

4.2.2.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the South Service Center.

Groundwater Monitoring – Pole Yard (1986 to 1996)

Groundwater monitoring was initiated at the pole yard in 1986 after soil sampling and analysis indicated the presence of pentachlorophenol, creosote, chlorinated dioxins and furans, and PCBs in surface soils. The pole yard was capped with asphalt and four groundwater monitoring wells were installed. Groundwater flow direction was consistently to the southwest during 10 sampling events over the course of 8 years. Analytical results from the last sampling event in November 1996 indicated that PCBs were no longer present in groundwater beneath the pole yard. Pentachlorophenol was detected in one well at an estimated concentration of 0.040 micrograms per liter (µg/L) (Boateng 1997).

UST Removal (1989)

Five USTs (two 3,000-gallon gasoline and three 500-gallon lube oil) were removed from the north side of Maintenance Building B in 1989. One of the gasoline USTs had been out of service and empty since 1986. Soil samples collected around the gasoline USTs were analyzed for TPH. TPH was not detected. The gasoline USTs and two of the three lube oil USTs were removed in a single excavation. After contaminated soil on the east side of the excavation was removed, an oily sheen was observed on groundwater in the excavation; however, confirmation soil samples indicated that TPH was not present above cleanup levels (SCL 1989b).

Groundwater Monitoring Well Installation – UST Complex (1990)

On April 4, 1990, diesel fuel was spilled during UST filling operations. Stained pea gravel was removed to depths between 4 and 9 feet around the UST. A recovery well was installed in the pea gravel and a vacuum truck was used to recover the product. Approximately 90 to 120 gallons of product were recovered from the subsurface (Dalton, Olmsted, & Fuglevand, Inc. 1990). SCL estimated that approximately 125 gallons of diesel were spilled (SCL 1990). Two additional gallons were recovered in June and July 1990 (Parametrix 1991).

Four groundwater monitoring wells were installed to the north of Maintenance Building B around the UST system and the emergency product recovery well, installed in April 1990, was abandoned. Soil samples were collected from each well boring for laboratory analysis. TPH was detected only in well MW-3, at a concentration below Model Toxics Control Act (MTCA) Method A cleanup levels. Foreign objects such as bricks, glass, charred wood, metal, and ceramic material were encountered in the subsurface (Parametrix 1991).

Groundwater elevations measured in the new wells indicated that groundwater flowed to the south. TPH concentrations in groundwater exceeded the MTCA Method A cleanup level (Parametrix 1991).

Groundwater Monitoring – UST Complex (1990 to 1992 and 2004 to 2006)

Groundwater monitoring wells at the UST complex were monitored on a quarterly basis from October 1990 to at least December 1992. TPH concentrations were below MTCA Method A cleanup levels during all four quarters of 1992 (Boateng 1993).

The wells were redeveloped and sampled in December 2004 prior to the installation of a new UST. Groundwater samples were analyzed for TPH and BTEX. No analytes were detected in the groundwater samples (HWA Geosciences, Inc. 2005). The wells were resampled in May 2006 following UST upgrade activities. Groundwater samples were analyzed for TPH and BTEX. No analytes were detected in the groundwater samples (HWA Geosciences, Inc. 2006).

Soil Assessment – Substation Building and Breakers (1994)

Twenty-five surface soil samples were collected in the southeastern corner of the property between the rail spur and the South Substation building. Soil samples were collected around breakers, Banks 91 and 92, and adjacent to three potential transformers. The samples were

analyzed for TPH and PCBs. PCBs were detected in the soil sample collected adjacent to Breaker 240-84; SCL excavated soil to 1 foot bgs to remove contaminated soil and gravel. Confirmation samples indicated that all PCB-contaminated soil was removed from the surface. TPH was present above MTCA Method A cleanup levels adjacent to Breaker 240-8. After additional excavation in the area, TPH contamination remained in soil (Boateng 1994).

Seven soil borings were advanced around the TPH-contaminated area to delineate the lateral and vertical extents of contamination. TPH concentrations exceeded the MTCA Method A cleanup level in one soil boring. TPH contamination was present from the surface to 6 feet bgs. PCBs were detected at low concentrations (less than 1 milligram per kilogram [mg/kg]) in soil (Boateng 1994).

UST Removal and Upgrade (2005)

UST removal and upgrade activities were performed at the UST complex in October 2005. A 2,000-gallon diesel UST was removed and replaced with a 4,000-gallon diesel UST. Two 400-gallon lube oil USTs were removed and replaced with a single 1,000-gallon AST. A 400-gallon waste oil UST was removed and two gasoline dispensers were replaced. Upgrades were made to two gasoline USTs.

The four diesel and oil USTs were removed in two excavations. An oily sheen was present on groundwater in the diesel UST excavation. TPH-diesel exceeding the MTCA Method A cleanup levels were present in groundwater from the diesel UST excavation and in soil beneath the dispenser excavation. Soil samples collected from the waste oil UST excavation were analyzed for PCBs. PCBs were not detected. An observation well was installed in the diesel UST excavation and sampled in November 2005. TPH-diesel was not detected in the sample. Benzene was detected above the MTCA Method A cleanup level in a soil sample collected beneath the waste oil tank. A remedial excavation was performed and confirmation samples indicated that detectable benzene had been removed (GS Associates 2006).

4.2.2.5 Potential for Sediment Recontamination

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

Stormwater

Stormwater from this facility drains to the LDW and some activities at the facility use hazardous materials and generate hazardous waste; these may have the potential to enter the storm drain system. The facility was inspected in March 2009 and no corrective actions were identified. There is potential for sediment recontamination via this pathway; however, SCL appears to implement appropriate source control actions and stormwater pollution prevention BMPs.

Soil and Groundwater

Based on the available information, contamination in soil and groundwater at the South Service Center has been remediated, with the exception of petroleum hydrocarbon contamination at the

UST complex. Petroleum hydrocarbons are not considered a COC for the sediments associated with EAA-1. The potential for sediment recontamination via this pathway is very low.

4.2.2.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.2.3 Seattle Public Utilities Operations Center

Facility Summary: Seattle Public Utilities Operations Center	
Tax Parcel No.	7666203010, 7666203011
Address	Operating: 2700 Airport Way S 3010: 918 S Lander Street 3011: 2548 Airport Way S
Property Owner	3010: City of Seattle/SPU Real Property 3011: Young Real Estate Investments, LLC
Parcel Size	3010: 5.39 acres (234,790 sq ft) 3011: 0.37 acre (16,251 sq ft)
Facility/Site ID	2376
SIC Code(s)	4941: Water Supply 7538: General Automotive Repair Shops
EPA ID No.	WAD980981229
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	774 – Authorization, minor
UST/LUST ID No.	7925
Map/Map ID	B3/265

The SPU Operations Center occupies two parcels in the Diagonal West SD basin. The properties are bordered by Airport Way to the west, Phelps Tire Company to the north, Interstate 5 (I-5) to the east, and a Central Puget Sound Regional Transit Authority (CPSRTA) right-of-way to the south and the former Rainier Brewery properties to the west and south (Section 4.3.10). An overhead I-5 off-ramp crosses the southern portion of parcel 3010 (Appendix B-2).

According to King County tax assessor records, there are four buildings on parcel 3010:

- A 11,274 sq ft light industrial manufacturing building constructed in 1966 (tax assessor records indicate this is part of SPU building #2),
- A 29,273 sq ft office building constructed in 1973 (tax assessor records indicate this is part of SPU building #1),
- A 38,167 sq ft storage warehouse constructed in 1973 (tax assessor records indicate this is part of SPU building #1), and
- An 8,400 sq ft light industrial manufacturing building constructed in 1973 (tax assessor records indicate that this is SPU building #3).

Multiple permits have been issued for parcel 3010.

- Remodel (Permit No. Unknown) on March 26, 1997,
- Demolition (Permit No. Unknown) on April 1, 1997,
- Remodel Permit No 694936 on October 7, 1997,
- Remodel Permit No. 702778 on November 2, 1998, and
- Remodel Permit No. 753393 on December 21, 2005.

There is one building on parcel 3011, an 11,092 sq ft office and warehouse constructed in 1955. According to King County tax assessor records, the property name is Sanderson Safety Supply Company.

4.2.3.1 Current Operations

Little information regarding current operations at this facility was available for review. As of 1996, a pipe and carpentry shop, office and meter shop/warehouse, and equipment maintenance buildings were located on the property (SWD 1996a). A hazardous materials storage area is located at the southeastern corner of the property (Figure 9) (Yerian 1997).

4.2.3.2 Historical Operations

Information regarding historical operations at this property was not available for review.

4.2.3.3 Regulatory History

A site hazard assessment for the property was performed in 2002. The property was ranked a 5, representing the lowest relative risk (SKCDPH 2001b).

SPU performed a follow-up inspection at the facility in March 2008 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

4.2.3.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the SPU Operations Center.

In May 1991 two underground hydraulic hoists were removed from the Maintenance and Equipment Building. Two USTs were removed near the foot print of the adjacent building. When the hoists were removed, it was determined that approximately 100 to 200 gallons of hydraulic fluid had been released to the subsurface. Soil and groundwater sampling and remediation activities were performed at the property between May 1991 and September 1996. Approximately 80 to 100 tons of petroleum impacted soils were removed; however, sidewall samples from the remedial excavation indicated the presence of TPH-oil above 2,000 ppm (exceeding the MTCA Method A cleanup level). Approximately 2,500 gallons of petroleum-contaminated groundwater were removed from the property (SKCDPH 2001b).

Groundwater Monitoring – Hoist Area (1993-1994 and 1997)

Four groundwater monitoring wells were installed in the hoist area in August 1993. The wells were sampled in September 1993, and January and December 1994. TPH-oil was detected in well MW-3 above the MTCA Method A cleanup level during the September 1993 sampling event; however, TPH-oil was not detected in any of the wells during the subsequent sampling events in January and December 1994 (SWD 1996b; SKCDPH 2001b). When groundwater monitoring was conducted in January 1997, TPH-diesel exceeded the MTCA Method A cleanup level in all but one well (Yerian 1997).

UST Removal Assessments (1994-1995)

A 1,000 gallon UST identified as W-5 was removed in February 1994 after it failed tightness testing. An 8,000-gallon UST identified as W-6 was removed in November 1995 and replaced with an AST. Tank W-5 supplied fuel to an emergency generator and tank W-6 held back up fuel for a boiler (SWD 1996a).

Approximately 20 tons of petroleum impacted soil were removed from the property during Tank W-5 removal activities. Petroleum impacted groundwater was encountered in the excavation. Side wall samples were collected from the UST excavation and analyzed for TPH-diesel and TPH-oil. Concentrations of both TPH-diesel and TPH-oil exceeded MTCA Method A cleanup levels (SWD 1996a).

Approximately 200 tons of petroleum impacted soil were removed from the property during the Tank W-6 excavation. Side wall samples were collected from the excavation and analyzed for TPH-diesel. Concentrations of TPH-diesel exceeded MTCA Method A cleanup levels in the samples collected from the north wall of the excavation. The impacted soil was left in place to avoid damaging the building and loading ramp adjacent to the excavation. Groundwater and free product were encountered at the bottom of the excavation; approximately 5,000 gallons of petroleum impacted groundwater were removed from the excavation (SWD 1996a).

Groundwater samples were collected from wells and sumps near the tank W-6 excavation in February and December 1994 and January 1995. TPH-diesel was present in groundwater at a concentration above the MTCA Method A cleanup level for groundwater in the February 1994 and January 1995 samples (SWD 1996a).

Hydraulic Hoist Closure (1996)

In May 1991, approximately 100 to 200 gallons of hydraulic fluid leaked into the subsurface from an underground hoist system installed in the Maintenance and Equipment Building. Between May 1991 and September 1996, soil and groundwater sampling and remediation activities were performed in the hoist area, including the installation of a corrugated metal pipe to assist in the recovery of petroleum impacted groundwater (SWD 1996b).

The hoists and piping were removed in September 1996. Side wall samples collected from the excavation were analyzed for TPH-oil. Between 80 and 100 tons of petroleum impacted soil were removed from the excavation and recycled off property. Concentrations of TPH-oil,

exceeding the MTCA Method A cleanup level, were left in place just above groundwater and in "small pockets" underneath the building floor (SWD 1996b).

Petroleum impacted groundwater was encountered in the excavation. Free product was collected with oil-adsorbing pads and approximately 100 pounds of fertilizer were spread throughout the excavation to promote natural attenuation of petroleum hydrocarbons in the soil and groundwater (SWD 1996b).

UST Removal and Site Assessment (1997)

Four USTs were removed from the property in 1997. The USTs included one 5,000-gallon gasoline UST (W-1), one 2,500-gallon diesel UST (W-2), one 500-gallon used oil UST (W-3), and one 500-gallon new motor oil UST (W-4). Groundwater was encountered at the bottom of each excavation. Sidewall samples were collected from the USTs excavations and analyzed for TPH. TPH was not present above the MTCA Method A cleanup levels in the sidewall samples. Approximately 292 tons of petroleum impacted soil were excavated and removed from the property. During the excavations activities, approximately 3,700 gallons of petroleum-contaminated groundwater were removed (SPU 1997).

4.2.3.5 Potential for Sediment Recontamination

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

Stormwater

Stormwater from this facility drains to the LDW and some activities at the facility use hazardous materials and generate hazardous waste; these may potentially to enter the storm drain system. The facility was last inspected by SPU in March 2008 and no corrective actions were identified at that time.

Soil and Groundwater

Groundwater monitoring data from 1997 indicate that TPH-diesel is present in groundwater beneath the property. More recent groundwater monitoring data were not available for review. TPH-diesel is not a COC for EAA-1 sediments, and the property is approximately 1 mile east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.2.3.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.2.4 Former Seattle Technical Finishing

Facility Summary: Former Seattle Technical Finishing	
Tax Parcel No.	8170100205
Address	1005 S King Street
Property Owner	Kurt A. Kippenhan
Parcel Size	0.28 acre (12,000 sq ft)
Facility/Site ID	2110
SIC Code(s)	3471 Electroplating, Plating, Polishing
EPA ID No.	WAD053818340
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	7003 –Permit, cancelled
UST/LUST ID No.	None
Map/Map ID	B2/455

The former Seattle Technical Finishing property is located in the Diagonal West SD basin. The property is bordered by 10th Avenue S to the west, S King Street to the north, a parking lot to the east, and the Chinatown Development Company property (Facility/Site ID 56363311), to the south. According to King County tax assessor records, there are two light industrial manufacturing buildings on the property, both constructed in 1914, and both measuring 5,700 sq ft.

4.2.4.1 Current Operations

Rising Produce Fruit and Vegetable currently operates at this property. No additional information regarding current operations at this property was available for review.

4.2.4.2 Historical Operations

Seattle Technical Finishing offered anodizing and plating metal finishing. The company practiced sulfuric, chromic, and sulfuric hard anodizing and gold, silver, tine, cyanide, copper, and nickel plating (Seattle Technical Finishing 1992). Hazardous materials used at Seattle Technical Finishing included materials used in hard chrome, nickel, and copper plating and nitric acid (Ecology 1992g).

Hazardous wastes generated at Seattle Technical Finishing included: metal hydroxide sludge; filter papers and bags from a nickel plating solution; nickel strip solution; and spent trichloroethene (TCE) (Ecology 1992g). Metal hydroxide sludge was pressed into cakes and transferred to Arlington, Oregon, in the early 1990s (Seattle Technical Finishing 1992). By 1994, the facility began recycling the nickel sludge (Seattle Technical Finishing 1994).

4.2.4.3 Regulatory History

In August 1992, Ecology performed a site inspection in order to assist Seattle Technical Finishing with its pollution prevention plan. Ecology noted that there were many opportunities

for improving electroless nickel plating[9] dragout control, rinsing, and segregation of wastes for reclamation (Ecology 1992g).

In June 1999, King County cancelled the facility's waste discharge permit following the closure of the facility. An inspector confirmed that the facility no longer produced an industrial discharge to the sewer system (KCDNR 1999).

4.2.4.4 Environmental Investigations and Cleanups

No records of environmental investigations or cleanups at this property were found in the files reviewed by SAIC.

4.2.4.5 Potential for Sediment Recontamination

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway. Operations at Rising Produce Fruit and Vegetable may fall under SIC Code 20xx Food and Kindred Products, which may require an NPDES permit. Stormwater from the facility is discharged to EAA-1 via the Diagonal Avenue S SD.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property. The property is approximately 3 miles northeast of the LDW. Groundwater flow direction from the property is likely generally toward Elliott Bay or Lake Washington, based on the geographic location. Therefore, the potential for sediment recontamination via the soil and groundwater pathway is very low.

4.2.4.6 Data Gaps and Action Items

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the former Seattle Technical Finishing property is listed below.

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at this facility comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at the facility.

[9] Electroless plating is a metal plating process that does not require use of an electric current through the plating solution to form a deposit.

4.2.5 Spear Trust Warehouse

Facility Summary: Spear Trust Warehouse	
Tax Parcel No.	7886100060
Address	Operating: 4001 6th Avenue S Parcel: 4005 6th Avenue S
Property Owner	Bank of America
Parcel Size	3.46 acres (150,700 sq ft)
Facility/Site ID	2366
SIC Code(s)	7331: Direct Mail Advertising Services (Mailhandlers)
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	1419 (Inactive)
Map/Map ID	A4/161

The Spear Trust Warehouse property is located in the Diagonal West SD basin. The property is bordered on the west by a UPRR easement or right-of-way, on the north by Diagonal Avenue S, on the east by 6th Avenue S, and another warehouse to the south. The Owl Transfer & Storage Company, Inc. (Section 5.2.2) is north of the property across Diagonal Avenue S.

According to King County tax assessor records, there are two warehouses on the parcel. The first warehouse was constructed in 1963 and measures 32,672 sq ft in area. The second warehouse was constructed in 1991 and measures 67,173 sq ft in area. The property name is Mailhandlers Warehouse.

4.2.5.1 Current Operations

Mailhandlers, part of Direct Connect Group West, currently operates at the Spear Trust Warehouse. Mailhandlers offers direct mail services, database management, commercial and digital printing, fulfillment and distribution, envelope manufacturing, specialty bindery, and marketing services (Direct Connect Group West 2009).

A 1991 site assessment report indicates that surface drainage at the property is directed to catch basins in the paved driveway and parking areas in the northern and eastern portions of the property (Earth Consultants 1991).

A methane gas collection system was installed beneath the second warehouse. The gas is discharged through a roof vent (SKCDPH 2002).

4.2.5.2 Historical Operations

From approximately 1950 to the late 1980s an automobile towing company operated on the property. Black oil #3 was reportedly spread on the bare soils across the property to control dust. Currently, the entire property is paved (SKCDPH 2002).

4.2.5.3 Regulatory History

A site hazard assessment for the property was performed in 2002. The property was ranked a 5, representing the lowest relative risk (SKCDPH 2002).

SPU performed a follow-up inspection at Mailhandlers in December 2003 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

4.2.5.4 Environmental Investigations and Cleanups

At least three environmental investigations have been conducted at the Spear Warehouse Property.

A geotechnical study in 1988 indicated that garbage and miscellaneous debris were present beneath the property from just below the surface grade to a depth of approximately 12 feet bgs. A 1989 Phase I Environmental Site Assessment (ESA) reported that the property had been used as a landfill in the late 1800s and early 1900s. Dredged material from Elliott Bay, and residential and heavy industry garbage were disposed of in the landfill (Earth Consultants 1991).

Supplemental Environmental Study (1990)

A strong chemical odor was detected during the placement of auger-cast borings in April 1990. The property was under construction to install a utility tunnel and to build a new warehouse. Seven soil borings and six test pits were installed at the property. The soil borings were converted to groundwater monitoring wells (Earth Consultants 1991).

Soil analytical results indicated the presence of TPH up to 30,000 ppm. VOCs in soil included methylene chloride (0.159 ppm maximum), toluene (0.083 ppm maximum), benzene (0.015 ppm maximum), trichloroethane (0.007 ppm maximum), and xylenes (3 ppm maximum). The only pesticide detected in soil was o,p'-DDE; the maximum concentration was 1 ppm. PCBs were not detected in soil (Earth Consultants 1991).

Concentrations of lead, chromium, mercury, TPH, and xylenes above the draft MTCA Method A cleanup levels were detected in groundwater. Pesticides and PCBs were not detected in the groundwater samples (Earth Consultants 1991).

4.2.5.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway. However, Mailhandlers' website indicates that printing is performed at the facility, which may be a new operation at the facility since the December 2003 SPU inspection. These operations may fall

under SIC code 27xx Printing, Publishing and Allied Industries, which requires an NPDES permit for stormwater discharges to surface water.

Soil and Groundwater

Metals are present in groundwater at concentrations below the groundwater-to-sediment screening levels.[10] Although groundwater likely flows toward the LDW, the property is over 4,000 feet east of the LDW. Therefore, the potential for sediment recontamination via this pathway is likely to be very low.

4.2.5.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at this facility comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at the facility.

4.3 Facilities Listed on the CSCSL within the Duwamish/Diagonal CSO/SD Basin

These facilities are in both the SD and CSO basins. Stormwater from these properties is discharged to EAA-1 via the Diagonal Avenue S SD. Wastewater from these facilities may discharge to EAA-1 via the Diagonal Avenue S CSO during a CSO event. Soil and/or groundwater contamination has been confirmed at the properties listed on the CSCSL; additional information regarding the contamination is included in the facility-specific descriptions.

The facilities are presented in alphabetical order; the word “former” was ignored for the purpose of alphabetizing the facility names.

[10] Concentrations of chemicals in soil and groundwater were compared to soil-to-sediment or groundwater-to-sediment screening levels (SAIC 2006). These screening levels were initially developed to assist in the identification of upland properties that 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 media 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 exceedences of the SMS. 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. 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 exceedences of the Washington SMS (Chapter 173-204 WAC).

4.3.1 Former 3A Industries

Facility Summary: Former 3A Industries	
Tax Parcel No.	5058300070
Address	3101 Martin Luther King Jr. Way S
Property Owner	Sound Transit
Parcel Size	0.07 acre (3,164 sq ft)
Facility/Site ID	74595148 (Former 3A Industries)
SIC Code(s)	1542: Nonresidential Construction, Not Elsewhere Classified 1711: Plumbing, Heating, and Air-Conditioning
EPA ID No.	WAH000016063 (Inactive) (Former 3A Industries)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	C4/243 (Former 3A Industries)

The property is located in the Diagonal East SD basin and the Diagonal Avenue S CSO. It is currently part of the Link light rail system. The property is bordered by a vacant lot to the west, by S Winthrop Street to the north, by Martin Luther King Jr. Way S to the east, and by another portion of the Link light rail system to the south. The University of Washington (UW) – Consolidated Laundry properties (Section 5.5.3) are located north of the former 3A Industries property. According to King County tax assessor records this parcel is currently vacant.

3A Industries also operated on parcel 8116100005 (3201 Martin Luther King Jr. Way S). According to King County tax assessor records, one building is located on this parcel, a 2,640 sq ft warehouse constructed in 1947. This parcel is not listed on the CSCSL. A voluntary cleanup action was performed at this parcel (GS Associates 2002).

4.3.1.1 Current Operations

The property was purchased by Sound Transit from Reginald Frye and was redeveloped for the construction of the Link light rail system. A support column for the rail system is now located on the property. The property is named parcel RV-006 in Sound Transit records (CDM 2006)

4.3.1.2 Historical Operations

Former operations at the property include:

- Franklin Public Market, a general store (1926 – 1955),
- Red, White & Blue Cleaners (1955 – March 1960),
- Smallwood Marina boat sales lot and showroom (March 1960 – ~1976), and
- 3A Gas & Electric, predecessor of 3A Industries (1976 – 2004).

3A Industries corporate office was located on the property (GS Associates 2002) until Sound Transit took ownership of the property in 2004 (ISSI 2005).

4.3.1.3 Regulatory History

SPU performed a screening inspection of 3A Industries in October 2003 (Table 9) (Schmoyer 2009b). The inspection report was not reviewed.

This property is part of the Voluntary Cleanup Program (VCP); its VCP ID number is NW1310.

4.3.1.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the former 3A Industries property.

Phase I Environmental Site Assessment (2002)

The Phase I ESA identified two storm drains south of the property. The property owner, Reginald Frye, stated that USTs had not been installed on the property and that he was not aware of any environmental conditions associated with the property. Potential sources of soil and groundwater contamination to the property were identified, including the former dry cleaner on the property and automobile repair shops and gasoline service stations on adjacent properties (GS Associates 2002).

Phase II Environmental Site Assessment (2004)

Three soil borings were advanced on the property to a depth of 16 feet bgs. Grab groundwater samples were collected at the bottom of each boring. Soil and groundwater samples were analyzed for TPH-gas and TPH-diesel and VOCs. Tetrachloroethene (PCE) and TCE were detected in soil and groundwater at concentrations above MTCA Method A cleanup levels along the eastern portion of the property (GS Associates 2004a).

Supplemental Phase II Environmental Site Assessment (2004)

Four soil borings and three groundwater monitoring wells (MW-1 through MW-3) were installed on the property. Groundwater was encountered between 12 and 15 feet bgs. Groundwater flow direction in the shallow aquifer was determined to be to the east-northeast. Concentrations of TCE in soil exceeded the MTCA Method A cleanup levels. In groundwater, cis-1,2-dichloroethene (DCE), TCE, and PCE concentrations exceeded the MTCA Method A cleanup levels (GS Associates 2004b).

Offsite Subsurface Investigation (2004)

Nine soil borings were advanced adjacent to the eastern and northern boundaries of the property and well MW-1 was decommissioned. Groundwater was encountered in each boring between 11 and 12 feet bgs. PCE, TCE, and methylene chloride concentrations in soil exceeded the MTCA Method A cleanup levels. In groundwater, PCE and TCE concentrations exceeded the MTCA Method A cleanup levels (CDM 2006).

Well Installation (2005)

One groundwater monitoring well (MW-4) was installed on the property in March 2005. Previous investigations indicated the presence of a deeper groundwater zone. Well MW-4 was installed in the deeper groundwater zone. Methylene chloride was the only chemical detected in soil and groundwater (Booth 2005). A facility plan showing the location of well MW-4 was not available for review.

Groundwater Extraction Trench Installation and Column Excavation (2005)

A groundwater extraction trench was installed along the eastern side of the property in June 2005. Groundwater monitoring well MW-2 was decommissioned. Soil samples were collected from the trench. PCE and TCE concentrations in soil exceeded the MTCA Method A cleanup levels (CDM 2006).

In November 2005, excavation began for the installation of a column to support the link light rail system. In soil samples collected between the surface and 30 feet bgs, PCE and TCE concentrations exceeded the MTCA Method A cleanup level (CDM 2006).

4.3.1.5 Potential for Sediment Recontamination

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

Stormwater

Current operations at this property do not represent a potential source of contaminants to EAA-1 sediments via the stormwater pathway.

CSO Events

Current operations at this property do not represent a potential source of contaminants to EAA-1 sediments via the CSO event pathway.

Soil and Groundwater

Soil and groundwater beneath the property is contaminated with VOCs. According to a 2006 remediation plan, groundwater remediation and soil vapor extraction (SVE) systems were to be installed on the property (CDM 2006); however, no reports documenting system installation or remediation results were located in the files reviewed by SAIC. Groundwater flow direction is to the east-northeast, which is generally toward Lake Washington, i.e., away from the LDW. The property is more than 2 miles east of the LDW. The potential recontamination for sediments in the LDW from this property is very low.

4.3.1.6 Data Gaps and Action Items

No data gaps or action items have been identified for this property.

4.3.2 Alaska Street Property and Alaska Street Property 2

Facility Summary:	Alaska Street Property	Alaska Street Property 2
Tax Parcel No.	2024049035	2024049004
Address	615 S Alaska Street	601 S Alaska Street
Property Owner	615 South Alaska LLC	615 South Alaska LLC
Parcel Size	0.87 acre (38,047 sq ft)	0.73 acre (31,641 sq ft)
Facility/Site ID	8112883	4383003
SIC Code(s)	7922: Theatrical Producers (PNTA)	None
EPA ID No.	None	None
NPDES Permit No.	None	None
KCIW Discharge Permit/Authorization No.	None	None
UST/LUST ID No.	None	None
Map(s)/Map ID	A4, A5/46	A4/53

These properties are located within the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The properties are bordered by 6th Avenue S on the west, by S Alaska Street to the north, and a UPRR right-of-way to the south. The former SAMIS Land Co. and FedEx Express BFIA property (also on the CSCSL, Section 4.3.13) is immediately east of the Alaska Street properties. The MacMillan-Piper – Airport Way facility (Section 5.3.4) is located to the southeast of the property.

615 Alaska Street

According to King County tax assessor records, the property name is Steam Supply & Rubber Company. There is one building on the property, a 28,126 sq ft industrial light manufacturing building constructed in 1975. The west side of the warehouse is connected to the warehouse on the Alaska Street Property 2 (601 Alaska Street).

Remodeling permit numbers 698139 and 692963 were issued on April 6, 1998, and July 7, 1997, respectively.

601 Alaska Street

According to King County tax assessor records, the property name is Performance Warehouse. There is one building on the property, a 21,101 sq ft storage warehouse constructed in 1989. The east side of the warehouse is connected to the warehouse that is located on the Alaska Street Property (615 Alaska Street).

4.3.2.1 Current Operations

The Alaska Street properties are currently owned by a single property owner, but historically the properties have been owned and operated by separate entities. Environmental investigations at the properties have focused on the properties separately and together.

PNTA is the current operator at the Alaska Street properties and occupies both warehouses. PNTA provides presentation and production supplies for theatrical and educational events, houses of worship, and architectural markets. PNTA's product line includes items such as paint, makeup, lighting fixtures, draperies, flame retardants, and thermoplastics (PNTA 2009).

615 Alaska Street

Stormwater

Surface water on the paved areas of the property, primarily north of the warehouse, flows into two catch basins connected to the storm drain. One of the catch basins is located in front of four loading docks for the warehouse. Surface water on the unpaved areas of the property infiltrates soil or runs into a shallow ditch at the southern boundary of the property (Woodward-Clyde 1997).

Wastewater

Floor drains connected to the sanitary sewer are located on the northeast side of the warehouse (Woodward-Clyde 1997).

601 Alaska Street

Stormwater

One storm drain is located in the parking lot to the north of the warehouse (Woodward-Clyde 1997).

4.3.2.2 Historical Operations

615 Alaska Street

From approximately 1917 to the 1960s, O.B. Williams Sash & Door Company and American Builders operated at the property. A bed springs manufacturer, Del Mar, operated from approximately 1943 to 1973. Chemical Proof Construction Plant (rubber coatings and fiberglass production) appears to have operated at the property in the 1950s and Econofreeze Manufacturing Company appears to have operated at the property in the 1960s. Steam Supply & Rubber Company purchased the property in approximately 1973. Flowserve operated at the property in 2002 (Woodward-Clyde 1997; Zipper Zeman 2002a).

Steam Supply & Rubber Company operated at the property from approximately 1973 to approximately 1997 or 1998. The company distributed rubber parts and supplies and repaired and tested valves and gauges at this facility. A 7,900 sq ft office building, constructed in 1974, was on the property during Steam Supply & Rubber Company's occupancy (Woodward-Clyde 1997).

Cars and other vehicles historically parked illegally in the rail line area south of the building and are thought to be the source of surface petroleum contamination (Woodward-Clyde 1997)

As of 1997, three pole-mounted transformers at the northeast corner of the property had not been tested for PCBs (Woodward-Clyde 1997). A pad-mounted transformer was located on the northeast corner of the property in 2002 (Zipper Zeman 2002a).

601 Alaska Street

The property was developed as a lumber mill in the early 1900s.

The property was historically owned by Webster Brinkley (Woodward-Clyde 1997). A cabinet making shop operated on the property prior to the construction of Performance Warehouse in 1989 (Woodward-Clyde 1997).

4.3.2.3 Regulatory History

615 Alaska Street

Following the filing of a Restrictive Covenant on the property, Ecology granted Interim No Further Action (NFA) status to 615 Alaska Street for TPH and polycyclic aromatic hydrocarbons (PAHs) in June 2003. Compliance with the restrictive covenant was required to maintain the Interim NFA. Ecology did not grant an NFA for TCE contamination (Ecology 2003h).

Conditions of the Restrictive Covenant include:

- No modifications or removal of existing structures or performance of activities that may result in the release or exposure of TPH to the environment with prior consent from Ecology;
- Groundwater from the property may not be used; and
- Administrative controls.

Examples of administrative controls employed at the property include preventing leasees from conducting activities that would expose TPH to humans or the environment, notifying Ecology prior to change in ownership of the property, and allowing Ecology personnel access to the property for inspection activities (Chicago Title 2003).

SPU performed a follow-up inspection at the property in July 2003 (Schmoyer 2009b). The facility was in compliance (Table 9). The inspection report was not reviewed.

The interim NFA was rescinded in April 2006, although Ecology did not require further action with regard to TPH and PAH contamination at the property (Ecology 2006a). Ecology removed the Alaska Street Property from the VCP in May 2006 due to inactivity (Ecology 2006c). The VCP ID number is NW1051.

601 Alaska Street

The VCP ID number for the property, NW1120, is inactive.

4.3.2.4 Environmental Investigations and Cleanup

Several environmental investigations have been conducted at the Alaska Street Properties.

615 Alaska Street

Phase II Property Assessment (1995) and Groundwater Sampling (1997)

Soil and groundwater sampling conducted at the property in 1995 indicated hydrocarbon contamination along the southern side of the property. One soil boring and two groundwater monitoring wells were installed on the northeast and southeast sides of the property. Groundwater was encountered at approximately 8 feet bgs. TPH-diesel exceeded the MTCA Method A cleanup level in soil (PBS 1995). In 1995 and 1997, VOCs were detected in groundwater below MTCA Method A cleanup levels (PBS 1995; Woodward-Clyde 1997).

Phase I Environmental Site Assessment and Limited Site Characterization Study (1997)

Five soil borings were advanced at the property; nine soil and five grab groundwater samples were collected for laboratory analysis of TPH and VOCs. No analytes were detected above MTCA Method A cleanup levels in soil. TCE and vinyl chloride concentrations in groundwater exceeded the MTCA Method A cleanup levels (Woodward-Clyde 1997).

Environmental Assessment (1999)

Two soil samples were collected in the southern area of the property adjacent to the building. Arsenic and TPH concentrations in the soil samples exceeded the MTCA Method A cleanup levels (RMT 1999 as cited in Zipper Zeman 2002a).

Remedial Excavation (2000)

Three test pits were excavated at the property in August 2000. Construction debris consisting of waste concrete, wood waste, slag, bricks, and other materials were present at approximately 2 feet bgs (CRA 2001).

A remedial excavation was performed in December 2000 to remove stained surface soils and reduce overall concentrations of TPH and metals to concentrations below proposed MTCA Method A soil cleanup levels for industrial properties. Organics and loose trash were removed from the southern area of the property around well MW-2. Construction debris present in the excavation was relocated to another area of the property. A rail line was exposed at the western end of the property. The excavation was approximately 1 foot deep and approximately 310 tons of soil were removed from the property. TPH was detected below MTCA Method A cleanup levels. Cadmium concentrations in soil exceeded MTCA Method A cleanup levels. Arsenic, barium, chromium, lead, silver, and mercury were also detected in soil at the bottom of the excavation.

Phase II Environmental Site Assessment (2002)

Two groundwater monitoring wells were installed on the property in July 2002. Groundwater flow direction was to the west and northwest. TPH, semivolatile organic compounds (SVOCs) (including PAHs and phthalates) and metals were detected in one soil sample collected immediately above the water table. TPH, VOCs, SVOCs and metals were detected in groundwater (Zipper Zeman 2002b).

Groundwater Monitoring (2002 to 2003)

Groundwater monitoring was conducted at the property from July 2002 to April 2003. Groundwater flow direction was consistently to the northwest during all four quarters of monitoring. TPH, VOCs, SVOCs (including PAHs and phthalates), and metals have been detected in groundwater (Zipper Zeman 2002c, 2003b).

601 Alaska Street

Soil Compaction Study (1989)

Three soil borings and one groundwater monitoring well were installed on the property as part of a soil compaction study prior to the construction of the Performance Warehouse (now part of PNTA). TPH was present in soil up 10,000 ppm, which exceeded the MTCA Method A cleanup level. The area of contamination appeared to be localized. Apparently no chemicals were detected above cleanup levels in groundwater and the groundwater monitoring well was destroyed during construction of the warehouse (PBS 1995).

Supplemental Phase II Environmental Site Assessment (2003)

Two groundwater monitoring wells were installed on the property in February 2003. One soil and one groundwater sample were collected for laboratory analysis from each well. Benzene concentrations exceeded MTCA Method A cleanup levels in soil and TCE exceeded MTCA Method A cleanup levels in groundwater. PAHs and metals were detected but did not exceed cleanup levels (Zipper Zeman 2003a).

4.3.2.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway. SPU inspected the facility in 2003 and no corrective actions were identified. Based on information on PNTA's website, operations at the facility may fall under one or more of the following SIC Codes, which require an NPDES permit for stormwater discharges to surface water:

- 285x: Paints, Varnishes, Lacquers, Enamels, and Allied Products;
- 30xx: Rubber and Miscellaneous Plastic Products; or
- 4225: General Warehousing and Storage.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Arsenic and cadmium concentrations in surface soil at the property have exceeded MTCA Method A cleanup levels, but do not exceed the soil-to-sediment screening levels. Concentrations of 2-methylnaphthalene, acenaphthylene, and fluorene have exceeded the soil-to-sediment screening levels. Acenaphthene, BEHP, and fluorene concentrations in groundwater samples collected between 2002 and 2003 exceeded the groundwater-to-sediment screening levels. However, the property is approximately 1 mile east of the LDW. The potential for sediment recontamination via this pathway is very low.

4.3.2.6 Data Gaps and Action Items

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Alaska Street Property and Alaska Street Property 2 is listed below.

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at this facility comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at the facility.

4.3.3 Allied Dome CQ

Facility Summary: Allied Dome CQ	
Tax Parcel No.	0003600043
Address	2921 Martin Luther King Jr. Way S
Property Owner	Loren & Ruth Chotzen
Parcel Size	0.26 acre (11,241 sq ft)
Facility/Site ID	56326712
SIC Code(s)	5812: Eating Places (Starbucks)

Facility Summary: Allied Dome CQ	
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	443678
Map/Map ID	C4/242

The property is located in the Diagonal East SD basin and Diagonal Avenue S CSO basin. The triangular-shaped property is at the north side of the intersection between Rainier Avenue S and Martin Luther King Jr. Way S. The Cecil Leung property (Section 6.3.3) is southwest of the property across Rainier Avenue S. Property owned by CPSRTA is immediately north of the parcel. According to King County tax assessor records, the building on the property currently operates as a Starbucks coffee shop. The building, constructed in 1976, has an area of 1,752 sq ft.

4.3.3.1 Current Operations

A Starbucks coffee shop currently operates at this property. Additional information regarding current operations at the property was not available for review.

4.3.3.2 Historical Operations

Dunkin Donuts and a Shell-branded gasoline service station historically operated on the property. Additional information regarding historical operations at the property was not available for review.

4.3.3.3 Regulatory History

In March 2003, Ecology determined that not all TPH-gas and TPH-diesel contamination above cleanup levels in soil and groundwater beneath the property had been removed. Further, the levels of contamination present were considered to be a threat to human health. Ecology advised the property owners that the site was eligible for the VCP (Ecology 2003d). The VCP ID number is NW1137.

SPU performed a follow-up inspection in January 2004 (Schmoyer 2009b). The facility was in compliance (Table 9). The inspection report was not reviewed.

4.3.3.4 Environmental Investigation and Cleanups

Several environmental investigations have been conducted at the Allied Dome CQ property.

Phase I Environmental Site Assessment (1997)

The Phase I ESA determined that a gasoline service station from 1923 to 1953 and from 1956 to 1981 (RT Environmental 1998).

Site Investigation (1998)

Thirteen soil borings were advanced on the property. Groundwater samples were collected from each soil boring. Soil and groundwater samples were analyzed for TPH and BTEX. TPH-gas and TPH-diesel, and BTEX concentrations in soil and groundwater exceeded the MTCA Method A cleanup levels. The soil and groundwater plume appeared to extend off the property (RT Environmental 1998).

Remedial Investigation (2000)

Four groundwater monitoring wells were installed on the property in 1999. Concentrations of TPH-diesel, TPH-gas, and TPH-oil exceeded the MTCA Method A cleanup levels (MFA 1999). An SVE test was performed and the results indicated that SVE would be a viable remediation option for the property (MFA 2000b).

Soil Vapor Extraction (2000 to 2001)

An SVE system was installed on the property between December 1999 and February 2000. The system was activated in May 2000 and ran until October 2001. Hydrocarbon concentrations were greater than 8,000 parts per million by volume (ppmv) in vapor samples collected at the beginning of the remediation. Concentrations had decreased to less than 10 ppmv when the system was shut down. Approximately 5,667 pounds of hydrocarbons were removed from the subsurface. The SVE system was removed from the property in January 2002 (MFA 2002).

Thirteen soil borings were advanced at the property in April and November 2001 to test effectiveness of the SVE system. The April samples contained concentrations of TPH-gas, TPH-oil and benzene that exceeded the MTCA Method A cleanup levels. BTEX concentrations exceeded the MTCA Method A cleanup levels in the November soil samples. One groundwater sample was collected; TPH-diesel exceeded MTCA Method A cleanup levels in the sample (MFA 2002).

Additional Subsurface Assessment (2002)

Nine soil borings were advanced to determine the lateral and vertical extent of petroleum hydrocarbon contamination at the property and one groundwater monitoring well was installed. Lead, benzene, ethylbenzene, total xylenes, and TPH-gas concentrations in soil exceeded the MTCA Method A cleanup levels (MFA 2003).

Groundwater Monitoring (2000 to present)

The five groundwater monitoring wells on the property are sampled on a quarterly basis. Groundwater flow direction is generally to the east-southeast and south (MFA 2000a; Delta 2009b). Based on the 4th Quarter 2008 sampling results, TPH-gas is the only contaminant remaining in groundwater (Delta 2009b).

4.3.3.5 Potential for Sediment Recontamination

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

Stormwater

Current operations at this property do not represent a potential source of contaminants to EAA-1 sediments via the stormwater pathway.

Soil and Groundwater

Soil and groundwater beneath the property is contaminated with VOCs. According to a 2006 remediation plan, a new SVE system and a groundwater remediation system were to be installed on the property (CDM 2006); however, no reports documenting system installation or remediation results were available for review. Recent groundwater monitoring results indicate that TPH diesel is the only contaminant remaining in groundwater; TPH-diesel is not a sediment COC. Groundwater flow direction is to the east-southeast, which is toward Lake Washington, i.e., away from the LDW. The property is more than 2 miles east of the LDW. The potential recontamination for sediments in the LDW from this property is very low.

4.3.3.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.3.4 Former Belshaw Brothers, Inc.

Facility Summary: Former Belshaw Brothers, Inc.	
Tax Parcel No.	1822300020, 1822300175, 1822300180, 0924049007, 3881900515, 3881900540, 3881900550, 3881900560, 7548301115, 7548301120, 7548301150
Address	Operating & 0180: 1750 22nd Avenue S 0020: 1765 22nd Avenue S 0515, 0540, 0550, 0560, 1120, 1150: None 1115: 1762 Rainier Avenue S 9007: 2222 S Grand Street
Property Owner	0175, 0180 & 9007: Snarf LLC 0515, 0540, 0550 & 0560: Sleepy Koala LLC 0020, 1115, 1120, 1150: Brunzer LLC
Parcel Size	0020: 0.08 acre (3,495 sq ft) 0175: 0.12 acre (5,266 sq ft) 0180: 0.63 acre (27,260 sq ft) 0515: 0.35 acre (15,155 sq ft) 0540: 0.27 acre (11,700 sq ft) 0550: 0.19 acre (8,105 sq ft) 0560: 0.04 acre (1,800 sq ft)

Facility Summary: Former Belshaw Brothers, Inc.	
	1115: 0.23 acre (10,184 sq ft) 1120: 0.12 acre (5,390 sq ft) 1150: 0.08 acre (3,652 sq ft) 9007: 0.57 acre (24829 sq ft)
Facility/Site ID	97763114
SIC Code(s)	None
EPA ID No.	WAD103351581 (Inactive)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	2181
Map/Map ID	B3, C3/305

Belshaw Brothers previously operated on 11 parcels within the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The properties are generally bordered on the west by Rainier Avenue S and on the east by 23rd Avenue S. The facilities were separated by 22nd Avenue S. Colman Playground is east of the former Belshaw Brothers property across 23rd Avenue S. The properties surrounding the former Belshaw Brothers parcels are mostly residential or vacant, though some automobile repair businesses are present.

King County tax assessor records list the following details for each parcel:

- Parcel 0020: There is one building located on this parcel, a 3,150 sq ft light industrial manufacturing building constructed in 1909. The building is described as "Belshaw Bros Factory."
- Parcel 0180: There are two buildings located on this parcel: a 4,318 sq ft storage warehouse constructed in 1909 and a 27,400 sq ft storage warehouse constructed in 1956.
- Parcel 1115: There are three buildings located on this parcel: A 4,906 sq ft warehouse constructed in 1924, a 1,520 sq ft equipment shop constructed in 1931, and a 560 sq ft equipment shop, also constructed in 1931.
- Parcel 9007: A 25,984 sq ft warehouse was constructed in 1988 on this parcel.
- Parcels 0175, 0515, 0540, 0550, 0560, 1120 and 1150: These parcels are currently vacant.

4.3.4.1 Current Operations

According to the Washington Secretary of State Corporations Registration database (Washington Secretary of State 2009a,b,c), Brunzer LLC, Snarf LLC, and Sleepy Koala LLC (current property owners) have the same manager. No additional information about these companies was available for review.

4.3.4.2 Historical Operations

Parcel 0180 may have operated as a gas service station in the 1920s (Sato 2004a). Belshaw Brothers operations were performed in the facilities on parcels 0020, 0180, 0115, and 9007. The remaining parcels were used for parking (Figure 10).

Belshaw Brothers produced machinery for the food industry, specifically donut-making machines. The facility maintained buildings for paint, welding, foundry, assembly, and machining (Main Building on Figure 10). Four large metal grinders and five machine parts washers were located in the main building; coolants and solvents were used in the main building. The Foundry used powdered olivine and bentonite around forms for molding aluminum parts. Donut-making machines were assembled in the Assembly Shop (Ecology 2001e; URS 2004).

Specific products used at the facility included Safety Kleen Premium gold solvent, rim Sol, Breakthrough, and Rando oil (Ecology 2001e).

The facility was acquired by AGA Foodservice Equipment in 2002 (URS 2004).

The NAICS codes for Belshaw Brothers, Inc. were: 333294 Food Product Machinery Manufacturing and 333993 Packaging Machinery Manufacturing.

Spills

In July 1994, approximately 10 gallons or fewer of diesel fuel were spilled during an attempt to remove a 250-gallon UST. The spill was cleaned up immediately, according to Belshaw Brothers (Belshaw Brothers 1994).

4.3.4.3 Regulatory History

Ecology performed a Dangerous Waste compliance inspection at the facility in February 1999. Ecology inspectors noted that the facility was laundering shop rags containing solvents and metals without a publicly owned treatment works industrial discharge permit, barrels of cutting fluid were inadequately labeled and lacked secondary containment, and an evaporator used to treat cooling fluid was being operated without a permit. Additionally, Ecology recommended that an unused floor drain in the machine shop be blocked off (Ecology 1999c).

In May 2002, Ecology received a report that petroleum had been released from an AST to soil at the property (Ecology 2002d). In August 2002, Ecology sent Belshaw Brothers an Early Notice Letter, indicating that areas of contamination were present on the property (Ecology 2002k).

Ecology visited the facility in May 2003 to determine its generator status and recommended the facility apply for the Governor's award and EnviroStar (Ecology 2003g).

The VCP ID number for the former Belshaw Brothers property, NW1254, is inactive.

4.3.4.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the former Belshaw Brothers property.

Phase I Environmental Site Assessments (1995, 2001, and 2002)

Three Phase I ESAs have been performed at the property. The Phase I ESAs identified two former heating oil USTs, one of which was reportedly removed in 1992. Potential past use of waste solvent (primarily 1,1,1-trichloroethane) and oil to control weeds was also identified (Dames & Moore 1995a; Price Waterhouse Cooper 2001; Aaron & Wright 2002a, all as cited in URS 2004).

Soil Assessment (2002)

Three soil borings were advanced at the property in 2002 in a separate investigation. TPH-diesel was detected above MTCA Method A cleanup levels from soil samples collected near one of the former heating oil USTs (Aaron & Wright 2002b as cited in URS 2004).

UST Site Assessment and Voluntary Cleanup (2002-2003)

Nine soil borings and ten groundwater monitoring wells were installed at the facility between 2002 and 2003. Soil and groundwater samples were analyzed for TPH and VOCs. Groundwater flow direction was to the southwest. TPH-diesel in soil exceeded the MTCA Method A cleanup level at the northeast corner of the Foundry building. TPH-diesel, TPH-oil, 1,1-dichloroethane (DCA), 1,1-DCE and trichloroethane (TCA) concentrations in groundwater exceeded the MTCA Method A cleanup levels (URS 2004).

A 700-gallon out-of-service heating oil UST was removed from the property in 2003. Petroleum-contaminated soils beneath the main building footing were excavated. Approximately 340 tons of contaminated soil were removed from the property. Post-excavation soil sampling indicated that TPH-diesel exceeding the MTCA Method A cleanup levels remained in soil beneath the main building; however, removal of additional soil beneath the building could not be achieved with compromising the integrity of the structure (URS 2004).

Dual-Phase Extraction System

The property owners installed a dual-phase extraction (DPE) system for the remediation of soil and groundwater beneath the property. The system was in operation in July 2004 and it was estimated that the DPE system would run for 2 years (Sato 2004a,b). Additional information regarding the DPE system, aside from some proposed design drawings, was not available for review.

4.3.4.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Discharges

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Soil and groundwater beneath the facility is contaminated with petroleum hydrocarbons and solvents. Belshaw Brothers planned to conduct DPE remediation of soil and groundwater beneath the property. No reports documenting the performance of the DPE system were available for review. The current levels of contamination are unknown. However, the property is over 1.5 miles east of the LDW and groundwater likely flows generally toward Lake Washington. Additionally, the contaminants present in soil and groundwater are not sediment COCs. Therefore, the potential for sediment recontamination via this pathway is very low.

4.3.4.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at Brunzer LLC, Snarf LLC, and Sleepy Koala LLC comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at Brunzer LLC, Snarf LLC, and Sleepy Koala LLC.

4.3.5 Bloch Steel Industries

Facility Summary: Bloch Steel Industries	
Tax Parcel No.	3573200120, 3573200040, and 3573200050
Address	Operating, 0120 & 0050: 4580 Colorado Avenue S 0040: 96 S Alaska Street
Property Owner	M. Bloch & Company, Inc.
Parcel Size	0120: 0.18 acre (7,950 sq ft)

Facility Summary: Bloch Steel Industries	
	0040: 0.57 acre (24,650 sq ft) 0050: 4.11 acres (178,980 sq ft)
Facility/Site ID	57747142
SIC Code(s)	None
EPA ID No.	WAR000000745
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	4085 – Authorization Major
UST/LUST ID No.	3589 (Inactive)
Map/Map ID	A4, A5/50

Bloch Steel Industries (Bloch Steel) operates on three parcels located within the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The parcels are bordered by Colorado Avenue S to the west, Denver Avenue S to the north, 1st Avenue S to the east, and S Alaska Street to the south. Utah Avenue S separates parcel 0040 from parcels 0120 and 0050. Alaska Street Reload & Recycling (Section 5.3.1) is located south of Bloch Steel and T-106 East Warehouse W-4 is located west of Bloch Steel.

King County tax assessor records list the following information about the three parcels:

- Parcel 0120: One building is located on this parcel, a 4,256 sq ft office building constructed in 1974.
- Parcel 0040: One building is located on this parcel, a 20,832 sq ft warehouse constructed in 1979.
- Parcel 0050: Four buildings are located on this parcel:
  - A 9,520 sq ft light industrial manufacturing building constructed in 1949,
  - A 16,995 sq ft light industrial manufacturing building constructed in 1957,
  - A 19,251 sq ft light industrial manufacturing building constructed in 1967, and
  - A 5,852 sq ft office building constructed in 1930.

According to a 1999 report, Bloch Steel leases a land from the City of Seattle (part of Colorado Avenue South) along the western property line (Environmental Associates 1999a).

4.3.5.1 Current Operations

The facility has been used as a scrap iron recycling facility since 1938. Bloch Steel also distributes new steel (Urban Redevelopment 2005).

Metal shearing and baling equipment are located on the eastern portion of parcel 0050. There are two rail line cranes and two railroad spurs straddling the baler (Environmental Associates 1999a). In 1992, a double-wall AST with secondary containment was installed on the property (Benz 1992, 1994).

Stormwater

Stormwater from roof drains on Warehouse #4 appear to discharge to a catch basin at the northwest corner of parcel 0050. Additionally, it appears that stormwater from approximately the northern quarter of the property flows across the property to this catch basin. Roof drains from the remaining buildings on parcels 0050 and 0120 discharge to a French drain. The general flow of stormwater across the site appears to be to the west toward Colorado Avenue S. Based on facility plans, the French drain appears to be connected to the sanitary sewer (Figure 11) (Urban Redevelopment 2005).

4.3.5.2 Historical Operations

A SCL substation was located in the southwest portion of the property (parcel 0020) from approximately 1927 through 1974. A heating oil tank was used at the substation (Environmental Associates 1996b, 1997).

Vehicle and equipment fueling and maintenance took place in the west scrap steel yard (parcel 0050) from 1940 to 1992. A baler used to compress and bundle various types of scrap metal operated in the west scrap steel yard from 1981 to 1993. The baler was installed on a concrete pad (Urban Redevelopment 2001).

4.3.5.3 Regulatory History

In November 1999, Bloch Steel requested an NFA for parcels 0120 and 0040 (Environmental Associates 1999c). Ecology issued an NFA for parcel 0040 only (Ecology 1999f).

In June 2008, Ecology removed Bloch Steel from the VCP program because Ecology had not received any documents related to the cleanup of the property since 2007 (Ecology 2008g,h).

The VCP ID numbers associated with Bloch Steel are NW0283, NW1394, and NW1620. All three VCP IDs are listed as inactive.

4.3.5.4 Environmental Investigation and Cleanups

Several environmental investigations have been conducted at Bloch Steel.

UST Removal (1992)

A 4,000-gallon diesel fuel tank was removed from the property in 1992. The UST had been installed in 1975 (Environmental Associates 1999a), on parcel 0050, north of the former SCL substation. The area surrounding the UST had been used for diesel fueling and storage and dispensing of motor fuel, motor oil, and hydraulic oils. Small surface spills of fuel and oil had occurred in the area. Over 250 cubic yards of petroleum-contaminated soil were excavated and stockpiled on the property and later removed to a landfill following bio-remediation (Benz 1992, 1994).

Preliminary Subsurface Sampling (1996)

Two borings were advanced around the former SCL substation and one soil boring was advanced at the southeastern portion of the property on parcel 0040. A trucking company with USTs had historically occupied the southeastern portion of the property. Soil and groundwater samples were analyzed for petroleum hydrocarbons, BTEX, and PCBs. Petroleum hydrocarbons and BTEX were detected at concentrations below the MTCA Method A cleanup levels and PCBs were not detected in soil samples collected from the former SCL substation. In groundwater, TPH-diesel concentrations exceeded the MTCA Method A cleanup level (Environmental Associates 1996b).

On parcel 0040, ethylbenzene and xylenes were detected at concentrations below the MTCA Method A cleanup levels in the soil. In groundwater, Aroclor 1260 was detected at a concentration above the MTCA Method A cleanup level (Environmental Associates 1996b).

Additional Subsurface Sampling (1997)

A ground penetrating radar (GPR) survey was conducted and six test pits were excavated in the area of the former SCL substation in 1997. The GPR survey did not find evidence of historical concrete pads for transformers or additional USTs. One soil sample from each test pit was tested for PCBs; PCBs were not detected in the soil samples (Environmental Associates 1997).

Subsurface Assessment, Former UST Site (1998)

Additional investigation was performed on parcel 0050 in the area of the former 4,000-gallon UST, which was removed in 1992. Historical records indicated that a second 1,000-gallon UST, installed in 1949, was located near the former 4,000-gallon UST. In August and October 1998, four test pits were excavated and three shallow soil borings and three groundwater monitoring wells (MW-1 through MW-3) were installed in the vicinity of the former 4,000-gallon UST. TPH-diesel and TPH-oil concentrations exceeded the MTCA Method A cleanup levels in soil. One composite soil sample was analyzed for PCBs. Aroclors 1254 and 1260 were detected at 1.2 and 0.95 mg/kg, respectively. Soil samples from three borings were analyzed for PAHs; dibenz(a,h)anthracene was the only PAH not detected in the soil samples (Environmental Associates 1999a).

Groundwater monitoring occurred in October and November 1998 and February 1999. Nearly 3 feet of free product was measured in well MW-3 in 1999. Free product was also measured in well MW-1. TPH-diesel concentrations exceeded MTCA Method A cleanup levels in all three wells (Environmental Associates 1999a).

Supplemental Subsurface Assessment, Former UST Site (1999)

Three additional groundwater monitoring wells (MW-4 through MW-6) were installed on parcel 0050 in April 1999. TPH-oil in soil exceeded the MTCA Method A cleanup level (Environmental Associates 1999b).

The six groundwater monitoring wells were sampled in April 1999. Wells MW-1 and MW-3 contained free product. TPH-diesel was present in well MW-2 at a concentration below the MTCA Method A cleanup level. Petroleum hydrocarbons were not detected in wells MW-4 through MW-6 (Environmental Associates 1999b).

Remedial Soil Excavation (2001)

In August 2001, a remedial excavation was performed on parcel 0050 to remove petroleum hydrocarbon impacted soil in the area of the former baler and vehicle maintenance operations (north of the former UST area). The excavation was approximately 40 feet wide by 100 feet long and 2 to 5.5 feet deep. Approximately 584 tons of contaminated soil were removed and disposed of off site. Soil samples were analyzed for TPH-diesel and TPH-oil. Excavation activities continued until TPH-diesel and TPH-oil concentrations were below MTCA Method A cleanup levels in side wall samples (Urban Redevelopment 2001).

Limited Soil Investigation, Former Shop Diesel UST Assessment, and Groundwater Remediation (2003 to 2005)

In May 2003, seven soil borings were advanced around the location of a former 500-gallon diesel UST that had been removed from the western portion of parcel 0050 in 1975. TPH-diesel concentrations in soil exceeded the MTCA Method A cleanup level; however, the diesel plume did not appear to migrate off property; TPH-diesel was not present in borings advanced adjacent to Colorado Avenue (Urban Redevelopment 2005).

In June 2003, approximately 200 cubic yards of soil were removed and disposed of off site. Confirmation soil samples were collected from the excavation and analyzed for TPH-diesel. Most soil with TPH-diesel concentrations exceeding the MTCA Method C cleanup level (6,100 mg/kg) was removed from the property; however, some “hot spots” of diesel contamination remained in place. The hot spots were covered by shop buildings and were inaccessible. Seven borings were advanced on the north side of the excavation after groundwater remediation activities (see below). TPH-diesel concentrations in these borings met or were below the MTCA Method C cleanup level (Urban Redevelopment 2005).

A groundwater remediation system was installed in the excavation. The system operated from August 2003 to 2005. Over 75,000 gallons of treated groundwater were disposed of through the remediation system. Bloch Steel discharged the treated groundwater to the sanitary sewer. Groundwater monitoring well MW-E was installed to assess the effectiveness of the groundwater remediation system. TPH-diesel concentrations had decreased to below the MTCA Method A cleanup level by September 2004 (Urban Redevelopment 2005).

Remedial Excavation (2005)

In September 2005, a remedial excavation was performed in the area of the former 4,000-gallon diesel UST. Approximately 3,000 cubic yards of soil were removed from the 60-foot-wide by 80-foot-long and 15-foot deep excavation. Confirmation soil samples indicated the presence of TPH-diesel above the MTCA Method A cleanup level remained in place adjacent to the baler on

the eastern side of the property and adjacent to a telephone pole on the western side of the property (RK Environmental 2006).

Groundwater remediation system piping was installed in the excavation. Approximately 2,000 pounds of fertilizer was mixed into the soil backfill for the excavation to promote bioremediation of the diesel contamination remaining in the soil (RK Environmental 2006).

Groundwater Monitoring (1999-2004)

The six groundwater monitoring wells at the property were monitored in August and December 1999. Free product was present in wells MW-1 and MW-3; though product thickness had decreased to 0.05 and 0.84 foot, respectively, by December 1999. As of December 1999, TPH-diesel concentrations in well MW-2 were at the MTCA Method A cleanup level. TPH-oil was present in wells MW-2 and MW-4. No other analytes were detected (Environmental Associates 2000). Groundwater monitoring well MW-C was installed in 2002 approximately 5 feet west of the former 500-gallon diesel UST. Two inches of free product were present in the well in April 2003.

4.3.5.5 Potential for Sediment Recontamination

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

Stormwater

Stormwater from this facility is discharged to the storm drain and sanitary sewer. Operations at Bloch Steel, scrap metal recycling, may represent a threat to stormwater quality. Metal cuttings and dust may be present in stormwater generated at this facility. The potential for sediment recontamination at this property is unknown.

CSO Events

Environmental assessment reports for this facility indicate that groundwater has historically been treated at the property and discharged to the sanitary sewer under discharge authorization 4085. It appears that the groundwater was tested only for TPH-diesel concentrations prior to discharge. Subsequent reports indicate that additional groundwater remediation equipment has been installed at the property. It is not known if groundwater remediation is ongoing or if Bloch Steel continues to discharge treated groundwater to the sanitary sewer. Potential sediment contaminants may have the potential to be conveyed to LDW sediments during a CSO event.

Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is low.

Soil and Groundwater

Concentrations of Aroclors 1254 and 1260 exceeding the soil-to-sediment screening levels have been detected in soil beneath the property. Naphthalene, 2-methylnaphthalene, acenaphthylene, acenaphthene, fluorene, and phenanthrene concentrations in soil exceeded the soil-to-sediment screening levels. Given the extensive remedial excavations performed in the area where PCBs and PAHs were detected, it is likely that PCB- and PAH-contaminated soil has been removed. However, confirmation samples collected from the excavations after 1998 have not been analyzed for PCBs or PAHs. From the available information it is not known if groundwater monitoring is currently performed at the property. Additionally, it appears that groundwater at the property has not been analyzed for PAHs or PCBs. The potential for sediment recontamination via this pathway is unknown, but is likely to be low, considering that the property is approximately 2,000 feet east of the LDW.

4.3.5.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to ensure compliance with NPDES discharge monitoring requirements and stormwater BMPs.	Ecology and/or SPU will conduct a source control inspection at the facility.
	Updated facility plans are needed to determine the locations of roof drains and French drains on the property to determine where stormwater is discharged.	Ecology will require Bloch Steel to submit an updated facility plan.
Groundwater Discharge	Additional information is needed to determine if groundwater monitoring is ongoing and if PCBs and/or PAHs are present in groundwater.	Ecology will require Bloch Steel to provide information regarding groundwater monitoring activities at this facility after 2004.

4.3.6 Dearborn Corporation Campus Goodwill & Goodwill Industries Seattle

Facility Summary: Dearborn Corporation Campus Goodwill & Goodwill Industries Seattle	
Tax Parcel No.	7134300005, 7134300080, 7134300165, 7134300170, 8170100520, 8170100570, 0524049003, 0524049008, 0524049012, 0524049015, 0524049016, 0524049017,
Address	Operating: 1200-1590 S Dearborn Street 0005 & 0080: 1400 S Lane Street 0165: 1412 S Dearborn Street 0170: 1416 S Dearborn Street 0520: 1200 S Dearborn Street 0570: 1300 S Dearborn Street 9003: 1400 S Dearborn Street 9008: 1325 S Lane Street

Facility Summary: Dearborn Corporation Campus Goodwill & Goodwill Industries Seattle	
	9012: 1426 S Dearborn Street 9015: 1350 S Dearborn Street 9016: 1319 S Lane Street 9017: 1312 S Dearborn Street
Property Owner	0005, 0080, 0165, 0170: 9003, 9008, 9012, 9015, 9016, 9017: Seattle Goodwill Industries 0520: Michael R. Mastro 0570: Ronald C. Herzog & Robert E. Herzog, Jr.
Parcel Size	0005: 3.28 acres (142,857 sq ft) 0080: 1.29 acres (56,325 sq ft) 0165: 0.11 acre (4,895 sq ft) 0170: 0.14 acre (5,980 sq ft) 0520: 1.32 acres (57,600 sq ft) 0570: 0.59 acre (25,618 sq ft) 9003: 0.55 acre (23,897 sq ft) 9008: 0.25 acre (10,814 sq ft) 9012: 0.76 acre (33,108 sq ft) 9015: 1.08 acres (46,926 sq ft) 9016: 0.14 acre (6,150 sq ft) 9017: 0.29 acre (12,579 sq ft)
Facility/Site ID	6258254 (Dearborn Corporation Campus Goodwill) 49374963 (Goodwill Industries Seattle)
SIC Code(s)	5932: Used Merchandise Stores 8331: Job Training and Vocational Rehabilitation Services
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	9219
Map/Map ID	B2/348 (Dearborn Corporation Campus Goodwill) B2/345 (Goodwill Industries Seattle)

The Dearborn Corporation Campus Goodwill & Goodwill Industries Seattle (herein referred to as Seattle Goodwill) operates on 12 parcels located in the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The properties are generally bordered by 12th Avenue S to the west, by S Weller Street to the north, by Rainier Avenue S to the east, and by S Dearborn Street to the south. S Lane Street runs west to east between the properties with Lane and Dearborn street addresses. The operating addresses for the Seattle Goodwill are 1400 S Lane Street and 1200-1590 S Dearborn Street.

King County tax assessor records indicated the following information regarding each parcel:

- Parcel 0005: A Goodwill retail store is located on this parcel. The 119,045 sq ft store was constructed in 1947. A demolition permit was issued on November 1, 2002 (Permit No. 731634).
- Parcel 0080: A 3,520 sq ft warehouse, constructed in 1948, is located on this parcel.
- Parcel 0520: This parcel is named MC Machinery & Company. Two buildings are located on this parcel: a 9,673 sq ft office building constructed in 1984 and a 576 sq ft equipment room constructed in 1989.
- Parcel 0570: This parcel is named Herzog Glass. Two buildings are located on this parcel: a 14,460 sq ft manufacturing building constructed in 1932 and a 5,200 sq ft heavy industrial manufacturing building constructed in 1997. Seattle Goodwill sold the property to the Herzog family in February 1995.
- Parcel 0165: A 10,704 sq ft warehouse, constructed in 1916, is located on this parcel.
- Parcel 0170: A 15,255 sq ft warehouse, constructed in 1910, is located on this parcel.
- Parcel 9003: A 28,500 sq ft warehouse, constructed in 1917, is located this parcel.
- Parcel 9012: A 51,220 sq ft warehouse, constructed in 1922, is located on this parcel.
- Parcel 9008: This parcel is a vacant lot.
- Parcels 9015, 9016: Both of these parcels are used as a parking lot; there are no buildings present.
- Parcel 9017: A 7,700 sq ft warehouse, constructed in 1948, is located on this parcel.

4.3.6.1 Current Operations

The Seattle Goodwill is composed of the 12 parcels listed above. There are 22 buildings on the property, used for retail, office, and storage space. The NAICS codes for this facility are: 3272 Glass and Glass Product Manufacturing, 453 Miscellaneous Store Retailers, 8111 Automotive Repair and Maintenance, and 8131 Religious Organizations. No additional information regarding current operations at this property was available for review.

4.3.6.2 Historical Operations

A brick, tile, and terra cotta manufacturing company operated from 1893 to 1904 in the area now occupied by the Seattle Goodwill. In the 1950s, an auto painting shop, two pattern and plating workshops (located on the Herzog Glass parcel 0570), a sausage factory, a refrigerator machinery and repair shop, a service station, and a donut factory operated in this area. General Paint Corporation occupied a portion of the Seattle Goodwill from the 1930s through the 1960s. The service station was no longer operating by 1960 and the pattern and plating workshops were no longer operating by 1969 (Foster Pepper 2000).

The main Goodwill Building has supported many uses including a repair shop, a paint shop, and a laundry. Dry cleaning was performed at the laundry from the 1950s to 1997 (Foster Pepper 2000).

4.3.6.3 Regulatory History

A site hazard assessment was completed by SKCDPH in 2007. The property was given a ranking of 2, where 1 represents the highest risk to human health and/or the environment and 5 represents the lowest risk (SKCDPH 2007).

SPU performed a follow-up inspection at Seattle Goodwill in January 2008 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

4.3.6.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the Seattle Goodwill.

UST Removals and Remedial Excavations – Herzog Glass parcel (1991 to 1995)

Between 1991 and 1994, five USTs were removed from the Herzog Glass property (parcel 0570). The USTs included three 2,000- to 6,000-gallon gasoline USTs, one 2,000-gallon diesel UST, and one 500-gallon heating oil UST. Over 800 tons of petroleum-contaminated soils were removed from the property (Hart Crowser 2001a).

In 1993, four groundwater monitoring wells were installed at the Herzog Glass property. Petroleum hydrocarbons were present in shallow soils; chromium concentrations above the MTCA Method A cleanup level and low concentrations of VOCs were present in groundwater. Additional soil and groundwater samples collected in 1994 confirmed the presence of chromium at the Herzog Glass Property and additional analysis indicated that the chromium was hexavalent chromium (Hart Crowser 2001a).

Former Unocal Gasoline Service Station Assessment (1992 to 1998)

Five groundwater monitoring wells were installed at the former service station, which was located at the southeastern corner of the Seattle Goodwill (i.e. the northwest corner of the intersection of Rainier Avenue S and Dearborn Street). Two USTs were discovered at the property in 1994. Four USTs were removed from the property in 1996. Some petroleum-contaminated soil has been removed from the property (Hart Crowser 2001a). A total of seven USTs have been removed from the property (SKCDPH 2007).

Dearborn Campus Investigation (2000)

Between April and July 2000, 32 soil borings were advanced on the Seattle Goodwill; 18 of these borings were converted to groundwater monitoring wells. Groundwater elevation data indicated that groundwater flows to the south and southeast. Chromium concentrations in soil and groundwater exceeded MTCA cleanup levels in the southwestern area of the property. Arsenic concentrations in groundwater also exceeded the MTCA Method A cleanup level in the western portion of the property (Hart Crowser 2001a).

Petroleum contamination in soil exceeding MTCA cleanup levels was present at the southeastern portion the property near USTs. PCE, TCE, and dichlorobenzene concentrations in groundwater

exceeded MTCA cleanup levels along the southwestern and western boundaries of the property (Hart Crowser 2001a).

Phase II Environmental Assessment (2005)

Soil and groundwater samples were collected near the Goodwill retail store and storage building (parcel 0005). Thirty soil and groundwater samples were collected for laboratory analysis. TPH-gas, TPH-diesel, TPH-oil, and TCE exceeded MTCA cleanup levels in soil; TCE also exceeded MTCA cleanup levels in groundwater. The samples were also analyzed for metals (SKCDPH 2007); however, these results were not available for review.

4.3.6.5 Potential for Sediment Recontamination

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

Stormwater

Little information is available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway. The property was inspected by SPU in 2008 and no corrective actions were identified.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Groundwater samples collected in 2000 (Hart Crowser 2000a) contained concentrations of chromium and lead that exceed the groundwater-to-sediment screening level. Chromium was detected up to 300 mg/kg in soil (Hart Crowser 2000b). The depth of the soil sample is not known; if collected in the saturated zone, then this concentration represents an exceedance of the soil-to-sediment screening levels. Groundwater appears to flow to the south or southeast, away from the LDW, and the property is over 2.5 miles northeast of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.3.6.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.3.7 Former Northwest Plating

Facility Summary: Former Northwest Plating	
Tax Parcel No.	7886101290
Address	825 S Dakota Street
Property Owner	Washington Industries, Inc.
Parcel Size	0.31 acre (13,520 sq ft)
Facility/Site ID	2231 (Former Northwest Plating)
SIC Code(s)	3471: Electroplating, Plating, Polishing (Former Northwest Plating) 7389: Business Services, Not Elsewhere Classified (AV-Pro)
EPA ID No.	WAD009244864 (Inactive) (Former Northwest Plating)
NPDES Permit No.	Unknown (Former Northwest Plating)
KCIW Discharge Permit/Authorization No.	7100 Permit-cancelled (Former Northwest Plating)
UST/LUST ID No.	100187 (Former Northwest Plating)
Map/Map ID	B4/143

This property is located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. A BNSF right-of-way is located to the west of the property. To the east of the property is 9th Avenue S and I-5. The property is bordered by S Dakota Street to the north and the John Perine Company (Facility/Site ID 5857213, see Appendix A-2) to the south.

There is one building on the property, a 12,800 sq ft light industrial manufacturing building constructed in 1957. According to King County tax assessor records, the property name is AV-Pro.

4.3.7.1 Current Operations

AV-Pro is the current business at the property. AV-Pro supplies audio and visual products and equipment for events and productions, such as tradeshows and conventions (AV-Pro 2009). Additional information regarding current operations at the property was not available for review.

4.3.7.2 Historical Operations

Northwest Plating was a metal plating shop. The company operated at this facility from at least the 1980s to 1992. Little information regarding historical operations at the property was available for review.

Spills

In May 1990, equipment failure at the facility resulted in the release of chrome-contaminated fluids inside the building. The spill was contained and did not reach the sanitary sewers or the outdoors (Ecology 1990e).

Waste Streams

1980s: Electroplating wastewater treatment sludge and cyanide, heavy metal sludge, waste paints, chromic acid solution, hydrochloric acid, TCE, methyl ethyl ketone (MEK) (Northwest Plating 1982, 1983, 1984, 1985).

1990s: A Notification of Dangerous Waste Activities form, filed with Ecology in 1993, indicates a one-time disposal of wastewater treatment sludge, waste paint solvents, waste degreasing solvents, plating wastewater, and demolition debris that was generated from the closing of Northwest Plating and subsequent building clean up (Northwest Plating 1993). Northwest Plating had ceased operations at the facility by December 30, 1992 (METRO 1993a).

4.3.7.3 Regulatory History

In May 1989, Washington Industries notified Ecology that contamination had been found under and around the building on the property. Washington Industries was the new owner of Northwest Plating (Ecology 1989d).

In September 1989, METRO issued an Informal Compliance Schedule due to KCIW discharge violations that occurred during May, June, July, and August 1989. Cyanide and chromium concentrations exceeding the permit limits had been discharged to the municipal sewer system (METRO 1989a).

On October 26, 1989, METRO issued a Formal Compliance Schedule due to KCIW discharge violations that occurred on October 12 and 13, 1989. Cadmium concentrations in discharged waste exceeded permit limits (METRO 1989c).

In December 1989, METRO issued an Informal Compliance Schedule due to KCIW discharge violations that occurred in September, October, November, and December 1989. Cyanide concentrations in discharged wastewater exceeded permit limits (METRO 1989d).

In March 1992, METRO billed Northwest Plating for monitoring services following a discharge violation that occurred in February 1992. Cadmium and zinc concentrations in wastewater exceeded the discharge permit limits (METRO 1992a).

METRO fined Northwest Plating in December 1992 for discharge violations that occurred in April, May, June, and September 1992. Cyanide and chromium concentrations in wastewater exceeded discharge permit limits (METRO 1992b).

On April 15, 1993, METRO cancelled Discharge Permit No. 7100 (METRO 1993b).

According to Ecology's Facility/Site Database, the facility was issued coverage under the ISGP NPDES permit; however, the permit number was not found.

SPU performed a follow-up inspection at AV-Pro in February 2004 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

4.3.7.4 Environmental Investigations and Cleanups

At least two environmental investigations have been completed at the property. Four groundwater monitoring wells were installed on the property. Cadmium, chromium, copper, zinc, cis-1,2-DCE, trans-1,2-DCE, PCE, and TCE were detected in groundwater (Helsell, Petterman, Martin, Todd & Hokanson 1989). Copies of the investigation reports were not available for review.

Telephone records from 1998 indicate that groundwater monitoring wells remained on the property and that Phase II ESA activities were planned for the property (Bardy 1998a,b).

4.3.7.5 Potential for Sediment Recontamination

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Groundwater contamination is present at this property. Information pertaining to contaminant concentrations and groundwater flow direction was not available for review. The property is over 1 mile east of the LDW; therefore, the potential for sediment recontamination via groundwater discharge is very low.

4.3.7.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.3.8 Former Ocean Beauty Seafood aka Perfection Smokery

Facility Summary: Former Ocean Beauty Seafood aka Perfection Smokery	
Tax Parcel No.	3573200285
Address	4660 East Marginal Way S
Property Owner	Madonna Properties LLC
Parcel Size	0.79 acre (34,510 sq ft)

Facility Summary: Former Ocean Beauty Seafood aka Perfection Smokery	
Facility/Site ID	57454884
SIC Code(s)	2091: Canned and Cured Fish and Seafoods 549: Miscellaneous Food Stores
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	482 – Authorization minor (Former Ocean Beauty Seafoods)
UST/LUST ID No.	10853 (LUST-Active, UST-Inactive)
Map/Map ID	A4, A5/46

The former Ocean Beauty Seafood aka Perfection Smokery property is located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The property is bordered by East Marginal Way S and Federal Center South on the west, T-106 East Warehouse W-6 on the north, Ohio Avenue S and T-106 East Warehouse W-4 on the east, and S Alaska Street on the south.

According to King County tax assessor records, Ocean Beauty Properties, LLC sold the property to Madonna Properties, LLC in July 2007. The property name listed in tax assessor records is Siberian Fish Products. There is one building on the property, a 21,190 sq ft light industrial manufacturing building constructed in 1926.

4.3.8.1 Current Operations

Tiny's Organic is the current operator at this location. Tiny's Organic has offices at this facility and packages and distributes produce from this facility (Tiny's Organic 2009; Ecology 2008n).

4.3.8.2 Historical Operations

K&L Distributors, a beverage company, leased the property from approximately 1948 to 1971. In 1981, the property was leased to Siberian Salmon Egg Company, Inc. and Bindery Service Center, Inc. The lease to the Bindery Service Center was cancelled in 1987 (Sweet-Edwards 1991d).

Washington Fish and Oyster Company, doing business as Perfection Smokery, had been issued NPDES permits in 1983 and 1988. The effluent discharge was described as wastes from fish processing. Perfection Smokery also held METRO discharge permits for discharge of industrial wastewater to the sanitary sewer.

A company named Stone Fly Design operated at the property in 2004.

4.3.8.3 Regulatory History

SPU performed a facility inspection at Stone Fly Design in May 2003 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

In February 2009, Ecology sent an Early Notice Letter to Madonna Properties, LLC, the current property owner (Ecology 2009c). According to Ecology's ISIS database the facility is currently awaiting a site hazard assessment.

4.3.8.4 Environmental Investigations and Cleanups

Two environmental investigations have been conducted at the former Perfection Smokery property.

UST Removal and Soil Remediation (1990)

Two 1,500-gallon USTs, associated piping, and a pump dispenser were removed from the southeastern corner of the parking lot in June 1990. Remedial excavation activities were performed in July 1990. According to Ecology records, the USTs were last used in June 1982. Photoionization detector (PID) readings from the excavated soil were as high as 1,300 ppm. Three test pits were excavated around the perimeter of the UST excavation to determine the extent of petroleum hydrocarbon contamination. Groundwater was encountered in the excavations at approximately 8 feet bgs. An SVE system was installed in the excavation in September 1990. The SVE system began operating in October 1990 and ran until January 1991. Soil samples collected after the SVE system was turned off did not contain petroleum hydrocarbons (Sweet-Edwards 1991d).

Groundwater Monitoring Well Installation and Monitoring and Soil Remediation (1992-1993)

In January 1992, three groundwater monitoring wells were installed at the property. TPH-gas, ethylbenzene, and total xylenes concentrations in groundwater exceeded the MTCA Method A cleanup levels when the wells were sampled in February 1992 (EMCON 1993).

Well MW-1 was abandoned prior to soil remedial excavation activities in January 1993. The remedial excavation began in February 1993. Two excavations were completed to a depth of 7 feet bgs. TPH-gas exceeded the MTCA Method A cleanup level on the eastern sides of both excavations at the property boundary (EMCON 1993).

4.3.8.5 Potential for Sediment Recontamination

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

Stormwater

Stormwater from this facility is discharged to the storm drain, which discharges to the LDW. Operations at Tiny's Organic are not well known and may fall under SIC code 20xx Food and Kindred Products; companies under this SIC code require an NPDES permit if stormwater discharges to surface waters. The potential for sediment recontamination at this property is unknown.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum hydrocarbon and VOC contamination in soil and groundwater has been documented at this facility. The extent of contamination is unknown; however, petroleum hydrocarbons and VOCs[11] are not considered contaminants of concern for LDW sediment. The facility is over 1,000 feet east of the LDW. The potential for sediment recontamination via this pathway is very low.

4.3.8.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at Tiny's Organic comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at Tiny's Organic. Ecology will review the results of the site hazard assessment, when performed, to determine if additional source control actions are required at this property.

4.3.9 Former Penthouse Drapery and City Commerce Park

Facility Summary: Former Penthouse Drapery and City Commerce Park/	
Tax Parcel No.	1824049060
Address	4115 1st Avenue S
Property Owner	4105 First Avenue South Investments LLC
Parcel Size	6.78 acres (295,308 sq ft)
Facility/Site ID	2067184 (City Commerce Park-deep groundwater) 8919694 (City Commerce Park-surface to 30' bgs) 13523822 (Former Penthouse Drapery) 68361362 (Former INX International Ink Co.)

[11] Although not explicitly addressed in the SMS, VOCs in pore water may cause adverse effects on benthic invertebrates and other aquatic biota, and are therefore considered additional COCs for source control efforts in the LDW, but are not sediment contaminants of concern.

Facility Summary: Former Penthouse Drapery and City Commerce Park/	
SIC Code(s)	1731: Electrical Work (NetVersant) 2893: Printing Ink (Former INX International Ink. Co.) 5719: Miscellaneous Homefurnishings Stores (Plastics for Lighting) 7216: Drycleaning Plants, except Rugs (Former Penthouse Drapery) 7389: Business Services, Not Elsewhere Classified
EPA ID No.	WAD988472478 (Inactive) (Former Penthouse Drapery) WAD988482576 (Inactive) (Former INX International Ink. Co.)
NPDES Permit No.	SO3000129 (Former INX International Ink Co.)
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	A4/162: City Commerce Park-deep groundwater A4/144: City Commerce Park-surface to 30' bgs A4/147: Former Penthouse Drapery A4/166: Former INX International Ink. Co.

City Commerce Park is located in the Diagonal West SD basin and Diagonal Avenue S CSO basin. The property is bordered by a BNSF right-of-way to the west and south and a UPRR right-of-way to the north. The property is bordered by 1st Avenue S, former VW&R property (Section 4.3.21), and Crosscut Hardwoods (Section 4.3.22).

According to King County tax assessor records, the parcel address is 4001 1st Avenue S. There is one building on the property, a 179,413 sq ft warehouse constructed in 1946. Remodeling permit no. 6090387 was issued in May 2006.

4.3.9.1 Current Operations

Ecohaus, Inc. (Ecohaus) currently occupies the portion of the facility previously occupied by Penthouse Drapery (Kleinfelder 2009). Ecohaus is a supplier of "green" building and home improvement products such as paint, flooring, and fixtures (Ecohaus 2009). Other tenants in the City Commerce Building include NetVersant, Utility, Inc., Performance Radiator, and Plastics for Lighting (Plastics for Lighting 2009).

Stormwater runoff is capture by a system of catch basins located throughout the parking lots on the property. Roof drains from the building appear to be connected to the storm drain system (ATC 1999a).

4.3.9.2 Historical Operations

The property was first developed in 1946 by the Sears Roebuck Company (Sears). The property was redeveloped in 1989 as multi-tenant facility. Over a dozen tenants have occupied the facilities since 1989, including Penthouse Drapery, Harborview Medical Center, INX

International Ink, and the Loomis Company (Figure 12); these companies used hazardous substances in their operations (ATC 1999a). The Loomis Company was an injection molding/plastics facility (GeoEngineers 1999b).

Two pad-mounted transformers were located on the property. Labels on the transformers indicated that the transformers contained coolant less than 50 ppm PCB (ATC 1999a).

Penthouse Drapery held Seattle Fire Department permit number 073261 for the operation and maintenance of a dry cleaning facility with PCE, and PSAPCA registration number 24292. Penthouse Drapery's facility had a floor drain in an area where PCE was used to clean draperies (ATC 1999a). Penthouse Drapery ceased dry cleaning operations in February 2000 (Spieker Properties 2000).

INX International Ink used acrylic acid, ammonia, 1,4-dioxane, ethyl acrylate, glycol ether, styrene, and compounds of barium, cobalt, and copper in its operations (ATC 1999a)

4.3.9.3 Regulatory History

The VCP ID number associated with the property is NW1905 and it is inactive.

In May 2000, Spieker Properties (contemporary property owner) requested assistance from Ecology under the VCP and an NFA determination for the property (Spieker Properties 2000). In September 2000, Ecology determined that additional remedial actions were needed at the property to address PCE contamination associated with Penthouse Drapery and petroleum contamination associated with a former UST (Ecology 2000g).

Ecology issued an NFA determination for the former UST area only in June 2002 on the condition that groundwater monitoring continue at this area of the property (Ecology 2002e). In July 2007, Ecology rescinded the NFA; however, Ecology did not require further action with regard to petroleum hydrocarbons in soil and groundwater. Further action was required with regard to PCE contamination at the property (Ecology 2007l).

SPU performed inspections at Plastics for Lighting, Inc. in April 2003, INX International Ink in June 2003, Utility, Inc. in September 2003, and NetVersant in December 2003 (Schmoyer 2009b). The facilities were in compliance (Table 9). The inspection reports were not reviewed.

SPU performed another inspection at Utility, Inc. in August 2007 (Schmoyer 2009b). The facility was in compliance (Table 9). The inspection report was not reviewed.

In March 2008, Ecology issued an NFA determination with regard to shallow groundwater (i.e., groundwater above 30 feet bgs) beneath the property (Ecology 2008a) and required that the contamination plume in deep groundwater (i.e. below 30 feet bgs) beneath the property be fully characterized (Ecology 2008b).

Ecology inspected Ecohaus in June 2008 (Table10). The Ecology inspector noted that the company needed to improve housekeeping and obtain spill supplies and spill response kits (Jeffers 2008b). The facility was re-inspected in July 2008 and Ecology determined that Ecohaus had achieved compliance with the corrective actions (Jeffers 2008c).

4.3.9.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the former Penthouse Drapery/City Commerce Park property.

Phase I Environmental Site Assessment (1999)

Two 8,000- or 10,000-gallon heating oil USTs were in use at the property from 1946 through 1982. The USTs were drained in 1983 or 1984. An oily sludge was reportedly observed in the tanks in 1987. Groundwater samples collected around the USTs in 1988 indicated no substantial petroleum hydrocarbon impact. No records documenting the removal or abandonment of the USTs were available (ATC 1999a).

A 550-gallon gasoline or diesel UST was removed from the southernmost parking lot of the property in 1988. The UST had been installed in 1952 or 1953. Soil around the UST was excavated until field screening indicated that no petroleum hydrocarbons were present (GeoEngineers 1999b). Groundwater samples from the 550-gallon UST area indicated that TPH concentrations in groundwater exceeded the MTCA Method A cleanup level (ATC 1999a).

PCE concentrations in soil and groundwater samples collected in the area of the former Penthouse Drapery facility exceeded the MTCA Method A cleanup level (ATC 1999a).

At the former INX International Ink Co. facility, a green stain around a storm drain was observed during the property assessment. The facility manager indicated that it was residue from a spill (ATC 1999a).

Preliminary Subsurface Investigation (1999)

Ten soil borings were advanced and ten grab groundwater samples were collected in and around the former Penthouse Drapery facility near the floor drain and downstream sewer lines. In the soil and groundwater samples collected inside the facility, PCE was present at concentrations above MTCA cleanup levels. PCE was not detected in the soil samples collected along the downstream sewer lines. PCE was detected in groundwater in this area, but at concentrations below the MTCA cleanup level (ATC 1999b).

Two soil borings were advanced and two grab groundwater samples were collected in the former 550-gallon UST area. No analytes were detected in the soil samples; however, TPH-diesel exceeded the MTCA Method A cleanup level in groundwater (ATC 1999b).

Four soil borings were advanced and four grab groundwater samples were collected on the eastern property line to assess potential VOC impacts from the upgradient former VW&R property. No VOCs were detected in the soil and groundwater samples (ATC 1999b).

Subsurface Investigation (2001)

Six soil borings and three groundwater monitoring wells were installed at the former Penthouse Drapery and Plastics for Lighting facilities in June 2001. Six grab groundwater samples were

collected from the soil borings and groundwater samples were collected from the newly installed wells. Groundwater flow direction in the former Penthouse Drapery area was to the west-northwest. Soil and groundwater samples were analyzed for VOCs; no analytes were detected in soil. Vinyl chloride was detected above the MTCA Method A cleanup level in the grab groundwater samples (ATC 2001).

Two soil borings and three groundwater monitoring wells were installed around the former 550-gallon UST. Three grab groundwater samples were collected from the two soil borings and one well boring. Additionally, groundwater samples were collected from the newly installed wells. Groundwater flow direction in the former UST area was to the northeast. The soil and groundwater samples were analyzed for TPH-diesel and TPH-oil. TPH-oil concentrations exceeded the MTCA Method A cleanup level in soil; TPH-diesel was not detected. Petroleum hydrocarbons were not detected in the grab groundwater samples. The grab groundwater samples were also analyzed for PAHs, which were detected at low concentrations (ATC 2001).

Groundwater samples collected from the wells in both areas were analyzed for petroleum hydrocarbons, BTEX and other VOCs, and PAHs. The only analyte detected was 2-methylnapthalene (ATC 2001).

Soil and Groundwater Assessment (2001)

Four groundwater monitoring wells were installed in the former Penthouse Drapery area, two near the former dry cleaning machine area and two upgradient and downgradient of the area potentially contaminated by PCE and vinyl chloride. Soil and groundwater samples were collected and analyzed for VOCs. PCE and vinyl chloride were detected above the MTCA Method A cleanup levels in soil and groundwater. The results of this investigation indicated that the PCE/vinyl chloride plume had been defined for shallow groundwater (groundwater above 30 feet bgs) but was still undefined in deep groundwater (groundwater below 30 feet bgs). Groundwater elevation data suggested a new flow direction toward the LDW (Kleinfelder 2002).

Additional assessment was performed at the former UST area concurrent with investigation described above (Kleinfelder 2002); however, the report documenting the former UST area assessment was not available for review.

Deep Groundwater Characterization (2002)

Three groundwater monitoring wells were installed at the property in September 2002 to evaluate the potential for an offsite, upgradient source of PCE. Two wells were installed at the eastern property line and one well was installed immediately east of the former Penthouse Drapery facility. The well borings were advanced between 80 and 100 feet bgs. TCE concentrations exceeding the MTCA Method cleanup level for soil were present in the well adjacent to the former Penthouse Drapery facility and one of the property line wells. Benzene and vinyl chloride concentrations in all borings exceeded the MTCA Method A cleanup levels for soil. Vinyl chloride, TCE, and benzene were all present in the deep groundwater samples (Kleinfelder 2003).

Groundwater Monitoring (2004 to 2005)

Groundwater samples were collected from two shallow groundwater zone wells, three intermediate zone wells (30 to 40 feet bgs), and four deep groundwater zone wells (below 40 feet bgs) from 2004 to 2005. Vinyl chloride concentrations exceeded the MTCA Method A cleanup level in the intermediate and deep groundwater zones. Benzene also exceeded the MTCA Method A cleanup level in the deep groundwater zone. No analytes were detected in the shallow groundwater zone (Kleinfelder 2005a,c).

Groundwater flow direction in the intermediate groundwater zone was typically to the southwest or southeast and in the deep groundwater zone flow direction was typically to the west-southwest (Kleinfelder 2005a).

Soil Vapor Extraction Treatment System Operation (2003 to 2005)

Eight SVE wells and two air sparging wells were installed in the former Penthouse Drapery area between October 2003 and August 2004. Soil samples from the well borings contained PCE concentrations above the MTCA Method A cleanup level (Kleinfelder 2006b).

The ozone/air sparging and SVE treatment system was started in December 2004 (Kleinfelder 2005b). The purpose of the treatment system was to remove PCE and its degradation products from the vadose zone soil and shallow groundwater beneath the former Penthouse Drapery facility. The system was shut down in September 2005 due to declining VOC concentrations (Kleinfelder 2005c). The system was restarted in December 2005 to evaluate VOC rebound. VOCs were not detected in vapor samples; therefore, the system was shut down (Kleinfelder 2006a).

Well Decommissioning (2008 to 2009)

In December 2008 and February 2009, all 28 groundwater monitoring, air sparge, and SVE wells on the property were decommissioned (Kleinfelder 2009).

4.3.9.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Residual contaminants in soil and groundwater beneath the facility

may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Benzo(g,h,i)perylene and dibenz(a,h)anthracene concentrations in grab groundwater samples have exceeded the groundwater-to-sediment screening levels. However, these concentrations were detected in 2001. The property is over 2,000 feet east of the LDW; therefore, the potential for sediment recontamination via the groundwater discharge pathway is likely to be low.

4.3.9.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.3.10 Former Rainier Brewery

Facility Summary: Former Rainier Brewery	
Tax Parcel No.	7135400000, 7666203110
Address	0000: 3100 Airport Way S 3110: None
Property Owner	0000: Rainier Commons 3110: Nesor Investment Company
Parcel Size	0000: 4.57 acres (199,063 sq ft) 3110: 10.24 acres (446,048 sq ft)
Facility/Site ID	2031281 (Sound Transit Maintenance and Operations Facility) 9192461 (Former Rainier Brewery)
SIC Code(s)	2095: Roasted Coffee (Tully's Coffee)
EPA ID No.	WAD051239994
NPDES Permit No.	WA0031364
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	601 (LUST-Active, UST-Inactive
Map/Map ID	B4/248

The former Rainier Brewery occupied two parcels in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. Parcel 3110 is bordered by Alaskan Copper Works (Section 4.2.1) to the west, S Forest Street to the north, and Airport Way S, the SPU Operations Center (Section 4.2.3), and Rainier Commons to the east. The parcel is now part of the Sound Transit Maintenance and Operations facility. There is one building on the property, a 162,157 sq ft municipal service garage constructed in 2005, which is operated by Sound Transit.

Parcel 0000 is bordered on the west by Airport Way S and the Sound Transit Maintenance and Operations facility, on the north by a CPSRTA right-of-way and the SPU Operations Center, on the east by I-5, and to the south by S Horton Street and Fabriform Plastics, Inc. (Section 7.1). Parcel 0000 is now part of Rainier Commons.

4.3.10.1 Current Operations

The properties historically associated with the former Rainier Brewery are now operated by Rainier Commons (parcel 0000) and Sound Transit (parcels 3110). Current operations are summarized below by operator.

Rainier Commons

This portion of the former Rainier Brewery was redeveloped into a mixed-use property, the Rainier Commons, beginning in 2006. Ariel Development, Inc. (Ariel) operates Rainier Commons and its corporate offices are located on the property. There are currently 24 buildings on the property, including artists' lofts and two restaurants (USEPA 2009a). Approximately one-third of the property is leased to Tully's Coffee (Tully's). Tully's corporate office, roasting and distribution facilities are located on the property.

PCBs are present in the exterior paint of some buildings on the property. To help prevent paint chips from entering the storm drain system (a historical problem at the facility), Rainier Commons proposed implementing the following BMPs to EPA:

- Placing filter fabrics at all stormwater discharge points, including catch basins and roof drains.
- Implementing a routine facility inspection program to identify the need for replacement of stormwater filters, catch basin cleaning, paint repair, and ground surface cleanup.
- Implementing required maintenance of items identified during inspections on a timely basis.
- Implementing appropriate method of managing PCB-containing wastes (CDM 2009).

A proposed cleanup action plan included removing PCB-containing paint from the property, including building exteriors where the paint is peeling and the storm drain system, was prepared in April 2009 (CDM 2009). EPA commented on the proposed cleanup action plan and has required the owners to submit a revised cleanup plan by August 21, 2009 (Cargill 2009).

Sound Transit

Sound Transit operates its maintenance facility on this portion of the former Rainier Brewery. The operating address is 3407 Airport Way S. The NAICS Code is 485112 Commuter Rail Systems. Additional information regarding current operations at the Sound Transit Maintenance and Operations facility was not available for review.

4.3.10.2 Historical Operations

Rainier Brewery operated from 1883 to 1999. The brewery facility was located on the east side of Airport Way S (parcel 0000). Brewed beer was transferred to the bottling, packaging, and shipping facility on the west side of Airport Way via an overpass (parcel 3110) (Ecology 1994a).

Operations at the brewery included brewing, packaging, and warehousing malt beverages. Hazardous substances used in its operations included ammonia and phosphoric acid. Hazardous wastes generated at the facility included MEK, methanol, and mineral spirits (Rainier Brewing Company 1992). Rainier Brewery discharged filter backwash, bottle soaker water, and brewery tank water to the sanitary sewer (Ecology 1994a).

The Rainier Brewing Company was sold to the G. Heileman Company in 1977. Arthur Bond purchased the facility prior to 1990 (Ecology 1990b) and the Stroh Brewery Company apparently purchased the facility in or prior to 1996 (Stroh Brewery Company 1996). The brewery was sold to the Benaroya Foundation in 1999 and then to Rainier Commons in 2003 (USEPA 2009a). Sound Transit purchased parcel 3110 in 2003.

Prior to 1979, five transformers were removed from the facility. Two of the transformers tested positive for PCBs. In the 1990s the facility had seven substations. Transformers and capacitors at the facility were dry-type (Ecology 1990b).

4.3.10.3 Regulatory History

1989 &1990s

In November 1989, the Rainier Brewing Company notified Ecology that a release of diesel fuel, heating fuel oil, and unleaded gasoline had been discovered around three USTs associated with the Point of Sales building on parcel 3110 (Enviros 1989). Remedial actions were taken to clean up the contaminated soils (Enviros 1990a; Parametrix 2000a); however, in 1996, Ecology received a second report of this contamination when a general contractor uncovered soil and remediation piping (Ecology 1996e).

In January 1990, Ecology inspected the facilities to determine compliance with the PCB regulations pursuant to the Toxic Substances Control Act. The EPA determined that no apparent violations of PCB regulation were documented (USEPA 1990).

Rainier Brewery applied for an NPDES permit in October 1992 after a METRO inspector identified non-contact cooling water entering a storm drain. In March 1994, Ecology inspected the facility as part of the application process. Wash water from the final bottling rinse on the packaging line was contaminated with a soapy lubricant. The wash water was observed discharging to the storm drain. Cooling water from the final process in the can pasteurizing system discharged to the storm drain. Stormwater runoff issues were noted in the mash filter area (Ecology 1994a).

The facility was re-inspected in September 1994. Non-contact cooling water and non-process wastewater were discharged to the storm drain continuously at a maximum discharge rate of 236,500 gallons per day (Ecology 1994d).

Ecology performed a water compliance inspection at the facility in March 1998. Ecology noted that technical means were available to the facility to contain and reuse all waste streams discharged to surface water and indicated that the new NPDES permit would have specific requirements to move the facility toward water conservation and elimination of point source discharge (Ecology 1998a).

Following a 1999 voluntary cleanup action associated with the former USTs at the Point of Sales building on parcel 3110, Ecology issued a determination that no further remedial action was necessary, subject to additional monitoring requirements (Parametrix 2000a). Copies of the voluntary cleanup action report and the no further remedial action determination were not available for review by SAIC.

2000s

SPU performed a follow-up inspection at Tully's in September 2003 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

SPU conducted an inspection at the Rainier Commons facility in October 2005 and sampled sediment in trench drains and catch basins in the tank farm area, parking lot, and north of the loading dock. Concentrations of PCBs up to 2,200 mg/kg were detected. SPU directed Ariel to properly dispose of the sediment; jet-clean all outdoor inlets, trench drains, catch basins, and pipes on the property; conduct recommended additional sampling (Vernon 2006a); and notify Ecology of the PCB concentrations in sediment (SPU 2006a).

Ecology removed the property from the VCP in May 2007 (Ecology 2007g). The VCP ID number is NW0435.

In January 2008, SPU confirmed that concentrations of PCBs (8.4 to 189 mg/kg dry weight) were still elevated in sediment collected from catch basins on the north end of the Rainier Commons property. These catch basins drain to the Diagonal Avenue S SD system on Airport Way S. PCBs, 4-methylphenol, dibenzofuran, PAHs, carbazole, and phthalates were detected (Schmoyer 2008a). Ariel jetted the storm drains in January 2008 and cleaned the catch basins in the portion of the property that drains to the Diagonal Avenue S. CSO/SD and SPU jetted lines and cleaned catch basins downstream of the property along Airport Way S (Ecology 2008e).

SPU resampled a catch basin on Airport Way S and S Stevens Street (in front of Tully's) in February 2009. Catch basin sampling is an ongoing source control action for the former Rainier Brewery. The PCB concentration in the sample was 0.5 ppm (Schmoyer 2009a).

In March 2009, the EPA performed a PCB compliance inspection of the Rainier Commons facility. The EPA inspected transformers, electrical equipment associated with an elevator, exterior paint, and the storm drain system (USEPA 2009a).

The EPA inspectors visited the presumed locations of seven of nine historical transformers. Two locations inside Tully's operations were inaccessible (USEPA 2009a). A property owner representative took pictures of the electrical panels and transformers inside the Tully's building for the EPA at a later date. The electrician from Rainier Commons reported that the transformers were "Dry Type" and did not contain PCBs. No PCB transformers were found in the Rainier Commons buildings during the inspection (USEPA 2009b).

An elevator in Building 5 dates back to Rainier Brewery's operations. Oil was observed leaking from a gearbox associated with the elevator and the inspectors collected a sample of the oil. The oil contained PCB as Aroclor 1254 (8.9 micrograms per kilogram [µg/kg]) and chlordane (USEPA 2009a).

Paint samples were collected from the exterior wall of Building 13 and paint chips were collected from the driveway between the building and the parking lot. PCBs as Aroclors 1254 and 1260 were present up to 10,000 mg/kg in the paint samples. The building had been repainted in 2005 in an attempt to encapsulate the PCB-contaminated paint. The property owners intended to clean the exterior walls and repaint in 2009. The EPA inspectors indicated that the property owners needed approval from the EPA prior to performing these actions (USEPA 2009a).

The EPA inspectors collected a sediment sample from the storm drain catch basin between Buildings 3 and 13. PCBs were present in the sample at 105 mg/kg (USEPA 2009a).

EPA has sent a CERCLA Section 104(e) Request for Information letter to Tully's and Rainier Commons LLC.

4.3.10.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the former Rainier Brewery.

UST Removal and Remedial Action (1989 to 1995)

Seven USTs were removed from the property during November and December 1989. The USTs were installed west and south of the Point of Sales building adjacent to S Forest Street (parcel 3110) and included five 10,000-gallon USTs used for gasoline, diesel, and heating or motor oil storage, one 4,000-gallon heating oil UST and one 1,000-gallon waste oil UST. A 2,000-gallon heating oil UST was abandoned-in-place in February 1990. TPH above MTCA Method A cleanup levels was present in five of the eight UST excavations. Contaminated soil was present in a limited area in two excavations; remedial excavations were performed to remove all contaminated soil. More extensive contamination was present in the three remaining excavations (Enviros 1990a).

Enviros constructed in-situ treatment system cells to remediate the areas of TPH-gas and TPH-diesel. The treatment systems ran from 1990 to 1995. A treatment system was also installed in the area of waste oil contamination; however, this treatment system was never operated. In April 2000, Parametrix removed piping and abandoned resource protection wells associated with the remediation systems (Parametrix 2000a).

Groundwater Monitoring (1999-2000)

Eight groundwater monitoring wells near the Point of Sales building were monitored from 1999 to 2000. Groundwater flow direction was to the east-southeast. Free product was present in two wells. Groundwater samples were analyzed for TPH, BTEX, vinyl chloride, anthracene, fluorene, naphthalene, dimethylnaphthalenes, trimethylnaphthalenes, and 1-methylnaphthalene; these analytes were not detected above MTCA cleanup levels (Parametrix 2000b).

Phase I Environmental Assessment (2004)

A Phase I ESA was performed in 2004. Nine pad-mounted transformers and oil staining near floor drains adjacent to the transformers were identified in the report. The transformers and associated vaults or drains were not identified as Recognized Environmental Conditions. Ariel stated that the transformers did not contain PCBs (Vernon 2006a).

Catch Basin Sediment Sampling (2006 and 2008)

Composite sediment samples were collected from 18 catch basins on the property in 2006. Samples were analyzed for PCBs. PCB concentrations exceeded the MTCA Method A cleanup level in five catch basins. Exterior paint was also sampled and analyzed for PCBs. The exterior paint sample contained 2,300 mg/kg PCB (Vernon 2006b).

Eight sediment samples were collected from catch basins in January 2008. The samples were analyzed for SVOCs and PCBs.

4.3.10.5 Potential for Sediment Recontamination

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

Stormwater

PCB contamination has been documented in storm drain catch basins on and near the Rainier Commons property. PCB contamination associated with the Rainier Commons property may be an EAA-1 sediment recontamination source.

There is no information available to determine if operations at the Sound Transit Maintenance and Operations facility represent a sediment recontamination source.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property.

However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination has been documented in soil and groundwater at the Point of Sales building (currently the Sound Transit Maintenance and Operations property). The most recent groundwater monitoring data, from 2000, indicates that contaminants are not present above MTCA cleanup levels. Petroleum hydrocarbons are not COCs for EAA-1 sediments. PAHs have also been detected in groundwater. The property is over 1 mile northeast of the LDW and groundwater flows to the southeast; therefore the potential for sediment recontamination is very low.

4.3.10.6 Data Gaps and Action Items

Rainier Commons

Ecology, SPU and EPA are currently performing source control actions for the Rainier Commons portion of the former Rainier Brewery property. Progress toward achieving source control at the property is documented in the Source Control Status Reports (Ecology 2007e and subsequent updates).

Ecology will review Tully's and Rainier Commons LLC responses to the EPA CERCLA 104(e) Request for Information letters, when available.

Sound Transit Maintenance and Operations Facility

Information needed to assess the potential for sediment recontamination associated with current operations at the Sound Transit property is listed below.

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at the facility. Ecology will review the results of the site hazard assessment and PCB removal actions performed under EPA supervision, when performed, to determine if additional source control actions are required at this property.

4.3.11 Ralph's Concrete

Facility Summary: Ralph's Concrete	
Tax Parcel No.	7134300625
Address	Operating: 800 Poplar Place S Parcel: 816 Poplar Place S
Property Owner	Vance R. Gribble

Facility Summary: Ralph's Concrete	
Parcel Size	0.55 acre (24,000 sq ft)
Facility/Site ID	46281365
SIC Code(s)	177: Concrete Work
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	7795 – Permit
UST/LUST ID No.	None
Map/Map ID	B3/343

The Ralph's Concrete property is located in the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The property is bordered by Poplar Place S on the southwest, S Dean Street on the northwest, and other commercial properties to the northeast and southeast. The former Signal Equipment property (Section 4.3.17) is three parcels south of the Ralph's Concrete property. ColorGraphics (Section 5.2.1) is located southwest of the property across Poplar Place S. The Recycling Depot, Inc. property (Section 5.3.7) is located one block east of the property on Rainier Avenue S.

According to King County tax assessor records, a 1,152 sq ft light industrial manufacturing building, constructed in 2001, is the only building on the property.

Little information regarding the current and historical operations at this facility was available for review.

4.3.11.1 Current Operations

Current operations at this property are unknown. The website for Ralph's Concrete Pumping indicates that the company now operates at 1529 Rainier Avenue S (see Section 4.2.14) (Ralph's Concrete Pumping 2009).

4.3.11.2 Historical Operations

Ralph's Concrete historically used the property for offices, a fuel service station, parking, vehicle storage, and outdoor storage. Truck washing was performed on the property. An AST was located on the property. No additional information regarding historical operations at this property was available for review.

4.3.11.3 Regulatory History

The City of Seattle Department of Design, Construction and Land Use (DCLU) issued NOV 20000518000776 to Ralph's Concrete for violation of land use in February 2000. Ralph's Concrete was directed to discontinue use of or obtain permits for an office building, fuel service station, parking/vehicle storage, and outdoor storage at the property (DCLU 2000).

Ralph's Concrete reported the presence of petroleum contamination at an onsite fueling station. Contamination originated from spills and truck washing activities. No OWS was located on the property. The estimated area of contamination was greater than 1 cubic yard (Ecology 2000b).

Ralph's Concrete was issued KCIW discharge permit number 7795 on June 13, 2005 (KCDNR 2005b). The permit is valid through June 2010.

Ecology issued a notice of penalty to Ralph's Concrete on June 15, 2005, for the illegal discharge of concrete wastewater to the storm drain (Ecology 2005a).

SPU performed a follow-up inspection at Ralph's Concrete in December 2007 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

4.3.11.4 Environmental Investigations and Cleanups

At least one environmental investigation has been conducted at Ralph's Concrete.

Contaminated Soil Excavation and Sampling (2002)

An excavation approximately 5 feet long by 5 feet wide and 6 inches deep was completed at the property in 2002 to remove petroleum-contaminated soil immediately south of an AST. Two soil samples were taken at the bottom of the excavation and analyzed for TPH. TPH was not detected in the post-excavation samples (GeoTech 2002b).

4.3.11.5 Potential for Sediment Recontamination

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

Stormwater

Current operations at this property are unknown and may represent a potential source of contaminants to EAA-1 sediments via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Soil beneath the property is contaminated with petroleum products, which are not considered to be a sediment COC for EAA-1. The property is over 1.5 miles east of the LDW and based on its location, groundwater flow direction is likely toward Lake Washington. Therefore, the potential for sediment recontamination via this pathway is low.

4.3.11.6 Data Gaps and Action Items

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Ralph's Concrete property is listed below.

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at this facility comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at the facility.

4.3.12 Ralph's Concrete Pumping and Vacant Lot

Facility Summary:	Ralph's Concrete Pumping	Ralph's Concrete Pumping Vacant Lot
Tax Parcel No.	8850000800, 8850000730, 8850000755, 8850000660	8850000715, 8850000790
Address	Operating & 0730: 1529 Rainier Avenue S 0660: None 0755: 1964 S Massachusetts Avenue 0800: 1511 Rainier Avenue S	0715: 1517 Rainier Avenue S 0790: None
Property Owner	0730: Vance R. & Judy Gribble 0755: Vance R. Gribble 0660 & 0800: Ralph's Concrete Pumping, Inc.	1511 Rainier Avenue LLC
Parcel Size	0730: 0.08 acre (3,610 sq ft) 0660 & 0755: 0.07 acre (3,000 sq ft) 0800: 0.18 acre (8,000 sq ft)	0715: 0.29 acre (12,695 sq ft) 0790: 0.14 acre (6,000 sq ft)
Facility/Site ID	2312	8964755
SIC Code(s)	None	3273: Ready-Mixed Concrete
EPA ID No.	None	None
NPDES Permit No.	None	None
KCIW Discharge Permit/Authorization No.	None	None
UST/LUST ID No.	None	None
Map/Map ID	B3/311	B3/310

Ralph's Concrete Pumping apparently operates on five parcels located between Valentine Place S and Rainier Avenue S, just south of Interstate 90 (I-90). These five parcels are enclosed by a cyclone fence (SKCDPH 2003a). Based on a review of the King County tax assessor records, the parcels are believed to be 0715, 0730, 0755, 0800, and 0790. Ecology and SKCDPH records indicate that parcels 0715 and 0790 comprise the area known as Ralph's Concrete Vacant Lot. Ralph's Concrete Pumping also owns parcel 0660, located on the west side of Valentine Place S. The properties are within the Diagonal East SD basin and the Diagonal Avenue S CSO basin.

King County tax assessor records indicated the following information regarding each parcel:

- Parcel 0800: Ralph's Concrete Pumping uses this parcel for truck parking. There are no buildings on the property.
- Parcel 0730: A small 650 sq ft office building constructed in 1953.
- Parcel 0715: This parcel is named Sprout Garden. There is one building on the property, a 3,690 sq ft retail store constructed in 1942. The property owner's mailing address is the same address as the parcel address for Ralph's Concrete (5.1.13).
- Parcels 0660, 0755 and 0790 are vacant lots.

The Gribble family owns three parcels to the south of parcel 0660: 88500000670; 88500000675; and 88500000685. Based on a 2007 aerial photograph, it appears that these parcels are used for truck parking and possibly employee parking by Ralph's. These parcels do not appear to be included in the facilities as defined by Ecology Facility/Site IDs 2312 and 8964755.

4.3.12.1 Current Operations

The main office of Ralph's Concrete Pumping is located at this property.

The property is used for the storage and repair of concrete pumping trucks. Welding also occurs on the property. Hazardous materials used and stored at the property include various types of petroleum products such as diesel fuel, hydraulic fluid, motor oil, and waste oil. Waste oil is collected on site and removed by an oil recycler (Isaksen 1998).

4.3.12.2 Historical Operations

Water from an OWS on the property was pumped to the sewer (Isaksen 1998). The OWS was removed in 2002 (GeoTech 2002a). No additional information regarding the historical operations at these properties was available for review.

4.3.12.3 Regulatory History

Ecology issued NOV #DE-88-N109 to Ralph's Concrete for discharging wash water from rinsing its trucks to the storm drain (Ecology 1989a). A copy of the NOV was not available for review.

Ecology inspected the property at 1511 Rainier Avenue S on January 25, 1989. Ecology inspectors noted oil on all standing puddles and puddles of oil at the southwest corner of the

truck yard. Potential contaminants to stormwater were observed, including fuel, lube, and hydraulic oils, concrete wastewater, and antifreeze (Ecology 1989a).

An Ecology inspector noted oily tire tracks from the truck yard to the public street in July 1990. The Ecology inspector apparently toured the truck yard and observed an oil drum outside the containment area, oil spills, and truck wash water flowing across the property to a storm drain at the west entrance of the property. Ecology warned Ralph's Concrete that penalties would be assessed if discharge of pollutants to the storm drain were observed again (Ecology 1990f).

A representative of SKCDPH collected six surface soil samples at the property in June 1998. Samples were analyzed for TPH-diesel, TPH-oil, and metals. TPH-diesel and/or TPH-oil concentrations exceeded the MTCA Method A cleanup levels in all but one of the soil samples. Cadmium and lead concentrations exceeded the MTCA Method A cleanup levels in one soil sample that was collected near the oil storage area (Isaksen 1998; Onsite Environmental 1998a).

A site hazard assessment of 1511 Rainier Avenue S was performed in 1998. The property received a ranking of 3 due to the large residential population in the vicinity of the property (SKCDPH 1998b).

Ecology was notified that concrete chunks, dry cement, and wash water from cement were dumped at 1515 Valentine Place S in February 2000. No further action was taken since the property was owned by Ralph's Concrete Pumping and no apparent environmental or public health violations were taking place (Thomsen 2000; Timm 2000).

In October 2000, a representative of Seattle Department of Transportation (SDOT) inspected the property and observed improperly stored ASTs. Water and product were present in the secondary containment area. Petroleum was migrating off the property to the sidewalk, street, and storm drains. SDOT spread absorbent materials on the petroleum and notified Ecology of the incident (Ecology 2000h).

A site hazard assessment of 1517 Rainier Avenue S was performed in 2002. The property also received a ranking of 3 (SKCDPH 2003a).

SPU performed a follow-up inspection at Ralph's Concrete Pumping in June 2005 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

4.3.12.4 Environmental Investigations and Cleanups

At least one environmental investigation has been conducted at Ralph's Concrete.

Oil/Water Separator Removal and Remedial Excavations (2002)

The OWS was removed and an area of stained concrete gravel was excavated from the property in January 2002. Four of the seven soil samples collected from the excavations contained concentrations of TPH-diesel and/or TPH-oil above the MTCA Method A cleanup levels. Lead and cadmium were not detected in any of the soil samples (GeoTech 2002a).

Soil samples were collected from the excavations and from the fuel storage area and a strip drain along the northern property boundary in January and February 2002. Based on these soil sample results, two additional areas were excavated in February 2002. Confirmation samples collected from the fuel storage area excavation did not contain petroleum hydrocarbons. Confirmation samples from the strip drain area excavation indicated that TPH-oil above the MTCA Method A cleanup level remained in place along the northern property boundary (GeoTech 2002a). The strip drain area was re-excavated in March 2002. Post-excavation soil samples did not contain petroleum hydrocarbons (GeoTech 2002c).

4.3.12.5 Potential for Sediment Recontamination

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

Stormwater

Operations at this property resulted in discharges of wash water and petroleum products to the storm drain in 1990 and 2000. SPU inspected Ralph's Concrete in 2005 and found the facility to be in compliance. Current operations at this property may represent a potential source of contaminants to EAA-1 sediments via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Cadmium and lead concentrations exceeded MTCA cleanup levels in one soil sample collected at the property, but do not exceed the soil-to-sediment screening levels. Additionally, cadmium and lead were not detected in subsequent soil samples. There is no information available to determine if groundwater contamination is present at this property. Ralph's Concrete Pumping is approximately 2 miles east of the LDW and, based on its location, general groundwater flow direction beneath this property is likely toward Lake Washington. Therefore, the potential for sediment recontamination via the soil and groundwater pathway is very low.

4.3.12.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.3.13 Former SAMIS Land Co. and FedEx Express BFIA

Facility Summary: Former SAMIS Land Co. and FedEx Express BFIA	
Tax Parcel No.	2024049014, 2024049016, 2024049018
Address	647 & 651 S Alaska Street
Property Owner	SAMIS Foundation (taxpayer) City of Seattle SEATRAN R/W
Parcel Size	9014: 1.49 acres (64.823 sq ft) 9016: 1.98 acres (86,250 sq ft) 9018: 2.94 acres (127,948 sq ft)
Facility/Site ID	73876963 (FedEx Express BFIA) 2229 (SAMIS Land Co.) 24225418 (SAMIS Foundation)
SIC Code(s)	7375: Information Retrieval Services (FedEx Express BFIA) 1721: Painting and Paper Hanging (SAMIS Land Co.)
EPA ID No.	WAH000017137 (FedEx Express BFIA) WAD088730437 (BMP Painting, SAMIS Land Co.)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	B4, B5/45 (Fed Ex Express BFIA) B4/53 (SAMIS Land Co.) B5/33 (SAMIS Foundation)

The properties are located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. Three parcels comprise the SAMIS Land Co. property in Ecology's records. The nearly 7-acre property is bounded by railroad tracks on the west, Airport Way S and Seattle Barrel & Cooperage Airport Way (Section 4.3.14) to the east, S Alaska Street to the north, and Edmunds Street to the south. The PNTA facility is immediately west of the property (Section 4.3.2). The MacMillan-Piper, Inc. – Airport Way facility (Section 5.3.4) is south of the property across S Edmunds Street. According to King County tax assessor records, parcels 9014, 9016, and 9018 are used as the FedEx Van Terminal. There is one building on parcel 9016, a 123,061 sq ft warehouse constructed in 2001.

4.3.13.1 Current Operations

The FedEx distribution center was built on the property in 2001. Additional information regarding current operations at the property was not available for review.

4.3.13.2 Historical Operations

The property was owned by Webster Brinkley in the 1930s. A foundry appears to have operated on the property in the late 1930s (Zipper Zeman 2002a).

BMP Painting, Atlas Applicators (tank liners), BMP Painting (painting contractors), Dekker Engineering, Design Woodworks (cabinet and furniture making), Duroboat Manufacturing Company, Poth Manufacturing (furniture making) Radiant Optics, Seattle Stair and Millwork, Sullivan Construction (general contractors), Dekker Engineering, and Viking Marine Industries have historically operated on this property (Figure 13). Fleet Services reportedly operated an outdoor dip tank at the property (BMP Painting 1990; Woodward-Clyde 1997).

A building at the northeast corner of the property was demolished during the summer of 1989. The area of the former building was paved and the area was used for parking (BMP Painting 1990).

4.3.13.3 Regulatory History

Ecology inspected the BMP Painting facility in March 1988 following an anonymous report that BMP Painting was placing drums of waste paint and thinners in an abandoned building. At the time of Ecology's inspection, the facility operated a solvent still and had two drums of solvent accumulated for recycling. The Seattle Fire Department inspected BMP Painting at a later date; the company indicated that waste paints were used to train employees how to use a paint sprayer system (Ecology 1988).

Ecology inspected the outdoor areas of the BMP Painting facility in March 1989. Several areas of the property were heavily stained, drums of vinyl esther resin and paint thinner were draining to the ground, and several deteriorating drums were observed. Additionally, the Ecology inspector noted staining indicative of spills on the property (Peck 1989; Ecology 1989e).

In January 1990, Ecology notified Atlas Applicators and Duroboat Manufacturing Company that the SAMIS property had been listed on the CSCSL (Ecology 1990c,d).

An environmental complaint was filed with Ecology in 1990. The person filing the complaint estimated that approximately 1,000 gallons of solvents, waste paint, mineral spirits, lacquer, and thinner had been dumped in the crawl space beneath the BMP Painting building (Ecology 1990a).

Several environmental inspections were performed by Ecology, METRO, and the Seattle Fire Department at the property in 1994 in response to a complaint of leaking drums on the property in 1994. Approximately 60 to 75 55-gallon drums were stacked along the building occupied by Radian Optics and Duroboat Manufacturing. Most drums appeared to contain an asphalt- or tar-like substance and paint chips. Some drums were confirmed to contain petroleum products. The drums had been in place for more than 2 years. Fleet Truck Service Repair was observed washing and repairing large trucks and allowing discharge of diesel, oil, and wash water to the storm drain (METRO 1994; Ecology 1995). METRO investigators confirmed the presence of a dip tank on the property and stains were observed around the tank (METRO 1994; SKCDPH 1996). Ecology confirmed that the drums had been removed in September 1994 (Stone 1995).

A site hazard assessment was performed for the property in 1996. The property was ranked as a 5, the lowest possible relative risk. However, the assessment was based only on potential contamination as no environmental sample data were available (SKCDPH 1996).

In an NFA request from 2001, Hart Crowser indicated that 8,289 cubic feet of contaminated soil was remediated or contained at the property. Residual concentrations of TPH and metals below MTCA Method A industrial cleanup levels remained in soil and VOCs were present in groundwater above MTCA Method A (Hart Crowser 2001b). Ecology issued an interim NFA in November 2001 on the condition that three groundwater monitoring wells on the property were monitored on a quarterly basis for one year (Ecology 2001d).

SPU performed an initial inspection of the FedEx facility in June 2003 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

The interim NFA was rescinded in August 2004 because Ecology had not received any groundwater monitoring data since 2001 (Ecology 2004d). The SAMIS Foundation submitted groundwater monitoring data from 2001 to 2003; however, Ecology upheld its decision to rescind the interim NFA due to TCE concentration in groundwater that exceeded the MTCA Method A cleanup level (Ecology 2004g).

Ecology inspected the FedEx facility in January 2009 (Table 10) and directed the facility to obtain coverage under the ISGP or obtain a certificate of no exposure (Jeffers 2009a).

The VCP ID number associated with the property, NW0741, is inactive.

4.3.13.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the former SAMIS property/FedEx.

Environmental Investigations (1989-1990 and 1998-2001)

Investigations were performed at the property in 1989 and 1990 following reports of improper solvent storage and improper disposal of approximately 1,000-gallons of paint-related materials under the building by BMP Painting.

The 2001 NFA request indicates that five environmental investigations took place between 1998 and 2001. Additionally, Hart Crowser reported that three heating oil USTs and 460 tons of soil contaminated with petroleum, solvent, and metals were removed and disposed of off site in 2001 (Hart Crowser 2001b). The reports documenting the environmental investigations were not available for review.

Groundwater Monitoring (2001 to 2003)

Three groundwater monitoring wells on the property were monitored and sampled in May and October 2001, May and September 2002, and April 2003. Samples from the wells were analyzed for TPH-gas and TPH-diesel, VOCs, and dissolved metals. TPH and metals concentrations were below MTCA Method A cleanup levels during all sampling events. TCE was detected above the MTCA Method A cleanup level in 2002 and 2003 (Hart Crowser 2004).

4.3.13.5 Potential for Sediment Recontamination

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

Stormwater

FedEx was directed to obtain coverage under the ISGP permit in 2009. Operations at this facility may be a potential source of contaminants to the EAA-1 sediments.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Based on the most recent groundwater monitoring results from 2003, dissolved metals are present in groundwater at concentrations below MTCA cleanup levels. The property is approximately 1 mile east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.3.13.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	Information is needed to determine if potential sediment contaminants are present in stormwater discharges associated with FedEx operations. The facility was directed to obtain coverage under the ISGP in January 2009.	Ecology will determine if stormwater discharges from the facility represent a potential contaminant source to EAA-1 sediments.

4.3.14 Seattle Barrel & Cooperage

Facility Summary: Seattle Barrel & Cooperage	
Tax Parcel No.	7376600711, 2024049031
Address	0711: 4520 7th Avenue S 9031: 4716 Airport Way S
Property Owner	Louie Sanft
Parcel Size	0711: 0.24 acre (10,516 sq ft) 9031: 0.27 acre (11,880 sq ft)
Facility/Site ID	2307 (7th Avenue S facility) 21296351 (Airport Way facility)
SIC Code(s)	3412: Metal Shipping Barrels, Drums, Kegs (7th Avenue S facility) 5085: Industrial Supplies (Airport Way facility)
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	7113 – Permit
UST/LUST ID No.	None
Map/Map ID	B4/65 (7th Avenue S facility) B4/56 (Airport Way facility)

Seattle Barrel & Cooperage (Seattle Barrel) operates at two locations in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The 7th Avenue S facility (parcel 0711) is at the northeast corner of the intersection between 7th Avenue S and S Snoqualmie Street. The Plymouth Poultry Company (Plymouth Poultry) (Section 5.5.2) is located to the north and east of the Seattle Barrel facility. The United Parcel Service (UPS) – Seattle Hub (Section 5.3.10) is located west of the facility across 7th Avenue S. A 3,600 sq ft warehouse, constructed in 1953, is the only building at the 7th Avenue S facility.

The Airport Way S facility is on Airport Way S between S Alaska Street and S Edmunds Street. The FedEx property (Section 4.3.13) and MacMillan-Piper – Airport Way facility (Section 5.3.4) are west of Seattle Barrel. A BNSF right-of-way and I-5 are east of the property. Industrial properties are located to the south. A 3,000 sq ft light industrial manufacturing building, constructed in 1949, is the only building at the Airport Way S facility.

Little information regarding the operations at the 7th Avenue S facility was available for review. Information in the following sections applies to Seattle Barrel's Airport Way facility unless indicated otherwise.

4.3.14.1 Current Operations

Seattle Barrel reconditions and recycles steel and poly/plastic drums. Sodium hydroxide beads are used to strip the metal drums. The facility discharges drum rinse water to the sanitary sewer.

The rinse water is filtered through an OWS prior to discharge (Figure 14). Sodium hydroxide, paint chips, and paper pulp are removed from the OWS and drummed (Seattle Barrel 1994). Wastewater is also generated from boiler feed/blow down and facility maintenance (Seattle Barrel 2003). Wastewater is sampled once a month (SPU 2001h). Per the facility's KCIW discharge permit, the samples must be analyzed for VOCs, BEHP, di-n-butyl phthalate, di-n-octyl phthalate, diethyl phthalate, dimethyl phthalate, dibenzo(a,h)anthracene, and phenol (KCDNR 2004b).

The company accepts empty drums only. All cleaning and painting activities are performed indoors at the Airport Way facility (SPU 2001h).

Interior floor drains discharge to the sanitary sewer. A catch basin in the southwest yard collects wash water and stormwater from the entire yard, which are conveyed to an interior floor drain using a sump pump (Jeffers 2008e). There are no storm drains located on the Airport Way property (SPU 2001h).

4.3.14.2 Historical Operations

Seattle Barrel has operated since 1916 (Seattle Barrel 2003). No additional information regarding historical operations was available for review.

4.3.14.3 Regulatory History

The company was investigated by Ecology and METRO for improper storage and discharge of petroleum products and other hazardous materials (Woodward-Clyde 1997).

SPU inspected the facility in September 2001. No corrective actions were identified (SPU 2001h).

KCIW and SPU inspected the facility in June 2003. Wastewater generated from washing facility vehicles was discharging to a storm drain located on Airport Way. Staining was observed on the driveway and sidewalk (KCIW 2003c). SPU directed the facility to cease the discharge of vehicle wash water to the storm drain and ensure that all materials stored outdoors were covered and contained to prevent contact with stormwater. Additionally, SPU directed the facility to prepare a spill prevention and cleanup plan, purchase spill kits, and educate employees about spill prevention and cleanup (SPU 2003b). The facility achieved compliance with the required corrective actions in September 2003 (SPU 2003f).

SPU performed a follow-up inspection at the 7th Avenue S facility in October 2003 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

KCIW reissued the facility waste discharge permit in October 2004. Special conditions of the permit prohibit Seattle Barrel from cleaning drums that have contained pesticides, herbicides, cyanide compounds, or heavy metal-bearing materials or wastes unless the drums have been certified as triple-rinsed. The permit expires in October 2009 (KCDNR 2004b).

SPU inspected the facility in August 2006. General housekeeping in the outdoor storage area was unacceptable at the time of the inspection. Leaking drums and stains were observed on the sidewalk outside the facility and driveway areas (SPU 2006c). SPU directed the facility to improve its spill prevention and cleanup procedures, improve housekeeping, prevent wash water from entering the storm drain, and provide better maintenance to the wastewater treatment system (SPU 2006d).

SPU performed a follow-up inspection in January 2007. Spill prevention and cleanup procedures continued to be inadequate. Wash water was still discharged to the storm drain (SPU 2007a). In February 2007, SPU issued a corrective action letter, re-iterating the corrective actions required in August 2006, which included improving housekeeping and spill prevention and cleanup procedures (SPU 2007b). SPU re-inspected the facility in March 2007 and determined that all corrective actions had been completed (SPU 2007c,d).

Ecology performed source control inspections at the facility in September and October 2008 (Table 10). Ecology directed the facility to properly designate and dispose of its wastes and to eliminate illicit discharges to the storm drain system. Stains and leaks were observed in the drum storage area and stains were present from this area to the storm drain. Ecology directed the facility to clean and eliminate leaks and spills from this area (Ecology 2008k; SPU 2008k).

During the October 2008 inspection, Ecology observed caustic hot tank liquids and waste oil discharging to the ground from the facility to the railroad right-of-way. Ecology directed the facility to cease these discharges (Ecology 2008m). Ecology also performed dye testing and confirmed that interior drains discharged to the sanitary sewer (Jeffers 2008e). SPU requested that Seattle Barrel continuously educate employees with regard to housekeeping to prevent potential pollutants from contaminating a ramp that connects the facility to Airport Way (SPU 2008l).

SPU collected a sediment sample from a catch basin at the facility in October 2008. The sample was analyzed for PCBs, metals, SVOCs, total organic carbon, TPH-diesel, VOCs, and grain size. Several VOCs, SVOCs, metals, TPH-diesel, and TPH-oil were detected in the sample. PCBs were not detected (ARI 2008b).

SPU inspected the facility again in February 2009. SPU recommended additional sampling of catch basins in the right-of-ways. The OWS bays were oily and inspectors noted that the OWS does not treat all pollutants expected to reach the sanitary sewer, which include oils, heavy metals, caustic solutions, detergents, and phthalates. The inspection report indicates that up to 7,000 gallons per day of wastewater is discharged to the sanitary sewer (SPU 2009c). SPU directed Seattle Barrel to implement structural and/or operational controls to eliminate process water and wash water from leaving the property and to the clean the southern storage yard and process area regularly to prevent pollutants that are likely to collect in these areas from being tracked off the property. SPU indicated that an NOV may be issued to Seattle Barrel since similar corrective actions had been issued to the company in January 2007 and September 2008 (SPU 2009d).

Ecology conducted a hazardous waste compliance inspection of the Airport Way facility in February 2009 (Table 10) and noted continued non-compliance from previous inspections.

Ecology also sampled multiple waste sources for chemical analysis for waste designation verification (Jeffers 2009a).

EPA has sent a CERCLA Section 104(e) Request for Information letter to Seattle Barrel as of May 2009.

4.3.14.4 Environmental Investigations and Cleanups

No records of environmental investigations or cleanups at the Seattle Barrel properties were available for review.

4.3.14.5 Potential for Sediment Recontamination

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

Stormwater

Ecology and SPU are performing ongoing inspections at Seattle Barrel due to continued non-compliance with regard to stormwater pollution prevention. Wastewater at the property has been discharged to the storm drain and tracked off property to catch basins on Airport Way S. SPU has noted that contaminants in wastewater from the facility include oils, heavy metals, caustic solutions, detergents, and phthalates. Operations at the facility may represent an ongoing source of recontamination to EAA-1 sediments.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. SPU noted in February 2009 that the OWS at the facility does not treat all pollutants expected to reach the sanitary sewer, which includes oils, heavy metals, caustic solutions, detergents, and phthalates. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

4.3.14.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	Ongoing facility inspections are needed to determine if current operations at this facility comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit. Additional catch basin sediment samples are needed to determine if EAA-1 sediment COCs, originating from Seattle Barrel, are present in the storm drain system.	Ecology and/or SPU will continue to perform source control inspections at the facility. SPU will sample catch basins in Airport Way as recommended. Ecology will review Seattle Barrel's response to the EPA CERCLA Section 104(e) letter.

4.3.15 Seattle City Light – 4th Avenue South Facility

Facility Summary: Seattle City Light – 4th Avenue South Facility	
Tax Parcel No.	7666204085
Address	4085: 3814 4th Avenue S
Property Owner	4070: Seattle City Light 4085: Northwest Consolidated Investors II, LLC
Parcel Size	4070: 3.98 acres (173,525 sq ft) 4085: 0.91 acre (39,800 sq ft)
Facility/Site ID	16777876
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	A4/183

The SCL 4th Avenue South Facility is located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The property is east of the SCL South Service Center (Section 4.2.2). An SCL parking lot is north of the property. The Owl Transfer & Storage Company, Inc. (Section 5.2.2) and a UPRR right-of-way are located east of the property and Mailhandlers (Section 4.2.5) is southeast of the property. Commercial properties are south of the SCL 4th Avenue South Facility.

SEBCO sold parcel 4085 to Northwest Consolidated in September 2000. According to King County tax assessor records, the property name is Seattle Stair. There are two buildings on the parcel: an 11,265 sq ft warehouse constructed in 1934 and a 19,250 sq ft warehouse constructed in 1951.

4.3.15.1 Current Operations

From the information available for review, it appears that SCL no longer uses the warehouse at this property. Current operations at this property are unknown. The following companies list 3814 4th Avenue S as their operating address:

- Lebel Glass Studio,
- Grrdog Metalworks,
- Elliott Bay Woodworks,
- Krat All,
- Smoothmove,
- Sitka Design Woodworking,
- Eastbay Sculpture and Lighting,
- FLIP Shop,
- Spiral Sign and Awning,
- Ingrao Steven,
- Seattle Photocopy Company, and
- CSI, Inc.

Stormwater

Stormwater drains to the southeast corner of the property and is pumped to the storm drain system on 4th Avenue S (AGRA 1999).

4.3.15.2 Historical Operations

Historical records from 1939 indicate that Master Oil Burner operated at the property. Multiple tenants have operated on the property, including a steel works and plating facility, a manufacturing facility, an auto parts wholesaler, a machine shop, and a seed distribution company. Industrial Plating Works was listed as the site owner in 1954 (AGRA 1999). The northern building was used for steel heat treating and the southern building was used for electroplating (AGRA 2000).

A 1939 Sanborn Map indicates a fuel oil line crossing the east end of the property. The fuel oil line appears on Kroll Atlases maps through 1995; however, a 1999 private utility survey of the property did not find evidence of the line (AGRA 2000).

SCL has used the property for transformer storage. No evidence of releases of PCB-containing oil from transformers stored on the property has been documented. Paints and chemicals have been stored in both warehouses on parcel 4085 (AGRA 1999).

4.3.15.3 Regulatory History

No information regarding regulatory interactions for this property/facility was available for review.

4.3.15.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the SCL – 4th Avenue South Facility.

UST Removal (1992)

A 3,000-gallon heating oil UST was removed from the property in November 1992. The former UST was in good condition and there were no visual or olfactory signs of petroleum contamination observed in soil during the UST removal (AGRA 1999).

Phase II Environmental Site Assessment (1999)

Seventeen soil borings and three test pits were installed at the property, including five soil borings that were placed beneath the concrete slabs of the warehouses. Groundwater was encountered at approximately 8 feet bgs. Soil and grab groundwater samples were collected and analyzed for TPH, solvents, PCBs, PAH, metals, and cyanide. Cadmium concentrations in soil exceeded the MTCA Method A Industrial cleanup level. In groundwater, arsenic, cadmium, chromium, lead, benzene, and vinyl chloride exceeded the MTCA Method A cleanup level. AGRA estimated that 1,300 cubic yards of soil was contaminated with metals and petroleum hydrocarbons exceeding the MTCA Method A Industrial cleanup levels. Metals, petroleum hydrocarbons, PAHs, and chlorinated VOCs were present in shallow groundwater above MTCA Method A cleanup levels (AGRA 2000).

4.3.15.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Metals and PAHs are present in soil and groundwater at concentrations exceeding the soil-to-sediment and groundwater-to-sediment screening levels. The following contaminants exceed the soil-to-sediment screening levels: cadmium, copper, naphthalene, acenaphthene, and fluorene. The following contaminants exceed the groundwater-to-sediment screening levels: cadmium, chromium, lead, silver, copper, 2-methylnaphthalene, acenaphthene, fluorene, phenanthrene, fluoranthene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene,

benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and benzo(g,h,i)perylene. Groundwater flow direction at the property has not been determined, but is likely toward the LDW. However, the property is approximately 1 mile east of the LDW; therefore, the potential for sediment recontamination via this pathway is low.

4.3.15.6 Data Gaps and Action Items

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the SCL – 4th Avenue South property is listed below.

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at this facility comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at the facility.

4.3.16 Seattle Parks – Colman School

Facility Summary: Seattle Parks – Colman School	
Tax Parcel No.	8847700000
Address	2300 S Massachusetts Street
Property Owner	Urban League Village
Parcel Size	1.81 acres (78,822 sq ft)
Facility/Site ID	7592916
SIC Code(s)	821: Elementary and Secondary Schools 88: Private Households
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	C3/317

The property is located in the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The property is bordered by 23rd Avenue S to the west, Sam Smith Park and I-90 to the north, Jimi Hendrix Park to the east, and S Massachusetts Street to the south. The former Colman School, now a museum and condominium complex, is present on the property.

4.3.16.1 Current Operations

The Northwest African American Museum currently operates on the main floor of the former Colman High School building. Thirty-six apartment units are present on the second and third floors of the building (The Seattle Times 2008).

4.3.16.2 Historical Operations

Colman High School historically operated at this property. The school was closed in 1985 due to expansion of I-90 (The Seattle Times 2008). No additional information regarding historical operations at this property was available for review.

4.3.16.3 Regulatory History

Solvent-based paint strippers were used at the property to remove graffiti in May 2007. The graffiti-removal contractor admitted to dumping solvent wastes on soil at the property (Hamilton 2007). The contractor also indicated that solid and liquid wastes were drummed, but left open to evaporate. King County advised the contractor that these disposal and evaporation practices were illegal (KCDNR 2007c).

4.3.16.4 Environmental Investigations and Cleanups

No records of environmental investigations or cleanups at this property were found in the files reviewed by SAIC.

4.3.16.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

4.3.16.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.3.17 Former Signal Equipment, Inc.

Facility Summary: Former Signal Equipment, Inc.	
Tax Parcel No.	7134300595
Address	Operating: 838 Poplar Place S Parcel: 836 Poplar Place S
Property Owner	Poplar Associates
Parcel Size	0.09 acre (4,116 sq ft)
Facility/Site ID	66122831 (Former Signal Equipment, Inc.) 47175485 (Model & Instrument Development)
SIC Code(s)	3086: Plastics Foam Products (Model & Instrument Development) 7389: Business Services, Not Elsewhere Classified (Central Bark)
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	12409 (LUST-Active, UST-Inactive)
Map/Map ID	B3/334

The property is located in the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The property is bordered by Poplar Place S to the southwest and other commercial properties. Ralph's Concrete (Section 4.3.11) is three parcels north of the former Signal Equipment property. ColorGraphics (Section 5.2.1) is located west of the property. The Recycling Depot, Inc. property (Section 5.3.7) on Rainier Avenue S is located one block to the east.

According to King County tax assessor records, there is one building on the property, an 8,000 sq ft warehouse constructed in 1979.

4.3.17.1 Current Operations

Central Bark, a dog-boarding and grooming facility, currently operates at the property (Central Bark 2009). No additional information regarding current operations at this property was available for review.

4.3.17.2 Historical Operations

Signal Equipment historically operated at this property. A 10,000-gallon UST was abandoned-in-place within the ground floor garage (Ecology 2005d). Model & Instrument Development (Facility/Site ID 47145485) appears to have historically operated at this property. The operating address for Model & Instrument Development is 836 Poplar Place S, which is the address for this parcel in King County tax assessor records. No additional information regarding historical operations at this property was available for review.

4.3.17.3 Regulatory History

SPU inspected Central Bark in August 2003 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

In September 2005, Ecology determined that further action was needed at the property to define a TPH-gas and naphthalene plume in soil and groundwater beneath the property (Ecology 2005d).

The VCP ID number associated with the property, NW1485, is inactive.

4.3.17.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the former Signal Equipment property.

UST Closure and Assessment (1991)

A 10,000-gallon gasoline UST was closed in place in July 1991. Two soil borings were advanced near the UST. The fuel dispenser associated with the UST was removed and a soil sample was collected beneath the fuel pump. Soil samples were analyzed for TPH and BTEX. Benzene and TPH concentrations in soil exceeded the applicable cleanup standards (Pacific Testing Laboratories [PTL] 1991a).

Site Characterization (1991)

Seven soil borings were advanced at the property. Grab groundwater samples were collected at the bottom of each boring. Soil and groundwater samples were analyzed for TPH and BTEX. Benzene in soil exceeded the applicable cleanup standards. TPH and BTEX in groundwater exceeded the applicable cleanup standards. Free product was encountered in two of the borings (PTL 1991b).

Limited Remedial Soil and Groundwater Investigation (2005)

One groundwater monitoring well was installed at the property in March 2005. One soil and one groundwater sample were collected and analyzed for TPH and BTEX. No analytes were detected in the samples (ECA 2005a).

Two soil borings were advanced adjacent to the 1991 UST soil borings. Soil and groundwater samples were collected from the soil borings. Petroleum constituents exceeded MTCA Method A cleanup levels in soil and groundwater. Naphthalenes were also detected in groundwater above the MTCA Method A cleanup level (ECA 2005b).

4.3.17.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Naphthalene in groundwater exceeds the groundwater-to-sediment screening level. Groundwater flow direction has not been determined; however, based on the location of the property, groundwater flow direction is likely generally toward Lake Washington. Additionally, the property is over 1.5 miles northeast of the LDW. The potential for sediment recontamination via this pathway is likely to be very low.

4.3.17.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.3.18 Swanson Property

Facility Summary: Swanson Property	
Tax Parcel No.	8850000925
Address	1526 21st Avenue S
Property Owner	Allan B. Swanson
Parcel Size	0.17 acre (7,500 sq ft)
Facility/Site ID	4225638
SIC Code(s)	73: Business Services 753: Automotive Repair Shops
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	B3, C3/309

The property is located in the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The area surrounding the property is mostly residential, though two commercial properties are located to the south across S Massachusetts Street. According to King County tax assessor records, there is one building on the property, a 616 sq ft office constructed in 1981.

4.3.18.1 Current Operations

Based on 2007 aerial photographs available on the King County iMap internet site (Appendix B-2), the property is used to store drums and vehicles. Based on the aerial photograph, a storm drain catch basin is approximately 1 yard south of the property driveway. No additional information regarding the current operations at this property was available for review.

4.3.18.2 Historical Operations

The property has been used for illegal dumping and illegal vehicle storage since at least 2004. Substances dumped on the property are unknown; however, suspected contaminants in surface and drinking water and soil are metals and petroleum products (Thomsen 2004). No other information regarding historical operations at this property was available for review.

4.3.18.3 Regulatory History

In 2004, the City of Seattle Code Enforcement Office began investigating the property for illegal vehicle storage and illegal dumping. Ecology inspected the property in November 2004 and observed several vehicles in various states of repair along with machinery and 55-gallon drums. Soil staining appeared to be present beneath the large vehicles and adjacent to a small shed in the middle of the property (Thomsen 2004).

4.3.18.4 Environmental Investigations and Cleanups

No records of environmental investigations or cleanups at this property were available for review.

4.3.18.5 Potential for Sediment Recontamination

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

Stormwater

This property represents a potential source of contaminants to EAA-1 sediment via the stormwater pathway. A storm drain catch basin is approximately 1 yard south of the property and illegal dumping is known to have taken place on the property. Illegally dumped materials could be tracked off the property to the catch basin. However, the potential for sediment recontamination via this pathway is low.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility (if any) may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

4.3.18.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at the property comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at the Swanson Property.

4.3.19 Former Time Oil Company 216

Facility Summary: Former Time Oil Company 216	
Tax Parcel No.	1594600090
Address	Operating: 2465 S College Street Parcel: 2467 S College Street
Property Owner	TOC Holdings
Parcel Size	0.12 acre (5,405 sq ft)
Facility/Site ID	2998786
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	7689 – Permit
UST/LUST ID No.	4056 (LUST-Active, UST-Inactive)
Map/Map ID	C3/275

The property is in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. Commercial properties are located to the west and south of the former Time Oil property. The property is bordered by S College Street to the north and by 25th Avenue S to the east. The Pepsi Bottling Group – Seattle Plant (Section 5.3.6) is east of the property. According to King County tax assessor records, the property is currently a vacant lot.

4.3.19.1 Current Operations

The property is currently a vacant lot. The surface is covered with grass (Bixby 2009a).

4.3.19.2 Historical Operations

Time Oil Bulk Fuel Facility 216 operated at this property from 1979 to 1990. Four 10,000-gallon diesel and heating oil USTs and a fuel loading rack were located on the property. The USTs were removed from the property in February 1990 (Time Oil 1993).

4.3.19.3 Regulatory History

In 2007, Ecology determined that additional groundwater monitoring was required at the property and that TPH-diesel in soil had not been fully characterized (Ecology 2007m).

In March 2009, Ecology determined that additional investigation was needed on the property prior to issuing a property-specific NFA. Previous environmental investigations did not extend to the property boundary (Madakor 2009). The property owner's consultant indicated that a work plan for additional characterization would be prepared for Ecology's review prior to any additional investigation (Bixby 2009b).

The VCP ID number is NW1737.

4.3.19.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the former Time Oil property.

UST Removal (1990)

Four 10,000-gallon USTs were removed from the property in February 1990. Petroleum hydrocarbon stained soil was present in the UST excavations from 12 to 16 feet bgs. Diesel product seeps were observed in the fill around the USTs. Groundwater was present at 12 feet bgs; a slight hydrocarbon sheen was observed on the groundwater (Time Oil 1993).

Subsurface Investigation (1990 to 1991)

Six soil borings and four groundwater monitoring wells were installed at the property in May 1990. Groundwater flow direction appeared to be toward the southwest. Time Oil estimated that approximately 1,200 cubic yards of soil around the former USTs was contaminated by TPH-diesel (Time Oil 1993).

Five hand auger borings were advanced downgradient of the property in January 1991. Soil samples were analyzed for TPH-diesel, which were detected in one sample at a concentration below the applicable state guidelines (Time Oil 1993).

Groundwater Monitoring (1990 to 1997 and 2006 to 2008)

Groundwater samples were collected from four wells from 1990 through 1997. TPH-gas, TPH-diesel and lead exceeded the MTCA Method A cleanup levels in groundwater during the several monitoring events in the wells installed adjacent to the former UST area (RZA AGRA 1993; AGRA 1997a).

Groundwater was sampled again in first quarter of 2006. Groundwater samples were analyzed for TPH and BTEX; no analytes were detected (Sound Environmental Strategies [SES] 2006). Quarterly groundwater monitoring resumed in the first quarter of 2008 and continued through the third quarter of 2008. Groundwater samples were analyzed only for TPH-diesel and TPH-oil; TPH-diesel was detected below MTCA Method A cleanup levels during two monitoring events (SES 2008b, 2009a).

Groundwater flow direction was consistently to the south or southwest (AGRA 1997a; SES 2009a).

Bioventing Study (1994)

Two bioventing wells were installed at the property in order to conduct a remediation feasibility study. Soil samples were collected from the well borings and analyzed for TPH; TPH-gas and TPH-diesel exceeded the MTCA Method A cleanup level. The bioventing study showed that an effective radius of influence was not observed, but subsurface conditions appeared conducive to oxygen movement. The study showed that petroleum degrading bacteria were present in the soil; therefore, bioventing was recommended at the property (RZA AGRA 1994b).

Bioventing System Operation and Enhancement Study (1996 to1997)

A bioventing system began operating at the property in February 1996. Two sets of soil samples were collected from hand auger borings to evaluate the effectiveness of the bioventing system and the introduction of nutrient-rich water to enhance bioremediation in the subsurface. TPH-diesel concentrations in soil samples collected prior to the enhancement were approximately 10 times greater than the concentrations observed in the post-enhancement soil samples (AGRA 1997b).

Soil Investigation (1998)

Eight soil borings were advanced and the bioventing remediation system was dismantled in April 1998. One soil sample from each boring was analyzed for TPH-diesel and TPH-oil. TPH-diesel concentrations exceeded the MTCA Method A cleanup level in six of the eight samples; TPH-oil exceeded the MTCA Method A cleanup level in one soil sample. Two soil samples were

analyzed for PAHs; benzo(a)anthracene and benzo(k)fluoranthene were the only PAHs that were *not* detected (GeoEngineers 1999a).

Soil Investigation (2008)

Seven soil borings were advanced on the property in February 2008. Fourteen soil samples were collected and analyzed for TPH-diesel and TPH-oil; no analytes were detected (SES 2009b).

4.3.19.5 Potential for Sediment Recontamination

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

Stormwater

Current operations at this property do not represent a potential source of contaminants to EAA-1 sediments via the stormwater pathway.

CSO Events

Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Soil samples collected in 1999 contained concentrations of acenaphthene, acenaphthylene, fluorene, 2-methylnaphthalene, naphthalene, and phenanthrene (GeoEngineers 1999a) that exceeded the soil-to-sediment screening levels. Subsequent soil samples collected at the property have not been analyzed for PAHs. None of the groundwater samples collected at the property have been analyzed for PAHs. However, this property is nearly 2 miles east of the LDW; therefore, the potential for sediment recontamination via the soil and groundwater pathway is very low.

4.3.19.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.3.20 Former Totem Equipment Seattle

Facility Summary: Former Totem Equipment Seattle	
Tax Parcel No.	3573200955
Address	5000 East Marginal Way S
Property Owner	East Marginal Way Building LLC

Facility Summary: Former Totem Equipment Seattle	
Parcel Size	0.81 acre (35,400 sq ft)
Facility/Site ID	84969261 (Former Totem Equipment Seattle) 6433026 (Seattle Radiator)
SIC Code(s)	3531: Construction Machinery (Former Totem Equipment Seattle)
EPA ID No.	WAD027478957 (Inactive) (Former Totem Equipment Seattle) WAH000033785 (Seattle Radiator)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	366 – Authorization, minor (Seattle Radiator)
UST/LUST ID No.	11875 (LUST-Active, UST-Inactive) (Former Totem Equipment Seattle)
Map/Map ID	A5/15 (Former Totem Equipment Seattle) A5/16 (Seattle Radiator)

The property is located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The triangular-shaped property is bordered by East Marginal Way S to the west, S Hudson Street to the north, and S Ohio Street to the east. Federal Center South and the former Snopac Products, Inc. property are west of the former Totem Equipment property.

There are four buildings on the property: one 1,500 sq ft office building constructed in 1931 and three light industrial manufacturing buildings. The light industrial manufacturing buildings are identified as:

- A 7,020 sq ft shop and storage building constructed in 1946,
- A 7,000 sq ft shop and warehouse constructed in 1978, and
- A 2,000 sq ft repair shop constructed in 1984.

4.3.20.1 Current Operations

Hudson, a restaurant, opened at the property in 2009 (Hudson 2009). It operates in one of the former Totem Equipment buildings (Daily Candy 2009). Spilsbury & Reid Co., a hydraulic equipment dealer, and Seattle Radiator also operate on the property. Additional information regarding current operations at the property was not available for review.

4.3.20.2 Historical Operations

Totem Equipment occupied the property from 1962 to 2004. The facility was used as a distribution center and to conduct truck repair, including major engine repair and minor converter and transmission repair. Vehicle repair operations reportedly occurred in historically unpaved areas of the property (Riley Group 2004).

As of 2004, buildings on the property were referred to as the Office Building, the Shop/Parts Storage Building, the Repair Garage, and the Transmission Shop. The property is paved with asphalt and concrete (Riley Group 2004).

At least six ASTs were located on the property, including three 250-gallon ASTs storing engine oil, hydraulic oil, and transmission fluid (formerly located south of the Repair Garage); two 200-gallon diesel ASTs; and one 500-gallon waste oil AST (all three formerly located south of the Transmission Shop) (Riley Group 2004).

Hazardous wastes historically generated at the property include spent xylene from former painting operations and waste solvents, such as PCE, from parts cleaning operations (Riley Group 2004).

A gasoline service station operated on the southern portion of the property from approximately 1944 to approximately 1977. In the early 1960s, the existing service station was demolished and a new service station was built for Signal Oil. The service station was demolished in 1984. Historical plans for the service station indicate that a hoist, a sump, and a waste oil sump were located beneath the station building floor (Riley Group 2004, 2005).

Several USTs have been in service at the property; regulatory records indicate that three USTS were closed in place; historical Sanborn maps indicate that five USTs were installed on the property, and Signal Oil's records indicate that as many as six USTs were located on the property. Totem Equipment did not use the USTs (Riley Group 2004).

An office building and a restaurant were located on the property in 1931. The office building was apparently built for Petroleum Transportation. The restaurant was demolished in 1977 (Riley Group 2004).

4.3.20.3 Regulatory History

Ecology inspected Seattle Radiator in November 2008 (Table 10). Approximately 1,500 gallons per week of potentially hazardous waste was discharging to the sanitary sewer or storm drain; the connections from inside floor drains were unknown. Ecology referred Seattle Radiator to KCIW to obtain a discharge permit or authorization. Seattle Radiator had not notified Ecology of treatment of hazardous wastes with discharge to the sewer (Jeffers 2008g).

EPA has sent a CERCLA Section 104(e) Request for Information letter to the property owner, East Marginal Way Building LLC.

The VCP ID number for former Totem Equipment Seattle is NW1794. No additional information regarding regulatory history for this facility was available for review.

4.3.20.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the former Totem Equipment property.

Phase I Environmental Site Assessment (2004)

The property was vacant at the time of the Phase I ESA. An abandoned UST was located west of the Shop/Parts Storage Building. The fill and vent pipe locations corresponded to a historical boiler room on the property; therefore, it was assumed the UST held heating oil. An OWS, containing oil, was located immediately south of the Repair Shop. A steam cleaner was located in a shed attached to the north side of the Transmission Shop. Wash water from the steam cleaner drained to a nearby catch basin and was then conveyed to the OWS. A former fuel pump island was observed west of the Transmission Shop and three UST fill ports were observed south of the shop, in the general vicinity of the former gasoline service station. Sumps were located along the western property boundary, south of the Repair Garage, and west of shipping containers. A white stain was observed from the Repair Garage to the sump at the western property line (Riley Group 2004).

Inside the buildings, a sump was located along the northern wall of the Shop/Parts Storage Building. A capped pipe was observed along the southern wall of the Repair Garage; the pipe likely discharged to the OWS. A waste oil drain was located in the Transmission Shop. The waste oil drain discharged to a former AST (Riley Group 2004).

Several catch basins were observed in the buildings, including three in the Shop/Parts Storage Building, four in the Repair Garage, two in the Transmission Shop, and four in the outdoor areas of the property. Oil was observed floating on water in most of the interior catch basins. Staining was observed in the vicinity of a catch basin in the parking area south of the Office Building (Riley Group 2004).

Phase II Groundwater Investigation (2005)

Eight test probes were advanced around the property in February 2005. Groundwater was encountered at 11 feet bgs in all borings. Grab groundwater samples were collected from each probe and analyzed for TPH and VOCs. TPH-diesel and benzene concentrations in groundwater exceeded the MTCA Method A cleanup levels (Riley Group 2005).

Supplemental Phase II Investigation (2006 to 2007)

A geophysical survey was performed at the property to identify any abandoned USTs. No USTs were identified though the results indicated that three USTs may have been removed beneath the Transmission Shop floor (Riley Group 2007).

Thirty-six test probes were advanced across the property. One to four soil samples and one groundwater sample were collected from each boring for laboratory analysis (Riley Group 2007). All soil and groundwater samples were analyzed for TPH and BTEX. Two soil samples were analyzed for metals, PCBs, and SVOCs. Additionally, groundwater samples were analyzed for halogenated volatile organic compounds (all samples), total and dissolved metals (three samples), SVOCs (two samples), and PCBs (one sample) (Riley Group 2007).

In soil, TPH-gas, TPH-diesel, TPH-oil, and BTEX concentrations exceeded the MTCA Method A cleanup levels. Arsenic, chromium, and lead were detected in soil. PCBs and SVOCs were not

detected in soil. In groundwater TPH-gas, TPH-diesel, TPH-oil, benzene, xylene, and 1,2-DCA concentrations exceeded the MTCA Method A cleanup levels. Arsenic, chromium, and lead were detected in groundwater below cleanup levels. PCBs and SVOCs were not detected in groundwater (Riley Group 2007).

UST Removal and Shallow Groundwater Remediation (2007)

Five USTs were removed from two excavations on the property in November and December 2007. The USTs included one 24,000-gallon gasoline UST (UST A), two 500-gallon heating oil USTs (USTs B and E), one 500-gallon gasoline UST (UST C), and one 2,100-gallon gasoline and waste oil UST (UST D). Forty-five samples were collected for laboratory analysis (nine samples were collected from stockpiles). Samples were analyzed for TPH-gas, TPH-diesel, TPH-oil, and BTEX. TPH and BTEX concentrations were below MTCA cleanup levels in soil samples collected from the final excavation limits. Approximately 151 cubic yards of contaminated soil was removed from the property (Riley Group 2008b).

Dewatering wells were installed in the excavations to remediate contaminated shallow groundwater. Between December 2007 and January 2008, 87,019 gallons of groundwater were removed from the property. Samples collected from the dewatering wells in January indicated that petroleum hydrocarbon concentrations had decreased from a high of 410 μg/L to nondetectable (Riley Group 2008b).

Groundwater Monitoring (2007 to 2008)

Eleven groundwater monitoring wells were installed at the site in December 2007. Soil samples were not collected for laboratory analysis (Riley Group 2008a). Three injection wells were installed near the former UST E in May 2008. The injection wells were included in the groundwater monitoring well program (Riley Group 2008c).

Groundwater monitoring began in the fourth quarter of 2007. Samples from the wells are analyzed for TPH and BTEX. TPH-diesel and TPH-oil concentrations exceeded the MTCA Method A cleanup levels when monitoring began. Based on the most recent groundwater data available for review, only TPH-diesel exceed the MTCA Method A cleanup level (Riley Group 2008a).

Groundwater flow direction was initially reported to the north-northeast (Riley Group 2008a), but was not reported during the most recent groundwater monitoring event (2nd quarter 2008) because the well casings had been modified and the wells had not been resurveyed (Riley Group 2008c).

4.3.20.5 Potential for Sediment Recontamination

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

Stormwater

Current operations at Seattle Radiator may result in discharges of potentially hazardous waste to the storm drain. Connections from an inside floor drain are unknown. The potential for sediment recontamination via the stormwater pathway is unknown.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Groundwater flow direction has been reported to the north and northeast, which indicates that groundwater flows away from the LDW. However, groundwater at Federal Center South (located to the west across East Marginal Way S) flows to the southwest toward Slip 1 (SAIC 2008). The former Totem Equipment property is immediately east of Slip 1. Groundwater in this area may be tidally influenced. Groundwater measurements made in the 4th quarter 2007 and 1st quarter 2008 were likely taken during high or intermediate tide, which may have influenced groundwater flow direction calculations.

Lead concentrations in groundwater derived from both total metals and dissolved metals analyses (Riley Group 2007) have exceeded the groundwater-to-sediment screening levels. Subsequent groundwater samples have not been analyzed for lead.

The potential for sediment recontamination is likely to be low for EAA-1, but the potential for sediment recontamination to Slip 1 sediments may be high due to potential groundwater flow toward Slip 1. Lead is a COC for sediments associated with Slip 1 (SAIC 2008).

4.3.20.6 Data Gaps and Action Items

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the former Totem Equipment Seattle property is listed below.

Pathway	Data Gap	Action Item
Stormwater	A 2008 inspection of Seattle Radiator determined that 1,500 gallons of potentially hazardous waste is discharged to the storm drain or sanitary sewer on a weekly basis. Sewer connections from the storm drain need to be confirmed.	Ecology and/or SPU will review side sewer cards and/or perform a dye test to determine if the interior floor drain at Seattle Radiator is connected to the storm drain or sanitary sewer.

Pathway	Data Gap	Action Item
	Ecology directed Seattle Radiator to obtain a KCIW discharge permit or authorization. Other records indicate that Seattle Radiator currently holds KCIW discharge authorization 366. Additional information regarding the KCIW discharge permit or authorization is needed.	Ecology and/or KCIW will review discharge permit/authorization records to determine if discharge authorization 366 is valid.
		Ecology will review East Marginal Way Building LLC's response to the EPA CERCLA Section 104(e) letter to determine if historical or current operations at this property require additional source control actions.

4.3.21 Former Van Waters & Rogers/Former Univar USA, Inc.

Facility Summary: Former Van Waters & Rogers/Former Univar USA, Inc.	
Tax Parcel No.	6172900075, 6172900220, 6172900222, 6172900347
Address	Operating & 0075: 4000 1st Avenue S 0220: 130 S Dakota Street 0222: 3857 2nd Avenue S 0347: None
Property Owner	Cascade Designs, Inc.
Parcel Size	0075: 1.21 acres (52,800 sq ft) 0220 & 0222: 0.99 acre (43,230 sq ft) 0347: 0.33 acre (14,520 sq ft)
Facility/Site ID	2340 (Former Univar USA, Inc.)
SIC Code(s)	2399: Fabricated Textile Products, General 5169: Chemical & Allied Products (Wholesale)
EPA ID No.	WAR000005579 (Former Univar USA, Inc.) WAH000030512 (Cascade Designs)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	A4/152

The property is located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The property is bordered on the west by 1st Avenue S, on the north by a SCL easement, on the east by 2nd Avenue S, and on the south by S Dakota Street. City Commerce Park (Section 4.3.9) is located southwest of the property and Crosscut Hardwoods (Section 4.3.22) and former Pacific Fruit and Produce (Section 6.3.5) are located south of the property. The SCL South Service Station (Section 4.2.2) is east of the property.

King County tax assessor records indicated the following information regarding each parcel.

- Parcel 0075: One building is located on this parcel, a 56,608 sq ft warehouse constructed in 1940.
- Parcel 0220: A 36,000 sq ft warehouse, constructed in 1950, is located on this parcel.
- Parcel 0222: Three warehouse buildings are located on this parcel:
  - A 2,200 sq ft building constructed in 1954,
  - A 10,960 sq ft building constructed in 1989, and
  - A 9,590 sq ft building constructed in 1994.
- Parcel 0347: This lot is currently vacant.
- Parcel 0075 is the western parcel, 0347 is the central parcel, 0222 is the northeast parcel, and 0220 is the southeast parcel.

Univar USA Inc. was formerly known as Vopak USA Inc. and VW&R.

4.3.21.1 Current Operations

Cascade Designs manufactures outdoor camping products (EMCON 1996b). No additional information regarding Cascade Design's current operations was available for review.

Cascade Designs has leased the northwest portion of the property since 1981 and purchased portions of the property in 1990 and 1995 (EMCON 1996b). Cascade Designs purchased parcel 0347 from Burlington Northern Railroad Company in August 1996 and purchased parcel 0220 in 1998.

Stormwater

Parcel 0347: The surface of parcel 0347 slopes slightly to the south. A storm drain is located at the southwest corner of the parcel (EMCON 1996b).

Parcel 0222: Roof drains from the western building on parcel 0222 drain to the storm drain. Two floor drains are located in the eastern building. A large concrete pad extends from the building to the street. A large drain is located in the center of the concrete pad. During a 1995 property visit, EMCON noted that rainwater accumulated in a manhole vault on this parcel (EMCON 1996b).

4.3.21.2 Historical Operations

VW&R purchased the property in 1937 and operated until 1974. In 1974, VW&R partitioned the property and sold it to three parties: Lloyd and Harriet Raab, MacMillan-Piper, Inc, and Henry Bacon. Cascade Designs subsequently purchased the parcels. The property was divided into eastern and western halves by rail road tracks (EMCON 1996b).

VW&R operated a chemical transfer and storage facility on the property from 1937 to 1974. VW&R stored, transferred, and repackaged solvents and other industrial chemicals including PCE, TCE, 1,1,1-TCA, MEK, acetone, toluene, gasoline, diesel, mineral spirits, ethyl alcohol,

isopropyl alcohol, xylene, ethylene glycol, and soybean and linseed oils (EMCON 1996b; GeoEngineers 1999b).

Three fuel storage USTs and 19 chemical storage USTs were used on the eastern half of the property. The chemical storage USTs were abandoned in place and the fuel USTs were removed between 1991 and 1995 by Cascade Designs (EMCON 1996b; GeoEngineers 1999b).

Two chemical USTs and one gasoline UST were located on the western half of the property. The chemical product USTs were located beneath the warehouse floor in the northern portion of the warehouse and the gasoline UST was located near the warehouse entrance on S Dakota Street. The chemical product USTs were closed in place and the gasoline UST was removed from the property by Harriet Raab in 1995 (EMCON 1996b).

MacMillan-Piper, Inc. stored Wyandotte Defoamers, Exxon Plasticizer DOP, Sika Cement Admixtures, soybean and diesel oil, and gasoline in the 19 USTs after it purchased the property in 1974 (EMCON 1996b).

A break in the water supply line beneath one of the northwest warehouses on parcel 0075 resulted in the release of approximately 524,000 gallons of potable water to the subsurface between February 1997 and January 1998 (EMCON 1999).

4.3.21.3 Regulatory History

In December 2007, Ecology determined that further action was required to define and characterize PCE, TCE, cis 1,2-DCE and vinyl chloride contamination in groundwater (Maurer 2007).

SPU performed five inspections of the facility and operations at Cascade Designs in 2007 (Schmoyer 2009b). SPU reported that the facility was in compliance (Table 9). The facility reports were not reviewed.

Ecology inspected Cascade Designs in April 2009 (Table 10) as part of the Urban Waters Initiative. Ecology directed Cascade Designs to clean storm drains and apply for coverage under the ISGP (Jeffers 2009b).

VCP ID number NW0942 has been assigned to this property.

4.3.21.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the former VW&R/former Univar property.

Soil Sampling and Monitoring Well Installation (1992)

Three soil and groundwater investigations were performed in 1992. Soil samples were collected from parcel 0347 (former rail road spur) and the northern portion of either parcel 0075 or 0222. Samples were analyzed for VOCs, oil, grease, and glycol. PCE and TCE concentrations

exceeded the MTCA Method A cleanup levels. Two groundwater monitoring wells were installed adjacent to the soil borings with the highest VOC concentrations (EMCON 1996b).

UST Closure (1995)

Two 10,000-gallon USTs and one 750-gallon UST were removed from the western portion of the property in August 1995. Fatty acids used in food processing were stored in the 10,000-gallon USTs and gasoline was stored in the 750-gallon UST. Four soil samples and one groundwater sample were collected around the 10,000-gallon USTs; the samples were analyzed for TPH, VOCs, and SVOCs. No analytes were detected in soil (EMCON 1996b).

Five soil samples and one groundwater sample were collected around the 750-gallon UST; the soil samples were analyzed for TPH and BTEX and the groundwater sample was analyzed for TPH, VOCs, and SVOCs. TPH-gas exceeded the MTCA Method A cleanup level in one soil sample (EMCON 1996b).

Soil and Groundwater Investigations (1995 to 1996)

Twenty-five soil borings were installed to evaluate soil and groundwater near suspected VOC source areas and along the western boundary of the property to assess the nature and extent of VOC-contaminated groundwater. Eight soil borings along the western property boundary were completed as groundwater monitoring wells (EMCON 1996b).

Two water-bearing zones were identified on the property. In the upper, shallow water-bearing zone, groundwater flow direction was consistently to the southwest over six monitoring events from 1995 to 1996. No wells were screened in the lower, deep water-bearing zone (EMCON 1996b).

PCE and TCE were present above MTCA Method A cleanup levels in soil and groundwater (EMCON 1996b).

Supplemental Site Investigation (1997 to 1999)

Four soil borings were installed on the property in October 1997. Grab groundwater samples were collected from the bottom of each boring. Soil samples were not collected for laboratory analysis. Benzene, PCE, and TCE exceeded the MTCA Method A cleanup level in groundwater (EMCON 1999).

Three groundwater monitoring wells were installed in the shallow groundwater-bearing zone in December 1997. Four groundwater monitoring wells were installed in the deep groundwater-bearing zone between April and November 1998. Soil samples were not collected from the well borings for laboratory analyses. Groundwater flow direction in this zone varied, but the net flow direction was to the west (EMCON 1999).

Indoor air sampling was also conducted in April, June, and December 1998 (EMCON 1999).

Groundwater Monitoring (1996 to 2005)

Quarterly groundwater monitoring was conducted between 1996 and 2005. PCE, TCE, vinyl chloride, and benzene concentrations in the shallow groundwater-bearing zone consistently exceeded the MTCA Method A cleanup levels. Prior to the installation of well MW-9D, only vinyl chloride and benzene had exceeded the MTCA Method A cleanup level in the deep groundwater-bearing zone (EMCON 1999; PES 2002). Benzene, PCE, and TCE concentrations in groundwater samples collected from well MW-9D exceeded the MTCA Method A cleanup level. Vinyl chloride was not detected in any of the deep groundwater monitoring wells (PES 2006, 2007). Data after 2006 were not available for review.

Groundwater flow direction in the shallow groundwater-bearing zone has consistently been to the south and southwest. Flow direction in the deep groundwater-bearing zone has varied from west to southwest to south. There is a downward vertical gradient between the shallow and deep groundwater-bearing zones (EMCON 1999; PES 2003a, 2007).

Soil Vapor Extraction Pilot Test and System Operations (2000 to 2006)

An SVE pilot test was conducted in February 2000. Based on the results of the pilot test, an SVE system was installed on the eastern half of the property during the third and fourth quarters of 2000. The system began operations in January 2001 (PES 2002). By the end of 2005, 1,167 pounds of VOCs had been removed from the subsurface (PES 2007). Data after 2006 were not available for review.

Beginning in 2005, condensate from the SVE system was treated and discharged to the sanitary sewer (PES 2007).

Eight soil borings were advanced on the eastern side of the rail spur in December 2001. Soil samples were collected and analyzed for VOCs to assess the effectiveness of the SVE system. PCE and TCE concentrations in soil exceeded cleanup levels (PES 2002).

Deep Aquifer Investigation (2003 to 2005)

In July 2003, four soil borings and four groundwater monitoring wells were installed to a depth of 60 feet bgs to evaluate groundwater conditions in the deep groundwater-bearing zone. Soil samples were collected for VOC analysis. Groundwater samples were collected from each of the four borings. Benzene, PCE, TCE and vinyl chloride concentrations exceeded MTCA Method A cleanup levels in soil. Benzene and vinyl chloride concentrations exceeded MTCA Method A cleanup levels in groundwater (PES 2003b).

Three additional soil borings were advanced in November 2004. Grab groundwater samples were collected from each boring. Benzene and PCE concentrations exceeded the MTCA Method A cleanup levels (Dahl 2005; PES 2005a). One groundwater monitoring well was installed in the deep groundwater-bearing zone in October 2005 (PES 2005b).

4.3.21.5 Potential for Sediment Recontamination

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

Stormwater

Current operations at this property may represent a potential source of contaminants to EAA-1 sediments via the stormwater pathway. Cascade Designs was directed to obtain coverage under the ISGP in April 2009.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

VOC concentrations in soil and groundwater beneath the property exceed MTCA Method A cleanup levels. VOCs are not considered COCs for EAA-1 sediments. Additionally, the property is approximately 3,000 feet east of the LDW; therefore, the potential for sediment recontamination via this pathway is likely to be very low.

4.3.21.6 Data Gaps and Action Items

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the former VW&R property is listed below.

Pathway	Data Gap	Action Item
Stormwater	Information is needed to determine if potential sediment contaminants are present in stormwater discharges associated with Cascade Designs operations. The facility was directed to obtain coverage under the ISGP in April 2009.	Ecology will determine if stormwater discharges from the facility represent a potential contaminant source to EAA-1 sediments.

4.3.22 Warehouse Site

Facility Summary: Warehouse Site	
Tax Parcel No.	6172900300
Address	4130 1st Avenue S
Property Owner	First Avenue LLC
Parcel Size	0.71 acre (30,720 sq ft)
Facility/Site ID	47239518 (Former Daniel Smith, Inc.) 1388018 (Warehouse Site)
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	A4/140

The property is located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The property is bordered by 1st Avenue S on the west, by S Dakota Street on the north, a railroad right-of-way on the east, and the current Daniel Smith-Fine Art Materials warehouse on the south. City Commerce Park (Section 4.3.9) is located west of the property, Cascade Designs (Section 4.3.21) is located north of the property, and the former Pacific Fruit and Produce (Section 6.3.5) is located east of the property.

According to King County tax assessor records, the property name is IMPEX and this property is the former Daniel Smith Fine Art Materials property. There is one building on the property, a 31,360 sq ft warehouse and retail outlet constructed in 1946.

4.3.22.1 Current Operations

Crosscut Hardwoods is a tenant on the property. Crosscut Hardwoods sells lumber, plywood, decking, and lumber finishing products. The company also performs custom milling activities such as slab sanding, trim, and solid lumber glue up, as well as custom plywoods and decking (Crosscut Hardwoods 2009). These services, listed on the company's website, may or may not be available at its Seattle location.

Cascade Designs Inc. is a tenant on the property and uses the warehouse for storage (Geomatrix 2004a).

4.3.22.2 Historical Operations

IMPEX Development, a building supply company, appears to have been a historical operator at this property. Bader & Olsen and Daniel Smith Fine Art Materials have also operated at this property.

The warehouse on the property was first occupied by an electrical distributor, North Western Agencies (RZA AGRA 1994a).

In the 1940s and 1950s American Smelting and Refining Company and Pac Metal Company operated to the north and south of the property (RZA AGRA 1994a).

4.3.22.3 Regulatory History

SPU inspected Bader & Olsen in September 2003, Daniel Smith in November 2003, and Crosscut Hardwoods in February 2004 (Schmoyer 2009b). No corrective actions were identified (Table 9). The inspection reports were not reviewed.

In October 2004, Ecology determined that the extent of TPH-diesel contamination in soil and groundwater beneath the property had not been fully characterized and recommended that a soil and groundwater monitoring program be initiated at the property (Ecology 2004f).

In July 2005, Ecology again determined that further action was necessary to characterize contaminants in soil and groundwater beneath the property. Ecology advised that four quarters of groundwater monitoring data with results below MTCA Method A levels in all monitoring points were required to demonstrate containment of contaminants (Ecology 2005c). The need for further action was reaffirmed by Ecology in November 2005 (Ecology 2005f).

The VCP ID number for the property, NW1331, is inactive.

4.3.22.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the Warehouse Site.

Phase I Environmental Investigation (1994)

One UST, presumably used for heating oil, was located on the property. Approximately 3 feet of product was present in the UST (RZA AGRA 1994a).

UST Removal and Investigation (2004)

In June 2004, one 675-gallon heating oil UST was removed from the property. The UST had been installed in 1946 and was removed from service in 1984. Approximately 500 gallons of heating oil had been removed from the UST in 1996 (Geomatrix 2004a).

Petroleum-stained soil was observed in the UST excavation. Confirmation soil samples contained concentrations of TPH-diesel above the MTCA Method A cleanup level and acenaphthene and pyrene. Four soil borings were advanced on the property to determine the extent of petroleum hydrocarbon contamination. Groundwater was encountered between 9 and 13 feet bgs and grab samples were collected from two of the borings. Soil and groundwater samples were analyzed for TPH-oil. TPH-oil was present in soil above the MTCA Method A cleanup level and in groundwater below the MTCA Method A cleanup level (Geomatrix 2004a,b).

Soil Removal Action and Groundwater Investigation (2005)

Approximately 96 cubic yards of soil contaminated with TPH-oil was removed from the area of the heating oil UST excavation and disposed of off site in January 2005. Confirmation soil samples indicated that contaminated soil remained at the southwest corner of the excavation. Further soil removal could not be accomplished without compromising the foundation of the warehouse (Geomatrix 2005a).

Three direct push borings were advanced following the soil removal action. Two borings were advanced inside the excavation limits and the third was advanced 10 feet southwest of the southwest corner of the excavation. Grab groundwater samples were collected from the excavation and analyzed for TPH. TPH-diesel and TPH-oil were present in groundwater above the MTCA Method A cleanup level (Geomatrix 2005b).

4.3.22.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway. However, operations at the property are likely to fall under SIC Code 24xx Lumber and Wood Products, which requires an NPDES permit if stormwater discharges to surface waters.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

The acenaphthene concentration detected in soil during the 2004 UST removal was equal to the soil-to-sediment screening level of 1.2 mg/kg. The property is over 0.5 mile from the LDW. The potential for sediment recontamination via this pathway is very low.

4.3.22.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at Crosscut Hardwoods comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at Crosscut Hardwoods.

4.3.23 Former Washington Trucking Association

Facility Summary: Former Washington Trucking Association	
Tax Parcel No.	7666205785, 7666205795
Address	Operating: 4101 4th Avenue S 5785: None 5795: 4115 4th Avenue S
Property Owner	4101 & 4115 Fourth LLC
Parcel Size	5785: 0.40 acre (17,264 sq ft) 5795: 0.52 acre (22,676 sq ft)
Facility/Site ID	44295317
SIC Code(s)	7389: Business Services, Not Elsewhere Classified
EPA ID No.	WAR000009555 (Inactive)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	A4/146

The WTA occupied two parcels located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The properties are bordered by Diagonal Avenue S to the north and 4th Avenue S to the east. A Costco Warehouse (Table 10) is located south of the property. The SCL South Service Center (Section 4.2.2) is northwest of the property.

According to King County tax assessor records, parcel 5785 is used for parking. There are no buildings on the property. A 7,380 sq ft retail building, constructed in 2008, is located on parcel 5795. Demolition Permit No. 6122903 was issued for this parcel in January 2007.

4.3.23.1 Current Operations

Bamboo Hardwoods is the current operator at this facility. The company's main warehouse and showroom are on the property. The company manufactures and distributes a variety of bamboo products including flooring, plywood, and furniture (Bamboo Hardwoods 2009). Bamboo Hardwoods has not been assigned an Ecology Facility/Site ID number and is not listed on the CSCSL.

4.3.23.2 Historical Operations

WTA occupied the property from 1952 or 1953 until December 1994. WTA used the office building and performed only administrative tasks on the property. No hazardous materials were used or wastes were generated while WTA operated at the property (Law/Crandall 1994).

The property was leased by Emerald City Construction prior to 1999. The company occupied the office building and stored construction equipment, materials, and company vehicles in the paved storage area to the west of the office building (Farallon 2000a).

A company named Life Style Landscape operated at the property in 2003.

Stormwater

A stormwater conveyance system was installed within the paved areas of the property to the north and west of the former office building. It is not known if this stormwater system remains in place following the construction of the Bamboo Hardwoods showroom and warehouse in 2008.

4.3.23.3 Regulatory History

In June 2000, Ecology determined that further action was necessary at the property to characterize the PCB plume in groundwater and that additional groundwater monitoring was needed. Ecology also indicated that a deed restriction was needed to address residual PCBs on the property (Ecology 2000c).

In August 2000, Ecology indicated that it was prepared to issue a conditional NFA for the property, provided that a Restrictive Covenant was filed with the King County Assessor or Recorder's office and continuation of groundwater monitoring (Ecology 2000f). Approximately 5 cubic yards of soil with PCB concentrations exceeding the MTCA Method A cleanup levels remained on the property beneath the southwest corner of the office building (Farallon 2000c).

A Restrictive Covenant prohibiting the use of groundwater beneath the property and activities that may interfere with continued protection of human health and the environment was filed with King County in October 2000 (OMW 2000).

In April 2001, Ecology determined that further actions were necessary at the property based on high TPH concentrations in groundwater and declared that the Restrictive Covenant was null and void (Madakor 2001).

SPU performed a follow-up inspection at Life Style Landscape in December 2003 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

The VCP ID number is NW0465.

4.3.23.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the former WTA property.

Phase I and Phase II Environmental Site Assessments (1994)

Three groundwater monitoring wells were installed in 1994. PCBs were detected in soil and groundwater from well MW-2. Electrical equipment debris was encountered in the well boring. TPH-oil exceeding the MTCA Method A cleanup level was detected in soil and groundwater from well MW-3 (Law/Crandall 1994).

Interim Remedial Action (1994 to 1995)

A heating oil tank was removed from the property and approximately 200 cubic yards of contaminated soil was excavated and disposed of off site. Twelve soil borings were advanced around the UST excavation. Soil samples from the borings contained TPH-gas and TPH-diesel above the MTCA cleanup levels. In April 1995, an additional 115 cubic yards of petroleum hydrocarbon-contaminated soil was excavated and removed from the property (SEC 1996).

Three additional excavations and six soil borings were completed in the area of MW-2 to determine the source of PCB contamination. Metal debris, electrical insulators, and wire cables were present in the subsurface. Soil immediately west of the building was contaminated with PCBs up to 20 mg/kg and TPH-oil. Six additional soil borings were advanced inside the building. Samples collected inside the building indicated that PCB and TPH-oil contamination was present in a 9-foot-square area beneath the building (SEC 1996; Kennedy/Jenks 1996).

Groundwater monitoring wells were installed to assess the potential for TPH-oil in groundwater. TPH-oil was present in groundwater at concentrations below the MTCA Method A cleanup level. Groundwater flow direction was to the northwest (SEC 1996; Kennedy/Jenks 1996).

Groundwater Investigation and Well Installation (2000 to 2001)

One direct push boring was advanced adjacent to the former heating oil location and one groundwater monitoring well was installed on the property in July 2000. Soil from the well boring was analyzed for TPH; TPH-oil was present below cleanup levels. A grab groundwater sample from the direct push boring and groundwater samples from three wells (including the newly installed well) were analyzed for TPH, BTEX, dissolved lead, and PCBs. TPH-gas and benzene concentrations exceeded the MTCA Method A cleanup levels in groundwater. Lead and PCBs were not detected in groundwater (Farallon 2000b).

The groundwater monitoring wells were sampled again in October 2000 and January 2001. TPH-gas and benzene were present above MTCA Method A cleanup levels. Lead and PCBs were not detected (Farallon 2000d, 2001)

Groundwater flow direction was consistently to the west-northwest (Farallon 2000b,d, 2001).

4.3.23.5 Potential for Sediment Recontamination

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

Stormwater

Stormwater from this facility is conveyed to the LDW. Current operations at Bamboo Hardwoods may represent a potential stormwater pollutant source. It is not known if the stormwater conveyance system installed by the former WTA is still present at the property. The potential for sediment recontamination via this pathway is unknown.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Concentrations of PCBs in soil and groundwater have exceeded the soil-to-sediment and groundwater-to-sediment screening levels. The property is over 4,000 feet east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.3.23.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at this facility are compliant with stormwater pollution prevention BMPs or require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at the facility.

4.4 CSCSL Properties within the Diagonal Avenue S CSO Basin

The facilities described in this section are located only within the Diagonal Avenue S CSO basin. Stormwater from these facilities is not conveyed to EAA-1 via the Diagonal Avenue S SD; rather, it is discharged to another separated sewer system or the combined sewer. During a CSO event, stormwater and wastewater from these facilities are discharged to EAA-1 via the Diagonal Avenue S CSO.

The facilities are presented alphabetically; the word “former” was ignored for the purpose of alphabetizing the facility names.

4.4.1 Former Chubby & Tubby

Facility Summary: Former Chubby & Tubby	
Tax Parcel No.	1282300640
Address	3333 Rainier Avenue S
Property Owner	Southeast Effective Development
Parcel Size	0.50 acre (21,600 sq ft)
Facility/Site ID	29137998 (Chubby & Tubbys) 6118646 (Chubby and Tubby Site)
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	101380 (LUST-Inactive, UST-Active)
Map/Map ID	C4/225 (Chubby & Tubbys) C4/222 (Chubby and Tubby Site)

This property is located at the northwest corner of the intersection between Rainier Avenue S and S Walden Street. Residential and commercial properties surround the former Chubby & Tubby property. There is one building on the property, a 22,172 sq ft retail store constructed in 1950. A new building permit (No. 3002211) was issued for the property in October 2008.

4.4.1.1 Current Operations

Southeast Effective Development (SEED) purchased the property in 2005. The former Chubby & Tubby building is rented by World Vision. World Vision uses the building as a distribution center for school supplies. SEED intends to replace the former Chubby & Tubby store with a mixed-use development consisting of 5,000 sq ft of commercial space on the ground floor with 75 housing units above the commercial space (SEED 2009). A construction permit was issued in October 2008. It has not been verified if construction has begun on the new development.

4.4.1.2 Historical Operations

A Signal gas station operated on the property from the 1930s to 1951. Chubby & Tubby Hardware operated at the property from 1950 to 2003 (KCDNR 2007a). Additional information regarding historical operations at the property was not available for review.

4.4.1.3 Regulatory History

Following the 1991 UST removal, GeoEngineers notified Ecology that the tanks had been removed and that BTEX was present in the soil (Ecology 1991g). No additional information regarding regulatory history was available for review.

4.4.1.4 Environmental Investigations and Cleanups

Two environmental investigations have been conducted at the former Chubby & Tubby property.

UST Removal (1991)

Two 550-gallon gasoline USTs and product lines associated with the former Signal Oil service station were removed from the property in June 1991. Confirmation soil samples collected from the excavations indicated that all contaminated soil had been removed from the property. Soil from the excavation was stockpiled on the property and treated by aeration. Post-treatment samples indicated that TPH and BTEX were below MTCA Method A cleanup levels. The stockpiled soil was used as backfill in the excavation (GeoEngineers 1991).

Environmental Assessment (2007)

SEED hired an engineer to collect subsurface samples to assess environmental conditions at the property in March 2007. Two soil borings were advanced on the property. TPH-gas exceeded the MTCA Method A cleanup level in a soil boring located near the former Signal Oil USTs (KCDNR 2007a).

4.4.1.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination has been confirmed in soil at this property. Petroleum contaminants are not sediment COCs for EAA-1. Based on the geographic location of the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is almost 3 miles east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.4.1.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.4.2 Former Clayton VW Repair

Facility Summary: Former Clayton VW Repair	
Tax Parcel No.	5414100305, 5414100315
Address	Operating:4709 Martin Luther King Jr Way S 0305: None 0315: 4700 Martin Luther King Jr. Way S
Property Owner	Central Puget Sound Regional Transit Authority-Real Estate Division
Parcel Size	0305: .0.07 acre (3,079 sq ft) 0315: 0.05 acre (2,298 sq ft)
Facility/Site ID	2321
SIC Code(s)	7539: Auto Repair Shops, Miscellaneous
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	200714 (LUST-Active, UST-Inactive)
Map/Map ID	C4, C5/38

Clayton VW repair historically occupied two properties in the Diagonal Avenue S CSO basin. The two parcels formed a triangular-shaped property at the southwestern corner of the intersection between Martin Luther King Jr. Way S and S Alaska Street. Properties owned by the CPSRTA and residential properties surround the former Clayton VW Repair property. According to King County tax assessor records, David and Lorraine Clayton sold the parcels to CPSRTA on May 12, 2004. The parcels are recorded as vacant lots. Clayton VW Repair occupied parcel 0305. Parcel 0315 is bisected by S Alaska Street.

4.4.2.1 Current Operations

The property is currently a vacant lot.

4.4.2.2 Historical Operations

A gasoline service station operated at the parcel from approximately 1977 to 1983 (E&E 1991a). The property was owned by James Alexander until 1983. The property was apparently divided into two smaller parcels at the time of sale, and USTs were present on both of the smaller parcels. Clayton VW Repair occupied the southern half of the parcel from approximately 1983 (Ecology 1991d) until 2004.

An invoice dated October 17, 1990, documents the removal of two USTs from the southern portion of the property. The invoice indicates the soil testing was conducted (Marine Vacuum Service 1990). USTs on the northern portion of the property were removed later in 1990 (Ecology 1991d).

4.4.2.3 Regulatory History

In September 1990, Ecology received a complaint of gasoline odors emanating from a construction site immediately south of former Clayton VW Repair. There were no USTs on the construction site, but unused USTs were located on the former Clayton VW Repair property (Ecology 1990h). Ecology advised the developer that the construction project could continue, but to document any cleanup efforts carefully (Ecology 1990i).

In March 1991, Ecology formally listed the Clayton VW Repair property on the CSCSL (Ecology 1991c).

The property was entered in to the VCP in July 2008. The VCP number is NW1969 (Cargill 2009).

4.4.2.4 Environmental Investigations and Cleanups

At least two environmental investigations have been conducted at the former Clayton VW Repair.

Site Assessment (1991)

Ten soil borings and three groundwater monitoring wells were installed on the property in 1991. Soil and groundwater samples were analyzed for TPH and BTEX. Concentrations of TPH and BTEX in soil did not exceed the Method A cleanup levels. TPH (except for TPH-diesel) and BTEX exceeded the Method A cleanup levels in groundwater (E&E 1991b).

Sound Transit performed a cleanup action at the property as part of the construction activities associated with Link light rail system (Cargill 2009). The interim cleanup action plan was not available for review during the preparation of this Data Gaps Report.

4.4.2.5 Potential for Sediment Recontamination

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

CSO Events

Current operations at this property do not represent a potential source of contaminants to EAA-1 sediments via the CSO event pathway.

Soil and Groundwater

Petroleum contamination has been confirmed in soil at this property. Petroleum contaminants are not sediment COCs for EAA-1. Based on the geographic location of the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is almost 3 miles east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.4.2.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.4.3 Former Colman Building

Facility Summary: Former Colman Building	
Tax Parcel No.	7228500255
Address	2203 E Union Street
Property Owner	2203 East Union LLC
Parcel Size	0.37 acre (16,185 sq ft)
Facility/Site ID	5539237
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	C2/432

The property is located at the southwest corner of the intersection between 23rd Avenue S and E Union Street. Residential and commercial properties surround the former Colman Building property. According to King County tax assessor records, this parcel is vacant. New building permit no. 3005925 was issued on December 2, 2008.

4.4.3.1 Current Operations

The property is currently a vacant lot.

4.4.3.2 Historical Operations

A two-story 24,141 sq ft building, originally constructed in 1922 and expanded in 1923 and 1929, occupied the property until September 2004 (URS 2005). The building suffered extensive structural damage in the February 2001 Nisqually Earthquake and had been vacant since the earthquake. Suites in the building were previously used for retail, office, and residential purposes. Dry cleaners occupied a suite in the building from at least 1961 through 1973 (Clayton 2003a).

An automatic oil-fueled burner was installed in the building in 1975. According to the former property owners, a heating oil UST was removed from the property in 1990 (Clayton 2003a).

4.4.3.3 Regulatory History

The property was entered into the VCP in November 2006 (Ecology 2006i).

In June 2007, Ecology determined that further action was needed at the property to define the extent of VOC contamination in soil and groundwater beneath property and to address the soil vapor pathway (Ecology 2007i).

4.4.3.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the former Colman Building.

Phase II Site Assessment (1989)

A heating oil UST was removed at the property. Seven soil samples were collected and analyzed for TPH and BTEX. BTEX was not detected and all TPH concentrations were below 200 ppm (Med-Tox Associates 1990 as cited in Clayton 2003b). Soil and groundwater to the north of and below the building were suspected to be contaminated with petroleum (Clayton 2003a).

Limited Phase II Site Assessment (2003)

Six soil borings were advanced on the property in 2003. Soil samples were collected from four of the borings and grab groundwater samples were collected at the bottom of all six borings. Depth to groundwater was approximately 9 feet bgs. Samples were analyzed for TPH and VOCs. PCE concentrations in soil and groundwater exceeded the MTCA Method A cleanup levels. TCE concentrations in groundwater exceeded the MTCA Method A cleanup level (Clayton 2003b)

Target Brownfield Assessment (2004)

Fourteen soil borings were advanced on the property to determine the nature and extent of contamination associated with former dry cleaning operations on the property. Two soil samples and one grab groundwater sample were collected from each boring. PCE was reported above the MTCA Method A cleanup level in one soil sample. PCE, DCE, TCE, vinyl chloride, and benzene were present above MTCA Method A cleanup levels in one or more groundwater samples.

Remedial Actions (2006 to 2008)

Six injection points and four groundwater monitoring wells were installed on the property. Approximately 3,000 gallons of hydrogen peroxide and iron catalysts were injected into the primary area of PCE contamination. Between April 2007 and September 2007, over 14,000 gallons of potassium permanganate were injected into the subsurface via the injection points. Groundwater sampling was conducted on a quarterly basis from August 2006 to March 2008. The remedial actions were effective in reducing concentrations of PCE daughter products in groundwater to below MTCA Method A cleanup levels; however, concentrations of PCE and vinyl chloride remained in groundwater above the cleanup levels. In May 2008, SES recommended excavating the primary area of PCE contamination and installing a groundwater remediation cell to address the PCE and vinyl chloride in groundwater (SES 2008a).

4.4.3.5 Potential for Sediment Recontamination

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

CSO Events

Current operations at this property do not represent a potential source of contaminants to EAA-1 sediments via the CSO event pathway.

Soil and Groundwater

VOC contamination has been confirmed in soil and groundwater at this property. Petroleum contaminants are not sediment COCs for EAA-1. Based on the geographic location of the property, groundwater likely flows generally toward Elliott Bay or Lake Washington. Additionally, the property is over 3.5 miles northeast of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.4.3.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.4.4 Former Genesee Landfill

Facility Summary: Former Genesee Landfill	
Tax Parcel No.	4154300585
Address	Genesee Street & 43rd Avenue S
Property Owner	City of Seattle Parks Department
Parcel Size	31.94 acres (1,391,306 sq ft)
Facility/Site ID	2123
SIC Code(s)	4953: Landfill
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	D4/85

The former Genesee Park Landfill is a 55-acre area located on Lake Washington between 38th and 46th Avenue S. The majority of the property is used as recreational areas with sports fields and playground equipment (SKCDPH 1986). According to King County tax assessor records, this parcel is vacant.

4.4.4.1 Current Operations

Genesee Park and Playfield is located on the property. Park development began in 1968. The park covers approximately 60 acres (Seattle Parks and Recreation 2009).

4.4.4.2 Historical Operations

The City of Seattle purchased the property in 1947 for use as a sanitary landfill between S Genesee Street and Lake Washington Boulevard. The fill consisted mainly of garbage. In 1960, the land was approved as a park (Seattle Parks and Recreation 2009).

4.4.4.3 Regulatory History

In March 1993, the EPA recommended that the City of Seattle Parks and Recreation address the areas of the former landfill that were not capped, such as the southwestern portion of the property, maintaining the property surface to minimize surface water ponding and leachate production, and continued monitoring for methane gas (USEPA 1993).

4.4.4.4 Environmental Investigations and Cleanups

SKCDPH performed a toxicity/hazard assessment of the abandoned landfill in 1986. A surface water sample was collected from an area that experienced chronic irrigation system leaks. An oily sheen was observed on the water surface. Ten soil samples were collected from various locations across the park. Bioassay analyses of the water and soil samples were labeled "non-toxic." The chemical analyses indicated that the surface of the property was not a public health risk (SKCDPH 1986).

Twenty-four landfill gas test probes were installed. Combustible gas was present on the northern, western, and southern perimeters of the park (SKCDPH 1986).

4.4.4.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Potential contaminants in the historical landfill are unlikely to infiltrate the combined sewer system. However, contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Limited information is available to determine if soil or groundwater contamination is present on the property. Based on the geographic location of the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is over 3 miles northeast of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.4.4.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.4.5 Former Jefferson Street Bus Barn

Facility Summary: Former Jefferson Street Bus Barn	
Tax Parcel No.	7942600890
Address	Operating: 1398 E Jefferson Street Parcel: 1323 E Cherry Street
Property Owner	Seattle University
Parcel Size	2.94 acre (128,000 sq ft)
Facility/Site ID	2323
SIC Code(s)	4173: Service Fac. For Motor Vehicle Fleet
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	B2/404

The property is located at the northwest corner of the intersection between 14th Avenue and E Jefferson Street. Residential and commercial properties and other properties owned by Seattle University surround the former Jefferson Street Bus Barn property. According to King County tax assessor records, there is one building located on this parcel, a 1,774 sq ft equipment shed constructed in 1995.

4.4.5.1 Current Operations

Based on aerial photographs available on King County's iMap website, the property is currently used as an athletic field by Seattle University (Appendix B-2).

4.4.5.2 Historical Operations

The property was used as an electric trolley terminal from the 1920s until 1982 by Seattle Transit Company prior to 1977 and by METRO from 1977 to 1982 (Depew 1990). Out-of-service trolleys, and later buses, were maintained and parked at the facility. A 200- by 120-foot building was located on the property until 1985. Historical facility plans and information indicate that an

oil room and five to six pits were located in the terminal building. The pits were used for maintenance of buses and lubrication of chassis. One pit was used to change and add differential oil to the trolleys. Drums of oil were lowered into the oil room and oil was then distributed to the pits through piping. Waste oil was drained to a drum and presumably disposed of off site (Parametrix 1989; Depew 1990; Friedman & Bruya 1990). The pits were filled in when the building was demolished (Friedman & Bruya 1990).

Floor drains were located at the northwest and southwest corners of the building. The northwest drain was connected to the sewer system; historical plans state that the final discharge point for the southwest drain was not known (Parametrix 1989).

Pole-mounted transformers were located on the property (Parametrix 1989).

4.4.5.3 Regulatory History

Two complaints of strong solvent odors were received by Ecology in August 1992. Seattle University, the property owner, was performing an independent cleanup of the property. Ecology referred the complaints to SKCDPH and Puget Sound Air Pollution Agency (currently PSCAA) (O'Herron 1992; Ecology 1992h). No records of the independent cleanup were found in the files reviewed by SAIC.

4.4.5.4 Environmental Investigations and Cleanups

At least two environmental investigations have been conducted at the former Jefferson Street Bus Barn.

Excavation and Soil Sampling (1989)

Excavation and soil sampling were performed in five areas of the property in 1989 including the differential pit, the historical oil room and lubrication/maintenance pits, areas adjacent to two potential UST locations (two areas), and in the southwestern area thought to be the area to which the southwestern floor drain discharged. There were no USTs at either suspect UST location (Parametrix 1989).

Two soil samples were collected from each excavation. Soil samples were analyzed for TPH and extractable lead, copper, chromium, and zinc. TPH was present above MTCA Method A cleanup level near the former oil room. Metals concentrations were below the Ecology dangerous or problem waste levels (Parametrix 1989).

Remedial Excavation (1990)

Soil in the area of the former oil room area was excavated in February 1990. Wood debris and piping associated with former bus maintenance operations were removed from the excavations. The final excavation limits were over 20 feet by 8 feet. Post excavation soil samples were analyzed for TPH. TPH-oil remained in soil below the contemporary and current cleanup levels (Friedman & Bruya 1990).

4.4.5.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination has been confirmed in soil at this property. Petroleum contaminants are not sediment COCs for EAA-1. Based on the geographic location of the property, groundwater likely flows generally toward Elliott Bay or Lake Washington. Additionally, the property is over 3.5 miles northeast of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.4.5.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.4.6 Former Jim's Auto Repair

Facility Summary: Former Jim's Auto Repair	
Tax Parcel No.	Unknown
Address	4434 Rainier Avenue S
Property Owner	Unknown
Parcel Size	Unknown
Facility/Site ID	25393681
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	100333 (Inactive)
Map/Map ID	C4/77

Jim's Auto Repair is listed as inactive under the VCP. The VCP ID number is NW1481. The location of the former Jim's Auto Repair could not be verified; however based on the facility

address it was likely located on the east side of Rainier Avenue S between S Genesee Street and S Oregon Street. Tax parcel numbers in this location are 7950303905, 7950303870, and 7950303850. These properties are owned by the Centioli Family LLC and have been developed into a strip mall that contains a Tully's Coffee and a Walgreens. No information regarding Jim's Auto Repair was available for review.

4.4.6.1 Potential for Sediment Recontamination

There is no information available to determine the potential for sediment contamination associated with CSO events or soil and groundwater contamination.

4.4.6.2 Data Gaps and Action Items

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the former Jim's Auto Repair property is listed below.

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at this facility comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at the facility.

4.4.7 Former Kwik Cleaners

Facility Summary: Former Kwik Cleaners	
Tax Parcel No.	3086002495
Address	2701 15th Avenue S
Property Owner	Jun and Rosana Despi
Parcel Size	0.28 acre (12,045 sq ft)
Facility/Site ID	82774832
SIC Code(s)	4111: Local and Suburban Transit 721: Laundry, Cleaning, and Garment Service
EPA ID No.	WAD092285592
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	B3/263

The former Kwik Cleaners property is located at the southwest corner of the intersection between 15th Avenue S and S Lander Street. Residential and commercial properties surround the former Kwik Cleaners. According to King County tax assessor records, there is one building located on this parcel, a 5,746 sq ft bakery constructed in 2005.

4.4.7.1 Current Operations

Delite Bakery currently operates at this property.

4.4.7.2 Historical Operations

Kwik Cleaners historically operated at the property. The dates of operation are unknown. Information regarding historical operations at this property was not available for review

4.4.7.3 Regulatory History

The property is enrolled in the VCP. The VCP ID number is NW1779 (Cargill 2009). No additional information regarding the regulatory history of this property was available for review.

4.4.7.4 Environmental Investigations and Cleanups

In late 2003 or early 2004, approximately 1,600 cubic yards of contaminated soil were excavated and removed from the property. PCE and TCE were the primary contaminants in soil. Approximately 10,750 gallons of hazardous waste liquid, including contaminated stormwater, were disposed of off site (Urban Redevelopment 2004).

An investigation to determine the nature and extent of PCE in groundwater is ongoing. Bed material for the adjacent municipal storm drain line is under investigation as a potential preferential pathway for contaminated groundwater. An SVE system is being designed to remediate soil at the property (Cargill 2009).

4.4.7.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

VOC contamination has been confirmed in soil at this property. VOCs are not sediment COCs for EAA-1. Based on the geographic location of the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is approximately 2 miles east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.4.7.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.4.8 Lloyd's Rocket & Heating Oil Co.

Facility Summary: Lloyd's Rocket & Heating Oil Co.	
Tax Parcel No.	9826700365
Address	110 Boren Avenue S
Property Owner	Linwood Investment LLC
Parcel Size	0.33 acre (14,400 sq ft)
Facility/Site ID	29398283
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	101554 (LUST-Active, UST-Inactive)
Map/Map ID	B2/384

This triangular-shaped property is located between Boren Avenue S, E Yesler Way, and 12th Avenue S. The Seattle Housing Authority – Brownfield properties (Section 4.4.16) are located north of the property across E Yesler Way. According to King County tax assessor records, one building is located on this parcel, a 2,038 sq ft restaurant constructed in 1949.

4.4.8.1 Current Operations

A Hawaiian barbeque restaurant operates at this property. No additional information regarding current operations at this property was available for review.

4.4.8.2 Historical Operations

Lloyd's Rocket and Heating Oil Company was a fuel distribution company and a gasoline service station (Ecology 1992i). No additional information regarding historical operations at this property was available for review.

4.4.8.3 Regulatory History

Ecology performed a UST inspection at the property in December 1991 and found four unregistered USTs on the property. The steel, single-walled USTs had been in place since 1967. Regulated substances were delivered to the unpermitted fuel distribution station for a period of six months. Ecology made several attempts to assist the property owner in registering the USTs and bringing them into compliance between December 1991 and August 1992; however, the property owner was resistant to these efforts (Moon 1992). In September 1992, Ecology issued

enforcement Order No. DE 92TC-N284, which required Lloyd's Rocket to bring the USTs into compliance and submit records to Ecology by the end of September (Ecology 1992i).

4.4.8.4 Environmental Investigations and Cleanups

UST Removal (1997)

Six USTs were removed from the property in 1997: four 4,000-gallon gasoline USTs, one 6,000-gallon diesel UST, and one 300-gallon UST. Nineteen soil samples were collected from three excavations and two were collected from the fuel pump islands. TPH was present in soil above cleanup levels (Galloway 1997).

4.4.8.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination has been confirmed in soil at this property. Petroleum contaminants are not sediment COCs for EAA-1. Based on the geographic location of the property, groundwater likely flows generally toward Elliott Bay or Lake Washington. Additionally, the property is approximately 2 miles northeast of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.4.8.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.4.9 Former Metal Laundry Incorporated and the Stanley & Shirley Young Charitable Remainder

Facility Summary: Former Metal Laundry Incorporated and the Stanley & Shirley Young Charitable Remainder	
Tax Parcel No.	7948300005, 7948300016, 7948300020, 7948300030, 7948300040, 7948300045
Address	Operating: 614 12th Avenue 0005, 0016, 0020, 0030, 0040: None 0045: 605 13th Avenue
Property Owner	Seattle University
Parcel Size	0005: 0.15 acre (6,5536 sq ft) 0016: 0.08 acre (3,440 sq ft) 0020: 0.07 acre (2,960 sq ft) 0030: 0.12 acre (5,120 sq ft) 0040: 0.06 acre (2,560 sq ft) 0045: 0.29 acre (12,800 sq ft)
Facility/Site ID	2148 (Former Metal Laundry Incorporated) 98547662 (Stanley & Shirley Young Charitable Remainder)
SIC Code(s)	3471: Plating and Polishing (2148) 81323: Drycleaning and Laundry Services (98547662)
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	B2/411 (Former Metal Laundry Incorporated) B2/414 (Stanley & Shirley Young Charitable Remainder)

The former Metal Laundry and Stanley & Shirley Young Charitable Remainder properties are located on the city block bounded by 12th Avenue to the west, E Cherry Street to the north, 13th Avenue to the east, and E James Court to the south. This city block is surrounded by other properties owned by Seattle University. The Qwest Corporation W00291 property (Section 4.4.11) is located northeast of this block.

According to King County tax assessor records, parcels 0005, 0016, 0020, 0030, and 0040 are parking areas for Seattle University; there are no buildings on these parcels. Demolition Permit no. 735169 was issued to parcels 0016, 0020, and 0030 on May 15, 2003. Two buildings are located on parcel 0045: a 3,800 sq ft office and storage warehouse constructed in 1951 and a 640 sq ft storage shed constructed in 1950.

4.4.9.1 Current Operations

The property has been used by Seattle University for parking since approximately 1994. No additional information regarding current operations at the property was available for review.

4.4.9.2 Historical Operations

Dry cleaning plants operated on the property from 1939 until 1960. Metal Laundry Division of Tyler Refrigeration occupied the property from 1960 to 1985 (E&E 1987; SKCDPH 1999b). The properties adjacent to the former Metal Laundry were used for residential and commercial purposes from 1940 to 1993. Commercial uses of the properties included a grocery store, gasoline service station, and dry cleaners (PNG 1994).

Metal Laundry electroplated common metals, such as iron and steel. Processes included cadmium and zinc electroplating and conversion coating by chromium. Hexavalent chromium was used in the conversion coating process. Metal surfaces were prepared for electroplating using solvents, and alkaline and acid solutions to remove oil, grease, and dirt (E&E 1987). Raw materials used at the facility included TCE, zinc oxide, nitric acid, cadmium metal, iron phosphate, chromatic brightener, muriatic acid, sulfuric acid, steel electrocleaner, and caustic paint stripper. Hazardous waste generated by the facility included degreasing and corrosive solutions, paint and paint thinner, acids, detergents, hydrogen peroxide, zinc cyanide, spent cyanide plating sludge, and wastewater treatment sludge (RETEC 2002a).

According to a 1987 EPA inspection report, all raw materials and some waste products were removed from the property at the end of 1984 when the property was sold to a new owner (E&E 1987). The new property owner stated that he had four USTs removed and demolished the Metal Laundry building in 1985 (PNG 1994). In June 2001, a fifth UST was removed from the property (RETEC 2002a).

Central Towing Storage Yard was located on the property from approximately 1988 to 1995 (RETEC 2002a).

4.4.9.3 Regulatory History

An EPA inspection of the former Metal Laundry facility was conducted in October 1987. Metal Laundry held a permit to discharge wastewater to the sanitary sewer during its operations. According to the 1987 EPA inspection, no discharge violations occurred. The inspection report stated that the facility did not currently pose a threat to public health or the environment and that subsurface contamination was unlikely because the property was paved or covered by buildings (E&E 1987).

SKCDPH completed a site hazard assessment of the former Metal Laundry facility in 1999. The facility was ranked as a 2 on a scale of 1 to 5, where 1 represents the highest risk to human health or the environment (SKCDPH 1999b).

4.4.9.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the formal Metal Laundry property.

Phase II Assessment (1997 to 1998)

Two soil borings and a groundwater monitoring well were installed on the property in June 1997. Groundwater was encountered at approximately 8 feet bgs. Soil samples from the well boring and one of the two soil borings were analyzed for TPH and BTEX. Soil samples from the second soil boring were analyzed for TPH and total cadmium, chromium, cyanide, and zinc (AGRA 1997d).

Four additional groundwater monitoring wells and one additional soil boring were installed on the property between November 1997 and April 1998. Groundwater flow direction was to the southwest. Eight soil and 11 groundwater samples were collected for VOCs, metals, and cyanide analysis. Six samples were analyzed for SVOCs. A product sample was collected from well MW-2 in May 1998 (RETEC 1998).

TPH, benzene, ethylbenzene, xylenes, PCE, and vinyl chloride concentrations in soil exceeded MTCA cleanup levels (AGRA 1997c). BEHP, 2-methylnapthalene, naphthalene, di-n-butylphthalate, fluoranthene, phenanthrene, and pyrene were detected in vadose zone soil samples. Arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, thallium, and zinc were detected in soil (RETEC 1998). Cadmium and mercury concentrations exceeded the MTCA Method A cleanup levels (SKCDPH 1999b).

TPH-gas, BTEX, PCE, TCE, and vinyl chloride (along with several other VOCs) were detected in groundwater. BEHP, 4-methylphenol, naphthalene, and phenol were detected in two wells. Metals and cyanide were not detected in groundwater (RETEC 1998). Benzene, ethylbenzene, TCE, and vinyl chloride concentrations exceeded the MTCA Method A cleanup levels (SKCDPH 1999b).

Interim Investigations and Cleanup Actions (1999 to 2002)

Two additional shallow groundwater monitoring wells and five deep groundwater monitoring wells were installed on and off the property in 1999. Approximately 50 gallons of gasoline were bailed from well MW-2 (RETEC 2002a).

In June 2001 a UST was removed from the property. Approximately 2,700 gallons of sludge and rinse water were removed from the tank and disposed of off site. Potassium permanganate and sodium permanganate were injected into the tank excavation from June 2001 to July 2002 to treat soil and groundwater (RETEC 2002a).

Supplemental Remedial Investigation (2003)

Ten test pits and two deep soil borings were installed on the property in January 2003. The test pits were excavated to ensure that sewer and storm drains did not act as migration pathways for contaminants on the property and to define the lateral extent of contamination. TCE and trichloropropane concentrations in soil exceeded the MTCA Method B cleanup levels. The deep soil borings were installed to determine the lateral extent of diesel free product at the property. Diesel free product was not present at depth; however, it was determined that the dissolved phase

plume extended below the groundwater surface at approximately 8 to approximately 50 feet bgs (RETEC 2003).

Groundwater Monitoring (1997 to 2007)

Groundwater monitoring was initiated at the property in July 1997. Quarterly groundwater monitoring was conducted from 2001 to 2003 (RETEC 2002b) and was phased to semiannual monitoring in late 2003 (RETEC 2004), which continued to at least September 2007 (RETEC 2007).

4.4.9.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

The following chemicals have been detected in soil at the property at concentrations above the soil-to-sediment screening levels: 2-methylnaphthalene, BEHP, naphthalene, cadmium, mercury, and zinc. Concentrations of BEHP and naphthalene in groundwater have exceeded the groundwater-to-sediment screening levels. Based on the geographic location of the property, groundwater likely flows generally toward Elliott Bay or Lake Washington. Additionally, the property is approximately 4 miles northeast of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.4.9.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.4.10 Former Pearson Property/First Hill Property

Facility Summary: Former Pearson Property/First Hill Property	
Tax Parcel No.	2197600195
Address	426 Broadway
Property Owner	Broadway-Jefferson Acquisition I LP

Facility Summary: Former Pearson Property/First Hill Property	
Parcel Size	0.17 acre (7,200 sq ft)
Facility/Site ID	9484912
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	619224 (Inactive)
Map/MapID	B2/401

The former Pearson Property/First Hill Property is located at the southeastern corner of the intersection between Broadway and E Jefferson Street and appears to be surrounded by commercial properties. According to King County tax assessor records, there is one building on the property, a 11,602 sq ft service garage, which was constructed in 1925. The Pearson family sold its interest in the property in June 2003. The current property owner purchased the property in June 2007.

4.4.10.1 Current Operations

The facility at this property appears to be vacant. No information regarding current operations at the property was available for review.

4.4.10.2 Historical Operations

The property was used for automotive services since approximately 1926. Mobil operated a service station from the 1920s through the 1940s. In 2003 Bart's Broadway Body Shop and South Seas Spice and Grocery operated on the property (AESI 2003a,b) These companies moved off the property by 2006 (Bureau Veritas 2006).

The Pearson family owned the property for approximately 50 years (approximately 1953 to 2003). The Pearsons did not operate a service station or dry cleaners during their ownership of the property, but leased it to several mechanics. A transmission shop was located in the basement at one time. The Pearsons stated that electrical transformers had not been stored on the property (AESI 2003a).

A previous tenant at the property reportedly dumped waste oil, paint, and painting solvents into four USTs located at the northwest corner of the property. In 2003, the tenant reported that oil seeped from the concrete wall near the USTs into a basement furnace room. Through a series of two sumps, the oil was discharged to the sanitary sewer (AESI 2003a).

4.4.10.3 Regulatory History

No information regarding the regulatory history for this property was available for review.

4.4.10.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the former Pearson property.

Soil and Groundwater Quality Assessment (2003)

Fourteen soil borings and one groundwater monitoring well were installed on the property in February 2003. The groundwater monitoring well was located near the four USTs in the northwest corner of the property. Soil samples were analyzed for TPH-gas and VOCs. TPH-gas, benzene, toluene, PCE, and naphthalene concentrations exceeded the MTCA Method A cleanup levels. Five samples were also analyzed for TPH-diesel and TPH-oil; TPH-diesel exceeded the MTCA Method A cleanup level. Three samples were analyzed for total lead; lead concentrations did not exceed the MTCA Method A cleanup level (AESI 2003b).

In groundwater, TPH-gas, TPH-diesel, BTEX, naphthalene, and lead concentrations exceeded the MTCA Method A cleanup levels (AESI 2003b).

UST Removal and Independent Cleanup (2006)

The four USTs were removed from the northwest corner of the property in February 2006. Contents of the tanks had been removed in 2003. Post excavation soil samples were analyzed for TPH, BTEX, and lead. TPH-gas, TPH-diesel, TPH-oil, benzene, toluene, and naphthalene concentrations exceeded the MTCA Method A cleanup levels (Earth Consultants 2006).

A remedial excavation was conducted to remove petroleum-contaminated soil from the UST area. Approximately 890 tons of contaminated soil were removed from the tank excavation. Post excavation samples indicated that all contaminated soil had been removed, with the exception of a single TPH-gas concentration exceeding the MTCA Method A cleanup level (Earth Consultants 2006).

Site Characterization (2006)

Five groundwater monitoring wells were installed on the property in 2006. Soil samples collected from the well borings contained TPH-gas, benzene, and toluene concentrations that exceeded the MTCA Method A cleanup levels. TPH and BTEX concentrations in groundwater exceeded the MTCA Method A cleanup levels. Groundwater flow direction is to the northwest (Bureau Veritas 2006).

4.4.10.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the

Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Naphthalene concentrations in soil and groundwater exceed the soil-to-sediment screening level and groundwater-to-sediment screening level. Lead in groundwater exceeds the groundwater-to-sediment screening level. Groundwater likely flows generally toward Elliott Bay.

4.4.10.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.4.11 Qwest Corporation W00291

Facility Summary: Qwest Corporation W00291	
Tax Parcel No.	2254500875
Address	Operating: 1313 E Columbia Parcel: 700 13th Avenue
Property Owner	Seattle University
Parcel Size	0.87 acre (37,800 sq ft)
Facility/Site ID	21356218
SIC Code(s)	4813: Telephone Communications, EXC. Radio
EPA ID No.	WAD980984710
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	9994
Map/Map ID	B2/423

The Qwest Corporation W00291 (Qwest) property is located at the southwest corner of the intersection between 13th Avenue and E Columbia Street. The property is surrounded by residential and commercial properties, most of which are owned by Seattle University. The former Metal Laundry property (Section 4.4.9) is southwest of the property. According to King County tax assessor records, the property name is US West Yard Storage. The property is currently vacant.

4.4.11.1 Current Operations

The property is located immediately east of Seattle University's main campus. Seattle University purchased the property in November 2007 (EA Engineering 2007). The parcel appears to be in

use as a parking lot for Qwest. A Qwest building is located on the adjacent property. Additional information regarding current operations at the property was not available for review.

4.4.11.2 Historical Operations

The property was initially developed in 1939 as a bottling center for the Coca Cola Company and transferred to Pacific Northwest Bell Telephone Company (PNB) in 1974. PNB used the western portion of the property to store and treat utility poles. Poles were treated with copper, chromium, and arsenic. Portions of the pole storage yard were unpaved (EA Engineering 2007). Additional information regarding historical operations at the property was not available for review.

4.4.11.3 Regulatory History

SPU performed a follow-up inspection at Qwest in April 2004 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

4.4.11.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the Qwest facility.

UST Site Assessment (1998)

One 6,000-gallon diesel UST and one 10,000-gallon gasoline UST and associated fuel dispensers and piping were removed from the property in July 1998. Approximately 119 tons of soil were removed from the UST excavation and disposed of off site. Soil samples collected from the UST excavation indicated that TPH-gas remained in soil below current MTCA Method A cleanup levels (AGRA 1998).

Limited Phase II Investigation (2007)

Four areas of environmental concern were identified on the property: a utility pole storage area with potentially arsenic-contaminated soil on the western side of the property and three areas associated with a 5,000-gallon heating oil UST, the former gasoline and diesel UST area (previously excavated in 1998), and a waste oil AST (URS 2007 as cited in EA Engineering 2007).

Two groundwater monitoring wells were installed in the pole storage yard. Arsenic concentrations in one well exceeded the MTCA Method A cleanup level. Chromium was detected in both wells at concentrations below the MTCA cleanup level (URS 2007 as cited in EA Engineering 2007).

Cleanup Action (2007)

An excavation was completed in the area of the former heating oil UST. The UST was not found; however, clay or ceramic piping likely associated with the former UST was discovered and removed. Soil samples were collected from the excavation and analyzed for TPH-diesel and

TPH-oil; neither analyte was detected in the samples. Approximately 28 tons of soil were removed from the excavation and disposed of off site (EA Engineering 2007).

Pole fragments and sawdust were located in the pole storage yard during the cleanup activities. Groundwater samples were collected from the wells and the arsenic concentration in well MW-1 exceeded the MTCA Method A cleanup level. Therefore, Qwest requested that a soil removal action occur to remove arsenic-contaminated soil in the area. Well MW-1 was decommissioned prior to performing the excavation. The excavation was approximately 17 feet wide by 32 feet long and 4 to 5 feet deep, and approximately 232 tons of soil were removed and disposed of off site. Seven post excavation samples were collected and analyzed for arsenic. The maximum arsenic concentration, 11 mg/kg, was below the MTCA Method A cleanup level. EA Engineering planned to install a replacement well for MW-1 (EA Engineering 2007).

Approximately 890 tons of soil were excavated from the former gasoline and diesel UST area over a 20-day period. The excavated soil was disposed of off site. Soil samples from the final excavation limits were analyzed for TPH, BTEX, and carcinogenic PAHs (cPAHs); no analytes were detected above MTCA Method A cleanup levels (EA Engineering 2007).

4.4.11.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Arsenic concentrations in soil and groundwater and cPAH concentrations in soil do not exceed the soil-to-sediment or groundwater-to-sediment screening levels. Based on the geographic location of the property, groundwater likely flows generally toward Lake Union or Lake Washington. Additionally, the property is approximately 4 miles northeast of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.4.11.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.4.12 Rainier Court, Rainier Court SW, and Former D. Leonard & Sons

Facility Summary:	Rainier Court	Rainier Court SW	Former D. Leonard & Sons
Tax Parcel No.	Prefix 335740: 0005 (on 35th Avenue S), 0025, 0035, 0045, 0055, 0065, 0075, 0080, 0085, 0095, 0125, 0140, 0211 Prefix 983420: 1505 Prefix 983520: 0050, 0170, 0175, 0180, 0185, 0190, 0195, 0200, 0205, 0210, 0215, 0220, 0225, 0226,	7879400030, 7879400046, 9835200005	9835200150, 9835200230
Address	Operating: 3700 Rainier Avenue S Rainier Court (RC) Parcel D: 0211: None (Parcel D) RC Parcel E: 0140: 3758 Rainier Avenue S RC Parcel F, G, H: 0125: 3642 33rd Avenue S RC Parcel GG: 0005-35th: None RC Parcel HH: 0050: 3605 34th Avenue S RC Parcel J: 0085: 3638 34th Avenue S 0025, 0035, 0045, 0075, 0080: None RC Parcel K: 0055: 3656 34th Avenue S RC Parcel L: 0065: 3650 34th Avenue S RC Parcel M: 0095: 3622 34th Avenue S RC Parcel O: 0170: 3616 34th Avenue S RC Parcel P: 0175, 0180, 0185, 0190, 0195, 0200, 0205, 0210, 0215, 0220, 0225, 0226: None RC Parcel Q: 1505: 3656 35th Avenue S	RC Parcel B: 0005-RCSW: 3601 33rd Avenue S 0030: 3700 Rainier Avenue S RC Parcel C 0046: 3714 Rainier Avenue S	RC Parcel N: 0150: 3626 34th Avenue S 0230: None
Property Owner	0005-35th, 0025, 0035, 0045, 0050, 0065, 0075, 0080, 0125, 0170, 0175, 0180, 0185, 0190, 0195, 0200, 0205, 0210, 0215,	Rainier Court Associates 2002-1 LLC	SEED

Facility Summary:	Rainier Court	Rainier Court SW	Former D. Leonard & Sons
	0220, 0225, 0226: SEED 0055: Tam K. Nguyen 0085: Talbot Campbell, Jr. 0095 & 1505: Rainier Community Capital Corp. 0140: Tamie Thi Harris 0211: Mycon Real Estate Investment LLC		
Parcel Size	0005-35th, 0025, 0035, 0065, 0095: 0.15 acre (6,480 sq ft) 0045: 0.15 acre (6,650 sq ft) 0050: 0.75 acre (32,537 sq ft) 0055: 0.15 acre (6,617 sq ft) 0075, 0085: 0.07 acre (3,240 sq ft) 0085: 0.30 acre (12,960 sq ft) 0125: 1.83 acres (79,563 sq ft) 0140: 0.39 acre (17,063 sq ft) 0170: 0.16 acre (7,000 sq ft) 0175: 0.05 acre (2,000 sq ft) 0180, 0185, 0190, 0205, 0210, 0215, 0220, 0225, 0226: 0.07 acre (3,000 sq ft) 0195: 0.07 acre (3,120 sq ft) 0200: 0.07 acre (3,1553 sq ft) 0211: 0.62 acre (27,215 sq ft) 1505: 0.20 acre (8,915 sq ft)	0005-RCSW: 0.70 acre (30,466 sq ft) 0030: 0.68 acre (29,775 sq ft) 0046: 0.20 acre (8,680 sq ft)	0150 & 0230: 0.20 acre (8,791 sq ft)
Facility/Site ID	62285426 (Rainier Court) 23271641 (Former Daley's Dump Truck Service, Inc.)	6147650 (Rainier Court SW) 8164181 (Rainier Court Associates 2002-1 LLC)	2351
SIC Code(s)	01: Agricultural Production - Crops	59: Miscellaneous Retail (6147650) 88: (Private Households (6147650)	7699: Repair Shops and Related Services – Misc.
EPA ID No.	None	None	None
NPDES Permit No.	None	None	None
KCIW Discharge Permit/ Authorization No.	None	None	None
UST/LUST ID No.	None	11877 (Inactive) (8164181)	None
Map/Map ID	C4/219	C4/195 (Rainier Court SW) C4/193 (Rainier Court Associates 2002-1 LLC)	C4/202

The Rainier Court parcels are located between Rainier Avenue S, S Spokane Street, 36th Avenue S, and S Charlestown Street. The following streets run through the Rainier Court development, 33rd Avenue S, 34th Avenue S, and 35th Avenue S Rainier Plaza (Section 4.4.14) is located south of Rainier Court, on the southern side of S Charlestown Street.

According to King County tax assessor records, the following parcels are vacant:

- 0005-35th (RC Parcel GG),
- 0005-Rainer Court SW (RCSW)
  (RC Parcel B),
- 0025 (RC Parcel J),
- 0035 (RC Parcel J),
- 0045 (RC Parcel J),
- 0046 (RC Parcel C),
- 0050 (RC Parcel HH),
- 0075 (RC Parcel J),
- 0080 (RC Parcel J),
- 0095 (PC Parcel M),150,
- 0150 (RC Parcel N),
- 0175 (RC Parcel P),
- 0180 (RC Parcel P),
- 0185 (RC Parcel P),
- 0190 (RC Parcel P),
- 0195 (RC Parcel P),
- 0200 (RC Parcel P),
- 0205 (RC Parcel P),
- 0210 (RC Parcel P),
- 0215 (RC Parcel P),
- 0220 (RC Parcel P),
- 0230 (RC Parcel N),
- 0225 (RC Parcel P), and
- 0226 (RC Parcel P).

According to King County tax assessor records, buildings are located on the following parcels:

- Parcel 0030 (RC Parcel B): A 193,946 sq ft apartment building constructed in 2004.
- Parcel 0055 (RC Parcel K): A 730 sq ft single family residence constructed in 1947. A remodeling permit was approved in 1996.
- Parcel 0065 (PC Parcel L): A 1,550 sq ft single family residence constructed in 1919.
- Parcel 0085 (RC Parcel J): An 8,088 sq ft garage and storage building constructed in 1956. The property name is Automotive Imports and Distributor.
- Parcel 0125 (RC Parcels F, G, and H): A 289,471 sq ft apartment and retail mixed-used building constructed in 2005. Daley's Dump Truck (Facility/Site ID 23271641) was previously located on this parcel.
- Parcel 0140 (RC Parcel E): A 5,624 sq ft retail building constructed in 1963. Current business types operating in the building include a tavern, nail salon, and office space.
- Parcel 0170 (RC Parcel O): A 1,344 sq ft welding shop and 253 sq ft office building, both constructed in 1959.
- Parcel 1505 (RC Parcel Q): A 7,164 sq ft apartment building constructed in 2004.
- Parcels 0150 and 230 (combined to form RC Parcel N) are the former location of D. Leonard & Sons. Michael Leonard sold the property to Dominic D'Angelo in August 1995. In November 2001, Dominic D'Angelo sold the property to SEED.
- Parcel 0170 (RC Parcel O): The property name is Empire Welding. Empire Welding and Fabrication sold the property to SEED in March 2002.
- Parcels 0005-RCSW (RC Parcel B), 0030 (RC Parcel B), and 0046 (RC Parcel C) comprise the area known as Rainier Court SW (RCSW).
- Parcel 0211 (RC Parcel D) is described as a truck and car lot and as a retail store; however, no building information was included in King County tax assessor records.
- Parcels 0055 (RC Parcel K), 0140 (RC Parcel E), 0211 (RC Parcel D), and 1505 (RC Parcel Q) were evaluated as part of the 2001 Targeted Brownfields Assessment; however, these parcels appear to have been excluded from the final Rainier Court development.
- In 2007, RC Parcels F, G, and H were combined into a single tax parcel, 0125.
- In 2008, RC Parcel P was subdivided into several smaller tax parcels.

4.4.12.1 Current Operations

Phases 1 and 2 of the cleanup and Rainier Court redevelopment project were completed in 2004 and 2005, respectively. Rainier Court now consists of residential units with retail and restaurants (Conference of Mayors 2007). Additional information regarding current operations at Rainier Court was not available for review.

4.4.12.2 Historical Operations

Commercial and industrial activities and facilities included the following: warehouses; construction materials storage and maintenance; manufacturing; automobile, truck and

miscellaneous equipment sales, fueling, and/or service; industrial tooling; welding; automobile detailing; electrical contracting; offices; a mortuary; storage of soils and debris stockpiles; hair studios; veterinary medicine; a landscaping business; and restaurants (SEED 2001).

RC Parcels B and C

City Electric historically occupied RC Parcel B. The property is also referred to as the Sweezy Trust property (Environmental Associates 1996a).

Borings on RC Parcel B indicate that significant portions of the parcel were used as a local area for uncontrolled dumping or filling, although no significant organic material or municipal waste was documented. In 1974, a 260-gallon and a 3,000-gallon leaded gasoline UST were installed south of the shop area. They were removed in 1990. A catch basin was located in a portion of the warehouse structure. Records indicate a heating oil UST was located on RC Parcel C near the east side of the 1-story commercial building constructed in 1952. Shallow groundwater flow beneath RC Parcels B and C appears to be to the northeast, with secondary components to the north and southeast (Kophs 2003).

RC Parcel C is also known as the Sikov property (Environmental Associates 1996a). The property was developed in 1952 with a commercial building that has been used as a mortuary and veterinary clinic. The area surrounding the building was paved some time between 1961 and 1974. A UST was known to exist on the property as of the 2000–2001 assessment by Ecology & Environment, Inc. (E&E). Approximately 10 feet of nonstructural fill was found on various portions of the property (E&E 2001).

As of August 2003, contaminants on the site RC Parcels B and C that were above cleanup levels included: PAHs, PCBs, PCE, arsenic, cadmium, chromium, iron, lead, and mercury in soil and PCE, TCE, vinyl chloride, lead, arsenic, manganese, iron, TPH-diesel and TPH-oil in groundwater (Kophs 2003). PCBs were detected in RC Parcel B soils at concentrations greater than 50 mg/kg (WA CTED 2003).

RC Parcel D

This property is also referred to as the Mycon Property. A waste oil AST that appeared to have been a converted UST was historically located on the property (Environmental Associates 1996a).

A residence was constructed on parcel RC Parcel D around 1909. The property was also used as a greenhouse/nursery and auto body shop, and possibly also as an auto dealership. A 2001 Preliminary Site Assessment indicates this property was listed as an RCRA small quantity generator (GeoEngineers 2001).

Mycon's Auto Body (Facility/Site ID 15838789) at 3711 Rainier Avenue S is located west of this parcel on the western side of Rainier Avenue S.

RC Parcel E

This parcel is also known as the Do Nam Duc property. A heating oil AST was historically located on the property (Environmental Associates 1996a).

A residence was constructed on parcel RC Parcel E around 1937. Other past uses include a car wash, auto detail facility, restaurants, law offices, and a hair salon (Environmental Associates 1996a; E&E 2001; GeoEngineers 2001).

RC Parcel F

This parcel is also known as the Daley Property (Environmental Associates 1996a). A residence was built on this property in 1919 and demolished in 1969. Daley's Dump Truck service converted the property to a dump truck operation and maintenance facility in 1976. A 10,000-gallon diesel UST and a 1,000-gallon gasoline tank were installed in 1977. Aerial photos and site visits indicate stockpiling of fill dirt and regarding of the property occurring in the 1980s and 1990s. A total of six 55-gallon drums were observed on the property during a property visit in 2000 (E&E 2001).

RC Parcel G

This parcel is also known as the Banchero I property. RC Parcel G was improved with three residents at the time of the 2000–2001 assessment by E&E (E&E 2001). The Banchero family owned three residences on the parcel (Environmental Associates 1996a). The residence at 3637 34th Avenue was constructed in 1907 and was used as a senior center at the time of the assessment. This residence had a heating oil UST in 2000 although it was likely not in use due to conversion to natural gas heat for the building. The residence at 3635 34th Avenue S was constructed in 1945. Aerial photographs and visits to the property indicated large numbers of vehicles parked at the property and petroleum stained soils. The residence at 3641 34th Avenue S was constructed in 1945; no records of USTs or other potential hazardous materials were identified during the 2000–2001 assessment (E&E 2001).

RC Parcel H

This parcel is also known as the Vadnais property. Historical photographs and records indicate that a gasoline dispensing pump and a 500-gallon tank were located on the property. It is not known if the tank was a UST or AST. Heiser Industrial Tooling previously operated on this property (Environmental Associates 1996a).

Two buildings were constructed on this property in 1950, one a residence and the other a storage shed. Aerial photos indicate the property was used to store vehicles, trailers, and other unidentified materials (E&E 2001; GeoEngineers 2001). An assessment by Environmental Associates (1996a) found evidence of a fuel pump and storage tank on this parcel. All structures and materials were missing from an aerial photo taken in 1988. Four potential UST locations were marked on this parcel during a 1996 environmental audit (ECOSS 1998 as cited in E&E 2001). During the 2000–2001 targeted assessment, this parcel was vacant and contained piles of soil, construction debris, and rubble (E&E 2001).

RC Parcel I

A warehouse/garage (3638 34th Avenue South), constructed in 1956 and expanded in 1969, was located on this property in 2001 when the Phase 2 Targeted Brownfields Assessment was conducted by Weston (Weston 2001a). Several operable vehicles were parked on the property during the property assessment. King County tax assessor records indicated the building was used by an automotive import and distributor business in 2001 (Weston 2001a). Other past uses likely include manufacturing and equipment and vehicle service (GeoEngineers 2001).

RC Parcel J

A large building at 3638 34th Avenue S was located on the northern portion of the parcel. The northern portion of the property is also known as the Campbell Property. The Campbell Property was previously occupied by Automotive Imports and Distributor. The New Direction Baptist Church operated in the southern portion of this parcel under the addresses of 3416 S Charlestown Street, 3646 34th Avenue S and 3640 35th Avenue S (Environmental Associates 1996a).

A residence was built on the western part of RC Parcel J at 3646 34th Avenue S in 1908; it was demolished in 1969. A second residence was built on the southern portion at 3655 35th Avenue S in 1922 that was apparently demolished in 1970. Photographs indicate a large building was constructed at 3416 S Charlestown Street that covered much of the eastern side of this parcel from 1946 to about 1961. No records were found during the Targeted Brownfields Assessment to indicate what this building was or what it was used for. Previous investigations indicate a possible UST or other buried metal in the middle of the property based on elevated magnetometer readings collected in 1998. The property was vacant during a May 2001 visit and no soil staining was apparent at that time (Weston 2001b).

RC Parcel K

The property is also known as the Tam K. Nguyen and To My Pam property (Environmental Associates 1996a). Two residences were constructed on this property beginning around 1947. One residence was still on the property at the time of GeoEngineers assessment in 2001 (GeoEngineers 2001).

RC Parcel L

This parcel is also known as the Simmon/Pinnock Property (Environmental Associates 1996a). A residence was built on this property in 1919 that was still occupied at the time of the 2000–2001 assessment of this parcel. A heating oil UST was located during the assessment (E&E 2001).

RC Parcel M

Several fluorescent fixtures were located on the property during the Phase I ESA. The ballasts in the fixtures were not labeled with regard to PCB content (Environmental Associates 1996a).

A residence was built on this parcel in 1947 and demolished some time around 1990. After that time operations on the parcel included dump truck parking and maintenance. Three 55-gallon

drums noted during the 2000–2001 property assessment reportedly contained asphalt emulsifier (E&E 2001).

RC Parcel N (Former D. Leonard & Sons)

The western half of this parcel is also known as the D'Angelo Property (Environmental Associates 1996a). The property changed hands between the D'Angelo and Leonard families in 1992 and 1995. D. Leonard & Sons performed dump truck and construction equipment repair and maintenance and operated a storage yard (Ecology 1990g).

Operations at this parcel have included a manufacturing/repair shop around 1954, construction vehicle maintenance and storage, and salvage operations (GeoEngineers 2001; Weston 2001b). Dozens of drums were visible in a 1961 aerial photograph. Photographs taken between 1956 and 1974 show this parcel being used for the storage of vehicles, materials, and debris. The lot was vacant and possibly recently paved in an aerial photograph taken in 1979.

As of 1998, the property was used only for vehicle storage, including old heating oil delivery trucks. A small garage and paved parking area were located in the southwest corner of the property. An irregular layer of asphalt was located a few inches below the soil in some areas of the property (SKCDPH 1998a). During a May 17, 2001, assessment visit by Weston, the parcel was fenced and occupied by a salvage operation and to store several vehicles and boats (Weston 2001b).

RC Parcel O

This property was developed with a repair shop type structure around 1959. Past use included a welding and fabricating business.

Empire Welding previously operated at this property (Environmental Associates 1996a).

RC Parcel P

This property is also known as the Hall property (Environmental Associates 1996a).

Two residences were constructed on RC Parcel P around 1896. Both were demolished some time before 2001. A large shed structure was still standing on this property at the time of the assessment by GeoEngineers (2001). The Phase 2 Sampling and Quality Assurance Plan by Weston reported that a 1991 Ecology Early Initial Investigation of D. Leonard and Sons (RC Parcel N) reported that RC Parcel P was being used by "Dick's Fuels" as a truck storage yard (Weston 2001a).

RC Parcel Q

A triplex residential building was constructed on this parcel in 1921. The building was occupied and no hazardous materials were identified during the 2000–2001 property assessment (E&E 2001).

RC Parcel GG

This property is also known as the Banchero II property. The former property address was 3635 35th Avenue S.

Aerial photographs indicated a structure on this parcel in the 1960s that was gone by 1972. During the 2000–2001 assessment at this property, several soil piles were seen at the center of the property and it was being used for vehicle parking. It is possible that a UST could have been associated with the property's former use as a residence (E&E 2001).

RC Parcel HH

Former uses of this parcel include bowling pin manufacturing, warehousing, and industrial tooling. Historical building plans indicate areas for paint storage, machining, welding, and tool grinding. No evidence of USTs was discovered in the 2000–2001 assessment (E&E 2001). According to the GeoEngineers 2001 assessment, this parcel was likely used as a garbage dump in the 1930s (GeoEngineers 2001).

4.4.12.3 Regulatory History

EPA was involved with this site through the Brownfields program and completed Targeted Brownfields Assessments for Phase I and Phase II parcels conducted in 2000 and 2001 (E&E 2001; Weston 2001b) and RC Parcels B and C (dates unknown) (WA CTED 2003).

Ecology reviewed multiple drafts of the Cleanup Action Plan for RC Parcels B and C prepared by GeoEngineers and provided comments and guidance (Cook 2003b; Ecology 2003j). Cleanup actions proceeded on the property in 2004.

An email from Mark Adams of Ecology dated April 11, 2006, indicated that Ecology was prepared to issue an NFA determination with institutional controls, provided that signed restricted covenants were acquired for the property including the street right-of-ways (Adams 2006). Following the report to Ecology in March 2006 of the continuing occurrence of vinyl chloride in groundwater (see GeoEngineers 2006c), Ecology performed a property inspection in July 2006 and issued an Early Notice Letter on September 13, 2006 (Ecology 2006g). An Environmental Report Tracking System (ERTS) report attached to the Early Notice Letter indicated that the property owner wanted to partition the site to receive an NFA for the clean portion (Phase 1). The notes indicate that the VCP site manager "will leave vinyl chloride portion the way it is [plume clause]" (Ecology 2006g). However, no draft or final NFA was included in the files that were provided by Ecology.

According to the Conference of Mayors report on Brownfields (Conference of Mayors 2007), 10,000 tons of non-volatile-contaminated sediments were capped on the property during development.

Former D. Leonard & Sons (RC Parcel N)

In July 1990, Ecology received a report of diesel and fuel oil spilled on the property and a buttery substance covering a pond on the property. An investigator visited the property and noted moderate petroleum contamination stemming from poor handling and storage practices (Ecology 1990g).

Ecology inspected the property again in May 1991. The inspector noted that BMPs were not practiced and the housekeeping practices were very poor. Waste oil drums were stored without cover or secondary containment and heavy oil staining was noted. The inspector observed diesel fuel, hydraulic oil, and crankcase oil leaking from vehicles. The ground surface was not paved (Ecology 1991e).

A site hazard assessment was completed for the property in July 1998. The property was ranked as 4 on a scale of 1 to 5, where 5 represents the lowest risk to human health and the environment. Three soil samples were collected from the property. The soil samples were analyzed for TPH, metals, and SVOCs. TPH-diesel and TPH-oil concentrations exceeded MTCA Method A cleanup levels. Barium, cadmium, chromium, and lead were detected below cleanup levels. SVOCs were detected; however, these were attributed to the presence of asphalt in the soil samples (SKCDPH 1998a; OnSite 1998b).

4.4.12.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the Rainier Court properties.

Limited Phase I Environmental Audit (1996)

An asbestos survey performed on the exteriors of the buildings on RC Parcels B, C, D, E, G, H, J, N, O, and P indicated the presence of construction materials potentially containing asbestos. One pad-mounted and six pole-mounted transformers with less than 50 ppm PCBs were present throughout the Rainier Court property (Environmental Associates 1996a)

Phase I Environmental Site Assessment – RC Parcel P (1999)

At the time of the assessment, the property was vacant with an abandoned wood building, a semi-trailer, 5-gallon buckets with waste oil, and two unlabeled 55-gallon drums. Historical photographs and atlas maps indicate the property was at various times either vacant or contained structures. Surface soil staining occurred on the property, and borings taken concurrently with the ESA indicated petroleum contamination to the depth of the water table (~10.5 feet bgs) (Dames & Moore 1999).

Miscellaneous Investigations/Plans

In March 2002 Ecology indicated that further assessment of RC Parcels B, I and O were going to be performed and the entire site was going to be remediated, with MTCA compliance achieved before any future occupancy of the property. At the time of the 2002 letter, contaminants in groundwater were still above MTCA levels (Ecology 2002b).

According to a SEED update to Ecology on May 19, 2003, EPA was completing site characterization work on RC Parcel B that week, with data due May 30, 2003 (Cook 2003a). No document containing results from that characterization was found in the site files.

A GeoEngineers sampling and analysis plan indicates there was a UST removal planned for RC Parcel F in fall 2003. The UST was a 2,000-gallon gasoline storage tank that potentially impacted soil in RC Parcel F (GeoEngineers 2003b). No UST closure report was found for this parcel in the files.

Targeted Brownfields Assessment – RC Parcels C, F, G, H, L, M, Q, GG, and HH (2001)

During the 2000–2001 Targeted Brownfields Assessment, surface soil samples were taken from RC Parcels C, G, H, L, Q, GG, and HH. Subsurface soil samples were taken from RC Parcels G, H, L, and HH. Groundwater samples were taken from RC Parcels F, G, and H.

Chemicals detected in soil above MTCA Method A or B cleanup levels included: benzo(a)anthracene, benzo(a)pyrene, benzofluoranthenes, indeno(1,2,3-cd)pyrene, arsenic, cadmium, chromium, chrysene, copper, lead, and mercury. Chemicals detected in groundwater above MTCA Method A or B cleanup levels included: arsenic, barium, beryllium, cadmium, chromium, copper, lead, manganese, mercury, vanadium, and zinc. The total surface area of contaminated soils was approximately 2.7 acres, with contamination to depths of much as 9 feet bgs in some areas (E&E 2001).

Targeted Brownfields Assessment – RC Parcels J, N and P (2001)

Weston conducted a Targeted Brownfields Assessment of RC Parcels J, N, and P in 2001. A geophysical survey of RC Parcel J in two areas suspected to contain USTs did not reveal anomalies consistent with the presence of USTs. Soil sampling conducted at RC Parcel J indicated the presence of SVOCs (up to six high molecular weight PAHs) and metals (beryllium, lead, and cadmium) in surface and/or subsurface soils at concentrations above screening levels. Groundwater was not present in volumes sufficient for testing (Weston 2001b).

During the May 2001 visit to RC Parcel N (aka D. Leonard & Sons), housekeeping practices were characterized as poor, with several large oily stains in the western portion of the parcel. A few smaller oily stains were visible on the eastern portion of the property. Automotive parts, batteries, tires, equipment, and junk were on the ground. A closed 55-gallon drum labeled "thinner" was also observed during this visit that the property owner indicated contained water. The drum was not on the property during sampling conducted in August 2001. Soil sampling conducted at RC Parcel N indicated the presence of SVOCs (several high molecular weight PAHs), metals (beryllium, lead, and chromium), TPH-diesel, and TPH-oil in surface and/or subsurface soils at concentrations above screening levels. Fragments of asphalt in the soil likely affected PAH results. Groundwater was not present in volumes sufficient for testing (Weston 2001b).

During the assessment visit in May 2001, RC Parcel P had evidence of garbage and debris dumping. The property was used for the storage of trucks, trailers, a bulldozer, and other materials. Evidence of unauthorized access to RC Parcel P was noted during the assessment. The

warehouse had no roof, was full of refuse, and appeared to be occupied by vagrants. An oil-stained area of about 10 by 10 feet was also observed. As with RC Parcel J, the geophysical survey of RC Parcel P did not reveal anomalies consistent with the presence of USTs or drums. Soil sampling conducted at RC Parcel P indicated the presence of SVOCs (several high molecular weight PAHs), metals (arsenic, beryllium, and lead), TPH-oil, and TPH-diesel in surface and/or subsurface soils at concentrations above screening levels. Fragments of asphalt in the soil likely affected PAH results. TPH-diesel and TPH-oil exceeded MTCA Method A cleanup levels in the single groundwater sample collected from RC Parcel P. Metals were not analyzed in groundwater due to insufficient recharge (Weston 2001b).

Although RC Parcel I is discussed in the Sampling and Quality Assurance Plan for the Phase 2 Targeted Brownfields Assessment (Weston 2001a), and the property was viewed through a fence during the May assessment visit, this parcel was not included in the final Targeted Brownfields Assessment report (Weston 2001b). No soil or groundwater sampling results were found for this property.

Groundwater Monitoring (2001–2002)

Five monitoring wells (MW-1 through MW-5) were installed and sampled in December 2001. Flow direction was to the southeast (Cook 2001a,b). A sixth well was installed December 27, 2001. Measurements from January 2002 indicated groundwater flowed from the central portion of the property to the northwest in the northern portion of the property and to the southeast in the southern portion of the property. Chemicals exceeding screening levels in groundwater included: arsenic, barium, beryllium, cadmium, chromium, copper, lead, manganese, mercury, nickel, thallium, vanadium, and zinc (RC Parcels H, F, and G) and TPH (RC Parcel P). Chemicals exceeding screening levels in groundwater sampled from wells included: PCE (north of RC Parcel B); arsenic, manganese and TPH (RC Parcel C); TPH (RC Parcel N); and carbon tetrachloride (RC Parcel J). GeoEngineers proposed that metals results for the discrete samples may have been biased high for the metals detected. The sources of PCE and carbon tetrachloride were unknown (GeoEngineers 2002).

Conceptual Remedial Action Plan (2002)

The Conceptual Remedial Action Plan summarized the results of the remedial action and feasibility study conducted by GeoEngineers. Groundwater results are discussed above under *Groundwater Monitoring (2001–2002)*. Soil contamination included: PAHs, metals, and TPH in surface soil, and PAHs and metals in subsurface soils. Sources of surface soil contaminants were likely the result of "spilling and/or disposal of those contaminants onto unpaved portions of the [properties]" that resulted in "shallow dispersed contamination." The number of contaminants and their concentrations generally decreased with depth (GeoEngineers 2002). Compounds exceeding screening levels in surface and subsurface soils are listed above under *Targeted Brownfields Assessment – RC Parcels C, F, G, H, L, M, Q, GG, and HH (2001)*. Soil samples were not obtained from RC Parcels B, I, and O because access had not been secured to those properties for sampling (GeoEngineers 2002).

Supplemental Soil Sampling and Testing of RC Parcel B (2003)

Supplemental soil sampling and testing was conducted in August 2003, in the vicinity of a drain where PCBs had been identified in an initial site characterization as part of the Targeted Brownfields Assessment. PCE was also evaluated and was detected up to 2.83 mg/kg in several samples. PCBs were detected in soil up to 43.4 mg/kg (at 6.5 feet bgs). One sludge sample was collected from the catch basin and contained 8,700 mg/kg PCBs (GeoEngineers 2003a). According to GeoEngineers, PCBs in the Phase I redevelopment project area do not extend off site to the east (Cook 2003c).

Remedial Excavation and Capping of RC Parcels B and C (2003–2004)

The properties remediated for Phase I of the redevelopment project (RC Parcels B and C) were prepared and the buildings demolished in September and October 2003. Monitoring wells were decommissioned in October 2003. A 500-gallon heating oil UST was discovered on RC Parcel C and removed in October 2003. The UST was in poor condition, and final excavation depth was 14.5 feet bgs, with 900 tons of soil removed. Soils contaminated with TPH, PCE, and PCBs were excavated in October through December 2003. A vapor barrier was installed beneath the townhome area in February 2004. Two PCB hot spots were excavated in July 2004. An asphalt parking lot cap was constructed in December 2004. Soils containing contaminants at levels exceeding MTCA Method A cleanup levels were removed with the exception of residual PCE in offsite locations and residual metals below the base of the planned construction subgrade depth. Hard native silt underlying the properties may have acted as a barrier to downward migration of PCE and PCBs, as none were detected below the silt layer (GeoEngineers 2005a). Soils contaminated with PCE were later cleaned up by remedial excavation in late 2004 (GeoEngineers 2006b).

The GeoEngineers Cleanup Action Report for RC Parcels B and C (GeoEngineers 2005a) indicates that metals-contaminated soil from the property was used to backfill portions of the PCE/PCB excavations. Backfill of contaminated soil was placed at 5 to 7 feet bgs over clean imported fill and then capped by the concrete slab of the building floor. Contaminated soils were also used to backfill from 3 to 7 feet bgs at the heating oil UST excavation. Clean fill was placed from 1 to 3 feet bgs and the area was paved with asphaltic concrete (GeoEngineers 2005a).

UST Removal (2004)

Three USTs were discovered during construction in June 2004 and removed along with 1,045 tons of soils (Ecology 2005b). Two contained heavy oil and one contained waste oil. These were located on RC Parcels F, G, and H. The address listed on the notice was 3646 33rd South (Daley's Dump Truck Service).

Remedial Excavation of PCBs and PCE (2004)

Soils contaminated with PCE were removed by remedial excavation in late 2004 (GeoEngineers 2006b). The complete report documenting the cleanup action was not in the files reviewed by SAIC, but a figure showing the horizontal extent of excavations for PCE and PCB was included (GeoEngineers 2005b).

Quarterly Groundwater Monitoring (2005–2006)

GeoEngineers installed monitoring wells within RC Parcel B at 3621 33rd Avenue S in April and May 2005. Subsurface soil sampling indicated PCE above the MTCA Method A cleanup level at depths around 5 to 10 feet bgs. During the first quarterly groundwater sampling, arsenic was detected above MTCA Method A cleanup levels. Analytes not detected above cleanup levels included TPH, PCE, PCBs, cPAHs, barium, chromium, and selenium. Groundwater flow in the first quarter was to the northeast. Measurements made one year earlier indicated a mound existed beneath the property and flow directions were northeast and southeast (GeoEngineers 2005c). Third quarter and fourth quarter 2005 groundwater sampling results indicated that vinyl chloride exceeded cleanup levels in addition to arsenic. Groundwater flow was to the east in the third quarter and to the southwest in the fourth quarter (GeoEngineers 2005d, 2006a).

Groundwater flow in the first quarter 2006 was to the southwest. Arsenic remained above cleanup levels but vinyl chloride was not detected during the first quarter 2006 sampling (GeoEngineers 2006b,c). Based on previous studies and cleanup actions, GeoEngineers concluded that the vinyl chloride was related to an offsite, upgradient source (GeoEngineers 2006a). One possible source identified by GeoEngineers is a used car dealership across Rainier Avenue S, which is directly upgradient of the property (GeoEngineers 2006b). GeoEngineers requested an NFA determination from Ecology based on the results of the four quarters of groundwater testing and supplemental soils investigation of PCE performed in the last quarterly testing period (GeoEngineers 2006c).

4.4.12.5 Potential for Sediment Recontamination

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

CSO Events

PCBs up to 8,700 mg/kg were present in a stormwater catch basin on the property in 2003. Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Based on the geographic location of the property and groundwater measurements made at the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is approximately 3 miles east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.4.12.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.4.13 Rainier Mall

Facility Summary: Rainier Mall	
Tax Parcel No.	7950301480
Address	4208 Rainier Avenue S
Property Owner	Kane Properties LLC
Parcel Size	2.33 acres (101,537 sq ft)
Facility/Site ID	88987973
SIC Code(s)	23311: Land Subdivision and Land Development 23721: Land Subdivision
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	C4/101

Rainier Mall is located at the northeast corner of the intersection between Rainier Avenue S and S Genesee Street. The surrounding properties are a mix of residential and commercial properties. According to King County tax assessor records, there is one building on the property, a 36,071 sq ft discount store constructed in 1968. Permits to remodel the building were issued in May 2006 (Permit No. 6092215) and May 2007 (Permit No. 6131105).

4.4.13.1 Current Operations

A grocery store currently operates at this property. No additional information regarding current operations at the property was available for review.

4.4.13.2 Historical Operations

Two former dry cleaners operated in two separate locations at the property (HAI 2000). In 2001, Ecology reported that the building on the property had multiple tenants. The property was mostly paved with some landscaped areas (Ecology 2001a). No additional information regarding historical operations at the property was available for review.

4.4.13.3 Regulatory History

Ecology performed an initial inspection of the property in April 2001 prior to listing the property on the CSCSL (Ecology 2001a). Ecology formally listed the property on the CSCSL in May 2001 (Ecology 2001b).

4.4.13.4 Environmental Investigations and Cleanups

At least one environmental investigation has been conducted at the Rainier Mall property.

Phase II Environmental Site Assessment

A geophysical survey of the property was performed to identify USTs; no potential USTs were identified. Ten soil borings were advanced on the property. Four soil and five groundwater samples were collected for VOC analysis. PCE was present in soil above the MTCA Method A cleanup level. PCE, 1,1-DCE, TCE, and vinyl chloride were present in groundwater below cleanup levels (HAI 2000).

4.4.13.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

VOC contamination has been confirmed in soil and groundwater at this property. VOCs are not sediment COCs for EAA-1. Based on the geographic location of the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is over 3 miles east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.4.13.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.4.14 Rainier Plaza

Facility Summary: Rainier Plaza	
Tax Parcel No.	1524049012, 9834201515, 9834201585
Address	1515: 3820 Rainier Avenue S 1585: 3801 Courtland Place S 9012: 3800 Rainier Avenue S
Property Owner	1515 & 1585: WRI-URS Rainier Valley LLC

Facility Summary: Rainier Plaza	
	9012: Banchero 7 LLC
Parcel Size	1515: 4.51 acres (196,251 sq ft) 1585: 3.38 acres (147,257 sq ft) 9012: 0.31 acre (13,432 sq ft)
Facility/Site ID	2445 (Rainier Plaza) 29261 (Former Longs Drug Store 445)
SIC Code(s)	5912: Drug Stores and Proprietary Stores (Former Longs Drug Store 445)
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	C4/173 (Rainier Plaza) C4/157 (Former Longs Drug Store 445)

Rainier Plaza is located at the southeast corner of the intersection between Rainier Avenue S and S Charlestown Street. The surrounding properties are a mix of commercial and residential properties. Rainier Court (Section 4.4.12) is located north of Rainier Plaza. Darigold (Section 5.4.2) is located to the south. Rainier Plaza comprises three parcels. The Banchero family owned all three parcels until 1993. In 1993 parcels 1515 and 1585 were sold to Rainier Limited Partnership and the Banchero family retained ownership of parcel 9012.

According to King County tax assessor records, parcel 9012 is named Silver Fork Restaurant. There is one building on the parcel, a 3,021 sq ft restaurant constructed in 1971. Parcel 1585 is a portion of Rainier Valley Square Shopping Center; no buildings are listed on the property in King County tax assessor records. There are three buildings on parcel 1515:

- A 102,133 sq ft grocery store constructed in 1994,
- A 6,642 sq ft retail store constructed in 1994, and
- A 2,100 sq ft restaurant constructed in 1997.

4.4.14.1 Current Operations

Businesses operating at Rainier Plaza include Best Beauty Supply, Chase Bank, Game Crazy, Harman Rainier Valley, Hollywood Video, King County Vehicle License, Magic Dragon Restaurant, Polar Cleaners, Puget Sound License Agency, Radio Shack, Ross, Safeway, Starbucks, and Taco Bell. Additional information regarding current operations at Rainier Plaza was not available for review.

4.4.14.2 Historical Operations

Historical uses for the property include residential, commercial (beauty salon and bicycle repair), light industrial (pop bottling plant), and parking. A lube station was located on the property from

the 1920s through 1946. Dry cleaners operated on the property from the late 1930s to the 1950s (Nifty Cleaners) and between 1971 and 1985 (Polar Cleaners) (Terra 1993; GeoEngineers 1994a).

Parcel 9012: Nifty Cleaners historically operated on this parcel using 3802 ½ Rainier Avenue as its operating address (Terra 1993).

Parcel 1515: The southwest portion of the parcel was leased to Fletcher Oil Company in January 1948; the address for this portion of the parcel is 3820 Rainier Avenue S. In 1959 the majority of the parcel was leased to Arden Farms, Co. Arden Farms Co. subleased to Lucky Stores in 1960. The Liquor Control board operated on the parcel using the address 3808 Rainier Avenue South from 1970 to at least 1993. Rainbow Pop leased space in the Lucky Stores building from 1977 to approximately 1981. Pay N'Pak hardware store subsequently leased the space in 1983. Polar Cleaners and Puget Sound Licensing Agent also historically operated on the parcel (Terra 1993).

Parcel 1585: Single family homes were located on the parcel from 1900 to 1980. The southern end of the parcel was historically used as a parking area for the Darigold facility (Section 5.4.2), which is located to the south across S Andover Street (Terra 1993).

Rainier Limited Partnership and Gramor Development Northwest, Inc. redeveloped the property between 1993 and 1995. Safeway and Hollywood Video have been tenants on the property since the redevelopment. Drug Emporium was a tenant in 1995 (Shamrock 1995a). In 1998 Drug Emporium transferred its lease and its improvements to Longs Drug Store (Western Drug 1998).

4.4.14.3 Regulatory History

In February 1993, attorneys for the Banchero family notified Ecology that contamination was present on the property (Casey & Pruzan 1993). Ecology formally listed the property on the CSCSL in April 1994 (Ecology 1994b).

In October 1995, Gramor Development requested that Ecology make an NFA determination for the property (Gramor Development 1995). In February 1996, Ecology issued an interim NFA for TPH and BTEX only for the former service station area of the property, on the conditions that one additional quarter of groundwater monitoring be completed and that a restrictive covenant be filed for the former service station area (Ecology 1996c). Shamrock Services, Inc. (Shamrock) completed the additional monitoring in March 1996 (Shamrock 1996b) and Ecology issued an NFA determination in April 1996 (Ecology 1996d).

Ecology required that a restrictive covenant be filed for the area of the property at 3820 Rainier Avenue S, the former service station area, due to the presence of petroleum-contaminated soils beneath the property, which extended beneath a City of Seattle right-of-way along Rainier Avenue (Ecology 1996b). Gramor Development filed Restrictive Covenants on the 3820 Rainier Avenue S property in March 1996, which allowed the petroleum-contaminated soil to remain in place until the property was redeveloped (Gramor Development 1996).

In 1999, Ecology determined that the installation of a wireless communication tower in the former service station area did not constitute substantial redevelopment of the property and

approved a proposal to send any contaminated soil, excavated during the tower installation, for offsite treatment and disposal (Ecology 1999a).

SPU performed inspections at Magic Dragon and The Silver Fork in February 2004, Safeway in April 2004, and Longs Drugs in June 2004; the facilities were in compliance (Table 9) (Schmoyer 2009b). The inspection reports were not reviewed.

4.4.14.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the Rainier Plaza property.

Preliminary Subsurface Investigation (1992)

Results of a Phase I ESA indicated three areas of environmental concern on the property: the former lube station at the southwest corner of the property (parcel 1515), the former dry cleaner (Nifty) in the northwest portion of the property (parcel 9012), and the former residential areas on the eastern half of the property (parcel 1585). A geophysical survey was performed to identify potential UST locations. Two geophysical anomalies in the southwest portion of the property were identified as potential USTs (Terra 1993).

Three test pits were excavated in the area of the potential USTs at the former lube station. Metallic debris was present in all three test pits; however, no USTs were found. Fill in the test pits was described as "oily." Soil samples from the test pit indicated the presence of TPH up to 1,100 ppm (Terra 1993). One groundwater sample was collected and analyzed for TPH. TPH-gas exceeded the contemporary cleanup standard (O'Sullivan Omega 1993).

Three additional test pits were excavated in the former Nifty Cleaners area. A cindery fill mixed with bottles, tile, food waste, and burnt newspaper (dating back to 1939) was encountered between 2 and 12 feet bgs. In one test pit, an "oily" layer was present between 9 and 11 feet bgs, which produced a sheen on the groundwater in the pit. Soil samples collected from this test pit indicated the presence of TPH-diesel up to 2,900 ppm (Terra 1993). Groundwater samples collected from these test pits did not indicate the presence of TPH (O'Sullivan Omega 1993).

Six test pits were excavated in the former residential areas of parcel 1585. No heating oil tanks or debris related to a heating oil tank were present in the test pits. No soil samples were collected from these test pits for laboratory analysis (Terra 1993). Groundwater samples collected from these test pits did not indicate the presence of TPH (O'Sullivan Omega 1993).

Subsurface Contamination Assessment, Former Dry Cleaner (1993)

Eight test pits were excavated in the former Nifty Cleaners area, approximately 15 feet south of the 1992 test pits. Soil samples were collected from each test pit and submitted for hydrocarbon identification. TPH was not qualitatively identified in the samples. Five of the soil samples were analyzed for halogenated VOCs; no analytes were detected (GeoEngineers 1994a).

Heating Oil UST Removal and Remedial Excavation (1993)

A 500-gallon heating oil UST was discovered on the property (east side of parcel 1585) during installation of a sewer line. The UST was excavated and removed from the property. Approximately 40 to 45 cubic yards of petroleum-contaminated soil were excavated and removed from the property following the removal of the UST. Five post-excavation soil samples were collected and analyzed for TPH and BTEX; no analytes were detected in the soil samples (GeoEngineers 1994b).

UST Removal and Remedial Excavation, Former Service Station Location (1993)

In August 1993, GeoEngineers excavated 12 test pits in the former service/lube station area at the southwest corner of parcel 1515 to determine the extent of petroleum-contaminated soil at the southern end of the former station and in the area between and under two former station buildings (northern end). One soil sample was submitted for hydrocarbon identification, TPH-gas, TPH-diesel, and TPH-oil were present in the sample. Field screening indicated that soils were contaminated with petroleum products from approximately 4 to 20 feet bgs (GeoEngineers 1994c).

Three 750-gallon USTs were discovered in the southern end of the former service station during remedial excavation activities. Over 1,000 cubic yards of petroleum-contaminated soil were removed from excavations at the southern and northern ends of the former service station. Post-excavation samples indicated that all contaminated soil had been removed, except along the southwestern wall of the southern excavation. Approximately 100 cubic yards of petroleum-contaminated soil were left in place in the southern excavation along the southwest property line due to the presence of an underground high pressure natural gas line. A liner was placed along the southwest wall of the excavation prior to backfilling (GeoEngineers 1994c).

Heating Oil UST Removal and Remedial Excavation (1994)

A 500-gallon heating oil UST was discovered on the property during the installation of a storm sewer trench. Approximately 400 gallons of water and product were pumped from the tank and transferred off site for treatment and disposal. Approximately 90 cubic yards of petroleum-contaminated soil were removed from the UST excavation and disposed of off site. Five post-excavation soil samples were collected and analyzed for TPH-oil. TPH-oil was detected in one sample below the MTCA Method A cleanup level (GeoEngineers 1994d).

Groundwater Monitoring Well Installation and Sampling (1995)

Three groundwater monitoring wells were installed on the property around the former service/lube station area in August 1995. Groundwater flow direction was determined to be to the southeast. Groundwater samples were analyzed for TPH-diesel, which were detected in all three wells at concentrations below the MTCA Method A cleanup level (Shamrock 1995a). A groundwater sample was collected from MW-1 in October 1995 and analyzed for TPH-gas and BTEX; no analytes were detected (Shamrock 1995b). Quarterly groundwater monitoring began in the third quarter of 1995 and concluded in the fourth quarter of 1995. TPH and BTEX

concentrations were below cleanup levels for all four quarters of monitoring (Shamrock 1996a,b).

Proposed Wireless Communication Tower GeoTechnical Study (1998)

In 1998, an engineering study was performed for a proposed wireless communication tower. Soil and groundwater samples were collected from the former service station area and were analyzed for TPH, BTEX, VOCs, and PCBs. TPH-diesel and TPH-oil in soil exceeded the MTCA Method A cleanup level. TPH-diesel and toluene in groundwater exceeded the MTCA Method A cleanup level. The letter report does not indicate whether or not PCBs were present in soil and/or groundwater (AESI 1998). The associated laboratory data were not available for review.

4.4.14.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination has been confirmed in soil and groundwater at this property. Petroleum contaminants are not sediment COCs for EAA-1. PCB contamination is suspected at the property. Based on the geographic location of the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is approximately 3 miles east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.4.14.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.4.15 Seattle Best Cleaners

Facility Summary: Seattle Best Cleaners	
Tax Parcel No.	8116100035
Address	3219 Martin Luther King Jr. Way S
Property Owner	Ademe Yilikal, G Gashe Tenagne M, Tiruneh Amlaku AZ

Facility Summary: Seattle Best Cleaners	
Parcel Size	0.29 acre (12,644 sq ft)
Facility/Site ID	63291692
SIC Code(s)	7219: Laundry and Garment Services, NEC
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	C4/154

Seattle Best Cleaners is located at the northwest corner of the intersection between Martin Luther King Jr. Way S and S Horton Street. Surrounding land use is commercial and residential. A Sound Transit right-of-way borders the property on the east. Alternative names for this facility include Beacon Market and Esquire Cleaners.

According to King County tax assessor records, one building is located on this parcel, a 7,438 sq ft cleaners and café retail store constructed in 1947.

4.4.15.1 Current Operations

Seattle Best Cleaners and Café Ibex currently operate at this property. Additional information regarding current operations at the property was not available for review.

4.4.15.2 Historical Operations

No information regarding historical operations at this property was available for review.

4.4.15.3 Regulatory History

In September 2002, Ecology requested additional information from the property owner regarding cleanup activities at the property (Ecology 2002m).

4.4.15.4 Environmental Investigations and Cleanups

At least one environmental investigation has been conducted at Seattle Best Cleaners.

UST Removal and Contamination Cleanup Assessment (1992)

Three USTs were removed from the southwest corner of the property in September 1992. The tanks were 3,000, 5,000, and 8,000 gallons in size and all contained solvent. Piping leading to the building was removed; however, piping under the building was left in place. Soil samples collected from the UST excavation were analyzed for TPH and VOCs. TPH concentrations exceeded the 1992 cleanup levels. PCE was also detected in soil. The contaminated soil was used as backfill in the excavation (Bison 1992).

4.4.15.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum and VOC contamination has been confirmed in soil at this property. Petroleum and VOC contaminants are not sediment COCs for EAA-1. Based on the geographic location of the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is approximately 3 miles east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.4.15.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

4.4.16 Seattle Housing Authority – Brownfield Properties

Facility Summary: Seattle Housing Authority – Brownfield Properties				
Property Name	Former C Miller Property	Former Nu Way Cleaners	Former Turner Beatter Property	None assigned
Tax Parcel No.	9826700275	9826700295	9826700270	9826700305*
Address	111 12th Avenue	113 12th Avenue	109 12th Avenue	115 & 117 12th Avenue
Property Owner	Seattle Housing Authority	Seattle Housing Authority	Seattle Housing Authority	Seattle Housing Authority
Parcel Size	0.07 acre (3,128 sq ft)	0.09 acre (3,717 sq ft)	0.13 acre (5,500 sq ft)	0.08 acre (3,453 sq ft)*
Facility/Site ID	1203357	3520941	2949013	None assigned
SIC Code(s)	None	721: Laundry, Cleaning, and Garmet Service	88: Private Households	NA
EPA ID No.	None	None	None	NA
NPDES Permit No.	None	None	None	NA

Facility Summary: Seattle Housing Authority – Brownfield Properties				
KCIW Discharge Permit/Authorization No.	None	None	None	None
UST/LUST ID No.	None	None	None	NA
Map/Map ID	B2/389	B2/390	B2/388	NA

*Unclear from King County Parcel information if this parcel number and square footage applies to both 115 and 117 12th Avenue.

The Seattle Housing Authority – Brownfield properties are bounded by Boren Avenue to the west, E Fir Street to the north, 12th Avenue to the east, and E Yesler Way to the south. Surrounding land use is a mix of residential and commercial properties. The Lloyd's Rocket & Heating Oil Co. property (Section 4.4.8) is located south of the Brownfield properties across E Yesler Way. The former B&B Auto Repair property (Section 6.4.2) is north of the property across E Fir Street.

According to King County tax assessor records, one building is located on parcel 0295, a 2,200 sq ft Laundromat constructed in 1931, and one building is located on parcel 0305, a 1,496 sq ft mixed-use mini market constructed in 1946. Demolition permit no. 6188480 for parcel 0305 was issued on July 21, 2008. Parcels 0275 and 0270 are vacant.

4.4.16.1 Current Operations

Seattle Housing Authority purchased the properties to improve the neighborhood adjacent to the Yesler Terrace community. Seattle Housing Authority plans to redevelop the properties into mixed-use developments containing housing and commercial uses (Seattle Housing Authority 2006).

4.4.16.2 Historical Operations

Former Nu-Way Cleaners

The Former Nu-Way property (113 12th Avenue) was operated as a dry cleaner from 1931 to the late 1990s. An oil-fired boiler was fueled by oil reportedly stored in a UST beneath the western portion of the site (Environmental Associates 2004c).

Former C. Miller and Turner Beatter Properties

Both the former C. Miller and Turner Beatter properties were residences.

115 and 117 12th Avenue

The parcel at 115 12th Avenue contained a two-story apartment building that was constructed in 1906. The parcel at 117 contained a one-story building, constructed in 1946, that was used as a laundromat from 1946 to about 1994 and then as a convenience store. According to the Phase I environmental assessment conducted for the 113 through 117 properties, no dry cleaning operations were documented for the former laundromat (Environmental Associates 2004b).

4.4.16.3 Regulatory History

The EPA provided comments on the Final Draft Cleanup Action Plan (GeoEngineers 2007b) in a memorandum to the Seattle Housing Authority on May 18, 2007 (USEPA 2007b). Ecology provided comments on the draft plan in a letter dated May 29, 2007 (Ecology 2007h). GeoEngineers incorporated comments into a Cleanup Action Plan dated June 15, 2007 (GeoEngineers 2007c). No additional information regarding the regulatory history of these properties was available for review.

4.4.16.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the Seattle Housing Authority – Brownfield properties.

Phase I Environmental Assessment & Subsurface Investigations (2004)

A Phase I environmental assessment of the properties at 109 and 111 12th Avenue was conducted by Environmental Associates Inc. in May 2004. Five USTs and multiple vent lines and a fill port for USTs were observed at the Former Nu-Way property (as cited in Environmental Associates 2004a). As a result of the Phase I environmental assessment findings, preliminary and supplemental subsurface investigations were conducted by Environmental Associates in June and October of 2004, respectively. TPH and dry cleaning solvents detected in soil and groundwater samples exceeded the MTCA Method A cleanup levels in the preliminary and supplemental investigations (Environmental Associates 2004a,c). Naphthalene was detected in soils at concentrations exceeding MTCA Method A cleanup levels (Environmental Associates 2004a). A UST containing 6 inches of heating oil was encountered during the supplemental investigations (Environmental Associates 2004c).

Phase II Environmental Site Assessment 113 – 117 12th Avenue (2006)

A Phase II investigation of the properties at 113 through 117 12th Avenue was conducted in October 2006. Soil and/or groundwater samples exceeded corresponding MCTA Method A cleanup levels for the following chemicals: one or more BTEX compounds; TPH-gas, TPH-diesel, and TPH-oil; mineral spirits such as Stoddard solvent; and/or VOCs including PCE and TCE (GeoEngineers 2007a).

Supplemental Delineation Assessment – 109 and 111 12th Avenue (2006)

GeoEngineers conducted a supplemental delineation assessment for the 109 and 111 12th Avenue properties in November 2006. Soil contaminants exceeding the MCTA Level A cleanup levels included TPH quantified as mineral spirits, xylenes, PCE, and TCE. The following chemicals exceeded MTCA Method A or Method B cleanup levels for groundwater: 1,2-dichloropropane, cis-1,2-DCE, and vinyl chloride. PCE and TCE were not detected in groundwater samples taken during this assessment. Shallow groundwater at the property generally flows to the southeast (GeoEngineers 2007a).

Remedial Action – Excavation (2008)

Remedial activities were conducted at the 109 through 117 12th Avenue properties from July through November 2008 (GeoEngineers 2009). Additional information regarding the remedial excavation was not available for review.

4.4.16.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum and VOC contamination has been confirmed in soil at this property. Petroleum and VOC contaminants are not sediment COCs for EAA-1. Naphthalene concentrations in groundwater did not exceed the groundwater-to-sediment screening level. Based on the geographic location of the property, groundwater likely flows generally toward Elliott Bay or Lake Washington. Additionally, the property is approximately 3 miles northeast of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

4.4.16.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

This page intentionally left blank.

5.0 Potential for Sediment Recontamination from Facilities with NPDES or KCIW Permits within the Duwamish/Diagonal CSO/SD Basin

Thirty-eight facilities within the Duwamish/Diagonal CSO/SD basin hold NPDES permits and/or KCIW discharge permits/authorizations (Tables 3 and 4, Figures 15 and 16). Of these 38 facilities, one facility is on S Nevada Street (Blue Origin, LLC) and is discussed in Section 3.0, and 12 facilities are also on the CSCSL or are located on properties listed on the CSCSL and are discussed in Section 4.0. Data gaps and action items for three facilities, Ash Grove Cement West, Inc., Stoneway Concrete, and UPRR Argo Yard, have been documented in previously published data gaps reports and SCAPs. Five of the 38 facilities hold NPDES permits and KCIW discharge permits/authorizations: Alaska Street Reload & Recycling, Alaskan Copper Works (Section 4.2.1), Pepsi Bottling Group – Seattle Plant (Pepsi), UPS – Seattle HUB, and West Farm Foods.

These facilities are listed by category in Appendix A-2. As discussed in Section 2.0, facilities discharging industrial wastes to the storm sewer or sanitary/combined sewer represent potential sources that may recontaminate EAA-1 sediments from the Diagonal Avenue S SD or the Diagonal Avenue S CSO.

Aerial photographs of the facilities are included as Appendix B-3.

5.1 Summary of Data Gaps and Action Items for Facilities with NPDES or KCIW Permits

Data gaps and action items were identified for the facilities located within the Duwamish/Diagonal CSO/SD that hold NPDES permits or KCIW discharge authorizations or permits.

5.1.1 Summary of Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at each of the facilities holding NPDES or KCIW permits in the Duwamish/Diagonal CSO/SD basin is listed below. Some of this information can be obtained during a facility inspection or by reviewing responses to EPA requests for information.

- Information regarding any historical and/or ongoing industrial activities is needed to verify that these facilities are in compliance with all applicable regulations and BMPs.
- Information on how and where any hazardous materials, chemicals, or hazardous wastes are stored or used at these facilities is needed to evaluate the potential for spills to commingle with wastewater and stormwater.
- Facility plans showing the locations of floor drains, catch basins, sewer connections and storm drains (if any) are needed to evaluate the potential for contaminants

suspended in wastewater and stormwater (if any) to be transported to the LDW via combined sewer discharges.

- Information regarding any containment systems at these properties is needed to evaluate the adequacy of the systems and determine the potential for spills to commingle with wastewater and stormwater.

In addition, information on the materials used to construct storm drain and sanitary sewer lines in this area and the age of the storm drain and sanitary sewer lines would be useful to assess the potential for contaminated groundwater to infiltrate the combined sewer system.

Facility-specific data gaps are provided at the end of each facility section below.

5.1.2 Summary of Action Items

Action items identified for the facilities with NPDES and/or KCIW permits are listed below by category.

5.1.2.1 Business Inspections

Facility inspections have either not been performed by Ecology or SPU at the following properties or new businesses or new activities have been introduced at the facilities since the last inspection. Initial facility inspections are needed at:

- Banzai Sushi, Friedman Development and others (on Owl Transfer & Storage [Owl Transfer] property).

Corrective actions were identified at the following facilities during recent inspections. Follow-up inspections are needed at the following properties:

- Alaska Street Reload & Recycling,
- ColorGraphics, Inc.,
- Darigold (on former Westfarm Foods property),
- Hedwall Architectural Iron (same property as Alaska Street Reload & Recycling),
- MacMillan-Piper, Inc. – Airport Way Facility,
- North Star Casteel Products, Inc. (North Star Casteel),
- Skyline Electric & Manufacturing Company, Inc. (Skyline Electric),
- Urban Hardwoods (same property as Alaska Street Reload & Recycling), and
- Western Logistics (on Owl Transfer property).

The remaining facilities/properties with NPDES and/or KCIW may be inspected by Ecology and/or SPU as appropriate under various inspection programs such as the Urban Waters Initiative or Stormwater Compliance inspections.

5.1.2.2 Review Responses to EPA CERCLA Section 104(e) Request for Information Letters

EPA has sent CERCLA Section 104(e) Request for Information letters to the operators or property owners for the following facilities:

- North Star Casteel, and
- Praxair Distribution, Inc. (Praxair).

Ecology will review the information submitted in response to EPA's CERCLA Section 104(e) Request for Information, to determine if historical or current operations at the properties represent a potential source of contaminants to EAA-1 sediments.

5.1.2.3 Industrial Stormwater General Permit

During recent inspections, Ecology indicated that the following facilities should obtain coverage or be evaluated for coverage under the ISGP:

- Auto-Chlor Systems (on UPS – WASEA property),
- Hedwall Architectural Iron (same property as Alaska Street Reload & Recycling), and
- Urban Hardwoods (same property as Alaska Street Reload & Recycling).

Ecology will complete its evaluation of operations at these facilities and, if appropriate, will require them to apply for coverage under the ISGP.

5.2 Facilities Holding NPDES Permits within the Diagonal Avenue S SD Basin

Stormwater from these properties drains to EAA-1 via the Diagonal Avenue S SD (Figure 5). These properties are not located within the Diagonal Avenue S CSO basin.

The NPDES facilities are presented in alphabetical order. The word "former" was ignored for the purpose of alphabetizing the facility names.

5.2.1 ColorGraphics, Inc.

Facility Summary: ColorGraphics, Inc.	
Tax Parcel No.	7134300390
Address	1421 S Dean Street
Property Owner	Sierra Nevada Investment Group
Parcel Size	1.20 acres (52,334 sq ft)
Facility/Site ID	62127595
SIC Code(s)	2752: Commercial Printing, Lithographic
EPA ID No.	WAD988487898
NPDES Permit No.	SO3003679

Facility Summary: ColorGraphics, Inc.	
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	B3/338

ColorGraphics is located in the Diagonal East SD basin. The property is located at the intersection of Poplar Place S and S Dean Street. I-90 is immediately southwest of the property. Commercial properties surround ColorGraphics. Ralph's Concrete (Section 4.3.11), the former Signal Equipment property (Section 4.3.17), and the Recycling Depot, Inc. property (Section 5.3.7) are located east of ColorGraphics.

According to King County tax assessor records, there is one building on the property, a 35,003 sq ft light industrial manufacturing building constructed in 1952. The property name is listed as Rice & Sons.

5.2.1.1 Current Operations

ColorGraphics, a commercial printing facility, started operations in 1998 (Ecology 1999e).

Stormwater inspection reports and the stormwater baseline permit for this facility indicate that stormwater discharge is directed to Lake Washington, not the LDW (Ecology 1999e, 2006j).

According to the 1999 Stormwater Pollution Prevention Plan (SWPPP) for this property, potential pollutants that could enter stormwater on the property include total dissolved solids, total suspended solids, pH altering materials, and oil and grease. Chemicals and wastes handled on the property include waste ink, oil, and solvents; waste silver, blanket and roller washes, IPA, lithographic inks, and fountain concentrate (EMS 1999).

5.2.1.2 Historical Operations

Information regarding historical operations at this property was not available for review.

5.2.1.3 Regulatory History

Ecology conducted an unannounced stormwater compliance inspection on October 24, 2006 (Ecology 2006j). Compliance and recommended actions for ColorGraphics outlined by Ecology in the inspection report included: ensuring all chemical drums are properly sealed and clean on their exteriors; ensuring all drums stored outside are stored on impervious surface and under cover if possible; removing the rusted chemical barrel in the back lot; implementing good housekeeping procedures, including reducing loose paper on the ground and not dumping used paint brushes on the site; and ensuring all spills are cleaned up immediately.

SPU conducted a follow-up inspection at ColorGraphics in November 2007 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

Ecology inspected ColorGraphics in August 2008 (Table 10). Industrial wastewater from the prepress process and press room was being discharged to the sanitary sewer without a KCIW discharge permit or authorization. Ecology referred the facility to KCIW. ColorGraphics was operating an automated pH neutralization system and had not notified Ecology of the treatment or coverage under Permit-by-Rule. Ecology directed ColorGraphics to obtain a KCIW discharge permit or authorization and to formally notify Ecology of the pH neutralization treatment after obtaining a KCIW discharge permit or authorization (Jeffers 2008d).

5.2.1.4 Environmental Investigations and Cleanups

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

5.2.1.5 Potential for Sediment Recontamination

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

Stormwater

The NPDES permit for the facility indicates that stormwater discharges to Lake Washington; however, the geographic location of the facility falls within the Diagonal Avenue S SD basin. Additional information regarding ColorGraphics is needed to determine if operations at the facility represent a potential source of contaminants to EAA-1 sediments via the stormwater pathway.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

5.2.1.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	An investigation is needed to determine if stormwater from this facility is discharged to the LDW or to Lake Washington.	Ecology and/or SPU will conduct a source control inspection at the facility or review drainage maps to determine if stormwater from this facility is discharged to the LDW or to Lake Washington.

5.2.2 Owl Transfer & Storage Company, Inc.

Facility Summary: Owl Transfer & Storage Company, Inc.	
Tax Parcel No.	7666204100
Address	3623 6th Avenue S
Property Owner	Owl Transfer Building LP
Parcel Size	2.26 acres (98,300 sq ft)
Facility/Site ID	35919547 (Owl Transfer & Storage Company, Inc.) 6672875 (Western Logistics, Inc.)
SIC Code(s)	Owl Transfer & Storage 4214: Local Trucking with Storage 4222: Refrigerated Warehousing and Storage 4225: General Warehousing and Storage 5198: Paints, Varnishes, and Supplies Western Logistics Unknown
EPA ID No.	WAD980980387 (Inactive) (Owl Transfer & Storage)
NPDES Permit No.	SO3000593 (Owl Transfer & Storage)
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	1992
Map/Map ID	A4/203 (Owl Transfer & Storage) B4/207 (Western Logistics)

The Owl Transfer property is located in the Diagonal West SD basin. The property is located at the northwest corner of the intersection between 6th Avenue S and Diagonal Avenue S. Industrial properties surround the Owl Transfer property. The SCL 4th Avenue South Facility (Section 4.3.15) is immediately west of the property. Mailhandlers (Section 4.2.5) is south of the property across Diagonal Way S. The Clear Channel Outdoor property (Section 7.1) is immediately north of the property.

According to King County tax assessor records, a 73,335 sq ft warehouse constructed in 1961 is the only building on the property.

5.2.2.1 Current Operations

Several tenants operate in the warehouse on the property including Western Logistics, Banzai Sushi, Area Distributors, Grafeka Custom Apparel, Friedman Development, and Stokes Sales Co. Little information was available regarding these businesses. Information about Western Logistics, Banzai Sushi, and Friedman Development was collected from the companies' websites:

- Western Logistics provides warehousing and transportation services in western Washington including rubbish removal, packaging and crating, cell site installations, and cargo palletizing (Western Logistics 2009).
- Banzai Sushi packages and distributes frozen sushi products (Banzai Sushi 2009).
- Friedman Development is a property development company specializing in senior housing (Friedman Development 2009).

Additional information regarding current operations at the property was not available for review.

5.2.2.2 Historical Operations

Based on the information reviewed by SAIC, Owl Transfer no longer operates at this property. Commercial Warehouse Company, Inc., General Welding Supply Co., and Housing Management Services historically operated at the property. No additional information regarding historical operations at the property was available for review.

5.2.2.3 Regulatory History

An Ecology ERTS Initial Report indicated that Northwest Environmental Services encountered TPH-contaminated soils during a gas tank removal at the facility in December 1989 (Ecology 1989g). Only the first of three pages of the report were included in the file for this facility. Therefore, it is not known if any cleanup of the contaminated soil was performed. An undated LUST Cleanup Report Review filled out by John Bails indicated insufficient data to list the facility as a LUST (Ecology Undated). SWPPP forms completed for the facility between 1993 and 2001 indicated no hazardous materials handled, treated, stored, or disposed of at the facility (Commercial Warehouse Co. 2001).

SPU inspected Commercial Warehouse Company, Inc., Housing Management Services, and Owl Transfer in June 2003 (Schmoyer 2009b). The facilities were found to be in compliance (Table 9.) The inspection reports were not reviewed.

Ecology inspected Western Logistics in November 2008 (Table 10). Ecology directed the facility to improve its spill management procedures (Jeffers 2008g).

5.2.2.4 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

5.2.2.5 Data Gaps and Action Items

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Owl Transfer facility is listed below.

Pathway	Data Gap	Action Item
Stormwater	A follow-up facility inspection is needed at Western Logistics to verify compliance with Ecology's directive to improve spill management procedures. Several new businesses are operating at the warehouse. Initial inspections are needed to determine if current operations at this facility comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a follow-up inspection at Western Logistics and initial inspections at new businesses (e.g., Banzai Sushi and Friedman Development) operating at the facility.

5.3 Facilities Holding NPDES Permits within the Duwamish/Diagonal CSO/SD Basin

These facilities are in both the storm drain and CSO basins. Stormwater from these properties is discharged to EAA-1 via the Diagonal Avenue S SD. Wastewater from these facilities may discharge to EAA-1 via the Diagonal Avenue S CSO during a CSO event.

The facilities are presented in alphabetical order.

5.3.1 Alaska Street Reload & Recycling

Facility Summary: Alaska Street Reload & Recycling	
Tax Parcel No.	3573200520
Address	Operating: 70 S Alaska Street Parcel: 80 S Hudson Street
Property Owner	ALCO Investment Companies
Parcel Size	9.37 acres (408,157 sq ft)
Facility/Site ID	81491835 (Alaska Street Reload & Recycling) 23766347 (80 South Hudson Street Site)
SIC Code(s)	4959: Sanitary Services, Not Elsewhere Classified (Alaska Street Reload & Recycling)
EPA ID No.	WAH000018796 (Alaska Street Reload & Recycling)
NPDES Permit No.	SO3004605 (Alaska Street Reload & Recycling)
KCIW Discharge	691 – Authorization, minor (Alaska Street Reload &

Facility Summary: Alaska Street Reload & Recycling	
Permit/Authorization No.	Recycling)
UST/LUST ID No.	200323 (80 South Hudson Street Reload & Recycling)
Map/Map ID	A5/42

This property is located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. Alaska Street Reload & Recycling is located on the northern portion of a large parcel on S Alaska Street between Colorado Avenue S and 1st Avenue S. Bloch Steel (Section 4.3.4) is north of the property. T-106 East Warehouse W-4 is located west of the property and a Sears facility is located east of the property.

According to King County tax assessor records, the name of this property is Alaskan Copper & Brass and Yellow Cab. Alaska Street Reload & Recycling operates on the northeastern portion of parcel 0520. There are eight buildings on this parcel:

- A 40,872 sq ft light industrial manufacturing building, referred to as the #1 West Shop, constructed in 1925;
- A 46,740 sq ft light industrial manufacturing building, referred to as the #2 Main Shop, constructed in 1954;
- A 5,652 sq ft light industrial manufacturing building, referred to as the #3 North Shop, constructed in 1952;
- A 17,920 sq ft light industrial manufacturing building, referred to as the #4 Yellow Cab Shop, constructed in 1952;
- A 16,546 sq ft light industrial manufacturing building, referred to as the #5 High Bay building, constructed in 1966;
- A 28,731 sq ft light industrial manufacturing building, referred to as the #6 East Shop, constructed in 1968;
- A 22,339 sq ft industrial light manufacturing building, referred to as the #7 Prep Shop, constructed in 1968; and
- An 8,400 sq ft office building, referred to as the #8 Yellow Cab Office, constructed in 1925.

5.3.1.1 Current Operations

Alaska Street Reload & Recycling receives contaminated soil via dump trucks. Offloaded piles are transferred to rail car. Reuse and recycling activities that occur at the facility include reloading of clean soils, nonhazardous contaminated soils, petroleum-contaminated soils, vactor waste and street sweepings, auto fluff, and industrial sludges. These soils are containerized and shipped via rail for beneficial uses at Columbia Ridge Landfill and Recycling Center in Oregon (SKCDPH 1997a).

Operations occur in a 33,000 sq ft L-shaped building and a 33,330 sq ft rectangular building. A rail spur runs through the long portion of the “L”. Other support facilities on the property include a scale-house, office, and restrooms. Equipment used in operations includes powered industrial

trucks, rubber-tired loaders, gondola and hopper rail cars, open-top containers, and pressure washers (WMI 1996, 2005a).

Truck wheel washing occurs to prevent materials from tacking outside the building. The washing takes place while trucks are parked on absorbent materials to contain water and prevent residual materials from entering the yard. Spent absorbent material is stored in rail cars and delivered to an offsite disposal facility (WMI 1997). Paved areas of the facility are washed down twice a week. Truck and lot wash water is discharged to the sanitary sewer (Ecology 2009b).

Storm drain valves on the property can be switched to direct flows either to the storm drain or sanitary sewer (Ecology 2009b).

Urban Hardwoods and Hedwall Architectural Iron also operate on this property (Jeffers 2009b). Alaskan Copper Works (aka Alaska Copper & Brass) may continue to operate at the property, but this has not been confirmed.

5.3.1.2 Historical Operations

Pacific Car and Foundry Company (PACCAR) was the primary occupant at this property from 1940 to 1990 (EMCON 1994).

80 South Hudson Street Site aka Signal Environmental Systems Seattle, Inc.

Signal Environmental Systems Seattle, Inc. (SES Seattle) historically owned the property. In January 1991, Ecology reported that SES Seattle's facilities at the property were vacant (Ecology 1991a). SES Seattle reportedly leased the property as individual lots (Sweet-Edwards 1991c).

CP Enterprises and Ahbe and Svoboda were tenants at the property (EMCON 1992). Between 1975 and 1990 tenants at the property included several steel fabricators, machine shops, a commercial sandblasting and painting company, a truck repair service company, a scrap metal salvage company, and an environmental services company that cleaned and decommissioned petroleum storage tanks on the property (EMCON 1994).

Alaska Street Reload and Recycling

Historical names for the facility include Washington Waste Hauling & Recycling, Inc. (d/b/a Waste Management of Seattle) and Hudson Street Reload Facility.

Wood recovered from the recycling of construction, demolition, and land-clearing debris was chipped at the facility. Wood chips were loaded in to transport containers for delivery to manufacturers of hog fuel, bulking agents, mulch, and other products (WMI 1996).

Containerized soils were previously shipped via rail for use as alternate daily cover, foundation layer, and other beneficial uses at Olympic View Sanitary Landfill (SKCDPH 1998c).

Glass cullet was received at the facility from approximately February 2004 (SKCDPH 2004d) to April 2005 (WMI 2005b).

5.3.1.3 Regulatory History

80 South Hudson Street Site aka Signal Environmental Systems Seattle, Inc.

In May 1991, SES Seattle informed Ecology that 8 to 10 cubic yards of sand blast grit was discovered and sampled at the property. Lead was detected in the grit up to 5.9 ppm. Up to 50 one- to five-gallon containers containing paint, solvents, and various coating materials had been abandoned at the property. SES Seattle was unable to determine if any of the lessees had generated and deposited these wastes on the property. The sand blast grit was sealed in 55-gallon drums and disposed of off site. The containers were also removed from the property (Sweet-Edwards 1991c).

In January 1992, Ecology approved plans to remediate groundwater beneath the property by excavating petroleum-contaminated soil from the vadose zone, recirculating groundwater, and adding oxygen and nutrients to groundwater to promote bioremediation (Ecology 1992a).

Alaska Street Reload and Recycling

In August 1997, SKCDPH issued a Determination of Non-Significance for the facility's solid waste treatment permit (SKCDPH 1997a). The facility's permit to accept clean wood wastes and to reload soils was issued in September 1997 (SKCDPH 1997b).

SKCDPH performed three inspections of the facility in 1998. Contaminated soil was tracked to and contaminated water drained to unpaved areas outside the reloading building; this appeared to be an ongoing problem at the facility (SKCDPH 1999a). The inspection reports were not reviewed.

In December 1999, SKCDPH directed Alaska Street Reload & Recycling to stop accepting industrial sludges at the facility by January 10, 2000. Inspectors noted that the facility accepted sludge wastes that did not match the wastes described on generator waste profile sheets during two inspections in 1999 (SKCDPH 1999c).

In February 2000, SKCDPH issued an NOV to the facility for the spillage and tracking of contaminated soils outside the reload building and off the property and for failure to prevent wastewater leachate from coming into contact with native soil beneath the surface of the property. The facility's permit to accept solid wastes was suspended (SKCDPH 2000a).

In March 2000, SKCDPH determined that the facility could resume accepting nonhazardous industrial sludge pending the reinstatement of the facility's solid waste handling permit (SKCDPH 2000b).

Alaska Street Reload & Recycling applied for coverage under the ISGP in 2001 (WMI 2001); however, Ecology was unable to grant coverage to the facility because of an appeal to the general permit (Ecology 2001c). Ecology provided coverage under the permit in July 2002 and issued Administrative Order No. 02WQHQ-4529, requiring the facility to sample stormwater discharge monthly for pH (Ecology 2002g).

Ecology visited the facility in October 2002. The Ecology representative emphasized control of hazardous wastes and knowledge of storm drain flow, among other BMPs, to prepare the facility to become an active 10-day transfer facility (Ecology 2002n). Ecology attempted to perform a compliance inspection of the 10-day transfer facility in November 2003; however, the facility had not yet processed any wastes through the 10-day transfer facility (Ecology 2003i).

In February 2007, Ecology performed a stormwater compliance inspection at the facility. Ecology determined that Alaska Street Reload & Recycling was out of compliance with its ISGP for failure to collect samples during all quarters and failure to submit all sample analytical results to Ecology (Ecology 2007b). Spilled contaminated dirt was observed on the property. Leachate from the spilled soils had an oily sheen. An excessive amount of mud was present on the property. An oily substance was leaking from a trailer into a storm drain. A fuel container on the property lacked secondary containment. Ecology recommended that Alaska Street Reload & Recycling increase the sweeping and cleaning frequency of the lot to prevent mud and dirt from entering the storm drain; improve truck washing practices to reduce tracking of contaminated soil off property; provide secondary containment for all fuel and other chemicals stored on the property; and monitor, maintain, and cover machinery stored outdoors to prevent fluid leaks from contaminating soil and stormwater (Ecology 2007a). Additionally, Ecology required the facility to submit corrected DMRs for the previous 2 years to Ecology's headquarters (Ecology 2007b).

Ecology performed a stormwater compliance inspection at the facility in January 2009. The Ecology inspector determined that the facility had completed corrective actions with regard to sample collection and reporting; however, a Level 3 report received from Waste Management in April 2008 was inadequate and did not meet the requirements of the NPDES permit with regard to the actions planned for source control. Ecology determined that the facility's SWPPP was inadequate for the following reasons:

- Outfall naming was inconsistent throughout the SWPPP.
- Locations of storm drain lines, catch basins, and connections to the sanitary sewer were not shown on the facility plan.
- Monitoring locations were not shown on the facility plan.
- A standard operating procedure for switching storm drain valves to direct wash water to the sanitary sewer was needed in the SWPPP. The procedure must also include a policy for providing written notifications to Ecology if wash water is directed to the storm drain instead of the sanitary sewer.
- BMPs for any and all equipment maintenance and fueling performed on the property were needed in the SWPPP.
- An Operations and Maintenance Manual for the wheel-wash system was needed in the SWPPP.

Additionally, Ecology noted a green fluid seeping out of a contaminated dirt pile and determined the wheel-wash system required upgrades to prevent the discharge of wash water to the storm drain. Wash water was observed flowing to a storm drain on Alaska Street (Ecology 2009b).

In February 2009, Ecology issued a warning letter to Alaska Street Reload & Recycling for noncompliance with the terms and conditions of the ISGP. The facility was required to update the SWPPP to include the items noted during the January 2009 stormwater compliance inspection within 30 days and to cease and desist the discharge of wastewater to the storm drain system (Ecology 2009d).

Ecology inspected Urban Hardwoods in February 2009 (Table 10). Ecology observed stains on the facility loading dock, which represented a potential stormwater contamination pathway. Ecology directed the facility to apply for coverage under the ISGP or prepare a certificate of no exposure (Jeffers 2009a). Urban Hardwoods submitted completed compliance certificates to Ecology in March 2009 (Jeffers 2009b); however, from the available information it is not known if the facility has obtained coverage under the ISGP or has submitted a certificate of no exposure.

Ecology inspected Hedwall Architectural Iron in March 2009 (Table 10). Ecology, with assistance from SPU, determined that selenium patina waste was improperly disposed of to the storm drain. Ecology determined that the facility may need to obtain coverage under the ISGP. Compliance certificates were received from Hedwall Architectural Iron in April 2009; however, the facility has not been re-inspected (Jeffers 2009b).

5.3.1.4 Environmental Investigations and Cleanups

Several environmental investigations or cleanups were performed at the property between 1990 and 1997. The results of the investigations and cleanups were reported to Ecology under the Facility/Site ID associated with the 80 South Hudson Street Site.

UST Removal and Environmental Assessments (1990 to 1995)

Three USTs were removed from the property and soil samples were collected from the excavation sidewalls in January 1990. The USTs consisted of one 1,000-gallon gasoline UST, one 2,000-gallon diesel UST, and one 300-gallon heating oil UST. The USTs were located north of and inside the West Shop, which is the building closest to and parallel to Colorado Avenue S. TPH-diesel and BTEX exceeded the MTCA Method A cleanup level in soil (Sweet-Edwards 1991b).

Soil samples were collected from three areas of the property in August 1990. TPH exceeded the MTCA Method A cleanup levels in all samples (Sweet-Edwards 1991a).

Fourteen soil borings were advanced at the property between December 1990 and January 1991. Four soil borings were converted to groundwater monitoring wells. TPH-diesel, ethylbenzene, and xylenes exceeded the MTCA Method A cleanup level in soil. A sheen was observed on groundwater collected from two wells during well development, but was not observed during subsequent sampling. No analytes were detected above cleanup levels in groundwater. Groundwater flow direction was to the west (Sweet-Edwards 1991b).

Three soil borings and five groundwater monitoring wells were installed at the property in October 1991 to delineate the lateral and vertical extent of the hydrocarbon plume in

groundwater. Groundwater flow direction was to the northwest (Sweet-Edwards 1991e). Analytical results from this investigation were not available for review.

Three additional groundwater monitoring wells were installed west of the property in September 1992. Soil samples collected from the borings were analyzed for TPH-diesel, which was not detected. TPH-diesel exceeded the MTCA Method A cleanup levels in the groundwater samples collected from all three wells (EMCON 1994).

An investigation was performed around an abandoned pump island and product delivery line in February 1995. No petroleum odors were encountered in the excavation and no soil staining was observed. No soil samples were collected for laboratory analysis. The piping was removed from the excavation and disposed of off site (EMCON 1995).

Phase 1 Cleanup Activities (1991)

Two concrete sumps were located on the property in the Main Shop and the West Shop. The West Shop tenant, CP Enterprises, indicated that automotive coolant fluids were periodically drained to the sump. The sump in the Main Shop contained a mixture of oil and water. Between January and March 1991, liquid and sludge were removed from the sumps. The liquid and sludge were analyzed for Toxicity Characteristics Leaching Procedure for eight metals, SVOCs, VOCs, hydrocarbons, and PCBs. Barium, chromium, silver, VOCs, TPH, PCBs, and ethylene glycol were detected (EMCON 1992).

The sumps were inspected for holes and cracks. The sump in the Main Shop showed some evidence of erosion; however, no holes or cracks were observed. A large crack was observed in the sump in the West Shop. One soil boring was advanced adjacent to the crack. Soil samples from the boring were analyzed for BTEX, TPH-gas, hydrocarbon identification, and a theylene glycol; no analytes were detected. A groundwater sample was collected from the bottom of the boring and analyzed for the same chemicals. Toluene, xylenes, and TPH-gas were detected in groundwater below the MTCA Method A cleanup levels. The sumps were backfilled with pea gravel and sealed with concrete (EMCON 1992).

Eight sand blast grit piles were sampled. Sampling results indicated lead up to 3,920 ppm and PCBs up to 6 ppm. Additional sampling results indicated that the sand blast grit from one stock pile constituted a dangerous waste. Following removal of the dangerous waste stockpile, soil samples were collected. Barioum, chromium, and lead were detected in soil (EMCON 1992).

Remedial Activities (1992 to 1996)

An offsite groundwater recovery well was installed on the east side of Colorado Avenue S in February 1992. In May 1992 diesel product was discovered in well MW-5, which was located on the west side of Colorado Avenue S. A free product recovery system operated at the property from September to December 1992. Approximately 110 gallons of diesel product were removed from the subsurface (EMCON 1994).

Additional recovery wells and piezometers were installed off site in July 1994. TPH-gas, TPH-diesel, and TPH-oil concentrations in groundwater exceeded the MTCA Method A cleanup levels (EMCON 1995).

A groundwater remediation system was installed at the property in April and May 1992 to enhance bioremediation of hydrocarbons in groundwater. The remediation system was expanded in 1993 following remedial excavation activities. As of October 1993, concentrations of TPH-gas, benzene, and xylenes in groundwater had decreased to below MTCA Method A cleanup levels. TPH-diesel and naphthalene exceeded MTCA Method A cleanup levels (EMCON 1994).

In April 1992, 400 cubic yards of petroleum-contaminated soil was removed from three excavations and disposed of off property. Sidewall samples were collected from the excavation. Samples collected from the sidewalls adjacent to the West Shop foundation contained petroleum hydrocarbons above the MTCA Method A cleanup level. Free product was observed in one of the excavations (EMCON 1994).

In 1995, two groundwater monitoring wells, three piezometers, and two recovery wells were abandoned prior to the completion of a second remedial excavation. Approximately 820 cubic yards of petroleum-contaminated soil was removed from the property. Sidewall samples from the excavation contained concentrations of TPH-diesel and TPH-oil below the MTCA Method A cleanup levels. Approximately 130 gallons of product were removed from the excavation. Two groundwater monitoring wells were installed in the excavation to assess the effectiveness of the remedial activities (EMCON 1995).

Following the completion of remedial activities in 1995, petroleum-contaminated soil remained in the southeast corner of the West Shop (approximately 30 to 50 cubic yards impacted by TPH-oil) and at the northwest corner of the West Shop (approximately 60 to 80 cubic yards impacted by TPH-diesel). Four borings were advanced at the northwest corner of the West Shop in February 1996. Soil samples were analyzed for TPH-diesel, which was detected at concentrations above the MTCA Method A cleanup level along the western wall of the building (EMCON 1996a).

5.3.1.5 Potential for Sediment Recontamination

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

Stormwater

Current operations at this property represent a potential source of contaminants to EAA-1 sediments via the stormwater pathway. Ecology issued a warning letter to Alaska Street Reload & Recycling in February 2009 for failure to comply with the terms and conditions of its NPDES permit and has directed two operators at the property, Urban Hardwoods and Hedwall Architectural Iron, to obtain coverage under the ISGP.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility (if any) may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum hydrocarbon and VOC contamination in soil and groundwater has been documented at this property. The extent of contamination is unknown; however, petroleum hydrocarbons and VOCs are not considered contaminants of concern for LDW sediment. The facility is over 2,000 feet east of the LDW. The potential for sediment recontamination via this pathway is very low.

5.3.1.6 Data Gaps and Action Items

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the Alaska Street Reload & Recycling property is listed below.

Pathway	Data Gap	Action Item
Stormwater	A follow-up facility inspection is needed at Alaska Street Reload & Recycling to determine if the corrective actions required by Ecology in February 2009 have been completed by Waste Management.	Ecology will conduct a follow-up stormwater compliance inspection at Alaska Street Reload & Recycling. Ecology will determine if the facility needs an individual NPDES permit.
	Information is needed to determine if Urban Hardwoods has obtained coverage under the ISGP or has submitted a certificate of no exposure.	Ecology will determine if operations at Urban Hardwoods represent a potential threat to EAA-1 sediments via the stormwater pathway.
	Information is needed to determine if Hedwall Architectural Iron has obtained coverage under the ISGP or has submitted a certificate of no exposure.	Ecology will determine if operations at Hedwall Architectural Iron represent a potential threat to EAA-1 sediments via the stormwater pathway.

5.3.2 Arctic Ice Cream Novelties

Facility Summary: Arctic Ice Cream Novelties	
Tax Parcel No.	1498302455
Address	Operating: 1901 23rd Avenue S Parcel: 1924 Rainier Avenue S
Property Owner	Family Services Parcel LLC
Parcel Size	0.95 acre (41,167 sq ft)
Facility/Site ID	34889139 (23rd Avenue S)

Facility Summary: Arctic Ice Cream Novelties	
	99887268 (Rainier Avenue S)
SIC Code(s)	2024: Ice Cream and Frozen Desserts
EPA ID No.	CRK000001380 (23rd Avenue S)
NPDES Permit No.	SO3000088 (23rd Avenue S)
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	2257 (Rainier Avenue S)
Map/Map ID	C3/295 (23rd Avenue S) B3/294 (Rainier Avenue S)

This property is located in the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The property is bordered by Rainier Avenue S to the west, by S Holgate Street to the north, by 23rd Avenue S to the east, and by S Plum Street to the south. The surrounding properties are commercial and residential.

According to King County tax assessor records, there is one building on the property; a 38,075 sq ft office building constructed in 2009. The building description is Family Services Office Building.

5.3.2.1 Current Operations

Wellspring Family Services currently operates at this property. Administrative offices, classrooms, onsite child care, and a retail store are located at the facility (Wellspring Family Services 2009). Additional information regarding current operations at the property was not available for review.

5.3.2.2 Historical Operations

The Arctic Ice Cream Novelties factory on Rainier Avenue S operated from 1948 until 2005. The factory was purchased by a national corporation, which closed the factory (The Seattle Times 2006). Since a new building is located on the property as of 2009, it appears that the Arctic Ice Cream Novelties factory has been demolished. Additional information on historical operations at the property was not available for review.

5.3.2.3 Regulatory History

Ecology granted Arctic Ice Cream its NPDES permit in December 1992 (Ecology 1992l). The most recent record of the NPDES permit indicates that it was valid through November 2005 (Ecology 2000j).

SPU performed a follow-up inspection at Arctic Ice Cream Novelties in March 2004 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

5.3.2.4 Environmental Investigations and Cleanups

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

5.3.2.5 Potential for Sediment Recontamination

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

Stormwater

Arctic Ice Cream Novelties no longer operates at this property. According to Ecology's facility/site database, the NPDES permit for the facility remains active. However, the factory is no longer a potential source of pollutants to the LDW since it appears that the original factory building is no longer on the property.

A new building was constructed on the property in 2009. There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility (if any) may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

5.3.2.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

5.3.3 Lighthouse for the Blind

Facility Summary: Lighthouse for the Blind	
Tax Parcel No.	1498303240, 148303404, 1498303408
Address	2501 S Plum Street
Property Owner	Lighthouse for the Blind

Facility Summary: Lighthouse for the Blind	
Parcel Size	3240: 3.06 acres (133,333 sq ft) 3404: 0.18 acre (7,800 sq ft) 3408: 0.11 acre (5,000 sq ft)
Facility/Site ID	82198634
SIC Code(s)	3089: Plastics Products, Not Elsewhere Classified 3499: Fabricated Metal Products, Not Elsewhere Classified 3728: Aircraft Parts and Auxiliary Equipment, Not Elsewhere Classified 7389: Business Services, Not Elsewhere Classified
EPA ID No.	WAD009282278 (Inactive)
NPDES Permit No.	SO3009970
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	C3/291

Lighthouse for the Blind owns three parcels in the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The parcels are at the southwest corner of the intersection between Martin Luther King Jr. Way S and S Plum Street.

According to King County tax assessor records, there are three buildings on parcel 3240:

- A 112,162 sq ft workshop and warehouse constructed in 1966,
- A 36,919 sq ft warehouse constructed in 1990, and
- A 936 sq ft seeing eye dog equipment shed constructed in 1992.

Parcels 3404 and 3408 are vacant. Parcel 3408 is a METRO rectifier station according to the tax assessor records.

5.3.3.1 Current Operations

Lighthouse for the Blind has operated at this location since 1967. The non-profit organization offers a variety of services for blind and deaf-blind persons including vocational programs and employment (Seattle Lighthouse 2009). In the 1970s, Lighthouse for the Blind began industrial manufacturing, creating products such as aluminum easels, binders, sponge mops, and paper trimmers. Lighthouse manufactures some parts for The Boeing Company (Seattle Lighthouse 2002).

AT&T Wireless Rainier Valley (Facility/Site ID 1236230) is also at the 2501 S Plum Street address.

5.3.3.2 Historical Operations

Information regarding historical operations at this property was not available for review.

5.3.3.3 Regulatory History

Ecology inspected the facility in September 2007, prior to the facility obtaining an NPDES permit. Miscellaneous plastic and metal parts and products are manufactured at the facility (Ecology 2007o).

Two compressors are located at the facility. Ecology recommended adding cover and containment around one of the compressors and increasing the size of the cover over the other compressor. At the time of the inspection, a bag house was in use to collected dust and grit from sand blasting operations at the facility. Ecology noted that better containment and improved sweeping was needed to prevent grit and dust from reaching storm drain catch basins on the facility (Ecology 2007o).

Miscellaneous wastes, products, and material were stored on or near the loading dock and dumpster areas. Ecology directed the facility to store the wastes and products under cover or indoors to prevent contact with stormwater. A small dirt slope was present near the dumpster and Ecology recommended stabilizing the slope to prevent soil from reaching catch basins on the facility (Ecology 2007o).

Six catch basins equipped with filter socks are located at the facility. The filter socks are inspected once per year. Ecology recommended inspecting the filter socks in catch basins more frequently. Ecology directed the facility to apply for coverage under the ISGP (Ecology 2007o).

SPU performed a follow-up inspection at Lighthouse for the Blind in January 2008 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

5.3.3.4 Environmental Investigations and Cleanups

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

5.3.3.5 Potential for Sediment Recontamination

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

Stormwater

Current operations at this property may represent a potential source of contaminants to EAA-1 sediments via the stormwater pathway. However, since obtaining coverage under the ISGP, Lighthouse appears to have implemented appropriate stormwater pollution prevention BMPs.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the

Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

5.3.3.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

5.3.4 MacMillan-Piper Inc. – Airport Way Facility

Facility Summary: MacMillan-Piper Inc. – Airport Way Facility	
Tax Parcel No.	3958901315
Address	Operating: 655 S Edmunds Street Parcel: None
Property Owner	SPS LLC
Parcel Size	3.42 acres (149,074 sq ft)
Facility/Site ID	2417391 (MacMillan-Piper, Inc.) 77492128 (Former Consolidate Freightways S Edmunds)
SIC Code(s)	4225: General Warehousing & Storage (MacMillan-Piper, Inc.) 20xx: Food and Kindred Products (MacMillan-Piper, Inc.) 4731: Freight Transportation Arrangement (Former Consolidated Freightways S Edmunds) 9999: Nonclassifiable Establishments (Former Consolidated Freightways S Edmunds)
EPA ID No.	WAD980974190 (Inactive) (Former Consolidated Freightways S Edmunds)
NPDES Permit No.	SO3011326 (MacMillan-Piper, Inc.)
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	200206 (Former Consolidated Freightways S Edmunds)
Map/Map ID	A5/40 (MacMillan-Piper, Inc.) B5/32 (Former Consolidated Freightways S Edmunds)

MacMillan-Piper Inc. is located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The property is near the southwest corner of the intersection between Airport Way S and S

Edmunds Street. The PNTA (Section 4.3.2) and FedEx (Section 4.3.13) facilities are northwest and north of the MacMillan-Piper facility. The Seattle Barrel – Airport Way facility (Section 4.3.14) is east of the property on the eastern side of Airport Way S. UPRR and BNSF rights-of-way border the property to the west and south.

According to King County tax assessor records, the property name is Consolidated Freightways. There is one building on the property, a 14,592 sq ft warehouse constructed in 1930.

5.3.4.1 Current Operations

MacMillan-Piper is a container freight station. The facility has 14 truck doors, 18 railcar spots, tow covered bulk loading systems, and two 80-foot truck scales. The property is serviced by BNSF (MacMillan-Piper 2009c). Hazardous materials at the facility include motor oil, hydraulic fluid, propane, and reflective paint. The facility uses no other hazardous products (MacMillan-Piper 2009b).

Wastewater

According to an SPU review, all storm drains from the facility discharge to the LDW (Wisdom 2008). Exceptions might be two storm drains near the south end of the auger system, one of which was tied in to the sanitary sewer system and one of which was permanently blocked off, and a third drain by the small auger system that was also permanently blocked off (MacMillan-Piper 2009a). A March 2009 memo from MacMillan-Piper indicates that a contractor for the facility cleans the storm drains twice monthly; covered dumpsters have been ordered for the facility from Waste Management; two spill kits are maintained at the facility; sweeping is performed daily; storm drains are lined with sediment filters containing oil-absorbing pads; and a contractor pressure washes the bulk transload areas and railroad tracks every two months (MacMillan-Piper 2009a). The facility SWPPP was updated in April 2009 (MacMillan-Piper 2009b).

5.3.4.2 Historical Operations

Consolidated Freightways historically operated at this property. No additional information regarding historical operations at this property was available for review.

5.3.4.3 Regulatory History

SPU conducted numerous inspections at this facility over the last 6 years (SPU 2003c,e,h, 2004b,e,h,i, 2005, 2006b, 2007j, 2008c,f,i, 2009e). Housekeeping was noted to be an issue at this facility in many of the inspections. In May 2008, SPU sent a letter requiring corrective action at the facility including discontinuation of pressure-washing forklifts, which may have been causing oil to accumulate in the sump area (SPU 2008c). In an inspection in July 2008, all of the catch basins contained foul-smelling water that resembled sewage and that had heavy decomposing activity likely due to nutrient decomposition from fertilizer and food product. The inspector noted that the mold inhibitor needed secondary containment and that grain in the sample testing area was still on the ground (SPU 2008f).

SPU conducted a follow-up inspection at MacMillan-Piper in September 2008 (Table 9). The facility was not in compliance. The inspection report was not reviewed, but handwritten notes from one of the inspectors were available. The inspector noted that: housekeeping continued to be an issue at the facility; the sweeper in the load/unload area did not appear to be effective; secondary containment for the mold inhibitor was still inadequate; although the bottom of the dumpster had been lined there was still no cover and they were not using tarps; the existing fuel tank had not been drained; a contractor checked the catch basins monthly and inserted filter socks (SPU 2008i). An inspection conducted by SPU in April 2009 found hay spread all over the property and out onto the public street. The sanitary sewer drains were full of sediment above the outlet. The vault was of very poor quality and there was an oil sheen on the water. Thick sediment was all over the property as was dust (SPU 2009e).

In 2009, Ecology issued Order No. 6498 to MacMillan-Piper to monitor stormwater discharge for nitrate/nitrite as nitrogen, total phosphorus, and BOD_5. During Ecology inspections in July 2008 and March 2009 (Table 10), the facility was found to be a significant contributor of pollutants to state waters due to the amount of agricultural products on the ground and in storm drain catch basins (Ecology 2009e).

5.3.4.4 Environmental Investigations and Cleanups

In 1991, a diesel release was reported by Consolidated Freightways at this location during UST removal activities. TPH-diesel concentrations in soil and groundwater exceeded current MTCA Method A cleanup levels. Approximately 80 cubic yards of contaminated soil were removed from the property in 1993 (Woodward-Clyde 1997). Consolidated Freightways received an NFA determination from Ecology with regard to this cleanup action (Zipper Zeman 2002a).

5.3.4.5 Potential for Sediment Recontamination

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

Stormwater

Dye tests indicate that the catch basin in the system two work area goes to the storm drain (SPU 2007j). SPU did line tracing to determine facility drainage and found that stormwater from the facility drains to the LDW (Wisdom 2008). Ecology has determined that MacMillan-Piper is a significant contributor of pollutants to state waters. Current operations at this property may represent a potential source of contaminants to EAA-1 sediments via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property.

However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

5.3.4.6 Data Gaps and Action Items

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the MacMillan-Piper – Airport Way facility is listed below.

Pathway	Data Gap	Action Item
Stormwater	Multiple inspections from 2003 and 2009 have identified corrective actions for the MacMillan-Piper – Airport Way facility. Additional inspections are needed at this facility to determine if the corrective actions have been achieved and to evaluate compliance with stormwater pollution prevention BMPs.	Ecology and/or SPU will conduct follow-up source control inspections at the facility.
	Ecology has determined that the facility was found to be a significant contributor of pollutants to state waters due to the amount agricultural products on the ground and in storm drain catch basins.	Catch basin sampling may be required to determine if the pollutants from agricultural sources at the property are a source of sediment COCs.

5.3.5 North Star Casteel Products, Inc.

Facility Summary: North Star Casteel Products, Inc.	
Tax Parcel No.	7886101095, 7886101105, 7886101125, 7886101165, 7886101185
Address	Operating: 820 S Bradford Street and 3901 9th Avenue S 1095: 3819 9th Avenue S 1105: 3809 9th Avenue S 1125: 3810 Airport Way S 1165: 3901 9th Avenue S 1185: 3900 Airport Way S
Property Owner	1095 & 1165: North Star Casteel Products 1105: Pigeon Creek Investments LLC 1125: Century Park, LLC 1185: Ambleside Homes LLC
Parcel Size	1095: 0.18 acre (7,84 sq ft) 1105: 0.32 acre (14,080 sq ft) 1125: 0.66 acre (28,800 sq ft)

Facility Summary: North Star Casteel Products, Inc.	
	1165: 0.40 acre (17,483 sq ft) 1185: 0.21 acre (9,280 sq ft)
Facility/Site ID	3294855 (S Bradford Street) 11628955 (Airport Way S)
SIC Code(s)	3325: Steel Foundries, Not Elsewhere Classified (S Bradford Street and Airport Way S)
EPA ID No.	WAD988473054 (Airport Way S)
NPDES Permit No.	SO3011355 (S Bradford Street) SO3001214C (reported in 2001 SWPPP [North Star Casteel 2001])
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	B4/171 (S Bradford Street) B4/169 (Airport Way S)

North Star Casteel operates on five parcels located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The properties are located at the northeast and southeast corners of the intersection between Airport Way S and S Bradford Street. The surrounding properties are primarily commercial. I-5 is east of the North Star Casteel facilities.

King County tax assessor records indicated the following information regarding each parcel:

- Parcel 1095: a 1,600 sq ft storage warehouse constructed in 1978 and a 2,806 office building constructed in 1985.
- Parcel 1165: The company's foundry is on this parcel. The foundry building is 15,162 sq ft in area and was constructed in 1936.
- Parcel 1185: North Star Casteel sold the Viking Chain warehouse and property (parcel 1185) to Ambleside Homes LLC in August 2004, according to King County tax assessor records. The 2,820 sq ft warehouse, constructed in 1969, is still located on the property.

Based on North Star Casteel's 2001 SWPPP(North Star Casteel 2001), the company has operated on all or on portions of parcels 1105 and 1125. Parcel 1105 was purchased by Pigeon Creek Investments LLC from Puget Sound Freight Lines in August 2008. A 24,236 sq ft warehouse was built on the property in 2009. According to King County tax assessor records for parcel 1125, the property name is Sam's Goodyear Tires and there are two structures on the parcel: a 10,320 sq ft service repair garage constructed in 1958 and a 4,000 sq ft canopy constructed in 1979. According to a 2003 KCIW Survey form, the foundry's operating address is 3909 9th Avenue S (North Star Casteel 2003).

5.3.5.1 Current Operations

North Star Casteel has been operating since 1972. North Star Casteel is a steel foundry that makes cast steel forms for heavy industry and custom applications (North Star Casteel 2001,

2009b). Manganese and chromium ores are melted with steel to create custom alloy blends. The facility does not generate hazardous wastes and uses no other hazardous products (Ecology 1992e). North Star Casteel uses a right-of-way for storage of waste and supplies (Jeffers 2008b).

Materials at the facility that may come in contact with stormwater on the property include: new and used sand, lube and hydraulic oils, steel and stainless steel scrap, steel castings and boxes, sodium silicate, anhydrous isopropyl alcohol, phenol and formaldehyde resin, and catalyst solutions (North Star Casteel 2001).

Stormwater

According to the 2001 SWPPP, approximately 47 percent of the facility is impervious. There are nine catch basins on the facility, all of which discharge to the combined sewer system. The SWPPP indicates that all stormwater from the facility discharges to the West Point WWTP or to an infiltration trench on S Bradford Street (North Star Casteel 2001). An undated stormwater drainage figure from SPU indicates that a catch basin on S Charlestown Street, to the north and downgradient from the North Star Casteel facility, is a storm drain that connects to the Diagonal Avenue S SD, discharging to the LDW (SPU Undated). An SPU investigation confirmed that stormwater from the northeast portion of the facility flowed to the storm drain (Ecology 2008i)

5.3.5.2 Historical Operations

Information regarding historical operations at this property was not available for review.

5.3.5.3 Regulatory History

Following a site visit in July 1992, Ecology determined that the metal ores used by North Star Casteel were exempt from being listed as “hazardous material” and the facility produces no hazardous waste (Ecology 1992f).

Inspections of the facility conducted by King County during 2003 and SPU in 2004 found: lead-acid batteries stored on the ground, improperly labeled waste and product drums, oil-stained soil on the property, thick layers of mud in the storage yard, a used foundry sand pile that was contaminating the adjacent streets and public right-of-way, catch basins that required cleaning, and inadequate spill kits (KCDNR 2003a,b,c; SPU 2004f,g,j).

SPU and Ecology inspected the facility in May 2008 and identified multiple corrective actions including the presence of degraded open chemical containers, improper storage and labeling of product/waste (including containerized and non-containerized materials), improper material transfer practices, leakage and spills from storage areas, improper designation of waste, poor housekeeping, and inadequate education of employees. Spills of phenolic resin to the ground were observed. A waste pile consisting of spent foundry sand, casting molds, and baghouse dust was present on the property. Vehicles were observed tracking the waste pile to the street (Schmoyer 2008b; Jeffers 2008b). Ecology indicated that the property would be sampled to determine potential contaminants were discharged to the storm drain or sanitary sewer (Jeffers 2008b).

A follow-up inspection conducted in June 2008 found that adequate corrective actions had not been taken and that storm drain facilities at the property needed to be cleaned (Schmoyer 2008b). According to the Ecology inspector's report, a majority of the facility, with the exception of the northeast portion of the facility, drains to the combined sewer system. An SPU investigation confirmed that stormwater from the northeast portion of the facility flowed to the storm drain (Ecology 2008i). In 2002, however, the facility's permit was terminated, at the request of North Star Casteel, because at that time, all of the facility's stormwater was determined to drain to the combined sewer (Ecology 2002a). The July 2008 Ecology letter informed North Star Casteel that the facility was required to obtain an ISGP. The inspector documented accumulation of waste foundry sand on the shoulders and roadways of 9th Avenue S and S Bradford Street. The amount of foundry waste generated was greater than could be handled by the storage system, which was inadequate and uncovered. A North Star Casteel employee present at the inspection indicated that they do not know what is dumped in the sand pile and that the contractors hired to haul it away would not do a contract for regular service (SPU 2008e). The SPU inspector noted that the facility was very dusty in a light breeze, with dust coming off of the sand pile, roadway, and roof. In addition, PCB capacitors were found outdoors in the Viking Chain lot. Leaking forklifts had tracked oil throughout the property and out onto public roadways and there was severe oil staining in the Viking Chain lot.

A November 2008 closeout inspection by SPU was cut short due to North Star Casteel's failure to comply with corrective action items (SPU 2008m). Items noted in that visit included: no cover, not contained, still using the street, using the north side of Bradford, and an oil spill in the right-of-way.

SPU issued an NOV and Order for Corrective Action on January 21, 2009, for repeated illicit discharges into the storm drain system (SPU 2009a). The NOV resulted from a January 15, 2009, site inspection that found pollution entering the storm drains from vehicle track out caused by improper waste management and transport and inadequate outdoor storage practices. SPU cited corrective action letters/inspections from May (SPU 2008d), July (SPU 2008e), and September (SPU 2008j) of 2008 as justification for the NOV and Order. In response to the NOV and Order, North Star Casteel sent SPU a letter in February 2009 detailing steps taken from July 2008 through January 2009 for source control at the facility (North Star Casteel 2009a). Actions planned for February 2009 included: installing storm drain filters, sweeping the area in front of the foundry, consideration of crushed rock placement at the old sand pile location, keeping the northeasterly doors of the foundry closed to forklift traffic, implementing companywide procedures for spills, and inspecting the existing lot in the front of the foundry.

The facility was inspected again by SPU on January 30, 2009. The inspector noted that the roads needed to be repaved and the shoulders and adjacent areas needed to be cleaned up with soil removal and capping (SPU 2009b).

In March 2009 the Seattle City Attorney drafted an NOV and Order for Corrective Action (#2009-01) letter to North Star Casteel that contained a Voluntary Compliance Agreement (Seattle City Attorney 2009). The order indicated significant actions by North Star Casteel would be required in order to bring the facility into compliance with the Stormwater Code. The Voluntary Compliance Agreement obligated North Star Casteel to remove all accumulation of foundry waste and sediments that are exposed to stormwater (adjacent public streets, sidewalks,

shoulders, driveways, and storage areas); develop and post material handling procedures that eliminate the potential for transport of sediments or pollutants from the property; conduct employee training; cover and contain hazardous materials stored outside; pave the public street affected by facility operations; determine the extent of soil contamination on the public right-of-way; and remove or remediate soils affected by facility operations. No additional information was available to determine if or when the letter and agreement were finalized and what actions may have been undertaken by North Star Casteel since March 2009.

EPA has sent a CERCLA Section 104(e) Request for Information letter to North Star Casteel.

5.3.5.4 Environmental Investigations and Cleanups

SPU sampled the catch basin at Airport Way S and S Bradford Street in April 2004. The catch basin was at the bottom of the hill from the waste sand pile. It had the highest levels of phenolic compounds of all of the right-of-way samples to date (30 mg/kg of 4-methylphenol). Mike Jeffers of Ecology suspected the source might be spilled phenolic resin on the property and that the sand pile would be at least as high in phenols (Jeffers 2008a). In May 2008, Urban Wasters Initiative reported to SPU an apparent spill of Chem-Rez 400 resin on the property as well as uncovered waste that was being tracked into the street (Ecology 2008f).

Six sediment samples were taken from catch basins at and near the facility in May 2008 and analyzed for SVOCs, PCBs, total metals, total organic carbon, grain size, and TPH-diesel (ARI 2008a). All of the PAHs analyzed were detected in one or more of the samples taken from the facility. Phthalates and phenolic compounds were also detected. Metals detected included arsenic, mercury, lead, nickel, copper, and zinc. All samples contained motor oil and TPH-diesel. PCBs were either not detected or detected at low concentrations. One sample contained Aroclor 1242 at 0.48 ppm and one sample contained Aroclor 1254 at 8.3 ppm.

A June 2008 plan for compliance by North Star Casteel indicates the City of Seattle tested sediment in the storm drain in the Viking yard and found 8 mg/kg PCBs (North Star Casteel 2008). No further information was available regarding the cleanup of the contaminated sediments in the drain.

In response to an Ecology inspection on February 20, 2009, North Star Casteel hired Adapt Engineering, Inc. to sample soil to evaluate whether there had been a release of hazardous substances under MTCA. Adapt Engineering collected nine composite surface soil samples on June 19, 2009, in five areas specified by SPU and Ecology. Results were submitted to North Star Casteel on July 24, 2009. SPU and Ecology are reviewing the data (Cargill 2009). TPH-oil, TPH-diesel, cPAHs, PAHs, and metals were detected in soil below the MTCA cleanup levels (Adapt Engineering 2009).

5.3.5.5 Potential for Sediment Recontamination

Stormwater

SPU has issued several corrective actions and at least one NOV for the facility, some of which relate to stormwater pollution prevention. The facility has an NPDES permit. According to a July

2008 Ecology inspection report, a majority of the facility drains to the combined sewer system; however, stormwater from the northeast portion of the facility discharges to the storm drain system (Ecology 2008i). The right-of-way catch basin at the bottom of the hill from the waste sand pile was sampled in 2004 and was found to contain 30 mg/kg of 4-methylphenol (Jeffers 2008a). There is potential for sediment recontamination via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

The draft 2009 Voluntary Compliance Agreement requires North Star Casteel to determine soil contamination at the facility and adjacent public property (the roadway and right-of-way) but no mention was made of groundwater sampling (Seattle City Attorney 2009). A preliminary review of the June 2009 surface soil sampling results indicates that contaminants are not present in surface soil above MTCA cleanup levels or the soil-to-sediment screening levels. SPU and Ecology are reviewing the results from the June 2009 sampling. Currently, there is no information available to determine if subsurface soil or groundwater contamination is present at this property.

5.3.5.6 Data Gaps and Action Items

Information needed to assess the potential for sediment recontamination associated with current or historical operations at North Star Casteel is listed below.

Pathway	Data Gap	Action Item
Stormwater	Three inspections in 2008 and one in 2009 identified corrective actions. Additional inspections are needed at this facility to determine if the corrective actions have been achieved and to evaluate compliance with stormwater pollution prevention BMPs.	Ecology and/or SPU will conduct follow-up source control inspections at the facility.
	Additional information is needed to determine if the Voluntary Compliance Agreement has been finalized and if North Star Casteel is making progress toward complying with its obligations under the agreement.	SPU will verify that North Star Casteel is in compliance with the final Voluntary Compliance Agreement, when issued.

Pathway	Data Gap	Action Item
Groundwater Discharge	Additional information regarding the Voluntary Compliance Agreement is needed to determine if North Star Casteel has been required to perform an investigation of soil, and possibly groundwater, conditions beneath the property.	Ecology will review the results of environmental investigations to determine if sediment COCs are present in soil and/or groundwater at concentrations that exceed soil-to-sediment or groundwater-to-sediment screening levels and determine if additional actions are needed for source control.
		Ecology will review North Star Casteel's response to the EPA CERCLA 104(e) information request.

5.3.6 Pepsi Bottling Group – Seattle Plant (ALPAC Corp.)

Facility Summary: Pepsi Bottling Group – Seattle Plant (ALPAC Corp.)	
Tax Parcel No.	9122001075
Address	2300 26th Avenue S
Property Owner	Bottling Group LLC
Parcel Size	10.13 acres (441,445 sq ft)
Facility/Site ID	2205389 (Pepsi Bottling Group) 2542 (ALPAC Corp.) 38462153 (ACME Iron Works, Inc.)
SIC Code(s)	2086: Bottled and Canned Soft Drinks 5149: Groceries and Related Products, Not Elsewhere Classified
EPA ID No.	WAD009252123 (ALPAC Corp.)
NPDES Permit No.	SO3008720 (Pepsi Bottling)
KCIW Discharge Permit/Authorization No.	7023 (1997-2007), 7820 (2007 to present) - Permits
UST/LUST ID No.	7876 (ALPAC Corp.)
Map/Map ID	C3/277 (Pepsi Bottling Group) C3/276 (ALPAC Corp.) C3/278 (ACME Iron Works, Inc.)

Pepsi occupies a large parcel in the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The property is bordered by 25th Avenue S on the west, S Walker Street on the north, Martin Luther King Jr. Way S on the east, and S Bayview Street on the south. The former Time Oil Company 216 property (Section 4.3.19) is west of the property and a UHaul Company (UHaul) property (Section 6.3.7) is southwest of the property. According to King County tax assessor records, parcel 1075 is named "ALPAC Corporation." There are five buildings on the parcel:

- A 12,200 sq ft warehouse constructed in 1953,
- A 6,120 sq ft pallet shop/warehouse constructed in 1967,

- A 6,120 sq ft service garage constructed in 1969,
- A 166,014 sq ft bottling plant constructed in 1972, and
- A 16,800 sq ft office building constructed in 1980.

5.3.6.1 Current Operations

Phosphoric acid is the only hazardous substance used at the bottling plant. It is used as an ingredient in two soft drinks. When production and tank lines are cleaned, some phosphoric acid is released to the sanitary sewer (ALPAC 1992a).

Dangerous wastes generated at the facility include used paint thinner, ethylene glycol, and Stoddard solvent. These wastes are generated during vehicle maintenance activities (ALPAC 1992a). The maintenance facility drains are connected to the sanitary sewer. Vehicle and equipment washing are no longer conducted at the facility (Ecology 2007e).

Vehicle fueling operations are conducted on the property. The fueling station is covered. A drain in the fueling station is connected to an OWS, which discharges to the sanitary sewer (Ecology 2007e).

An area next to the guard's office is used to store damaged soda boxes. The area has secondary containment and is cleaned daily (Ecology 2007e).

5.3.6.2 Historical Operations

The northwest portion of the property was formerly leased to ACME Iron Works. The west-central portion of the property was formerly the Deeny Construction Company yard (Dames & Moore 1993b). ALPAC apparently sold its interest in the property in the early 1990s (Dames & Moore 1995b).

In 1991, 1,112 pounds of phosphoric acid was released from the plant (ALPAC 1992a).

5.3.6.3 Regulatory History

In February 1987, Ecology inspected the area of the property leased by ACME Iron Works following a report of acetone fumes in the area by construction workers installing a telephone pole. Ecology collected soil samples around three USTs; laboratory analysis indicated the presence of acetone and toluene in soil (CH2M Hill 1987).

In October 1992, ALPAC notified Ecology of its intent to close three 500-gallon USTs, one containing used oil and two containing new motor oil. The USTs were 19 years old at the time of the notice (ALPAC 1992b).

In May 1993, ALPAC reported to Ecology a release of 18 percent sodium hydroxide solution to the subsurface from a 10,000-gallon AST. The release was discovered during demolition of a storage room. The soil was excavated and disposed of off-property. Soil sampling along the sewer line serving the storage room indicated that the release was localized. Ecology determined that no further actions were necessary (Ecology 1993c).

In March 1994, ALPAC notified Ecology that it planned to install one diesel and one unleaded gasoline UST on the property. The UST capacities are not indicated on the notification form (Dames & Moore 1994a).

In August 1994, ALPAC notified Ecology that two 10,000-gallon gasoline and diesel USTs and four 500-gallon USTs (one each containing heating oil, waste oil, transmission fluid, and motor oil) were permanently closed in June 1994. The UST closure notice indicates that contamination was present at the time of closure (Dames & Moore 1994b).

King County issued Waste Discharge Permit No. 7023 to Pepsi in June 1997. The permit allowed for an increase in allowable discharge volume to 150,000 gallons per day. Wastewater from the facility is conveyed to the West Point Treatment Plant (KCDNR 1997). In 2007, a new discharge permit was issued (permit no. 7820) and discharge limits were increased to a maximum of 234,000 gpd (KCDNR 2007b).

SPU performed a follow-up inspection at Pepsi in June 2005 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

In April 2007, Ecology performed a Stormwater Compliance inspection at the facility. Pepsi had been conducting sampling at four locations on the facility. Ecology recommended that the number of sampling locations be reduced to two and that Pepsi continue sampling behind the main warehouse and the unloading area to best represent the industrial impacts to stormwater on the property. Ecology noted that socks had been installed in many catch basins and these catch basins were free of sediment and debris. Debris was floating in the catch basins that were not equipped with socks. Pepsi agreed to install socks in all catch basins that discharged to surface water. Pallets of liquid products were stored near a catch basin at the loading docks. Ecology recommended providing cover and spill protection for the catch basin during loading and unloading operations to prevent the potential for an accidental spill to reach the catch basin. Housekeeping at the facility was generally good (Ecology 2007e).

Zinc concentrations exceeded the NPDES permit discharge benchmark values during two consecutive quarters in 2006. Ecology directed the facility to begin sampling stormwater for additional metals as required by the ISGP permit (Ecology 2007e).

EPA performed a UST inspection at the facility in 2007. The USTs passed the inspection (USEPA 2007a).

5.3.6.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the Pepsi property.

Field Investigation and Underground Tank Removal Report – ACME Iron Works (1987)

In April 1987, three soil borings and one groundwater monitoring well were installed on the northwest corner of the property near the intersection of 25th Avenue S and S College Street. Four soil samples were collected and analyzed for VOCs. One surface soil sample was collected near the telephone pole where construction workers had reported the presence of acetone fumes.

Low levels of methylene chloride were present; however, no analytes exceeded MTCA cleanup levels (CH2M Hill 1987).

Three USTs containing gasoline, diesel, and toluene were removed from the property. The tanks and excavated soil were transported off site for disposal (CH2M Hill 1987).

Former Caustic Storage Room Subsurface Investigation (1993)

The caustic storage room contained a 10,000-gallon AST used to store 18 percent sodium hydroxide and a 1,000-gallon AST used to store cleaning solution rinsate. The 1,000-gallon AST was removed in 1986. During demolition of the caustic storage room in May 1993, it was discovered that a below-grade plumbing line leading from a floor drain to the main sewer line was corroded, which resulted in the release of caustic solution to the subsurface. Soils with a pH greater than 12.5 were excavated and removed from the property. Five hand auger borings were completed around the western edge of the excavation, where some soil with pH greater than 12.5 had been left in place. The pH value was less than 11 in the soil samples collected from the hand auger borings (Dames & Moore 1993a).

Underground Storage Tank Check/Assessment (1993)

An assessment of soil sand groundwater in the vicinity of three active, four temporarily closed, and six removed USTs was performed in 1991. The three active USTs were 10,000-gallon tanks used to store gasoline and diesel fuel. The four temporarily closed tanks were 500-gallon USTs used to store used oil (one tank), heating oil (one tank) and new oil (two tanks). The former USTs consisted of three 500-gallon tanks used to store gasoline, diesel, and toluene and owned by ACME Iron Works, a 2,000-gallon diesel UST and an 8,000-gallon gasoline UST owned by Deeny Construction, and a diesel UST of unknown size owned by ALPAC. Fifteen soil borings and three groundwater monitoring wells were installed in the UST areas. Soil and groundwater samples were analyzed for TPH and BTEX. TPH-gas and TPH-oil were present in soil above the MTCA Method A cleanup level near the active gasoline USTs. TPH-gas, TPH-diesel, and benzene concentrations in groundwater exceeded the MTCA Method A cleanup levels (Dames & Moore 1993b).

UST Assessment and Independent Remedial Action (1994)

In June and July 1994, the seven active and temporarily closed USTs that were assessed in 1993, were systematically cleaned and removed from the property. A pump island associated with the three 10,000-gallon USTs was also excavated and removed from the property. Remedial excavations were performed to remove TPH-contaminated soils associated with the former USTs. Approximately 3,100 tons of contaminated soil were excavated and removed from the property (Dames & Moore 1995b).

Two wells installed in 1993 were decommissioned during the remedial excavations. Three new wells were installed on the property. Groundwater elevation data indicated that groundwater flow direction is to the southwest. TPH-diesel, TPH-oil, and benzene concentrations in groundwater exceeded the MTCA Method A cleanup levels (Dames & Moore 1995b).

Groundwater Monitoring (1995)

Three quarters of groundwater monitoring were performed in 1995, to supplement groundwater data collected in 1994 and to verify that MTCA cleanup levels had been met for TPH in groundwater. Groundwater flow direction was consistently to the southwest. Groundwater samples were analyzed for TPH and BTEX. These analytes were not detected during the three quarters of sampling (Dames & Moore 1996).

5.3.6.5 Potential for Sediment Recontamination

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

Stormwater

Zinc concentrations in stormwater exceeded the NPDES permit discharge limits for two consecutive quarters; therefore, Pepsi was required to begin analyzing stormwater discharge for additional metals. Stormwater discharge from the property may represent a potential source of sediment recontamination.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination has been confirmed in soil and groundwater at this property. Petroleum contaminants are not sediment COCs for EAA-1. Additionally, the property is approximately 3 miles northeast of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

5.3.6.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A review of DMRs from 2007 to present is needed to determine if metals concentrations in stormwater are within the discharge permit limits. A facility inspection may be needed to ensure the facility is following stormwater BMPs.	Ecology will review DMRs from 2007 to present to determine if Pepsi is in compliance with its NPDES permit. Ecology may conduct a follow-up source control inspection at the facility if the DMR review indicates the facility is not in compliance with its NPDES permit.

5.3.7 Recycling Depot, Inc.

Facility Summary: Recycling Depot, Inc.	
Tax Parcel No.	7134300570
Address	Operating: 851 Rainier Avenue S Parcel: 849 Rainier Avenue S
Property Owner	Arthur Van Der Wel
Parcel Size	0.21 acre (9,301 sq ft)
Facility/Site ID	6224142
SIC Code(s)	5093: Scrap and Waste Materials
EPA ID No.	None
NPDES Permit No.	SO3000015
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	B3/331

The Recycling Depot, Inc. property is located in the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The property is located at the western corner of the intersection between Rainier Avenue S and S Charles Street. Surrounding property use is commercial. ColorGraphics (Section 5.2.1), Ralph's Concrete (Section 4.3.11), and Central Bark (Section 4.3.17) are located one block west of the Recycling Depot, Inc. property.

According to King County tax assessor records, there is one building on the property, a 6,160 sq ft warehouse constructed in 1980.

5.3.7.1 Current Operations

Recyclable materials, including metals, brought to the facility are weighed, loaded into a baler, and then moved indoors. Care is taken to ensure that metals are not placed on the ground. The facility is swept regularly, according to the facility manager (Ecology 2007f). No additional information regarding current operations at the facility was available for review.

5.3.7.2 Historical Operations

Information regarding historical operations at this property was not available for review.

5.3.7.3 Regulatory History

SPU performed a follow-up inspection at Recycling Depot in October 2003 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

A stormwater compliance inspection was performed at the property in April 2007. The inspection was performed following multiple exceedances of zinc, copper, and lead in stormwater discharged to the LDW. The baler was installed outdoors and adjacent to the monitoring point for stormwater runoff. Staining was observed on the pavement around the baler and near the sampling location. Metal dust and material were present on the baler, which may have contributed to the elevated metals concentrations in stormwater. Some metal bales were stored outdoors and exposed to stormwater. Ecology recommend installing a cover over the outdoor baler, continuing sweeping practices, and having the catch basin cleaned to ensure sediment in the catch basin did not affect the quality of stormwater discharged from the facility (Ecology 2007f).

5.3.7.4 Environmental Investigations and Cleanups

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

5.3.7.5 Potential for Sediment Recontamination

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

Stormwater

Stormwater from this facility has historically contained concentrations of zinc, copper, and lead above stormwater discharge permit limits. DMRs following the April 2007 stormwater compliance inspection were not found in the files reviewed by SAIC. The potential for sediment recontamination via this pathway is low to moderate.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

5.3.7.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A review of DMRs from 2007 to present is needed to determine if metals concentrations in stormwater are within the discharge permit limits. A facility inspection may be needed to ensure the facility is following stormwater BMPs.	Ecology will review DMRs from 2007 to present to determine if Recycling Depot is in compliance with its NPDES permit. Ecology may conduct a follow-up source control inspection at the facility if the DMR review indicates the facility is not in compliance with its NPDES permit.

5.3.8 Skyline Electric & Manufacturing Company, Inc.

Facility Summary: Skyline Electric & Manufacturing Company, Inc.	
Tax Parcel No.	7666203915
Address	3619 7th Avenue S
Property Owner	Robert A. & Nancy J. Bell
Parcel Size	0.63 acre (27,575 sq ft)
Facility/Site ID	21118371
SIC Code(s)	3411: Metal Cans 3444: Sheet Metal Work 3613: Switchgear and Switchboard Apparatus 3629: Electrical Industrial Apparatus, Not Elsewhere Classified 3699: Electrical Equipment and Supplies, Not Elsewhere Classified
EPA ID No.	WAD988482758 (inactive)
NPDES Permit No.	SO3000930
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	B4/215

Skyline Electric is located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The property is located between I-90 and S Court Street at 7th Avenue S Western Peterbilt, Inc. (Section 6.3.9) is located southeast of the property.

According to King County tax assessor records, there is one building on the property, a 9,160 sq ft warehouse/light industrial manufacturing building constructed in 1978.

5.3.8.1 Current Operations

Skyline Electric submitted an Industrial Waste Survey to King County on March 11, 2003. The business was established in 1944, although the form did not specifically state if it was established at the present location. Skyline Electric indicated the facility had no stormwater collection system, detention system, or treatment system. Silver Coatalite #316 was the only process chemical noted on the form (Skyline Electric 2003).

5.3.8.2 Historical Operations

Information regarding historical operations at this property was not available for review.

5.3.8.3 Regulatory History

SPU performed an initial inspection of the facility in December 2003. Lacquer thinner (55 gallons/year) and toluene (volume illegible on form) were noted as chemicals used in production (SPU 2003j). The inspectors also indicated catch basins were located at the facility. Corrective actions requested by the inspector included the following: spill management corrections, proper storage of product/waste, disposal of the waste toluene drum, covering the outdoor garden equipment, and proper storage of non-containerized materials, among others (SPU 2003k).

A follow-up inspection in February 2004 indicated the facility was in compliance with stormwater pollution control requirements (SPU 2004a).

A stormwater compliance inspection conducted by Ecology on April 23, 2007, found that Skyline Electric had not been regularly submitting quarterly discharge monitoring reports (Ecology 2007j). In addition, the facility's discharge consistently exceeded the maximum allowable zinc concentration (117 µg/L), discharging a range of 140 to 933 µg/L over the period from the second quarter 2004 to first quarter 2007. Ecology indicated that the source of the elevated zinc levels could be the facility's galvanized roof, which was almost directly above the sampling location. The facility manager believed the source could be Spokane Street, which is located above the facility. The facility discharge was in compliance with all other measured parameters (pH, oil and grease, turbidity, total suspended solids, copper, lead, and hardness).

SPU performed an initial inspection at Skyline Electric in November 2007 (Table 9) (Schmoyer 2009b). The inspection report was not reviewed.

Ecology inspected the facility in October 2008 (Table 10). Cyanide electroplating was performed outdoors with inadequate containment. Hazardous waste management and disposal procedures needed improvement. Excess paint was improperly stored outdoors. Skyline Electric had failed to report stormwater monitoring results as required by its NPDES permit (Jeffers 2008f).

5.3.8.4 Environmental Investigations and Cleanups

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

5.3.8.5 Potential for Sediment Recontamination

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

Stormwater

Zinc concentrations in stormwater discharge from the facility exceeded the NPDES discharge limits for a period of 3 years from 2004 to 2007. Skyline Electric has failed to submit DMRs as required by its NPDES permit. Stormwater discharge from the property may represent a potential source of sediment recontamination.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

5.3.8.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A review of DMRs from 2007 to present is needed to determine if metals concentrations in stormwater are within the discharge permit limits. A facility inspection may be needed to ensure the facility is following stormwater BMPs.	Ecology will review DMRs from 2007 to present to determine if Skyline Electric is in compliance with its NPDES permit. Ecology may conduct a follow-up source control inspection at the facility if the DMR review indicates the facility is not in compliance with its NPDES permit.

5.3.9 United Parcel Service – WASAU

Facility Summary: UPS – WASAU	
Tax Parcel No.	7376600270
Address	4329 7th Avenue S
Property Owner	MVI 7th Avenue LLC
Parcel Size	1.48 acres (64,401 sq ft)
Facility/Site ID	8104521 (UPS – WASAU) 3090303 (Auto-Chlor Systems)
SIC Code(s)	4215: Courier Services, Except by Air
EPA ID No.	None
NPDES Permit No.	SO3000443
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	B4/110

The UPS – WASAU facility is located in the Diagonal West SD basin and Diagonal Avenue S CSO basin. The property is on 7th Avenue S, south of the intersection between 7th Avenue S and S Industrial Way. The property is immediately north of the UPS – Seattle Hub (Section 5.3.10). Praxair. (Section 5.5.4) is east of the property across 7th Avenue S.

According to King County tax assessor records, the property name is Auto-Chlor System (Auto-Chlor). There is one building on the property, a 43,380 sq ft warehouse constructed in 1974.

5.3.9.1 Current Operations

The UPS SWPPP for the 4329 7th Avenue property, dated August 1997 (UPS 1997b) listed the following significant materials: oil, used oil, antifreeze, used antifreeze, batteries, solvents, and auto parts/metal.

Auto-Chlor, a manufacturer of soaps and specialty cleaning products, also operates on this property. Hazardous chemicals used in operations include potassium hydroxide and hypochlorite solutions.

5.3.9.2 Historical Operations

Information regarding historical operations at this property was not available for review.

5.3.9.3 Regulatory History

A KCIW inspector visited this facility in May 2003 (KCIW 2003b) and found no stormwater violations. The inspector sent a letter indicating No Action Required for this facility on May 22, 2003 (KCIW 2003a).

SPU performed initial inspections at UPS in May 2003 and at Auto-Chlor in June 2003 (Schmoyer 2009b). The facilities were found to be in compliance (Table 9). The inspection reports were not reviewed.

A stormwater compliance inspection was conducted by Ecology in August 2005. Ecology indicated UPS should review ISGP condition S4.C and take actions concerning zinc, suspended solids, and turbidity exceedances (Ecology 2005g).

Ecology performed an unannounced stormwater compliance inspection of this facility in February 2008. The inspector recommended that UPS regularly check the vehicle storage area for leaks and spills and periodically check the catch basin for sediment accumulation (Ecology 2008c).

Ecology inspected Auto-Chlor in August 2008 (Table 10). Chemicals used in operations are offloaded from tankers near a storm drain on a weekly basis. Ecology determined that Auto-Chlor's operations may require coverage under the ISGP (Jeffers 2008d).

5.3.9.4 Environmental Investigations and Cleanups

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

5.3.9.5 Potential for Sediment Recontamination

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

Stormwater

Stormwater from the facility is discharged to EAA-1. UPS – WASEA currently has coverage under the ISGP and appears to implement proper stormwater pollution prevention BMPs. Ecology determined that Auto-Chlor Systems' operations may require coverage under the ISGP. Additional information is needed regarding Auto-Chlor Systems to determine if operations at the facility represent a potential source of contaminants to EAA-1 sediments via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

5.3.9.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	Additional information is needed regarding Auto-Chlor to determine if operations at the facility represent a potential source of contaminants to EAA-1 sediments via the stormwater pathway.	Ecology will review Auto-Chlor's NPDES permit application to determine if operations at the property are a potential source of sediment COCs.

5.3.10 United Parcel Service – Seattle HUB

Facility Summary: UPS – Seattle HUB	
Tax Parcel No.	7376600390
Address	4455 7th Avenue S
Property Owner	BT-OH LLC
Parcel Size	10.46 acres (455,750 sq ft)
Facility/Site ID	11182882
SIC Code(s)	4215: Courier Services, Except by Air
EPA ID No.	WAD053821997
NPDES Permit No.	SO3000444
KCIW Discharge Permit/Authorization No.	4020 – Authorization, major
UST/LUST ID No.	3687
Map/Map ID	B4/446

The UPS – Seattle HUB occupies a large parcel in the Diagonal West SD basin and Diagonal Avenue S CSO basin. The property is located at the northwest corner of the intersection between 7th Avenue S and S Snoqualmie Street. The UPS – WASAU facility (Section 5.3.9) is located immediately north of the property. Plymouth Poultry (Section 5.5.2), Praxair Distribution, Inc. (Section 5.5.3), and Seattle Barrel – 7th Avenue S facility (Section 4.3.14) are located east of the property across 7th Avenue S.

According to King County tax assessor records, there are two buildings on the property, both constructed in 1970. The UPS warehouse is 141,686 sq ft in area and the truck wash building is 3,108 sq ft in area.

5.3.10.1 Current Operations

The SWPPP for the 4455 7th Avenue property lists the following significant materials: oil, used oil, antifreeze, used antifreeze, batteries, solvents, gasoline, diesel, detergents, and auto parts (UPS 1997a).

UPS holds KCIW Discharge Authorization for truck wash water.

5.3.10.2 Historical Operations

Information regarding historical operations at this property was not available for review.

5.3.10.3 Regulatory History

SPU inspected this facility in May 2001 (SPU 2001c) and found no stormwater violations, but asked the facility representative to re-stencil the storm drains. The inspector sent a letter indicating No Action Required for this facility on June 6, 2001 (SPU 2001d).

A stormwater compliance inspection was conducted by Ecology in August 2005 (Ecology 2005h). Ecology indicated UPS should review ISGP condition S4.C and take actions concerning zinc, suspended solids, and turbidity exceedances.

SPU conducted an initial inspection at UPS in July 2006 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

5.3.10.4 Environmental Investigations and Cleanups

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

5.3.10.5 Potential for Sediment Recontamination

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

Stormwater

Stormwater from the facility is discharged to EAA-1. UPS – Seattle HUB currently has coverage under the ISGP and appears to implement proper stormwater pollution prevention BMPs. The potential for sediment recontamination via the stormwater pathway appears to be low.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property.

However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

5.3.10.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

5.4 Facilities Holding NPDES Permits within the Diagonal Avenue S CSO Basin

The facilities described in this section are located only within the Diagonal Avenue S CSO basin. Stormwater from these facilities is not conveyed to EAA-1 via the Diagonal Avenue S SD; rather, it is discharged to another separated sewer system or the combined sewer. During a CSO event, stormwater and wastewater from these facilities are discharged to EAA-1 via the Diagonal Avenue S CSO.

The facilities are presented alphabetically; the word "former" was ignored for the purpose of alphabetizing the facility names.

5.4.1 Saint Gobain Performance Plastics

Facility Summary: Saint Gobain Performance Plastics	
Tax Parcel No.	5649600170
Address	3711 S Hudson Street
Property Owner	Schlamp Family LLC
Parcel Size	3.77 acres (164,082 sq ft)
Facility/Site ID	39453638
SIC Code(s)	3086: Plastics Foam Products 3089: Plastics Products, Not Elsewhere Classified
EPA ID No.	WAD083348151
NPDES Permit No.	SO3001546
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	None
Map/Map ID	C5/9

St. Gobain operates on a large parcel located at the southeast corner of the intersection between 37th Avenue S and S Hudson Street. Surrounding properties are a mix of residential and commercial uses.

According to King County tax assessor records, there are five buildings on the parcel:

- Building 1: A 14,000 sq ft office building constructed in 1920,
- Building 2: A 24,137 sq ft manufacturing building constructed in 1957,
- Building 3: A 22,640 sq ft manufacturing building constructed in 1977,
- Building 4: A 37,266 sq ft manufacturing building constructed in 1981, and
- Building 5: A 22,132 sq ft shipping/receiving building constructed in 1974.

5.4.1.1 Current Operations

As of February 2002, St. Gobain manufactured plastic and foam components for commercial and military aircraft, computer equipment components, and thermoplastic sheets (SECOR 2002a). The Pollution Prevention Plan for this facility on file with Ecology lists the following hazardous substances: VOCs including but not limited to toluene, xylene, MEK, ethylbenzene, n-hexane, and chlorofluorocarbons; aluminum fume or dust; and phthalates (St. Gobain 2001).

5.4.1.2 Historical Operations

Three apparent residential structures were built on the property prior to 1908. A lumber company operated from about 1917 to at least 1950. From 1929 to about 1950 a portion of the property was used for trolley storage and repair and a transformer house by Seattle Trolley Company. An auto repair and garage operated on the property from at least 1929 to at least 1950. An electrical substation was located on this property sometime in the 1950s. The property was operated as a machine shop from the 1960s to some time before 1973. The current manufacturing configuration began in approximately 1973 (Secor 2002a).

5.4.1.3 Regulatory History

Ecology conducted a Dangerous Waste Compliance inspection at 3711 S Hudson Street in December 2000. No violations were documented, but St. Gobain was reminded of the provisions for maintaining satellite accumulation areas (Ecology 2000k).

In July 2002, Ecology denied St. Gobain's NFA request and requested groundwater sampling to assess TCE and petroleum contamination (Ecology 2002f). St. Gobain's contractor, SECOR, responded to Ecology's NFA denial, reiterating their conclusion that TCE was not in contact with groundwater on the property (SECOR 2002b). Ecology issued an NFA for the property on September 11, 2002 (Ecology 2002l).

Ecology conducted a compliance inspection on June 8, 2006, and cited St. Gobain for improper waste labeling and improper marking of accumulation dates on waste containers (Ecology 2006e). St. Gobain made the requested corrections and responded to Ecology's inspection on June 27, 2006 (St. Gobain 2006).

The VCP ID number for the facility, NW0880, is inactive.

5.4.1.4 Environmental Investigations and Cleanups

As described in the Remedial Action Report (SECOR 2002a), a Phase II ESA conducted by SECOR in October 2001 detected TCE in soils on the property at concentrations greater than the MTCA Method A cleanup level. No other analytes were detected at levels above MTCA Method A. The Phase II ESA was not included in files that were reviewed; therefore, it is not known which chemicals were analyzed during that investigation. Delineation of the extent of TCE contamination was performed in November that year. Approximately 226 tons of TCE-contaminated soils were excavated in the vicinity of building 5 (3711 S Hudson Street) in January 2002. Groundwater was not encountered during the excavation and no groundwater samples were taken (SECOR 2002a).

5.4.1.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

TCE contamination has been confirmed in soil at this property. TCE is not a sediment COC for EAA-1. An electrical substation was located on this property in the 1950s, which is a potential source of PCB contamination. From the information available for review, it is not known if soil and groundwater beneath this property has been analyzed for PCBs. Based on the geographic location of the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is approximately 3 miles east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

5.4.1.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

5.4.2 Former Westfarm Foods Seattle

Facility Summary: Former Westfarm Foods Seattle	
Tax Parcel No.	7950301240
Address	4058 Rainier Avenue S

Facility Summary: Former Westfarm Foods Seattle	
Property Owner	Darigold Inc.
Parcel Size	6.8 acres (296,097 sq ft)
Facility/Site ID	48839443
SIC Code(s)	2026: Fluid Milk 5143: Dairy Products, Excluding Dried or Canned
EPA ID No.	WAD103375150
NPDES Permit No.	SO3000500
KCIW Discharge Permit/Authorization No.	7116 - Permit
UST/LUST ID No.	9470
Map/Map ID	C4/124

The former Westfarm Foods Seattle property, currently Darigold, is located on a large parcel in the Diagonal Avenue S CSO basin. The property is bordered by Rainier Avenue S to the west, by S Andover Street to the north, by Courtland Place S to the east, and S Dakota Street to the south. Rainier Plaza (Section 4.4.14) is located north of the property across S Andover Street.

According to King County tax assessor records, six buildings are located on this parcel:

- A 106,535 sq ft milk processing building constructed in 1963,
- A 12,856 sq ft milk processing building constructed in 1969,
- A 45,856 sq ft warehouse constructed in 1987,
- A 3,640 sq ft equipment shed constructed in 1991,
- A 600 sq ft pump house constructed in 2001, and
- A 735 sq ft light commercial utility building constructed in 2009.

5.4.2.1 Current Operations

Darigold is the current operator at the property. The SWPPP for this facility indicates stormwater discharges to the Seattle municipal sewer system and two outfalls (#1 and #1) discharge to Lake Washington via the City of Seattle storm drain (Kennedy Jenks 2001). Wash water and stormwater from the vehicle service area are collected into an OWS and the water is pumped for disposal.

5.4.2.2 Historical Operations

Consolidated Dairy Products Company, the corporate predecessor to Darigold/Westfarm Foods, purchased the property between 1952 and 1966. No information on other past uses was found.

5.4.2.3 Regulatory History

The facility received an NOV from KCDNR on August 14, 2000, and an Assessment of Penalty and Compliance Order on October 17, 2000. These actions were the result of tampering with the continuous pH recording sampler at the milk production part of the property (KCDNR 2000b). A

revised Assessment of Penalty and Compliance Order was issued by KCDNR on December 12, 2000 (KCDNR 2000c).

Ecology notified Darigold in January 2003 that contamination remaining at the facility exceeded the revised MTCA cleanup levels after cleanup of the leaking USTs (Ecology 2003a).

KCDNR issued a Final Notice and Compliance Order to the Darigold facility for Discharge Violations on August 17, 2004, for multiple pH self-monitoring violations (KCDNR 2004a).

A March 12, 2007, Non-Compliance Warning from Ecology indicated Darigold was not in compliance with the ISGP. The letter referred to section D of the inspection report, which was not attached to the letter in the Ecology files (Ecology 2007c).

5.4.2.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at Darigold.

UST Removals (1990 and 1998)

Consultant and laboratory reports from 1990 indicate TPH contamination of soil at this facility resulting from a leaking UST. A gasoline UST was removed in the summer of 1990, and at that time, it was discovered that a 300-gallon oil tank was leaking. Excavation of known soil contamination was hindered by structures located at the facility (Enviros 1990b,c; PTL 1990; Darigold 1991a). A letter from Darigold requesting authorization to discontinue cleanup was sent to Joe Hickey at Ecology in 1991 (Darigold 1991b). No follow-up letter from Ecology was found in the files that were reviewed. However, a handwritten note by Joe Hickey of Ecology on the Darigold letter stated “not done – could not agree.”

In 1998, a contractor (Foss Environmental) notified Ecology that they had encountered soil contaminated with diesel while excavating at the facility (Ecology 1998e). Two USTs were removed from the facility at that time, with soil and water sampling and overexcavation performed (SD&C 1998a). During that cleanup and investigation, TPH-oil-contaminated soil, impacted by former landfilling activities, was discovered in subsurface soils. The UST removal report indicates that the extent of TPH-gas contamination was not fully defined.

Site Investigation – Soil and Groundwater (2003)

Tables and figures from the February 2003 Site Investigation by Integral Consulting (Integral) were included as an appendix to the 2004 Decommissioning Report by SES (SES 2004a). Integral’s investigation found lead exceeding MTCA Method A cleanup levels in both soil (as high as 825 mg/kg) and groundwater (as high as 242 µg/L). Other contaminants that exceeded cleanup levels were BTEX, TPH-gas, and TPH-diesel (soil only) (Integral 2003).

UST Decommissioning and Site Assessment (2004)

A 10,000-gallon UST and product lines were excavated from the property in January 2004. This tank had been installed in 1991 and showed no signs of leakage or damage. Soils surrounding the

piping system, however, were contaminated by petroleum products. Contamination appeared to be from previous releases and not due to the piping related to this UST (SES 2004a). A total of 77 tons of contaminated soil and 850 gallons of contaminated groundwater were removed during the decommissioning (SES 2004b). Groundwater sampling conducted in this portion of the property in May 2004 confirmed TPH and BTEX contamination at levels exceeding MTCA Method A cleanup levels. The contamination was determined to be confined to the property. Although lead was detected in groundwater sampling conducted in 2003 (Integral 2003), lead was not analyzed during the May 2004 (SES 2004b). Shallow groundwater in the northwest portion of the property flows to the west-southwest (SES 2004b).

5.4.2.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum and lead contamination has been confirmed in soil and groundwater at this property. Petroleum contaminants are not sediment COCs for EAA-1. Lead concentrations in soil and groundwater exceeded the soil-to-sediment and groundwater-to-sediment screening levels. However, based on the geographic location of the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is over 3 miles east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

5.4.2.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A follow-up facility inspection is needed to verify that current operations at this facility comply with its NPDES permit, stormwater pollutant source control requirements, and BMPs.	Ecology will conduct a follow-up inspection at Darigold.

5.5 Facilities with KCIW Discharge Authorizations or Permits within the Duwamish/Diagonal CSO/SD Basin

These facilities are in both the SD and CSO basins. Stormwater from these properties is discharged to EAA-1 via the Diagonal Avenue S SD. Wastewater from these facilities may discharge to EAA-1 via the Diagonal Avenue S CSO during a CSO event.

The facilities are presented in alphabetical order.

5.5.1 Gai's Seattle French Bakery

Facility Summary: Gai's Seattle French Bakery	
Tax Parcel No.	3319501070, 3319501940
Address	2006 S Weller Street
Property Owner	United States Bakeries
Parcel Size	1070: 2.57 acres (112,068 sq ft) 1940: 2.12 acres (92,347 sq ft)
Facility/Site ID	62662967
SIC Code(s)	2051: Bread, Cake, and Related Products
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	636 – Authorization, minor
UST/LUST ID No.	7985 (LUST-Inactive, UST-Active)
Map/Map ID	B2/351

The Gai's Seattle French Bakery property consists of two parcels located in the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The property is bordered by 20th Avenue S to the west, S Jackson Street to the north, 20th Place S to the east, and S Weller Street to the south. Commercial and residential properties are located to the west and south. A middle school is located to the east.

According to King County tax assessor records, there is one building on parcel 1940, an 83,694 sq ft light industrial manufacturing building constructed in 1919. A 76,936 sq ft warehouse, constructed in 1977, is located on parcel 1070.

5.5.1.1 Current Operations

Franz Family Bakeries currently operates at this location. Franz Family Bakeries prepare a variety of breads, bagels, muffins, pastries, and cookies. Gai's French Bakery is a bakery and brand name owned by Franz Bakery (Franz Bakery 2009).

5.5.1.2 Historical Operations

No information regarding historical operations at this property was available for review.

5.5.1.3 Regulatory History

A dual-purpose diesel and boiler supply UST was converted to a boiler only UST in 1998. Following the conversion, Ecology extended the deadline for the UST to meet compliance with UST regulation 173-360 WAC and directed Gai's to maintain release detection equipment on the UST while it held product and to submit records documenting the steps taken to bring the UST into compliance, remaining steps to be taken, tightness testing, and release detection monitoring (Ecology 1999b).

SPU performed a follow-up inspection at Gai's in November 2003 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

Franz Bakery is regulated as point source of air emissions.

5.5.1.4 Environmental Investigations and Cleanups

At least two environmental investigations have been conducted at the Gai's Bakery.

UST Removal (1997)

In April 1997 six USTs and one fuel dispenser were removed from the property. Soil samples were collected from the UST excavations and analyzed for TPH, BTEX, and total metals. Approximately 15.46 cubic yards of petroleum hydrocarbon impacted soil were removed from the property for offsite disposal. TPH concentrations exceeded the MTCA Method A cleanup level in three samples (PSE 1997).

Supplemental Site Assessment (1998)

An 8,000-gallon dual purpose diesel and boiler supply UST was converted to a boiler only supply UST in November 1998. Five soil borings were advanced downgradient of the UST and pump island area. A pump dispenser island associated with the diesel UST was removed from the property during the UST conversion. The pump island area was excavated to 25 feet bgs. Groundwater was not encountered in the excavation. Approximately 260 tons of petroleum hydrocarbon impacted soil was excavated from the pump island area disposed of off site. TPH-diesel was detected in soil above the MTCA Method A cleanup level (SD&C 1998b). Gai's planned to remove the converted UST from service following installation of an AST in 1999 (Ecology 1999b). No additional information regarding the converted UST or installation of the AST was available.

5.5.1.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination has been confirmed in soil at this property. Petroleum contaminants are not sediment COCs for EAA-1. Based on the geographic location of the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is approximately 3 miles northeast of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

5.5.1.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

5.5.2 Plymouth Poultry Company

Facility Summary: Plymouth Poultry Company	
Tax Parcel No.	3958900350, 3958900360, 7376600690, 7376600710
Address	Operating: 4500 7th Avenue S 0350: 4501 Airport Way S 0360: 4511 Airport Way S 0690: 4500 7th Avenue S 0710: 712 S Snoqualmie Street
Property Owner	Plymouth Poultry Company
Parcel Size	0350: 0.24 acre (10,422 sq ft) 0360: 0.32 acre (13,729 sq ft) 0690: 1.05 acres (45,738 sq ft) 0710: 0.09 acre (4,120 sq ft)
Facility/Site ID	43482351
SIC Code(s)	Unknown
EPA ID No.	None
NPDES Permit No.	None

Facility Summary: Plymouth Poultry Company	
KCIW Discharge Permit/Authorization No.	197 – Authorization, minor
UST/LUST ID No.	2187 (Inactive)
Map/Map ID	B4/78

Plymouth Poultry operates on four parcels in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The Plymouth Poultry facilities are bordered by 7th Avenue S to the west, S Oregon Street to the north, Airport Way S to the east, and S Snoqualmie Street to the south. Seattle Barrel – 7th Avenue S (Section 4.3.14) is located at the southwest corner of this city block. UPS – Seattle HUB (Section 5.3.10) is west of Plymouth Poultry, and Praxair (Section 5.5.3) is north of Plymouth Poultry.

King County tax assessor records indicated the following information regarding each parcel:

- Parcel 0350: A 7,252 sq ft freezer warehouse, constructed in 2008, is located on this parcel.
- Parcel 0360: A 12,107 sq ft freezer warehouse, constructed in 1985, is located on parcel 0360. New building permit no. 6165176 was issued on February 25, 2008.
- Parcel 0690: There is one building on this parcel, a 22,890 sq ft storage warehouse constructed in 1970.
- Parcel 0710: A 3,822 sq ft freezer warehouse, constructed in 2008, is located on this parcel.

5.5.2.1 Current Operations

A 6,000-gallon diesel UST is located on the property. The tanks passed tightness testing in 1997 and 1998 (SME Corp 1997, 1998). No additional information regarding this property was available for review.

5.5.2.2 Historical Operations

Information regarding historical operations at this property was not available for review.

5.5.2.3 Regulatory History

SPU performed a follow-up inspection at Plymouth Poultry in June 2003 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

5.5.2.4 Environmental Investigations and Cleanups

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

5.5.2.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

5.5.2.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

5.5.3 Praxair Distribution, Inc.

Facility Summary: Praxair Distribution, Inc.	
Tax Parcel No.	3958900320, 7376600360
Address	4413 Airport Way S
Property Owner	Airgas Norpac
Parcel Size	0.47 acre (20,539 sq ft)
Facility/Site ID	89393558 (Praxair Distribution, Inc.) 41777218 (Paul Fiorito)
SIC Code(s)	Unknown
EPA ID No.	CRK000005740 (Inactive)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	285 – Authorization, major
UST/LUST ID No.	6394 (Inactive)

Facility Summary: Praxair Distribution, Inc.	
Map/Map ID	B4/90

Praxair operates on two parcels located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The facility is located between 7th Avenue S and Airport Way S, north of S Oregon Street. UPS – WASAU (Section 5.3.9) and UPS – Seattle HUB (Section 5.3.10) are located west of Praxair. Plymouth Poultry is south of the Praxair facility (Section 5.5.2).

King County tax assessor records indicate the following information regarding each parcel:

- Parcel 0320: The property name is General Welding Supply Co. There are three buildings on the property:
  - A 4,185 sq ft welding equipment store constructed in 1962,
  - A 2,265 sq ft warehouse constructed in 1967, and
  - A 3,750 sq ft warehouse constructed in 1969.

A "New Accessory" permit (no. 734776) was issued for this property on April 29, 2003.

- Parcel 0360: There are three buildings located on this parcel:
  - 7,113 sq ft warehouse and office building constructed in 1951,
  - 4,850 sq ft storage warehouse constructed in 1965, and
  - 12,840 sq ft storage warehouse constructed in 1962.

5.5.3.1 Current Operations

Praxair has operated a retail outlet at this location since approximately 1998. Praxair distributes industrial, medical, and specialty gases, welding supplies, beverage carbonation, and homecare services (Praxair 1998).

5.5.3.2 Historical Operations

General Welding Supply Co. historically operated at this property. The company distributed industrial gases at this location, presumably until it was apparently purchased by Praxair in approximately 1998 (Praxair 1998). No additional information regarding historical operations at this property was available for review.

5.5.3.3 Regulatory History

A 1986 UST Notification Form indicates that Paul Fiorito is the owner of the UST at the property (Cooper 1986). No additional information regarding the regulatory history was available for review.

EPA sent a CERCLA Section 104(e) Request for Information letter to the property owner, Airgas-Nor Pac, Inc. as of May 2009.

5.5.3.4 Environmental Investigations and Cleanups

In January 1989, UST 6394 was removed from the property. The notice indicates that no contamination was found (Cooper 1989); however, since collecting soil samples for laboratory analysis from UST excavations did not become an enforceable requirement until 1991 (Wietfeld 2008), it is assumed that the assessment for contamination within the UST excavation was limited to visual and field screening (e.g., screening for VOCs using a PID) inspections of the soil.

5.5.3.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

5.5.3.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property; however, Ecology will review Airgas-Nor Pac's response to the EPA CERCLA Section 104(e) letter.

5.5.4 University of Washington – Consolidated Laundry

Facility Summary: University of Washington – Consolidated Laundry	
Tax Parcel No.	3085002100, 7138800025, 7138300015
Address	2100: 2901 27th Avenue S 0025: 2700 S Winthrop Street 0015: 2600 S Forest Street

Facility Summary: University of Washington – Consolidated Laundry	
Property Owner	0025 & 2100: Central Puget Sound Regional Transit Authority 0015: University of Washington
Parcel Size	3.45 acre (150,450 sq ft)
Facility/Site ID	19911937
SIC Code(s)	7218: Industrial Launderers 8221: Colleges and Universities
EPA ID No.	WAD982652984
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	746 – Authorization, minor
UST/LUST ID No.	97493 (Inactive)
Map/Map ID	C4/251

The Consolidated Laundry (Consolidated Laundry) property comprised three parcels, 0015, 0025, and 2100, which are located in the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The properties are located north of S Winthrop Street and west of the intersection between Rainier Avenue S and Martin Luther King Jr. Way S The Central Link light rail line is immediately east of the property. The former 3A Industries property (Section 4.3.1) is located south of the property.

According to King County tax assessor records, parcels 0025 and 2100 were owned by the University of Washington until February 24, 2005, and were deeded to CPSRTA. Prior to the sale of the property, two buildings were constructed on parcel 2100:

- A 63,136 sq ft building constructed in 1959, and
- A 15,397 sq ft building constructed in 1963.

According to the King County tax assessor records, parcels 0015 and 0025 are currently used as commercial parking lots. A UW building and a Grocery Outlet store are located on parcel 2100. No additional information regarding this property was available for review.

5.5.4.1 Regulatory History

SPU performed a follow-up inspection at Consolidated Laundry in June 2004 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

5.5.4.2 Environmental Investigations and Cleanups

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

5.5.4.3 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

5.5.4.4 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

5.5.5 University of Washington – Pacific Medical Center & Dynacare Beacon Hill Lab

Facility Summary: University of Washington – Pacific Medical Center	
Tax Parcel No.	2829600110
Address	Operating: 1200 12th Avenue S Qtrs 2 (UW Pacific Medical Center) & 1131 14th Avenue S (Dynacare Beacon Hill Lab) Parcel: 1131 14th Avenue S
Property Owner	Pacific Hospital and Development
Parcel Size	9.53 acres (415,245 sq ft)
Facility/Site ID	5567463 (UW Pacific Medical Center) 56619249 (Dynacare Beacon Hill Lab)
SIC Code(s)	8221: Colleges and Universities (UW Pacific Medical Center) 8093: Specialty Outpatient Clinics, NEC (Dynacare Beacon Hill Lab)

Facility Summary: University of Washington – Pacific Medical Center	
EPA ID No.	WAD988495099 (inactive) (UW Pacific Medical Center) WAD980835433 (Dynacare Beacon Hill Lab)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	704 – Authorization, minor (Dynacare Beacon Hill Lab) 710 – Authorization, minor (UW Pacific Medical Center)
UST/LUST ID No.	None
Map/Map ID	B2/431 (Dynacare Beacon Hill Lab) B3/326 (UW Pacific Medical Center)

The UW Pacific Medical Center and Dynacare Beacon Hill Lab property is located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The property is bordered by 12th Avenue S to the west, S Charles Street on the northwest, Golf Drive S to the northeast, 14th Avenue S to the east, and S Judkins Street to the south. I-90 is north of the property. The property is surrounded by city parks and residential properties.

According to the King County tax assessor records, three structures are located on this property:

- A 259,271 sq ft office building constructed in 1932,
- A 53,639 sq ft parking structure constructed in 1985, and
- An 86,013 sq ft parking structure constructed in 2001.

5.5.5.1 Current Operations

Pacific Medical Center operates its clinic and administrative offices on levels one and two of the 16-story building. Parts of the building on the property are managed by Wright Runstad & Company through a 99-year lease agreement with Pacific Medical Center. Amazon.com is subleasing approximately 189,700 sq ft of the building for its headquarters (Wright Runstad 2008).

5.5.5.2 Historical Operations

The building was originally constructed as the U.S. Marine Hospital. No additional information regarding historical operations at the property was available for review.

5.5.5.3 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

5.5.5.4 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

5.6 Facilities with KCIW Discharge Authorizations or Permits within the Diagonal Avenue S CSO Basin

The facilities described in this section are located only within the Diagonal Avenue S CSO basin. Stormwater from these facilities is not conveyed to EAA-1 via the Diagonal Avenue S SD; rather, it is discharged to the combined sewer or other separated sewer system. During a CSO event, stormwater and wastewater from these facilities are discharged to EAA-1 via the Diagonal Avenue S CSO.

The facilities are presented alphabetically.

5.6.1 Dynacare Northwest Inc. – Rapid Response Lab

Facility Summary: Dynacare Northwest Inc. – Rapid Response Lab	
Tax Parcel No.	1978200665, 1978201055, 1978201060, 1978201096, 8590900950, 8590900951, 8590900955, 8590900970
Address	Operating: 747 Broadway, C Floor 1055: 801 Broadway 1060: 819 Boylston Avenue 0665, 0950, 0951, 0955, 0970, & 1096: 747 Broadway
Property Owner	Swedish Hospital Medical Center

Facility Summary: Dynacare Northwest Inc. – Rapid Response Lab	
Parcel Size	0665: 1.81 acres (78,897 sq ft) 0950: 0.32 acre (13,781 sq ft) 0951: 0.33 acre (14,157 sq ft) 0955: 0.21 acre (8,980 sq ft) 0970: 0.83 acre (36,125 sq ft) 1055: 1.16 acres (50,482 sq ft) 1060: 0.35 acre (15,360 sq ft) 1096: 0.66 acre (28,573 sq ft)
Facility/Site ID	89819213
SIC Code(s)	8071: Medical Laboratories
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	704 – Authorization, minor
UST/LUST ID No.	None
Map/Map ID	B2/419

Dynacare Northwest Inc. (Dynacare) – Rapid Response Lab (Rapid Response Lab) is located at Swedish Hospital Medical Center (Swedish Hospital). Swedish Hospital occupies eight parcels between Minor Avenue, Marion Street, Broadway, and Cherry Street, six of which have the address of 747 Broadway and two of which are contiguous to the parcels with that address. Several medical buildings and parking garages are located on the parcels. The location of the Rapid Response Lab, within Swedish Hospital, could not be determined from the information available for review.

5.6.1.1 Current Operations

Rapid Response Lab provides histology services for patients at Swedish Hospital. Waste streams from the laboratory are alcohol, xylenes, and other solvents. The wastes are disposed of through Clean Harbors. Wastes are accumulated in a fire proof room that has no floor drains (Ecology 2007n).

5.6.1.2 Historical Operations

Information regarding historical operations at this property was not available for review.

5.6.1.3 Regulatory History

Ecology performed an HWTR compliance inspection of the facility in October 2007. Four corrective actions were requested related to proper labeling, record keeping, emergency communications, and training (Ecology 2007n). Dynacare satisfactorily addressed the corrective actions and Ecology issued an “In Compliance” letter in November 2007 (Davidson 2007).

5.6.1.4 Environmental Investigations and Cleanups

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

5.6.1.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

5.6.1.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

5.6.2 Swedish Medical Center – Providence Campus

Facility Summary: Swedish Medical Center – Providence Campus	
Tax Parcel No.	7942600330, 7942600331, 7942600332, 7942600556, 7942600630, 7942600570
Address	500 17th Avenue S
Property Owner	Swedish Health Services, 0330: James Tower LLC 0570: Jefferson Tower LLC
Parcel Size	0330: 1.66 acres (72,174 sq ft) 0331: 3.84 acres (167,318 sq ft) 0332: 0.59 acre (25,602 sq ft) 0556: 0.52 acre (22,812 sq ft) 0570: 0.63 acre (27,424 sq ft) 0630: 0.72 acre (31,471 sq ft))
Facility/Site ID	18768495
SIC Code(s)	8062: General Medical and Surgical Hospital 9999: Nonclassifiable Establishments

Facility Summary: Swedish Medical Center – Providence Campus	
EPA ID No.	WAD057306524 (Active) WAD980978928 (Inactive)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	707 – Authorization, minor
UST/LUST ID No.	3724 (Inactive)
Map/Map ID	B2/402

The Swedish Medical Center Cherry Hill Campus (Swedish) consists of several medical buildings and an underground parking garage (Parcels 0330, 0331, 0332, 0556, 0570, and 0630). The property is located on E Jefferson Street between 16th Avenue and 18th Avenue.

Swedish acquired this campus from Providence Health and Services in July 2000. No information was found on current and historical uses of this property.

5.6.2.1 Regulatory History

Ecology sent a letter to Swedish in 1998 indicating the property had three USTs that were not in compliance with new regulations. The USTs had no spill, overfill, or corrosion protection (Ecology 1998d).

Ecology issued an NFA determination letter in May 2006 for the portion of the property where an 800-gallon UST was removed in 2005 (described below under the UST Removal for the Center Building Addition) (Ecology 2006d).

Ecology conducted a UST Site Inspection for an 8,000-gallon diesel UST (Tank #1) on the property on October 30, 2008 (Ecology 2008o). Ecology then issued a notice of non-compliance for failure to conduct monitor certifications on automatic tank gauges and attached sensors; a malfunctioning overfill alarm; and failure to monitor suction lines and conduct tightness tests (Ecology 2008p).

Two USTs on the property (East and West) were retrofitted with overfill alarms in November 2008 (Global Diving and Salvage 2008). Three diesel USTs on the property (East, South, and North) were tightness tested at this time and passed (Northwest Pump 2008).

5.6.2.2 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at Swedish.

An Ecology UST Notice of Release dated September 8, 1989, indicates a consultant found a UST and TPH-contaminated soil during construction on a parcel at 18th and Cherry (Ecology 1989c). TPH concentrations were as high as 1,300 mg/kg. Contaminated soil was removed around the tank except up against the existing building that was adjacent to the excavation.

UST Abandonment – Maintenance/Heating Plant (1999)

A 4,000-gallon diesel fuel UST at the southeast corner of the property at E Jefferson Street and 18th Avenue (UST #3) was abandoned in place in 1999 (Radix Ortega 1999). Testing of soil below the tank showed no indication of petroleum contamination.

UST Removal – West Side of Annex Building (2003)

Two 20,000-gallon USTs containing PS-300 fuel oil. USTs #1 and 2 were removed from the 1710 East Jefferson parcel in March 2003 (Joe Hall Construction 2003). Soil sampling of the excavation indicated no petroleum contamination had occurred from these tanks (Deckert Environmental 2003; URS 2003).

UST Removal – Center Building Addition (2005)

A consultant reported to Ecology that they encountered petroleum impacted soil during excavation of a heating oil tank at a former residence in November 2005 (Ecology 2005i). The unregistered 800-gallon tank was found between two Providence Medical buildings on Jefferson Street. TPH-diesel was detected up to 5,300 ppm at 6 feet bgs. No PCBs or chlorinated solvents were detected. No groundwater was encountered during overexcavation. A geoprobe investigation was conducted in December 2005 to assess the extent of contamination. A second phase of overexcavation removed contaminated soils to depths of 2 to 8 feet bgs (Shannon & Wilson 2006).

5.6.2.3 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination has been confirmed in soil at this property. Petroleum contaminants are not sediment COCs for EAA-1. Based on the geographic location of the property, groundwater likely flows generally toward Elliott Bay or Lake Washington. Additionally, the property is approximately 4 miles northeast of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

5.6.2.4 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

5.6.3 University of Washington – Harborview Medical Center

Facility Summary: University of Washington – Harborview Medical Center	
Tax Parcel No.	8590900220
Address	Operating: 300 9th Avenue 325 9th Avenue
Property Owner	King County
Parcel Size	3.23 acre (140,636 sq ft)
Facility/Site ID	15199671
SIC Code(s)	8071: Medical Laboratories 8221: Colleges and Universities
EPA ID No.	WAD096767967
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	712 – Authorization, minor
UST/LUST ID No.	12038
Map/Map ID	B2/394

According to King County tax assessor records, UW Harborview Medical Center (Harborview) is located on six parcels all operating under the same tax ID No. and bisected by streets and nonrelated parcels. These parcels are located on 9th Avenue, Terry Avenue, and Boren Avenue between James Street and Alder Street.

There are six buildings located on this property:

- A 7,930 sq ft office building constructed in 1903,
- A 95,915 sq ft office building constructed in 1930,
- A 42,170 sq t office building constructed in 1973,
- A 9,000 sq ft office building constructed in 1989,
- A 113,770 sq ft office building constructed in 1993, and
- A 178,000 sq ft office building constructed in 2000.

Two permits for new building construction were each issued on July 1, 1996, one of which was not issued a permit number and the other of which was assigned Permit No. 686684.

No information was found on current or historical uses of this property.

5.6.3.1 Regulatory History

SPU performed a follow-up inspection at Harborview in August 2004 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

5.6.3.2 Environmental Investigations and Cleanups

A 500-gallon heating oil UST and two 5,000-gallon diesel USTs were removed from the property in May and December 1992 (Speer 1992).

Supplemental Geotechnical and Environmental Investigation (1991)

A geotechnical and environmental investigation was performed at Harborview in support of a planned warehouse renovation and discovery of a fuel storage tank beneath a boiler room. The UST had an estimated capacity of 1,500 gallons and contained Bunker C oil. Four hand auger borings were advanced around the fuel UST. TPH was present in soil at concentrations above the MTCA cleanup guidelines (Dames & Moore 1991).

5.6.3.3 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination has been confirmed in soil at this property. Petroleum contaminants are not sediment COCs for EAA-1. Based on the geographic location of the property, groundwater likely flows generally toward Elliott Bay or Lake Union. Additionally, the property is approximately 3 miles northeast of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

5.6.3.4 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

6.0 Leaking Underground Storage Tank Facilities within the Duwamish/Diagonal CSO/SD Basin

The Ecology ISIS database was reviewed to identify LUST facilities within the Duwamish/Diagonal CSO/SD basin (Table 5 and Figure 17). Environmental investigations are ongoing or incomplete at the following LUST facilities within the Duwamish/Diagonal CSO/SD basin:

- Acme Poultry Company, Inc.,
- Business Pro Computers,
- Camcal Company, Inc. (Camcal),
- Cecil Leung Property,
- Deeny Construction Company, Inc. (Deeny Construction),
- Former Pacific Fruit & Produce/Former United Motor Freight, Inc. (Charlie's Produce),
- Purolator Courier Corporation – UST 5561,
- SPU – Beacon Hill Reservoir/Seattle Fire Station 13,
- UHaul Company,
- Veterans' Administration Puget Sound Health Care Systems (VA PSHCS),
- WSDOT – Spokane Street Maintenance Facility, and
- Western Peterbilt, Inc. (Western Peterbilt).

The available information regarding these facilities is presented in Section 6.2. Aerial photographs of these properties are included as Appendix B-4.

The Ecology ISIS database was reviewed to identify LUST facilities within the Duwamish/Diagonal CSO/SD basin. Environmental investigations are ongoing or incomplete at three LUST facilities within the Duwamish/Diagonal CSO/SD basin:

- ARCO 5445,
- Former B&B Auto Repair, and
- Damascus Baptist Church.

The available information regarding these facilities is presented in Section 6.3. Aerial photographs of these properties are included as Appendix B-4.

Files were not requested for the following LUST facilities because the affected media (soil) were reported as cleaned up in Ecology's ISIS database:

Facility Name	Facility/Site ID
23rd & Jackson Site	11326626
ANR Freight System, Inc.	53432562
Armored Transport of Seattle	72111871
Burke Company	37765318
Canella Inc.	3391557
Cascade Commercial Company	49549573
Cascade Machinery & Electric, Inc.	23858669
Chin Brothers, Inc.	74542995
Clear Channel Outdoor	51866937
Davis Door Service, Inc.	72836574
DL Duckey Auto Freight, Inc.	28847235
Dorsey Property	43322539
Golden Grain – Seattle Distribution Center	42124892
Gull 219	2563622
Lee Poletti	55217965
Leo Fix Transfer & Storage Company, Inc.	23236296
Model Instrument Development	41181665
Pro Express, Inc.	66571995
SCL – East Pine Substation	81959725
Seattle Fire Station 6	86292113
Seattle School District DFC	67319118
Seattle University (aka Blue Whale)	86528832
Seattle University – UST 433797	64462698
Signals Branch 7HDQ Site	60549963
Sound Transit Parcel RV032/ Former Time Oil 234	83927695
Taniguchi Property	35763494
Valley Market	86693541
Walt's Radiator and Muffler – 4th Avenue South Facility	53345758
Walt's Radiator & Muffler – East Madison Street	33364863
Welch Investment Company	48848674

6.1 Summary of Data Gaps and Action Items for LUST Facilities

Data gaps and action items were identified for the LUST facilities within the Duwamish/Diagonal CSO/SD basin. These data gaps and action items are presented in this section.

6.1.1 Summary of Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at each of the LUST facilities is listed below. Some of this information can be obtained during a business inspection.

- Information regarding any historical and/or ongoing industrial activities is needed to verify that these facilities are in compliance with all applicable regulations and BMPs.
- Information on how and where any hazardous materials, chemicals, or hazardous wastes are stored or used at these facilities is needed to evaluate the potential for spills to commingle with wastewater and stormwater.
- Facility plans showing the locations of floor drains, catch basins, sewer connections and storm drains (if any) are needed to evaluate the potential for contaminants suspended in wastewater and stormwater (if any) to be transported to the LDW via combined sewer discharges
- Information regarding any containment systems at these properties is needed to evaluate the adequacy of the systems and determine the potential for spills to commingle with wastewater and stormwater.

Information on the materials used to construct storm drain and sanitary sewer lines in this area and the age of the storm drain and sanitary sewer lines would be useful to assess the potential for contaminated groundwater to infiltrate the combined sewer system.

6.1.2 Summary of Action Items

Action items identified for the LUST facilities are listed below by category.

6.1.2.1 Business Inspections

Facility inspections have either not been performed by Ecology or SPU at the following properties or new businesses or new activities have been introduced at the facilities since the last inspection. An initial facility inspection is needed at:

- BCT (on the former Business Pro Computers property), and
- Charlie's Produce (on the former Pacific Fruit & Produce and former United Motor Freight, Inc. property).

Corrective actions were identified at Western Peterbilt during recent inspections. A follow-up inspection is needed at Western Peterbilt.

No LUST facilities that require follow-up inspections were identified. The remaining LUST facilities may be inspected by Ecology and/or SPU as appropriate under various inspection programs such as the Urban Waters Initiative or HWTR inspections.

6.2 LUST Facilities within the Diagonal Avenue S SD Basin

Stormwater from these properties drains to EAA-1 via the Diagonal Avenue S SD (Figure 5). These properties are not located within the Diagonal Avenue S CSO basin.

The LUST facilities are presented in alphabetical order. The word "former" was ignored for the purposes of alphabetizing the facility names.

6.2.1 Former Business Pro Computers

Facility Summary: Former Business Pro Computers	
Tax Parcel No.	7666205630
Address	3433 4th Avenue S
Property Owner	William & Barbara Knapp
Parcel Size	0.36 acre (15,774 sq ft)
Facility/Site ID	2512
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	200824 (LUST-Inactive, UST-Active)
Map/Map ID	A4/236

The former Business Pro Computers property is located within the Diagonal West SD basin. The property is located on 4th Avenue S and north of S Spokane Street. Surrounding property use is industrial. According to King County tax assessor records, two structures are located on the property:

- A 5,850 sq ft office/retail/warehouse constructed in 1949, and
- A 2,640 sq ft storage warehouse constructed in 1956.

6.2.1.1 Current Operations

BCT, a wholesale thermographed and flat offset commercial stationery products company, currently operates at this property (BCT 2009).

6.2.1.2 Historical Operations

Business Pro Computers historically operated at the property. No additional information regarding historical operations at this property was not available for review.

6.2.1.3 Regulatory History

In April 1992, Ecology denied an NFA request and requested the property owner to continue cleanup of free product and contaminated groundwater (Ecology 1992b).

Ecology issued an NFA in October 1994 with the condition of conducting a minimum of 5 years groundwater monitoring and recording a restrictive covenant (Ecology 1994e). The most recent correspondence available, from 2000, indicates that Ecology did not agree to allow removal of the restrictive covenant requiring monitoring (Ecology 2000d,e; Hall Pinckney 2000a,b).

6.2.1.4 Environmental Investigations and Cleanups

Two environmental investigations have been conducted at the former Business Pro Computers property.

Underground Storage Tank and Free Product Removal (1989 to 1991)

A 500-gallon heating oil UST was removed from the property in March 1989 (Northwest EnviroServices 1989a). Over 37 tons of petroleum-contaminated soil was excavated after the tank was removed in an initial excavation, but testing showed contaminated soil remained at the bottom of the excavation (Northwest EnviroService 1989b). Contaminated groundwater and free product were encountered during the excavation and monitoring wells were later installed (Hart Crowser 1989a; Northwest EnviroServices 1989b). Groundwater flow was to the west (Hart Crowser 1989b). Free product was pumped from monitoring wells in 1990 and 1991. Additional contaminated soil was excavated in October 1991 and a sump was installed prior to backfilling (Olympus Environmental 1992).

Independent Remedial Action (1994)

A 1994 Independent Remedial Action report indicated that all free product had been removed. Contaminated soils remained below the building; however, further excavation to remove the soils around and under the building would undermine the foundation and any further remedial action involving stabilization of the building would greatly exceed the value of the structure. The contractor indicated that any residue in the soils on the property would not reach the LDW as the small amount remaining would “be held by the soils and or oxidized long before it would move that far” (TME Environmental Services 1994).

6.2.1.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway. The SIC code for BCT is unknown, but is likely to fall under 27xx Printing, Publishing, and Allied Industries.

Business operations in this category must have ISGP coverage for stormwater discharge if the discharge is to surface waters.

Soil and Groundwater

Petroleum contamination has been confirmed in soil and groundwater at this property. Petroleum contaminants are not sediment COCs for EAA-1. Groundwater flow direction is to the west, toward the LDW. However, the property is over 2,000 feet east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

6.2.1.6 Data Gaps and Action Items

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the former Business Pro Computers property is listed below.

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at this facility comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at the facility.

6.2.2 Purolator Courier Corporation – UST 5561

Facility Summary: Purolator Courier Corporation – UST 5561	
Tax Parcel No.	5391600130
Address	923 S Jackson Street
Property Owner	Richland Corporation
Parcel Size	0.27 acre (11,760 sq ft)
Facility/Site ID	19448436
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	5561
Map/Map ID	B2/375

The Purolator Courier Corporation property is in the Diagonal West SD basin. The property is located at the southwest corner of the intersection between 10th Avenue S and S Jackson Street. I-5 is west of the property. According to the King County tax assessor records, a 1,008 sq ft restaurant constructed in 1954 is located on the parcel. Apparently the building has been condemned for widening S Jackson Street.

No information regarding this facility was available for review.

6.2.2.1 Potential for Sediment Recontamination

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

Stormwater

Current operations at this property do not represent a potential source of contaminants to EAA-1 sediments via the stormwater pathway.

CSO Events

Current operations at this property do not represent a potential source of contaminants to EAA-1 sediments via the CSO event pathway.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

6.2.2.2 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

6.2.3 WA Department of Transportation – Spokane Street Maintenance Facility

Facility Summary: WA Department of Transportation – Spokane Street Maintenance Facility	
Tax Parcel No.	7666204145
Address	450 S Spokane Street
Property Owner	State of Washington Department of Transportation
Parcel Size	2.60 acres (113,275 sq ft)
Facility/Site ID	36148382
SIC Code(s)	9199: General Government, NEC 9621: Regulation, Admin. Transportation
EPA ID No.	WAD980982490
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	12259
Map/Map ID	A4/218

The WSDOT – Spokane Street Maintenance Facility is located in the Diagonal West SD basin. The property is on S Spokane Street between 5th Avenue S and 6th Avenue S Alaskan Copper Works (Section 4.2.1) is immediately north of the property.

According to the King County tax assessor records there are five structures on the property:

- A 3,859 sq ft office building constructed in 1931,
- A 10,890 sq ft service garage constructed in 1931,
- A 1,220 sq ft equipment shop constructed in 1931,
- A 1,974 sq ft equipment shop constructed in 1931, and
- A 2,870 sq ft service garage constructed in 1959.

No information regarding current or historical operations and regulatory interactions was available for review.

6.2.3.1 Environmental Investigations and Cleanups

Three 5,000-gallon gasoline USTs were removed from this property in October 1993 (NW Construction 1993). A UST Notice of Confirmed Release indicated contamination was discovered under the dispenser. Approximately 40 to 50 square yards were removed with about the same amount to be removed the following week (Ecology 1993a). Samples were taken but results were not available for this review.

6.2.3.2 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

Soil and Groundwater

Petroleum contamination has been confirmed in soil at this property. Petroleum contaminants are not sediment COCs for EAA-1. Groundwater likely flows toward the LDW. However, the property is approximately 1 mile east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

6.2.3.3 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

6.3 LUST Facilities within the Duwamish/Diagonal CSO/SD Basin

These facilities are in both the storm drain and CSO basins. Stormwater from these properties is discharged to EAA-1 via the Diagonal Avenue S SD. Wastewater from these facilities may discharge to EAA-1 via the Diagonal Avenue S CSO during a CSO event.

The LUST facilities are presented in alphabetical order. The word "former" was ignored for the purposes of alphabetizing the facility names.

6.3.1 Acme Poultry Company, Inc.

Facility Summary: Acme Poultry Company, Inc.	
Tax Parcel No.	1498302080
Address	2001 21st Avenue S
Property Owner	Tong Family Partnership
Parcel Size	0.81 acre (36,000 sq ft)
Facility/Site ID	6197742
SIC Code(s)	5147: Meat and Meat Products (Oriental Meats)
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	8150 (Inactive)
Map/Map ID	B3/289

The Acme Poultry Company, Inc. (Acme Poultry) property is located in the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The property is located on 21st Avenue S between S Plum Street and S Hill Street. The surrounding property use is commercial and residential. According to King County tax assessor records, a 25,480 sq ft warehouse, constructed in 1953, is located on the property.

6.3.1.1 Current Operations

Oriental Meats currently operates at this property. No additional information regarding current operations at the property was available for review.

6.3.1.2 Historical Operations

Acme Poultry no longer operates at this property. The company currently operates at 5940 1st Avenue S (Acme Food Sales 2009), which is within the RM 1.7 to 2.0 East (Slip 2 to Slip 3) source control area.

6.3.1.3 Regulatory History

In March 2003, Ecology sent a letter to Acme indicating enforcement actions would be taken if the remaining contamination at the site was not addressed (Ecology 2003b).

SPU performed a screening inspection of Oriental Meats in November 2003 (Table 9) (Schmoyer 2009b). The screening inspection report was not reviewed.

6.3.1.4 Environmental Investigations and Cleanups

Two environmental investigations have been conducted at the former Acme Poultry property.

Underground Storage Tank Removal (1991)

Two petroleum USTs (one diesel and one gasoline) were removed from the property in January 1991. BTEX and TPH exceeded MTCA cleanup level guidelines. Not all contaminated soils could be excavated during the removal action due to structural and safety concerns. Sampling indicated that groundwater flow direction appeared to be to the east-northeast, and contaminated groundwater had migrated off the property and under 21st Avenue S (ESE 1991). Due to the incomplete cleanup, Ecology requested continued monitoring of groundwater (Ecology 1991f).

Groundwater Monitoring (1991 and 2003)

The monitoring wells installed in 1991 were resampled in September 2003 and analyzed for BTEX, TPH-gas, TPH-diesel, and TPH-oil. Groundwater in these wells was compliant with MTCA Method A cleanup levels. However, the contractor indicated that the wells were not installed downgradient from the UST excavation area and were not representative of potential contamination from the USTs (Environmental Associates 2003).

6.3.1.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property.

However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination has been confirmed in soil at this property. Petroleum contaminants are not sediment COCs for EAA-1. Based on the geographic location of the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is approximately 2 miles northeast of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

6.3.1.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

6.3.2 Camcal Company, Inc.

Facility Summary: Camcal Company, Inc.	
Tax Parcel No.	7886101245
Address	4000 Airport Way S
Property Owner	James J & Cindy M Henning
Parcel Size	0.14 acre (6,200 sq ft)
Facility/Site ID	67812977
SIC Code(s)	7622: Electronic Parts and Equipment, Not Elsewhere Classified (Action Communications, Inc.)
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	136 (LUST-Active, UST-Inactive)
Map/Map ID	B4/153

The Camcal property is located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The property is located at the southeast corner of the intersection between Airport Way S and S Andover Street. A BNSF right-of-way borders the property on the east.

According to King County tax assessor records, two structures are located on this property:

- A 1,700 sq ft office building constructed in 1926, and
- A 1,976 sq ft garage/repair shop constructed in 1975.

6.3.2.1 Current Operations

Businesses currently operating at this address include Action Communications and West Isle Air, Inc. Action Communications sells two-way radios and wireless communications equipment

(Action Communications 2009). Additional information regarding current operations at the property was not available for review.

Camcal currently operates at the Port of Tacoma (Camcal 2009).

6.3.2.2 Historical Operations

Camcal was founded in 1960 as a petroleum meter calibration service company. Camcal sold, installed, and services petroleum lubrication equipment at its facility and off site. The company also serviced aircraft fueling and home heating fuel trucks (WdOnline.biz 2009). Additional information regarding historical operations at the property was not available for review.

6.3.2.3 Regulatory History

In 1991 Ecology acknowledged that three tanks (identified as 1S, 2G, and 3D) had been removed from the property (Ecology 1991b). No additional information regarding the regulatory history of the property was available for review.

SPU performed a follow-up inspection at Action Communications in February 2004 (Schmoyer 2009b). The facility was found to be in compliance (Table 9). The inspection report was not reviewed.

6.3.2.4 Environmental Investigations and Cleanups

Two USTs (12,000- and 2,000-gallon) were removed from this property in 1989 or 1990 and contained diesel and/or jet fuel (Lee Morse 1989; Carlton 1990). Size of contents of these three tanks is unknown. It is not known if tanks 1S, 2G, and 3D correspond to either of the two tanks removed in 1989 or if these were three additional tanks removed from the property (Ecology 1991b). Additional information was not available for review.

6.3.2.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property.

However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination may be present in soil at this property. Petroleum contaminants are not sediment COCs for EAA-1. Groundwater likely flows toward the LDW. However, the property is over 1 mile east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

6.3.2.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

6.3.3 Cecil Leung Property

Facility Summary: Cecil Leung Property	
Tax Parcel No.	7138800080
Address	3005 Rainier Avenue S
Property Owner	C&H Family Ltd. Partnership II
Parcel Size	0.27 acre (11,680 sq ft)
Facility/Site ID	94918654
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	100272 (LUST-Active, UST-Inactive)
Map/Map ID	C4/249

The Cecil Leung Property is located in the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The property is located at the southwest corner of the intersection between Rainier Avenue S and S Stevens Street. The Allied Dome CQ property (Section 4.3.3) is northeast of the Cecil Leung property.

The King County tax assessor records report that the property ownership changed from Cecil and Hazel Leung to the C & H Family Limited Partnership on July 19, 1995. The property name for this site is Arco Station (demolished). Currently the site is listed on the King County tax assessor records as a vacant lot.

6.3.3.1 Current Operations

Based on aerial photographs from King County's iMap website, it appears that the property was used as a staging area during the construction of the Link light rail system. The Mount Baker station is located at this property (Sound Transit 2009).

6.3.3.2 Historical Operations

A gasoline station operated on the property beginning in 1919 and was demolished by Sound Transit in late 2004/early 2005 (CDM 2005).

6.3.3.3 Regulatory History

SPU performed an initial inspection of the former ARCO facility in November 2003 (Schmoyer 2009b). The facility was in compliance (Table 9). The inspection report was not reviewed.

In 2004, Ecology issued a Notice of Non-Compliance due to the lapse of the registration of the USTs on the property. Sound Transit had indicated to Ecology that they intended to remove the tanks, which were empty and idle at the time (Ecology 2004e).

6.3.3.4 Environmental Investigations and Cleanups

Three environmental investigations have been conducted at the Cecil Leung property.

Underground Storage Tank Removal (1997 and 1998)

A 2,000-gallon gasoline UST was removed from the property in June 1997. No other information is available on this removal except that soil samples were taken to be tested for petroleum products and lead. Post-excavation showed elevated levels of VOCs (Saltbush Environmental 1997). A second UST was removed from the property in July 1998. Sampling indicated the presence of lead above MTCA Method A cleanup level (840 mg/kg). BTEX and TPH-gas were either not detected or were detected below cleanup levels. Contamination was contributed to historic overfilling rather than a leaking tank or piping (Saltbush Environmental 1998).

Phase II Environmental Site Assessment (2003)

A Phase II ESA was conducted in 2003 that included soil and groundwater sampling. Soils contained the following contaminants above MTCA Method A cleanup levels: TPH-gas, BTEX, total lead (up to 820 mg/kg), and lube oil. Naphthalene was detected in soil at concentrations nearing the cleanup level (maximum 4.6 mg/kg) and in groundwater at concentrations up to 95 µg/L. TPH-gas, BTEX, methyl tertiary-butyl ether (MTBE), and arsenic were detected in groundwater at concentrations above the MTCA Method A cleanup levels. PCBs were not detected in any soil samples (GS Associates 2003).

Underground Storage Tank Removal (2005)

A total of six 10,000-gallon USTs were removed from the property in 2005. Over 8,000 tons of PCS were excavated and removed from the property. Sampling of the final excavation limits indicated TPH-gas and BTEX "were left in place throughout the [property]." Samples from the side walls of the excavation at the limits of the property contained TPH-gas and BTEX at concentrations exceeding MTCA Method A cleanup levels and indicated the contamination likely migrated off the property (CDM 2005).

6.3.3.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination has been confirmed in soil at this property. Petroleum contaminants are not sediment COCs for EAA-1. Lead concentrations in soil and naphthalene concentrations in soil and groundwater have exceeded the soil-to-sediment and groundwater-to-sediment screening levels. Based on the geographic location of the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is approximately 2.5 miles east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

6.3.3.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

6.3.4 Deeny Construction Company, Inc.

Facility Summary: Deeny Construction Company, Inc.	
Tax Parcel No.	0003600007
Address	Operating: 2545 Rainier Avenue S Parcel: 2543 Rainier Avenue S
Property Owner	Deeny Family "B" LLC
Parcel Size	2.03 acre (88,426 sq ft)
Facility/Site ID	17754768
SIC Code(s)	1611: Highway and Street Construction 1623: Water, Sewer, and Utility Lines 7538: General Automotive Repair Shops

Facility Summary: Deeny Construction Company, Inc.	
EPA ID No.	WAD988513560
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	2621
Map/Map ID	C3/267

The Deeny Construction property is located in the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The property is on the western side of Rainier Avenue S between S Bayview Street and S McClellan Street. The surrounding property use is primarily commercial, with some residential properties to the west. The UHaul property (Section 6.3.7) is north of Deeny Construction.

According to the King County tax assessor records, four structures are located on this parcel:

- A 2,674 sq ft fast food restaurant constructed in 1978,
- A 2,938 sq ft office building constructed in 1978,
- A 4,998 sq ft service garage constructed in 1978, and
- A 748 sq ft office building constructed in 1980.

6.3.4.1 Current Operations

Deeny Construction and a Wendy's restaurant currently operate on this property. Additional information regarding current operations at the property was not available for review.

6.3.4.2 Historical Operations

Information regarding historical operations at this property was not available for review.

6.3.4.3 Regulatory History

Ecology requested updates on the property cleanup in 1998 and 2002 (Ecology 1998c, 2002j). Deeny Construction responded in September 2002 that the tanks remaining on the property were too close to the building to be removed without risking the building's structural integrity. They also were advised (the letter does not clarify who was the advisor) that the cost of remediation would be prohibitive given the minimal remaining contamination (Deeny Construction 2002).

SPU conducted an initial inspection at the Wendy's restaurant on the property in June 2004 (Schmoyer 2009b). The facility was in compliance (Table 9). The inspection report was not reviewed.

SPU conducted a follow-up inspection at Deeny Construction in July 2004 (Schmoyer 2009b) and determined that the facility was in compliance (Table 9). The inspection report was not reviewed.

Ecology scheduled a UST compliance inspection in January 2009 (Ecology 2009a), but the inspection report was not available. According to ISIS, one operational tank, installed in 1992, remains on the property (Appendix A-2).

6.3.4.4 Environmental Investigations and Cleanups

Two environmental investigations have been conducted at the Deeny Construction property.

Underground Storage Tank Removal (1992)

Two USTs (2,000-gallon gasoline and 550-gallon waste oil) were removed from the property in 1992. A fuel pump island and associated product lines were removed at the same time. Two unused USTs (10,000-gallon diesel and 8,000-gallon gasoline) were pumped and cleaned in 1992 (GeoEngineers 1996). Although soil contamination was noted on the closure form submitted to Ecology for the two tanks that were removed (GeoEngineers 1992), no samples were apparently taken at the time of removal (GeoEngineers 1996).

Site Assessment (1996)

Soil sampling was conducted in 1996 as part of a Site Assessment for Tank Closure for the remaining tanks on the property. TPH-oil, xylenes, and TPH-gas were detected at concentrations greater than the MTCA Method A cleanup levels. Total lead was detected in one area of the property but at concentrations below the MTCA Method A cleanup level (maximum 3.0 mg/kg) (GeoEngineers 1996).

6.3.4.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination has been confirmed in soil at this property. Petroleum contaminants are not sediment COCs for EAA-1. Based on the geographic location of the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is approximately 2 miles east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

6.3.4.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

6.3.5 Former Pacific Fruit & Produce and Former United Motor Freight, Inc.

Facility Summary: Former Pacific Fruit & Produce and Former United Motor Freight, Inc.	
Tax Parcel No.	6172900230
Address	4103 2nd Avenue S
Property Owner	Bysirus Investment Account
Parcel Size	3.28 acres (142,790 sq ft)
Facility/Site ID	69779715 (Pacific Fruit & Produce) 89431534 (United Motor Freight, Inc.)
SIC Code(s)	5148: Fresh Fruits and Vegetables (Charlie's Produce)
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	453 (LUST-Active, UST-Inactive)
Map/Map ID	A4/137 (Pacific Fruit & Produce) A4/142 (United Motor Freight, Inc.)

The former Pacific Fruit & Produce and former United Motor Freight, Inc. property is located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The large property is located on 2nd Avenue S between S Dakota Street and Diagonal Avenue S. Crosscut Hardwoods (4.3.22) and a railroad right-of-way are west of the property, and Cascade Designs (Section 4.3.21) is north of the property. Another property owned by Cascade Designs is south of the former Pacific Fruit & Produce and former United Motor Freight, Inc. property. To the east of the property, across 2nd Avenue S, is a BNSF right-of-way and Costco.

According to the King County tax assessor records, two structures are located on the parcel: a 104,099 sq ft distribution warehouse constructed in 1953 and a 2,080 sq ft storage warehouse constructed in 1900. The property is relatively flat and groundwater gradients are generally south-southeast (DOWL Engineers 1993).

6.3.5.1 Current Operations

Charlie's Produce and its full line food service division, Rogge, currently operate at this property. Rogge services the fishing industry (Charlie's Produce 2009). Additional information regarding current operations at the property was not available for review.

6.3.5.2 Historical Operations

Pacific Fruit & Produce and United Motor Freight historically operated at this property. No additional information regarding historical operations at this property was available for review.

6.3.5.3 Regulatory History

SPU performed a follow-up inspection at Charlie's Produce in May 2006 (Schmoyer 2009b). The facility was in compliance (Table 9). The inspection report was not reviewed.

Ecology requested further information on the property in 2006 (Ecology 2006b). A letter to Ecology dated July 3, 2006, from the former tenant (Development Services of America 2006) stated that (1) accessing monitoring wells or conducting a cleanup at the property "is not logistically practical and would cause undue hardship on business activities of the current tenant, (2) some of the monitoring wells are paved over, and (3) a review of site assessment and cleanup activities indicates contaminant levels in groundwater are declining.

6.3.5.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the former Pacific Fruit & Produce property.

Underground Storage Tank Removal (1992)

Three 12,000-gallon gasoline and diesel USTs were removed from the property in 1992. The USTs were located in the former United Motor Freight facility, which was located in the southern portion of the Pacific Fruit & Produce building. Soil and groundwater contamination associated with the USTs were identified during the UST removal (GeoEngineers 1999b).

Site Characterization (1992)

A site characterization performed after the tanks were removed found soil and groundwater contamination from two of the USTs. Soil contained TPH-gas, TPH-diesel, and benzene above the MTCA Method A cleanup levels. Lead was detected at one location on the property but at concentrations below the MTCA Method A cleanup level. Groundwater contained benzene and TPH-gas above MTCA Method A cleanup levels. A total of 70 cubic yards of contaminated soil was removed from the property during the tank removals. Some contamination remained beside or beneath the existing building. Further excavation was not pursued to avoid compromising the integrity of the building (DOWL Engineers 1992).

Additional Site Characterizations (1992 to 1994)

Additional site characterizations for an RI/FS were conducted over the period of April 1992 to May 1993. Two separate plumes of soil and groundwater contamination were identified – one from the leaking USTs and one from the dispenser island. TPH-gas and total BTEX concentrations up to 110,000 µg/L and 42,600 µg/L, respectively, were measured in groundwater in the leaking UST plume (DOWL Engineers 1993).

An area near the former dispenser island was excavated in May 1994 to look for additional sources of contamination. Observations indicated the source of contamination was the failure of a drainage pipe originating at a floor sump in the former United Motor Freight maintenance garage. Approximately 35 cubic yards of petroleum-contaminated soil was excavated from this area and removed (DOWL Engineers 2000).

6.3.5.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway. Stormwater from this facility is discharged to the storm drain, which discharges to the LDW. Operations at Charlie's Produce are not well known and may fall under SIC code 20xx Food and Kindred Products; companies under this SIC code require an NPDES permit if stormwater discharges to surface waters. The potential for sediment recontamination at this property is unknown.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination has been confirmed in soil at this property. Petroleum contaminants are not sediment COCs for EAA-1. Previous investigations determined that groundwater flows toward the south and southeast. Additionally, the property is over 3,000 feet east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

6.3.5.6 Data Gaps and Action Items

Information needed to assess the potential for sediment recontamination associated with current or historical operations at the former Pacific Fruit & Produce and former United Motor Freight, Inc. property is listed below.

Pathway	Data Gap	Action Item
Stormwater	A facility inspection is needed to determine if current operations at Charlie's Produce comply with stormwater pollutant source control requirements and BMPs and if operations require an NPDES permit.	Ecology and/or SPU will conduct a source control inspection at Charlie's Produce.

6.3.6 Seattle Public Utilities – Beacon Hill Reservoir and Seattle Fire Station 13

Facility Summary: Seattle Public Utilities – Beacon Hill Reservoir and Seattle Fire Station 13	
Tax Parcel No.	1624049270
Address	3601 Beacon Avenue S
Property Owner	City of Seattle
Parcel Size	44.77 acre (1,950,181 sq ft)
Facility/Site ID	67679578
SIC Code(s)	9224: Fire Protection
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	7902 (Inactive)
Map/Map ID	B4/220

The SPU Beacon Hill Reservoir and Seattle Fire Station 13 property is located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The property is located on the southern side of S Spokane Street between 15th Avenue S and Beacon Avenue S. Residential properties are located to the west and north. The Jefferson Park Golf Club (Facility/Site ID 75368543) is located to the east and south.

A city reservoir, fire station, and recreation center are located on this property. According to King County tax assessor records, there are four buildings on the parcel:

- A 4,329 sq ft fire station constructed in 1927,
- A 9,736 sq ft recreation center constructed in 1968,
- A 4,000 sq ft storage building constructed in 1950, and
- A 9,411 sq ft gymnasium constructed in 2005.

6.3.6.1 Current Operations

Jefferson Park and Seattle Fire Station 13 currently operate at this property. No additional information regarding current operations at the property was available for review.

6.3.6.2 Historical Operations

No information regarding historical operations at the property was available for review.

6.3.6.3 Regulatory History

Ecology upgraded this facility's status to "Reported Cleaned Up" in August 2002. The change was made during a review of LUST files after the cleanup levels of some petroleum products were changed in amendments to MTCA, WAC Chapter 173-340 (Ecology 2002i).

SPU performed an initial inspection at Seattle Fire Station #13 in July 2003 (Schmoyer 2009b). The facility was in compliance (Table 9). The inspection report was not reviewed.

6.3.6.4 Environmental Investigations and Cleanups

A leaking UST was removed from the Seattle Fire Station #13 facility on December 9, 1999. Records indicate the UST had been installed in 1958. More than 33 tons of material were removed from the UST excavation. The excavation was backfilled with clean material. No groundwater was encountered during excavation. Sampling indicated that TPH remained in the soil at levels exceeding MTCA Method A cleanup levels (GS Associates 2000).

6.3.6.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination has been confirmed in soil at this property. Petroleum contaminants are not sediment COCs for EAA-1. Based on the geographic location of the property, groundwater likely flows toward Lake Washington. Additionally, the property is approximately 2 miles east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

6.3.6.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

6.3.7 UHaul Company

Facility Summary: UHaul Company	
Tax Parcel No.	000360022
Address	2515 Rainier Avenue S
Property Owner	Arec RW MS LLC c/o U-Haul Real Estate Co
Parcel Size	1.28 acre (55,672 sq ft)
Facility/Site ID	73614397
SIC Code(s)	7513:Truck Leasing without Drivers 7539: Automotive Repair Shop, NEC
EPA ID No.	WAD980983563
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	6058
Map/Map ID	C3/268

The UHaul property is located in the Diagonal East SD basin and the Diagonal Avenue S CSO basin. The property is at the southwest corner of the intersection between Rainier Avenue S and S Bayview Street. The Deeny Construction property (Section 6.3.4) is located south of the property. The Pepsi property (Section 5.3.6) is located to the northeast. According to the King County tax assessor records, the parcel was sold on March 30, 1990, to Amerco Real Estate Company. There is an 18,140 sq ft building constructed in 1981 located on the property.

6.3.7.1 Current Operations

A UHaul truck rental facility currently operates on the property. No additional information regarding current operations was available for review.

6.3.7.2 Historical Operations

Information regarding historical operations at this property was not available for review.

6.3.7.3 Regulatory History

SPU performed a follow-up inspection at UHaul in December 2004 (Schmoyer 2009b). The facility was in compliance (Table 9). The inspection report was not reviewed.

In July 2008 Ecology sent UHaul International/UHaul of Washington a request for additional cleanup reports for the property (Ecology 2008j). No additional reports were available for review.

6.3.7.4 Environmental Investigations and Cleanups

Several environmental investigations have been conducted at the UHaul property.

Underground Storage Tank Removal (1998)

Two 10,000-gallon tanks (one diesel and one gasoline), an OWS, and a fuel pump were removed from the property in 1998. Soil staining was observed around the diesel tank, but samples taken below both USTs did not detect petroleum hydrocarbons or BTEX (Pinnacle Environmental Technologies 1999).

Groundwater Monitoring Well Installations and Groundwater Monitoring (2000 to 2005)

A single groundwater monitoring well was installed at the center of the diesel UST excavation in April 2000 (Blaes Environmental 2000). TPH-gas, TPH-diesel, and VOCs were not detected in soil samples. Total lead and vinyl chloride were present in groundwater samples above the MTCA cleanup levels in effect at the time. Contaminants detected in groundwater at concentrations below cleanup levels included: TPH-gas, benzene, ethylbenzene, cis-1,2-DCE, isopropylbenzene, n-propylbenzene.

Three additional groundwater monitoring wells were installed in October 2004 (Blaes Environmental 2004). Predominant groundwater flow was toward the south. TCE and vinyl chloride were the only contaminants detected in the groundwater samples at concentrations above MTCA Method A cleanup levels. Although total lead was detected at concentrations above MTCA Method A cleanup levels during the April 2000 sampling event, it was not analyzed in the subsequent 2004 and 2005 quarterly monitoring events (Blaes Environmental 2004, 2005a,b,c). TCE and vinyl chloride remained elevated above MTCA Method A cleanup levels during the second, third, and fourth quarterly monitoring conducted in February, June, and September 2005 (Blaes Environmental 2005a,b,c). Benzene exceeded the MTCA Method A cleanup level in only the third quarterly monitoring event (Blaes Environmental 2005b).

6.3.7.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum and VOC contamination has been confirmed in soil and groundwater at this property. Petroleum contaminants and VOCs are not sediment COCs for EAA-1. Groundwater flow direction is to the south, based on previous environmental investigations. Additionally, the property is approximately 2 miles east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

6.3.7.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

6.3.8 VA Puget Sound Health Care Systems

Facility Summary: VA Puget Sound Health Care Systems	
Tax Parcel No.	1624049193
Address	1660 S Columbian Way
Property Owner	United States Veterans Administration Medical Center
Parcel Size	51.21 acres (2,230,707 sq ft)
Facility/Site ID	9726741
SIC Code(s)	8062: General Medical and Surgical Hospitals 8063: Psychiatric Hospitals 8071: Medical Laboratories 9999: Nonclassifiable Establishment
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	4268
Map/Map ID	B4/82

The VA PSHCS property is located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The large property is located on the north side of S Snoqualmie Street (which becomes S Alaska Street) between S Columbian Way and Beacon Avenue S Mercer Junior High School (Facility/Site ID 61715899) is located west of the property and the Jefferson Park Golf Club (Facility Site/ID 75368543) is located to the north and east of the property. Residential properties are south of VA PSHCS.

According to the King County tax assessor records, there are 15 structures on the property:

- A 218,805 sq ft medical office constructed in 1949,
- A 3,523 sq ft rooming house constructed in 1983,
- An 8,892 sq ft research building constructed in 1950,
- A 1,937 sq ft bank building constructed in 2001,
- A 7,605 sq ft animal research building constructed in 1950,
- A 20,996 sq ft medical research building constructed in 1950,
- A 21,076 sq ft administrative building constructed in 1950,
- A 4,997 sq ft retail store constructed in 1970,
- A 10,959 sq ft retail store constructed in 1996,
- A 3,077 sq ft animal research building constructed in 1970,
- A 26,489 sq ft medical office constructed in 1970,
- A 2,952 sq ft laboratory constructed in 1970,
- A 12,250 sq ft laboratory constructed in 1994,
- A 12,000 sq ft laboratory constructed in 1994, and
- A 666,398 sq ft hospital constructed in 1980.

6.3.8.1 Current Operations

VA PSHCS and Verity Credit Union operate at this property. Additional information regarding current operations at the property was not available for review.

6.3.8.2 Historical Operations

Additional information regarding historical operations at this property was not available for review.

6.3.8.3 Regulatory History

Ecology performed a Dangerous Waste Inspection of the facility in March 1999 and noted multiple violations of regulations including improper labeling, handling, and storage of wastes. It was Ecology's opinion that the compliance and housekeeping problems could have been avoided through employee training in hazardous waste management procedures (Ecology 1999d).

Ecology performed an HWTR inspection at the facility in January 2003. Several PCB light ballasts were removed from the facility in 2000. Waste streams identified at the facility during

the inspection included: formalin, xylene/alcohol mixture, radioactive waste, scintillation fluid with toluene, mercury waste, waste aerosol cans, EHW lab packs (WL01), spent batteries, and fluorescent tubes. The facility has a 500-gallon UST with gasoline/heating oil. Accumulation date and labeling violations were observed during this inspection (Ecology 2003e).

Similar waste labeling problems were identified during an August 2006 compliance inspection (Ecology 2006f). No information on leaking USTs, cleanup, or property history was available for review.

SPU performed a screening inspection at Verity Credit Union in May 2003 (Table 9) (Schmoyer 2009b). The screening inspection report was not reviewed.

SPU performed a follow-up inspection at the VA PSHCS facility in May 2008 (Schmoyer 2009b). The facility was in compliance (Table 9). The inspection report was not reviewed.

6.3.8.4 Environmental Investigations and Cleanups

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

6.3.8.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

6.3.8.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

6.3.9 Western Peterbilt, Inc.

Facility Summary: Western Peterbilt, Inc.	
Tax Parcel No.	7886100730
Address	3707 Airport Way S
Property Owner	R C Partnership c/o Western Peterbilt Inc.
Parcel Size	1.41 acre (61,458 sq ft)
Facility/Site ID	27136719
SIC Code(s)	5511: New and Used Car Dealer 7513: Truck Rental and Leasing, No Drivers 7538: General Automotive Repair Shops
EPA ID No.	WAD067154682
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	1748 (LUST-Active, UST-Inactive)
Map/Map ID	B4/198

The Western Peterbilt property is located in the Diagonal West SD basin and the Diagonal Avenue S CSO basin. The property is bordered by 7th Avenue S to the west, S Court Street to the north, Airport Way S to the east, and S Charlestown Street to the south. I-90 is north of the property and Skyline Electric (Section 5.3.8) is northwest of the property, across 7th Avenue S and S Court Street.

According to King County tax assessor records, a 35,222 sq ft storage warehouse, constructed in 1954, is located on the property.

6.3.9.1 Current Operations

Western Peterbilt currently operates at this property. No additional information regarding current operations was available for review.

6.3.9.2 Historical Operations

Two gasoline USTs were removed from this property in 1989 (Ecology 2002c). No additional information regarding historical operations at this property was available for review.

6.3.9.3 Regulatory History

Ecology and the City of Seattle Drainage and Wastewater Utility conducted a joint inspection of the facility in 1990 and cited Western Peterbilt for water quality violations including allowing

truck wash water and water from other operations to be discharged to the storm drain system. Other violations included improper waste handling (e.g., failure to maintain the large volume waste oil storage tank within an impermeable berm) (Ecology 1990j).

Ecology performed a follow-up inspection in May 1992 to confirm that the company had completed the corrective actions identified during the 1990 inspection. The company had stopped washing trucks on the property. Only small parts were washed at the facility and the equipment wash area was bermed. Wash water was filtered and reused. Waste oil was used to heat the facility and recycled. The waste collection area now had secondary containment (Ecology 1992c).

In March 2002, Ecology requested additional information on the cleanup of the property from R.C. Partnership. At that time the status was "Cleanup Started" (Ecology 2002c).

A request for a change from "Cleanup Started" to "Reported Cleaned Up" was made to Ecology by ERM on behalf of Western Peterbilt on November 10, 2005. The request was based on review of available information indicating that impacted soils had been excavated from the removal site. The Site Assessment "reportedly performed by Hart Crowser in 1989" was not available (ERM 2005).

SPU performed a follow-up inspection at Western Peterbilt in October 2003 (Schmoyer 2009b). The facility was in compliance (Table 9). The inspection report was not reviewed.

Ecology inspected the Western Peterbilt facility in January 2009 (Table 10). Corrective actions were required for the improper storage of waste drums and oily transmission core and antifreeze containers stored too close to a floor drain. Additionally, Western Peterbilt needed to prepare a spill plan, purchase spill response materials, and train employees for spill response (Jeffers 2009a). In February 2009, Ecology and SPU performed a dye test of the storm drain and sanitary sewer lines at the facility (Jeffers 2009a). The results of the dye test were not available for review.

6.3.9.4 Environmental Investigations and Cleanups

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

6.3.9.5 Potential for Sediment Recontamination

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

Stormwater

There is no information available to determine if current operations at this property represent a potential source of contaminants to EAA-1 sediment via the stormwater pathway. Ecology and SPU conducted a dye test in February 2009 to determine drainage at the property.

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater (if any) beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property.

6.3.9.6 Data Gaps and Action Items

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

Pathway	Data Gap	Action Item
Stormwater	A review of the February 2009 dye test results is needed to determine if surface water on the property drains to the storm sewer or sanitary sewer.	Ecology and/or SPU will review the February 2009 dye test results and determine if Western Peterbilt's discharges to the storm drain and/or sanitary sewer require coverage under the ISGP or a KCIW discharge permit or authorization.

6.4 LUST Facilities within the Diagonal Avenue S CSO Basin

The facilities described in this section are located only within the Diagonal Avenue S CSO basin. Stormwater from these facilities is not conveyed to EAA-1 via the Diagonal Avenue S SD; rather, it is discharged to another separated sewer system or to the combined sewer. During a CSO event, stormwater and wastewater from these facilities are discharged to EAA-1 via the Diagonal Avenue S CSO.

The facilities are presented alphabetically; the word "former" was ignored for the purpose of alphabetizing the facility names.

6.4.1 ARCO 5445

Facility Summary: ARCO 5445	
Tax Parcel No.	9126101805
Address	665 23rd Avenue S
Property Owner	City Neighbor, Inc.

Facility Summary: ARCO 5445	
Parcel Size	0.50 acre (21,586 sq ft)
Facility/Site ID	76386549
SIC Code(s)	5541: Gasoline Service Stations
EPA ID No.	WAD988514956 (Inactive)
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	97618
Map/Map ID	C2/409

The ARCO 5445 property is located at the southwest corner of the intersection between 23rd Avenue S and E Cherry Street. Mixed-use commercial and residential properties are to the west, north, and south. The Garfield Community Center is located east of the property.

According to King County tax assessor records, a 3,808 sq ft warehouse building, constructed in 1988, is located on the property.

6.4.1.1 Current Operations

An ARCO service station currently operates on the property. There are three gasoline USTs on this property. Additional information regarding current operations at the property was not available for review.

6.4.1.2 Historical Operations

Information regarding historical operations at this property was not available for review.

6.4.1.3 Regulatory History

Ecology issued a Notice of Non-Compliance on June 1, 2004, for violating Performance Standards for New UST Systems; product lines were not visible and there was no evidence that the tanks had cathodic protection (Ecology 2004b). Petroleum-contaminated soil was detected and excavated during upgrades to the dispenser island and product distribution piping in July 2004 (Delta 2005a).

SPU performed a follow-up facility inspection in November 2004 (Schmoyer 2009b) and determined the facility was in compliance (Table 9). The inspection report was not reviewed.

Ecology sent an Early Notice Letter concerning a discovered release on November 2, 2005 (Ecology 2005e).

6.4.1.4 Environmental Investigations and Cleanups

At least two environmental investigations have been conducted at ARCO 5445.

Soil and Groundwater Investigation (2005)

A subsurface soil and groundwater investigation conducted in September 2005 found soil concentrations of BTEX above MTCA Method A cleanup levels. Lead was detected in soil at concentrations below the cleanup level (range 1.46 to 3.89 mg/kg). Lead, benzene, and MTBE exceeded MTCA Method A cleanup levels in groundwater. Groundwater flow was to the north (Delta 2005b).

Groundwater Monitoring (2005 to present)

A Quarterly Groundwater Monitoring Report from sampling conducted in May 2006 indicates 2.43 cubic yards of soil had been removed from the site and natural attenuation was the remediation technique (Delta 2006). In quarterly groundwater monitoring between September 2005 and December 2008, benzene concentrations in one well remained above the MTCA Method A cleanup level in all quarters; MTBE was above the cleanup level in only the first quarter sampled; ethylbenzene exceeded MTCA Method A levels twice in 2007; and TPH-gas exceeded the MTCA Method A cleanup level in all sampling events in 2007 and 2008 (Delta 2009a).

6.4.1.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contaminants are present in soil and groundwater beneath this property. Petroleum contaminants are not sediment COCs for EAA-1. Based on current groundwater monitoring data, groundwater flows to the north. Additionally, the property is over 3 miles northeast of the LDW; therefore, the potential for EAA-1 sediment recontamination via this pathway is very low.

6.4.1.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

6.4.2 Former B&B Auto Repair

Facility Summary: Former B&B Auto Repair	
Tax Parcel No.	2197600625
Address	151 12th Avenue
Property Owner	PB Elemental Architecture L
Parcel Size	0.16 acre (7,013 sq ft)
Facility/Site ID	8906920
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	619561
Map/Map ID	B2/391

The former B&B Auto Repair property is located at the northeast corner of the intersection between 12th Avenue and E Fir Street. The surrounding properties are mixed-use residential and commercial. The Seattle Housing Authority – Brownfield properties (Section 4.4.16) are south of the former B&B Auto Repair property, on the southern side of E Fir Street.

According to King County tax assessor records, one 7,013 sq ft warehouse building was constructed in 1921. Demolition permit no. 6167711was issued on January 22, 2008.

Currently, the property appears to be a vacant lot. No information regarding this property was available for review.

6.4.2.1 Potential for Sediment Recontamination

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

CSO Events

Current operations at this property do not represent a potential source of contaminants to EAA-1 sediments via the CSO event pathway.

Soil and Groundwater

There is no information available to determine if soil or groundwater contamination is present at this property. Based on the geographic location of the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is almost 3 miles northeast of the LDW; therefore, the potential for EAA-1 sediment recontamination via this pathway is very low.

6.4.2.2 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

6.4.3 Damascus Baptist Church

Facility Summary: Damascus Baptist Church	
Tax Parcel No.	5649600411, 5649600420, 5649600425, 5649600473
Address	5237 Rainier Avenue S
Property Owner	Damascus Baptist Church
Parcel Size	0473: 0.18 acre (7,967 sq ft) 0411: 0.49 acre (21,172 sq ft) 0420: 0.42 acre (18,474 sq ft) 0425: 0.46 acre (20,022 sq ft)
Facility/Site ID	45575896
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
KCIW Discharge Permit/Authorization No.	None
UST/LUST ID No.	102142
Map/Map ID	C5/4

The Damascus Baptist Church properties are located on the western side of Rainier Avenue S between S Dawson Street and 42nd Avenue S. The surrounding property use is commercial and residential. According to King County tax assessor records, four parcels are owned by Damascus Baptist Church at the 5237 Rainier Avenue South address.

6.4.3.1 Current Operations

Damascus Baptist Church and a day care facility associated with the church currently operate on this property. Additional information regarding current operations at the property was not available for review.

6.4.3.2 Historical Operations

According to a 1993 UST Notice of Confirmed Release, a portion of the property was an abandoned gas station (Ecology 1993b). Additional information regarding historical operations at the property was not available for review.

6.4.3.3 Regulatory History

As of August 2004, Damascus Baptist Church had not responded to letters from Ecology sent in August 1998 and July 2002 requesting the final cleanup report for the UST removal performed in 1993 (Ecology 1998b, 2002h, 2004c).

6.4.3.4 Environmental Investigations and Cleanups

Four gasoline USTs were excavated along with petroleum-contaminated soils in October 1993 (Coastal 1993; Ecology 1993b). The Notice of Confirmed Release indicated that contaminated soils were going to be overexcavated (Ecology 1993b). No information on further cleanup of the UST excavation was available.

6.4.3.5 Potential for Sediment Recontamination

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

CSO Events

Operations or activities at this property may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to EAA-1 during a CSO event via the Diagonal Avenue S CSO. Contaminants in soil and groundwater beneath the facility may leach into groundwater and infiltrate the combined sewer system. Therefore, there is potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will impact EAA-1 sediments is very low.

Soil and Groundwater

Petroleum contamination has been confirmed in soil at this property. Petroleum contaminants are not sediment COCs for EAA-1. Based on the geographic location of the property, groundwater likely flows generally toward Lake Washington. Additionally, the property is almost 3 miles east of the LDW; therefore, the potential for sediment recontamination via this pathway is very low.

6.4.3.6 Data Gaps and Action Items

No facility-specific data gaps or action items were identified for this property.

This page intentionally left blank.

7.0 Additional Facilities within the Duwamish/Diagonal CSO/SD Basin

In preparing this Data Gaps Report, SAIC reviewed Ecology inspection report summaries and EPA Region IX's "List of Entities Receiving CERCLA Section 104(e) Information Requests as of May 2009." Several facilities of concern were identified from these sources. These facilities were not identified as facilities or properties on the CSCSL, holding NPDES or KCIW discharge permits/authorizations, or LUST facilities.

7.1 Business Inspections

Corrective actions were identified at the following facilities during recent inspections performed from 2008 to 2009 (Table 10). To date, the corrective actions have not been achieved or the facility has not been re-inspected to confirm compliance with the corrective actions. Follow-up inspections are needed at the following facilities:

Facility/ Site ID	Facility or Property Name	Current Operator(s)	Address
2142	Ash Grove Cement Co.	Same	3801 East Marginal Way S
None	Atlas Supply Co.	Same	611 S Charlestown Street
23858669	Cascade Machinery & Electric Inc Seattle	Same	4600 East Marginal Way S
51866937	Clear Channel Outdoor	Same	3601 6th Avenue S
54918197	ConGlobal Inc	Same	1 S Idaho Street
7497652	Davis Sign Co.	Same	4025 7th Avenue S
None	Fabriform Plastics, Inc.	Same	3300 Airport Way S
None	International Leasing Co., Inc.	Same	3801 7th Avenue S
58654921	LC Jergens Painting Co., Inc.	Same	417 18th Avenue. S
54498998	Lowes	Same	2700 Rainier Avenue S
40255927	McKinstry Co 220 Hudson	Same	220 S Hudson Street
None	Metal Works Northwest Inc.	Same	3834 4th Avenue S
44473532	Phelps Tire Co., Inc.	Same	3922 7th Avenue S
9645257	Rodda Paint	Same	3838 4th Avenue S
None	Safelite Auto Glass	Same	665 S Dakota Street
None	Seattle Granite Countertops, Inc.	Same	4700 Ohio Avenue S
None	Seattle University	Same	901 12th Avenue
43233689	Seattle Vocational Institute	Same	2120 S Jackson Street.
None	Snorkel Stove Co.	Same	4216 6th Avenue S
None	Valley Rubber & Gasket Company of WA	Same	4201 Airport Way S
25955722	West Coast Printing Co	Same	622 Rainier Avenue S

7.2 Review Responses to EPA CERCLA Section 104(e) Request for Information Letter Reviews

The companies listed below are within the Duwamish/Diagonal CSO/SD basin and have received EPA CERCLA Section 104(e) Request for Information letters. Ecology will review the responses to these letters, when available, to determine if historical or current operations at the properties are potential sources of EAA-1 sediment recontamination via stormwater, CSO event, or soil and groundwater pathways.

Facility/ Site ID	Facility Name	Property Owner	Address	Party Responsible for 104(e) response
45184525	American President Lines	Not determined	4700 Denver Avenue S Between Rail Ramps 6&7	American President Lines
2142	Ash Grove Cement West, Inc.	Port of Seattle	3801 East Marginal Way S	Ash Grove Cement
99293752	General Electric Co. Seattle	Not determined	37 S Hudson Street	General Electric Co.
35682412	Hasbro Toy Group Seattle Warehouse	Not determined	48 S Nevada Street	Hasbro, Inc.
62241811	Puget Sound Logistics, Inc.	Not determined	3720 Airport Way S	Puget Sound Truck Lines

7.3 Industrial Stormwater General Permits

The companies listed below are within the Duwamish/Diagonal CSO/SD basin and have been directed by Ecology to obtain coverage under the ISGP or Ecology has recommended that an evaluation be performed to determine if coverage under the ISGP is needed. Discharges to the storm drain from these facilities may contain sediment COCs. Ecology will evaluate operations at and discharges from the facilities to determine if additional source control actions are required to prevent recontamination of EAA-1 sediments.

Facility/ Site ID	Facility Name	Address
2142	Ash Grove Cement Co.	3801 East Marginal Way S
23858669	Cascade Machinery & Electric Inc Seattle	4600 East Marginal Way S
40255927	McKinstry Co 220 Hudson	220 S Hudson Street
123208	Metal Laboratory LLC	3433 Airport Way S
none	Metal Works Northwest Inc.	3834 4th Avenue S
none	Moeller Design & Development Inc.	620 S Industrial Way
none	Snorkel Stove Co.	4216 6th Avenue S
7245574	Trade-Marx Sign & Display Co.	818 S Dakota Street
none	Valley Rubber & Gasket Company of WA	4201 Airport Way S

7.4 Facility-Specific Data Gaps and Action Items

Facility specific data gaps and action items were identified for the facility listed below.

Pathway	Data Gap	Action Item
Emerald City Bindery, 4809 Airport Way S (Facility/Site ID 9472735)		
Stormwater	Ecology inspected the facility in June 2008 and determined that the sanitary sewer may be connected inadvertently to the storm drain.	SPU will verify storm drain and sanitary sewer connections.

This page intentionally left blank.

8.0 Summary of Data Gaps

Data gaps have been identified for facilities and properties within the Duwamish/Diagonal CSO/SD basin in Sections 3 through 7. Data gaps and action items for the facilities and properties reviewed in this Data Gaps Report are summarized in this section.

8.1 Summary of Data Gaps for Properties within the Duwamish/Diagonal CSO/SD Basin

Information needed to assess the potential for sediment recontamination associated with current or historical operations at facilities within the Duwamish/Diagonal CSO/SD basin is listed below. Some of this information can be obtained during a business inspection.

- Information regarding any historical and/or ongoing industrial activities is needed to verify that these facilities are in compliance with all applicable regulations and BMPs.
- Information on how and where any hazardous materials, chemicals, or hazardous wastes are stored or used at these facilities is needed to evaluate the potential for spills to commingle with wastewater and stormwater.
- Facility plans showing the locations of floor drains, catch basins, sewer connections and storm drains (if any) are needed to evaluate the potential for contaminants suspended in wastewater and stormwater (if any) to be transported to the LDW via combined sewer discharges.
- Information regarding any containment systems at these properties is needed to evaluate the adequacy of the systems and determine the potential for spills to commingle with wastewater and stormwater.

Information on the materials used to construct storm drain and sanitary sewer lines in this area and the age of the storm drain and sanitary sewer lines would be useful to assess the potential for contaminated groundwater to infiltrate the combined sewer system.

8.2 Summary of Action Items for Properties within the Duwamish/Diagonal CSO/SD Basin

Action items identified for the facilities within the Duwamish/Diagonal CSO/SD basin are listed below by action item category.

8.2.1 Business Inspections

Ecology and SPU inspect current and new business operations in the Duwamish/Diagonal CSO/SD basin as part of the Urban Waters Initiative and to verify compliance with City of Seattle stormwater pollution prevention codes.

8.2.1.1 Follow-Up Inspections

Corrective actions were identified at the following facilities during recent inspections performed from 2008 to 2009. As of June 30, 2009, the corrective actions have not been achieved or the facility has not been re-inspected to confirm compliance with the corrective actions. Some of these facilities may have been inspected or reinspected and may now be in compliance. Information regarding follow-up inspections and compliance status at these facilities will be updated in Source Control Status Reports.

Facility/Site ID	Facility or Property Name	Current Operator(s)	Address
81491835	Alaska Street Reload & Recycling	Same	70 S Alaska Street
2142	Ash Grove Cement Co.	Same	3801 East Marginal Way S
None	Atlas Supply Co.	Same	611 S Charlestown Street
6889930	B&G Machine	Unknown	11 S Nevada Street
2340	Univar USA, Inc.	Cascade Designs	4000 1st Avenue S
23858669	Cascade Machinery & Electric, Inc. Seattle	Same	4600 East Marginal Way S
51866937	Clear Channel Outdoor	Same	3601 6th Avenue S
62127595	ColorGraphics, Inc.	Same	1421 S Dean Street
54918197	ConGlobal, Inc.	Same	1 S Idaho Street
7497652	Davis Sign Co.	Same	4025 7th Avenue S
None	Fabriform Plastics, Inc.	Same	3300 Airport Way S
73876963	FedEx Express BFIA	Same	651 S Alaska Street
None	Hedwall Architectural Iron	Same	4755C S Colorado Avenue
None	International Leasing Co., Inc.	Same	3801 7th Avenue S
58654921	LC Jergens Painting Co., Inc.	Same	417 18th Avenue S
1891210	Liquor Control Board	Same	4401 East Marginal Way S
54498998	Lowes	Same	2700 Rainier Avenue S
2417391	MacMillan-Piper, Inc. – Airport Way Facility	Same	655 S Edmunds Street
40255927	McKinstry Co 220 Hudson	Same	220 S Hudson Street
8624626	MEECO Manufacturing	Same	12 S Idaho Street
None	Metal Works Northwest, Inc.	Same	3834 4th Avenue S
3294855 & 11628955	North Star Casteel Products, Inc.	Same	820 S Bradford Street & 3901 9th Avenue S
44473532	Phelps Tire Co., Inc.	Same	3922 7th Avenue S
9645257	Rodda Paint	Same	3838 4th Avenue S.
None	Safelite Auto Glass	Same	665 S Dakota Street
2307 & 21296351	Seattle Barrel & Cooperage	Same	7th Avenue S & 4716 Airport Way S
None	Seattle Granite Countertops, Inc.	Same	4700 Ohio Avenue S

Facility/Site ID	Facility or Property Name	Current Operator(s)	Address
6433026	Seattle Radiator	Same	5011 Ohio Avenue S
None	Seattle University	Same	901 12th Avenue
43233689	Seattle Vocational Institute	Same	2120 S Jackson Street
21118371	Skyline Electric & Mfg Co., Inc.	Same	3619 7th Avenue S
None	Snorkel Stove Co.	Same	4216 6th Avenue S
4732987	Stewart Industries	Same	16 S Idaho Street
4225638	Swanson Property	Same	1526 21st Avenue S
None	Urban Hardwoods, Inc.	Same	4755 Colorado Avenue S
None	Valley Rubber & Gasket Company of WA	Same	4201 Airport Way S
25955722	West Coast Printing Co.	Same	622 Rainier Avenue S
6672875	Western Logistics, Inc.	Same	3623 6th Avenue S
27136719	Western Peterbilt Inc. Seattle	Same	3707 Airport Way S
48839443	Former Westfarm Foods Seattle	Darigold	4058 Rainier Avenue S
53458671	Former Bindery Service Center	Zevia LLC	14 S Idaho Street

8.2.1.2 Initial Inspections

Facility inspections have not been performed by Ecology or SPU at the following properties and/or facilities or new activities have been introduced since the facility was last inspected. Based on the information reviewed for the Data Gaps Report, operations at these facilities may represent potential sediment recontamination sources. As of June 30, 2009, the facilities listed below had not been inspected. Some of these facilities may have been inspected since June 2009. Information regarding inspections at these facilities will be updated in Source Control Status Reports.

Facility/ Site ID	Facility or Property Name	Current Operator	Address
8112883 4383003	Alaska Street Property Alaska Street Property 2	PNTA	601 & 615 S Alaska Street
97763114	Former Belshaw Brothers, Inc.	Brunzer LLC Snarf LLC Sleepy Koala LLC	1750 22nd Avenue S
57747142	Bloch Steel Industries	Same	4580 Colorado Avenue S
1173695	Blue Origin LLC Property	Unknown	13 S Nevada Street
2512	Business Pro Computers	BCT	3433 4th Avenue S
4176649 79931991	Former Griffin Envelope John Gunning	Habitat for Humanity Home Improvement Outlet	21 S Nevada Street.
25393681	Former Jim's Auto Repair	Unknown	4434 Rainier Avenue S

Facility/ Site ID	Facility or Property Name	Current Operator	Address
57454884	Former Ocean Beauty Seafood aka Perfection Smokery	Tiny's Organic	4660 East Marginal Way S
35919547	Owl Transfer & Storage Company property	Banzai Sushi, Friedman Development, and others	3623 6th Avenue S
6172900230	Former Pacific Fruit & Produce & Former United Motor Freight, Inc.	Charlie's Produce & Rogge	4103 2nd Avenue S
2031281	Former Rainier Brewery	Sound Transit Maintenance and Operations Facility	SE corner of S Forest Street & Airport Way S
46281365	Ralph's Concrete	Unknown	800 Poplar Place S
16777876	SCL – 4th Avenue South Facility	Unknown, perhaps multiple operators	3814 4th Avenue S
2110	Former Seattle Technical Finishing	Rising Produce Fruit and Vegetable	1005 S King Street
2366	Spear Trust Warehouse	Mailhandlers	4001 6th Avenue S
25677953	Former Hamilton Engine Sales	Spud! Seattle	8 S Idaho Street
1388018 4723951	Warehouse Site Former Daniel Smith, Inc.	Crosscut Hardwoods	4130 1st Avenue S
44295317	Former WTA	Bamboo Hardwoods	4101 4th Avenue S

8.2.1.3 As-Needed Inspections

No facility-specific data gaps or action items were identified for the facilities/properties listed below; however, Ecology and/or SPU may perform regular or routine inspections at these facilities as needed or appropriate.

Facility/ Site ID	Facility Name	Current Operator(s)	Address
74595148	Former 3A Industries	Sound Transit Parcel RV-006	3101 Martin Luther King Jr. Way S
6197742	Acme Poultry Company, Inc.	Oriental Meat	2001 21st Avenue S
2233	Alaskan Copper Works – 6th Avenue S Facility	Same	3200 6th Avenue S
56326712	Allied Dome CQ	Starbucks	2921 Martin Luther King Jr. Way S
76386549	ARCO 5445	Same	665 23rd Avenue S
34889139 & 99887268	Arctic Ice Cream Novelties	Wellspring Family Services	1901 23rd Avenue S
None	AV-Pro	Same	825 S Dakota Street
8906920	Former B&B Auto Repair	Vacant	151 12th Avenue S
67812977	Camcal Company, Inc.	Action Communications & West Isle Air	4000 Airport Way S
94918654	Cecil Leung Property	Mt. Baker Link light rail station	3005 Rainier Avenue S

Facility/ Site ID	Facility Name	Current Operator(s)	Address
2067184 8919694 13523822	City Commerce Park – Deep groundwater – Surface to 30 feet bgs Penthouse Drapery	Ecohaus and others	4115 1st Avenue S
29137998 & 6118646	Former Chubby & Tubby	World Vision	3333 Rainier Avenue S
2321	Former Clayton VW Repair	None	4709 Martin Luther King Jr Way S
5539237	Former Colman Building	None	2203 E Union Street
45575896	Damascus Baptist Church	Same	5237 Rainier Avenue S
6258254 49374963	Dearborn Corporation Campus Goodwill Goodwill Industries Seattle	Same	1200-1590 S Dearborn Street
17754768	Deeny Construction Company, Inc.	Deeny Construction Company & Wendy's	2545 Rainier Avenue S
56619249	Dynacare Beacon Hill Lab	Same	1131 14th Avenue S
89819213	Dynacare Northwest Inc. – Rapid Response Lab	Same	747 Broadway, C Floor
2788207	Fiberlay	Same	20 S Idaho Street
62662967	Gai's Seattle French Bakery	Franz Family Bakeries	2006 S Weller Street
2123	Former Genesee Landfill	Genesee Park and Playfield	Genesee Street & 43rd Avenue S
13183654	Former Van Vetter, Inc.	Global Fulfillment	4 S Idaho Street
2323	Former Jefferson Street Bus Barn	Seattle University Athletic Fields	1398 E Jefferson Street
82774832	Former Kwik Cleaners	Delite Bakery	2701 15th Avenue S
82198634	Lighthouse for the Blind	Same	2501 S Plum Street
29398283	Lloyd's Rocket & Heating Oil Co.	Restaurant	110 Boren Avenue S
2148 98547662	Former Metal Laundry Incorporated Stanley & Shirley Young Charitable Remainder	Seattle University parking lot	614 12th Avenue
9484912	Former Pearson Property/First Hill Property	Unknown	426 Broadway
43482351	Plymouth Poultry Company	Same	4500 7th Avenue S
19448436	Purolator Courier Corporation – UST 5561	Unknown	923 S Jackson Street
21356218	Qwest Corporation W00291	Seattle University	1313 E Columbia
62285426 6147650 8164181	Rainier Court, Rainier Court SW Rainier Court Associates 2002-1 LLC	Rainier Court	3700 Rainier Avenue S

Facility/ Site ID	Facility Name	Current Operator(s)	Address
2351 23271641	Former D. Leonard & Sons Former Daley's Dump Truck Service, Inc.		
88987973	Rainier Mall	Same	4208 Rainier Avenue S
2445 29261	Rainier Plaza Former Longs Drug	Multiple	3820 Rainier Avenue S
2312	Ralph's Concrete Pumping	Same	1529 Rainier Avenue S
8964755	Ralph's Concrete Pumping Vacant Lot	Same	1517 Rainier Avenue S
63291692	Seattle Best Cleaners	Same	3219 Martin Luther King Jr. Way S
2171	SCL – South Service Center	Same	3613 4th Avenue S
None 1203357 3520941 2949013	Seattle Housing Authority – Brownfield Former C Miller Property Former Nu Way Cleaners Former Turner Beatter Property	Mixed-use development	109 to 117 12th Avenue
7592916	Seattle Parks – Colman School	Northwest African American Museum	2300 S Massachusetts Street
67679578	SPU – Beacon Hill Reservoir and Seattle Fire Station 13	Jefferson Park & Seattle Fire Station 13	3601 Beacon Avenue S
2376	SPU Operations Center	Same	2700 Airport Way S
66122831	Former Signal Equipment, Inc.	Central Bark	838 Poplar Place S
7034755	Stoneway Concrete	Same	3083 East Marginal Way S
18768495	Swedish Medical Center – Providence Campus	Same	500 17th Avenue S
2998786	Former Time Oil Company 216	Vacant	2465 S College Street
84969261	Former Totem Equipment Seattle	Hudson	5000 East Marginal Way S
73614397	UHaul Company	Same	2515 Rainier Avenue S
19911937	University of Washington – Consolidated Laundry	Same	2901 27th Avenue S
15199671	University of Washington – Harborview Medical Center	Same	300 9th Avenue
5567463	University of Washington – Pacific Medical Center	Same	1200 12th Avenue S Qtrs 2
11182882	UPS – Seattle HUB	Same	4455 7th Avenue S
9726741	VA PSHCS	Same	1660 S Columbian Way
36148382	WSDOT – Spokane Street Maintenance Facility	Same	450 S Spokane Street

8.2.2 Review Responses to EPA CERCLA Section 104(e) Request for Information Letters

The companies and property owners listed below are within the Duwamish/Diagonal CSO/SD basin and have received EPA CERCLA Section 104(e) Request for Information letters. Ecology will review the responses to these letters to determine if historical or current operations at the properties are potential sources of EAA-1 sediment recontamination via stormwater, CSO event, or soil and groundwater pathways.

Facility/ Site ID	Facility Name	Property Owner	Address	Party Responsible for 104(e) response
45184525	American President Lines	Not determined	4700 Denver Avenue S Between Rail Ramps 6&7	American President Lines
2142	Ash Grove Cement West Inc	Port of Seattle	3801 East Marginal Way S	Ash Grove Cement
1173695	Blue Origin LLC Warehouse	Blue Properties, LLC (previous owner)	13 S Nevada Street	Blue Properties, LLC
2788207	Fiberlay, Inc.	Miriam McNiven FBO TA/I	20 S Idaho Street	Miriam McNiven FBO TA/I
99293752	General Electric Co Seattle	Not determined	37 S Hudson Street	General Electric Co.
13183654	Former Van Vetter, Inc./ Global Fulfillment	Karla Yantz	4 S Idaho Street	Karla Yantz
35682412	Hasbro Toy Group Seattle Warehouse	Not determined	48 S Nevada Street	Hasbro, Inc.
1891210	Liquor Control Board	State of Washington Liquor Control Board	4401 East Marginal Way S	State of Washington Liquor Control Board
8624626	MEECO Manufacturing	S&B Building, LLC	12 S Idaho Street	S&B Building, LLC
3294855 & 11628955	North Star Casteel Products, Inc.	North Star Casteel Products	820 S Bradford Street & 3901 9th Avenue S	North Star Casteel Products
89393558	Praxair Distribution, Inc.	Airgas Norpac	4413 Airport Way S	Airgas Norpac
62241811	Puget Sound Logistics Inc	Not determined	3720 Airport Way S	Puget Sound Truck Lines
9192461	Former Rainier Brewery	Rainier Commons	3100 Airport Way S	Rainier Commons and Tully's Coffee
2307 & 21296351	Seattle Barrel & Cooperage	Louie Sanft	4520 7th Avenue S & 4716 Airport Way S	Seattle Barrel & Cooperage

Facility/ Site ID	Facility Name	Property Owner	Address	Party Responsible for 104(e) response
25677953	Former Hamilton Engine Sales / Spud! Seattle	Richard Desimone & Co.	8 S Idaho Street	Richard Desimone & Co. and Richard L. Desimone Jr.
4732987	Stewart Industries	STC Industries	16 S Idaho Street	STC Industries
84969261 6433026	Former Totem Equipment Seattle Seattle Radiator	East Marginal Way Building LLC	5000 East Marginal Way S & 5011 Ohio Avenue S	East Marginal Way Building LLC
None	Zevia LLC	R2R Investments, LLC	14 S Idaho Street	R2R Investments, LLC

8.2.3 Industrial Stormwater General Permits

The companies listed below are within the Duwamish/Diagonal CSO/SD basin and have been directed by Ecology to obtain coverage under the ISGP or Ecology has recommended that an evaluation be performed to determine if coverage under the ISGP is needed. Discharges to the storm drain from these facilities may contain sediment COCs. Ecology will evaluate operations at and discharges from the facilities to determine if additional source control actions are required to prevent recontamination of EAA-1 sediments.

Facility/ Site ID	Facility Name	Address
2142	Ash Grove Cement Co.	3801 East Marginal Way S
3090303	Auto-Chlor Systems	4329 7th Avenue S
6889930	B&G Machine	11 S Nevada Street
None	Cascade Designs	4000 1st Avenue S
23858669	Cascade Machinery & Electric, Inc. Seattle	4600 East Marginal Way S
73876963	FedEx Express BFIA	651 S Alaska Street
None	Hedwall Architectural Iron	4755C S Colorado Avenue
1891210	Liquor Control Board	4401 East Marginal Way S
40255927	McKinstry Co. 220 Hudson	220 S Hudson Street
8624626	MEECO Manufacturing	12 S Idaho Street
123208	Metal Laboratory LLC	3433 Airport Way S
None	Metal Works Northwest, Inc.	3834 4th Avenue S
None	Moeller Design & Development, Inc.	620 S Industrial Way
None	Snorkel Stove Co.	4216 6th Avenue S
4732987	Stewart Industries	16 S Idaho Street
7245574	Trade-Marx Sign & Display Co.	818 S Dakota Street
None	Urban Hardwoods	4755 Colorado Avenue S
None	Valley Rubber & Gasket Company of WA	4201 Airport Way S

8.3 Facility-Specific Data Gaps and Action Items

Facility specific data gaps and action items, which may require actions in addition to the Action Items listed in Section 8.2, were identified for the facilities listed below.

Pathway	Data Gap	Action Item
Alaskan Copper Works – 6th Avenue S Facility, 3200 6th Avenue S		
Stormwater	A review of the 2007 dye testing data is needed to determine which catch basins at the facility are discharging to the storm drain system.	Ecology and/or SPU will review the results from the 2007 dye testing to determine which catch basins are discharging to the storm drain system.
	Updated facility plans are needed to determine the locations and plumbing of floor drains in the buildings located on the west side of 6th Avenue S	Ecology will require Alaskan Copper Works to submit an updated facility plan.
Bloch Steel Industries, 4580 Colorado Avenue S		
Groundwater Discharge	Additional information is needed to determine if groundwater monitoring is ongoing and if PCBs and/or PAHs are present in groundwater.	Ecology will require Bloch Steel to provide information regarding groundwater monitoring activities at this facility after 2004.
ColorGraphics, 1421 S Dean Street		
Stormwater	An investigation is needed to determine if stormwater from this facility is discharged to the LDW or to Lake Washington.	Ecology and/or SPU will conduct a source control inspection at the facility.
Emerald City Bindery, 4809 Airport Way S		
Stormwater	Ecology inspected the facility in June 2008 and determined that the sanitary sewer may be connected inadvertently to the storm drain.	SPU will verify storm drain and sanitary sewer connections.
MacMillan-Piper, Inc., 655 S Edmunds Street		
Stormwater	Ecology has determined that the facility was found to be a significant contributor of pollutants to state waters due to the amount of agricultural products on the ground and in storm drain catch basins.	Ecology or SPU may collect catch basin sampling to determine if the pollutants from agricultural sources at the property are a source of sediment COCs.
North Star Casteel Products, Inc., 820 S Bradford Street and 3901 9th Avenue S		
Stormwater	Additional information is needed to determine if the Voluntary Compliance Agreement has been finalized and if North Star Casteel is making progress toward complying with its obligations under the agreement.	SPU will verify that North Star Casteel is in compliance with the final Voluntary Compliance Agreement, when issued.
Groundwater Discharge	Additional information regarding the Voluntary Compliance Agreement is needed to determine if North Star Casteel has been required to perform an investigation of soil, and possibly groundwater, conditions beneath the property.	Ecology will review the results of environmental investigations to determine if sediment COCs are present in soil and/or groundwater at concentrations that exceed soil-to-sediment or groundwater-to-sediment screening levels and determine if additional actions are needed for source control.

Pathway	Data Gap	Action Item
Pepsi Bottling Group – Seattle Plant (ALPAC Corp.), 2300 26th Avenue S		
Stormwater	A review of DMRs from 2007 to present is needed to determine if metals concentrations in stormwater are within the discharge permit limits. A facility inspection may be needed to ensure the facility is following stormwater BMPs.	Ecology will review DMRs from 2007 to present to determine if Pepsi is in compliance with its NPDES permit. Ecology may conduct a follow-up source control inspection at the facility if the DMR review indicates the facility is not in compliance with its NPDES permit.
Recycling Depot, Inc., 851 Rainier Avenue S		
Stormwater	A review of DMRs from 2007 to present is needed to determine if metals concentrations in stormwater are within the discharge permit limits. A facility inspection may be needed to ensure the facility is following stormwater BMPs.	Ecology will review DMRs from 2007 to present to determine if Recycling Depot is in compliance with its NPDES permit. Ecology may conduct a follow-up source control inspection at the facility if the DMR review indicates the facility is not in compliance with its NPDES permit.
Seattle Barrel & Cooperage, 4716 Airport Way S		
Stormwater	Additional catch basin sediment samples are needed to determine if EAA-1 sediment COCs, originating from Seattle Barrel, are present in the storm drain system.	SPU will sample catch basins in Airport Way as recommended.
Seattle Radiator, 5011 Ohio Avenue S		
Stormwater	A 2008 inspection of Seattle Radiator determined that 1,500 gallons of potentially hazardous waste is discharged to the storm drain or sanitary sewer on a weekly basis. Sewer connections from the storm drain need to be confirmed.	Ecology and/or SPU will review side sewer cards and/or perform a dye test to determine if the interior floor drain at Seattle Radiator is connected to the storm drain or sanitary sewer.
	Ecology directed Seattle Radiator to obtain a KCIW discharge permit or authorization. Other records indicate that Seattle Radiator currently holds KCIW discharge authorization 366. Additional information regarding the KCIW discharge permit or authorization is needed.	Ecology and/or KCIW will review discharge permit/authorization records to determine if discharge authorization 366 is valid.
Skyline Electric & Manufacturing Company, Inc., 3619 7th Avenue S		
Stormwater	A review of DMRs from 2007 to present is needed to determine if metals concentrations in stormwater are within the discharge permit limits.	Ecology will review DMRs from 2007 to present to determine if Skyline Electric is in compliance with its NPDES permit.
Western Peterbilt, Inc., 3707 Airport Way S		
Stormwater	A review of the February 2009 dye test results is needed to determine if surface water on the property drains to the storm sewer or sanitary sewer.	Ecology and/or SPU will review the February 2009 dye test results and determine if Western Peterbilt's discharges to the storm drain and/or sanitary sewer require coverage under the ISGP or a KCIW discharge permit or authorization.

9.0 Documents Cited

Section 9.0 presents a list of all documents cited in the Data Gaps Report. A list of all 1,414 documents reviewed in the preparation of this Data Gaps Report is presented as Appendix C.

Aaron & Wright. 2002a. Phase I ESA. Prepared for Belshaw Brothers, Inc. February 22, 2002. As cited in URS 2004.

Aaron & Wright. 2002b. Limited Subsurface Investigation of Belshaw Brothers, Inc., 1750 22nd Avenue, Seattle, Washington 98144, Project No. 020101A.GB. Prepared for Belshaw Bros. March 4, 2002. As cited in URS 2004.

Acme Food Sales. 2009. Acme Food Sales, Inc. Company Website http://www.acmefood.com/company.aspx. Accessed July 20, 2009.

Action Communications. 2009. Action Communications Inc. Company Website http://www.actioncominc.com/. Accessed July 24, 2009.

Adams. 2006. Email from Mark Adams, Ecology, to Dave Cook, GeoEngineers, Inc. Re: Rainier Court Phase I final report and VC letter. April 11, 2006.

Adapt Engineering (Adapt Engineering, Inc.). 2009. Surface Soil Sampling, North Star Casteel Properties, South Bradford Street, Seattle, WA 98108. Prepared for North Star Casteel. July 24, 2009.

AESI (Associated Earth Sciences, Inc.). 1998. Letter from Timothy J. Peter and Jon N. Sondergaard, AES, to Dan Cargill, Ecology. Re: Proposed GTE Wireless Communication Tower, Rainier Valley Shopping Center, 3820 Rainier Avenue South, Seattle, Washington. December 21, 1998.

AESI. 2003a. Phase I Environmental Site Assessment, 426 Broadway Project, Seattle, Washington. Prepared for TPV, LLC. February 18, 2003.

AESI. 2003b. Soil and Ground Water Quality Assessment Report, Pearson Property, 426 Broadway, Seattle, Washington. Prepared for TPV, LLC. April 11, 2003.

AGRA (AGRA Earth & Environmental, Inc.). 1997a. Groundwater Status Report (6 April 1997), Time Oil Co. Property No. 01-216, 2465 South College Street, Seattle, Washington. Prepared for Time Oil Co. April 18, 1997.

AGRA. 1997b. Results of Bio-Venting System Enhancement Test, 2465 South College St. Seattle, WA (Property 01-216). Prepared for Time Oil Co. April 22, 1997.

AGRA. 1997c. Initial Phase II Assessment, Vacant Lot At 12th Avenue and East Cherry Street, Seattle, Washington. Prepared for Seattle University, Physical Plant Services. July 14, 1997.

AGRA. 1997d. Preliminary Environmental Assessment of 12th and Cherry Properties, Seattle, Washington. Prepared for Seattle University, Physical Plant Services. July 25, 1997.

AGRA. 1998. UST Site Assessment at U S West Facility 070291, 1313 E. Columbia Street, Seattle, Washington. Prepared for U S West Communications, Inc. September 30, 1998.

AGRA. 1999. Phase I Environmental Site Assessment and Limited Hazardous Materials Survey, Seattle City Light Warehouses, 3814 and 3824 – 4th Avenue S, Seattle, Washington. Prepared for American Design and Manufacturing. October 27, 1999.

AGRA. 2000. Phase II Environmental Assessment, 3814 Fourth Avenue S, Seattle, Washington. Prepared for SEBCO, Inc. March 24, 2000.

Alaskan Copper Works. 1971. Permit to Discharge Wastes into the state waters in accordance with Chapter 90.48 RCW and Chapter 372.24 WAC. Alaskan Copper Works, 3200 6th Avenue South, Seattle. Prepared by W.A. Meacham. November 29, 1971.

Alaskan Copper Works. 1982. U.S. Environmental Protection Agency Notification of Hazardous Waste Activity. Prepared by James C. Brown, Alaskan Copper Works. July 7, 1982.

Alaskan Copper Works. 1985a. 1984 Generator Annual Dangerous Waste Report, Alaskan Copper Works, 3200 Sixth Ave. Prepared by James C. Brown, Alaskan Copper Works. February 27, 1985.

Alaskan Copper Works. 1985b. Washington State Department of Ecology Notification of Dangerous Waste Activities, Request to Withdraw EPA/State Hazardous Waste I.D.# WAD980738546. Prepared by James C. Brown, Alaskan Copper Works. February 27, 1985.

Alaskan Copper Works. 1989. Washington State Department of Ecology Notification of Dangerous Waste Activities, Request to Reactivate Site I.D. # WAD980738546. Prepared by James C. Brown. June 24, 1989.

Alaskan Copper Works. 2001. Stormwater Pollution Prevention Plan. September 2001.

Alaskan Copper Works. 2006. Letter from James C. Brown, Alaskan Copper Works, to Elliott Zimmermann, Ecology. Re: Dangerous Waste Compliance Inspection at Alaskan Copper Works, RCRA ID# WAD 980738546 on October 19, 2006. November 8, 2006.

ALPAC (ALPAC Corporation). 1992a. ALPAC Corporation Pollution Prevention Plan Executive Summary, Chapter 173-307-040 WAC. 1992. September 3, 1992.

ALPAC. 1992b. Underground Storage Tank 30 Day Notice of Intent to Close/Decommission Tanks. Prepared by Linda J. Laszewski. October 8, 1992.

ARI (Analytical Resources, Inc.) 2008a. Final Results for Sediment Analysis - Duwamish Diagonal (North Star Casteel Products Facility). Submitted to Beth Schmoyer of SPU by Mark Harris of ARI. June 9, 2008.

ARI. 2008b. Client Project: LDW-Seattle Barrel, ARI Job No. NW26 (Catch Basin Sediment Sample Results). December 5, 2008.

ATC (ATC Associates, Inc.). 1999a. Phase I Environmental Acquisition Study, City Commerce Park, Seattle, Washington. Prepared for RReef America L.L.C. and Its Client. December 9, 1999.

ATC. 1999b. Preliminary Subsurface Investigation, City Commerce Park, 3901-4143 1st Avenue South, Seattle, Washington 98134. Prepared for RReef America L.L.C. December 15, 1999.

ATC. 2001. Subsurface Investigation Report, City Commerce Park, First Avenue South, Seattle Washington 98134, Ecology Identifier: 76834465. Prepared for Equity Office Properties (formerly Spieker Properties, Inc.). September 26, 2001.

AV-Pro. 2009. AV-Pro Company Website http://www.av-pro.com/index.html. Accessed July 17, 2009.

B&G Machine (B&G Machine, Inc.). 2009. B&G Machine Company website: http://www.bandgmachine.com. Accessed on May 4, 2009.

Bamboo Hardwoods. 2009. Bamboo Hardwoods Company Website: http://www.bamboohardwoods.com. Accessed on June 30, 2009.

Banzai Sushi. 2009. Banzai Sushi Company Website http://www.banzai-sushi.com/. Accessed July 20, 2009.

Bardy. 1998a. Telephone Conversation Record between Louise Bardy, Ecology, and John Drake, Northwest Plating Company. Re: Status of groundwater monitoring wells on the former Northwest Plating Company property, 825 S Dakota St., Seattle. September 2, 1998.

Bardy. 1998b. Telephone Conversation Record between Louise Bardy, Ecology, and Steve Perrigo, Pinnacle GeoSciences. Re: Status of groundwater monitoring plans at NW Plating (Former), 825 S Dakota St. Seattle. September 4, 1998.

BCT. 2009. BCT Company Website http://www.businesscardstomorrow.com/aboutus.html. Accessed July 24, 2009.

Belshaw Brothers (Belshaw Brothers, Inc.). 1994. Letter from William M. Knight, Belshaw Brothers, to Ecology. Re: Diesel spill on July 18, 1994. September 2, 1994.

Benz. 1992. UST Closure Report, Site Characterization, Bloch Steel Industries. Prepared by Fred S. Benz. June 30, 1992.

Benz. 1994. Disposition of Excavated Soil, Addenda to UST Closure Report dated June 30, 1992, Bloch Steel Industries, Seattle, Washington. Prepared by Fred S. Benz. August 19, 1994.

Bison (Bison Environmental N.W., Inc.). 1992. Underground Storage Tank Removal, Site Assessment Report, Esquire Cleaners/Beacon Market, 3219 Martin Luther King Jr. Way South, Seattle, Washington. Prepared for Beacon Market. November 10, 1992.

Bixby. 2009a. E-mail from Ryan Bixby, Sound Environmental Strategies, to Nnamdi Madakor, Ecology. Re: Time Oil Co. 216 Former Bulk Fuel Facility (VCP ID NW1737). March 10, 2009.

Bixby. 2009b. E-mail from Ryan Bixby, Sound Environmental Strategies, to Nnamdi Madakor, Ecology. Re: Time Oil Co. 216 Former Bulk Fuel Facility. March 18, 2009.

Blaes Environmental (Blaes Environmental Management, Inc.). 2000. Initial Site Characterization Report – U-Haul Facility #701-57, 2515 South Rainier Avenue, Seattle, WA. Submitted to AMERCO Real Estate Company/U-Haul International, Phoenix, AZ. May 15, 2000.

Blaes Environmental. 2004. Groundwater Monitoring Report (Conducted October 2004) - U-Haul Facility #701-57, 2515 South Rainier Avenue, Seattle, WA. Submitted to AMERCO Real Estate Company/U-Haul International, Phoenix, AZ. December 17, 2004.

Blaes Environmental. 2005a. Groundwater Monitoring Report (Conducted February 2005) - U-Haul Facility #701-57, 2515 South Rainier Avenue, Seattle, WA. Submitted to AMERCO Real Estate Company/U-Haul International, Phoenix, AZ. April 5, 2005.

Blaes Environmental. 2005b. Groundwater Monitoring Report (Conducted June 2005) - U-Haul Facility #701-57, 2515 South Rainier Avenue, Seattle, WA. Submitted to AMERCO Real Estate Company/U-Haul International, Phoenix, AZ. July 27, 2005.

Blaes Environmental. 2005c. Groundwater Monitoring Report (Conducted September 6, 2005) - U-Haul Facility #701-57, 2515 South Rainier Avenue, Seattle, WA. Submitted to AMERCO Real Estate Company/U-Haul International, Phoenix, AZ. September 29, 2005.

Blue Origin LLC. 2009. Blue Origin LLC Company website: http://www.blueorigin.com. Accessed on July 31, 2009.

BMP Painting (BMP Painting Contractors, Inc.). Letter from Jeffrey R. Mjelde (BMP Painting) to Norm Peck, Ecology. Re: Existing Conditions on the Sammis Land Co. property. January 8, 1990.

Boateng (Boateng Environmental Scientists). 1993. Winter Quarter and Annual Report for Groundwater Sampling, 1992, Seattle City Light South Service Center Fueling Station. Prepared for Seattle City Light. January 15, 1993.

Boateng. 1994. South Substation, Soil Assessment, 4th Avenue South and South Spokane Street, Seattle, WA. Prepared for Seattle City Light. September 1994.

Boateng. 1997. Quarterly Groundwater Sampling and Annual Report – Seattle City Light South Service Center Pole Yard, November 1996. Prepared for Seattle City Light. January 9, 1997.

Booth. 2005. E-mail from Thom Booth, Integrated Science Solutions, Inc., to Ronald W. Timm, Ecology. Re: C735 RV006 MW4 Data, RV-006 3101 MLK Way S. May 4, 2005.

Booth and Herman. 1998. Duwamish Coalition: Duwamish basin groundwater pathways conceptual model report. City of Seattle Office of Economic Development and King County Office of Budget and Strategic Planning, Seattle, WA. As cited in Windward 2003.

Bureau Veritas (Bureau Veritas North America, Inc.). 2006. Site Characterization Report, First Hill Property, 426 Broadway Avenue, Seattle, Washington, ERTS 554033. Prepared for TPV, LLC. September 26, 2006.

Camcal. 2009. Camcal Inc. Company Website http://www.camcal.com. Accessed July 20, 2009.

Cargill. 2009. Comments from Dan Cargill, Ecology, regarding the Lower Duwamish Waterway, Early Action Area 1, Duwamish/Diagonal Way (RM 0.1 to 0.9 East), Summary of Existing Information and Identification of Data Gaps for Duwamish/Diagonal CSO/SD Basin Draft Report. August 21, 2009.

Carlton. 1990. Form: Notice of Permanent Closure of Underground Storage Tank(s). Signed by David Carlton, owner, CAMCAL Co. February 16, 1990.

Casey & Pruzan. 1993. Letter from Gary R. English, Casey & Pruzan, to Dorothy Glenn, Ecology. Re: Notice of Contamination: WAC 173-340-300, Report #11622. February 10, 1993.

CDI (Chemical Distributors, Inc.). 2009. CDI Company Website: http://www.cdipdx.com. Accessed on June 30, 2009.

CDM (Camp, Dresser, & McKee, Inc.). 2005. Parcel RV-003.4 Underground Storage Tank Closure Assessment Cleanup Action Sound Transit Central Link Light Rail Seattle, Washington. Prepared for Sound Transit. September 1, 2005.

CDM. 2006. Parcel RV-006, Remediation Summary Report, Sound Transit Central Link Light Rail, Seattle, Washington, Ecology Facility Site ID #74595148. Prepared for Sound Transit. December 13, 2006.

CDM. 2009. Cleanup Action Plan, Rainier Commons Facility, 3100 Airport Way S, Seattle, Washington. Prepared for Rainier Commons, LLC. April 29, 2009.

Central Bark. 2009. Central Bark Company Website http://www.central-bark.com/contact.html. Accessed July 20, 2009.

CH2M Hill (CH2M Hill, N.W. Inc.). 1987. Acme Ironworks Field Investigation and Underground Tank Removal Report. October 1987.

Charlie's Produce. 2009. Charlie's Produce Company Website http://www.charliesproduce.com/contacts.htm. Accessed July 21, 2009.

Chicago Title (Chicago Title Insurance Co.) 2003. Restrictive Covenant No. 20030612002978, 615 South Alaska, LLC, 615 South Alaska Street, Seattle, Washington 98108. Recorded August 12, 2003.

Clayton (Clayton Group Services, Inc.). 2003a. Phase I Environmental Site Assessment, Vacant Building, 2203 East Union Street, Seattle, Washington. Prepared for Capitol Hill Housing Improvement Program and Central Area Development Association. June 16, 2003.

Clayton. 2003b. Limited Phase II Subsurface Investigation, Vacant Building, 2203 East Union Street, Seattle, Washington. Prepared for Capitol Hill Housing Improvement Program. July 17, 2003.

Coastal (Coastal Tank Services & Construction). 1993. Letter from Glen Anderson, Coastal, to Ecology. Re: Site Check and Site Assessment, Damascus Baptist Church. November 17, 1993.

Coastal Tank Cleaning, Inc. 1992. Site Check and Site Assessment. Prepared for John Gunning, Griffin Envelope. November 23, 1992.

Commercial Warehouse Co. 2001. Storm Water Pollution Prevention Plan. Signed September 6, 2001. Seattle, WA.

Conference of Mayors. 2007. Reclaiming the Land, Revitalizing Communities. Brownfields Redevelopment: A Compendium of Best Practices, Vol 2. The United Conference of Mayors, Washington, D.C.

Cook. 2001a. Email from David Cook, GeoEngineers, Inc., to Ronald Timm (Ecology), Pat Chemnick (SEED), Emery Bayley, Brandon Morgan (Simpson Housing), Greg Arms (Simpson Housing), Joanne Labaw (EPA), Lucy Auster, Greg Gervais (EPA). Re: Rainier Court Progress Update. December 10, 2001.

Cook. 2001b. Email from David Cook, GeoEngineers, Inc., to Ronald Timm (Ecology), Pat Chemnick (SEED), Emery Bayley, Brandon Morgan (Simpson Housing), Lucy Auster, Greg Gervais (EPA), Timothy Brincefield (EPA). Re: Rainier Court QA/QC Appraoch to Ground Water Testing. December 11, 2001.

Cook. 2003a. Email from David Cook, GeoEngineers, Inc., to Ronald Timm, Ecology. Re: Rainier Court Project Update. May 16, 2003.

Cook. 2003b. Email from David Cook, GeoEngineers, Inc., to Ronald Timm, Ecology, and Pat Chemnick, SEED. Re: comments on Rainier Court Phase I Draft CAP. September 30, 2003.

Cook. 2003c. Email from David Cook, GeoEngineers, Inc., to Ronald Timm, Ecology. Re: Rainier Court VOC info. December 9, 2003.

Cooper. 1986. Washington State Underground Storage Tank Notification Form. Paul D. Fiorito, 4413 Airport Way South, Seattle, WA 98108. Prepared by Robert O. Cooper. April 30, 1986.

Cooper. 1989. Notice Permanent Closure of Underground Storage Tanks. Site Owner/Operator: General Welding Supply Co. Site Address: 4413 Airport Way S, Seattle, WA 98108. Prepared by Robert O, Cooper. November 13, 1989.

CRA (Conestoga-Rovers & Associates). 2001. Remedial Action at the Former Invatec Steam Supply & Rubber Company Facility, 601/615 South Alaska St., Seattle, Washington. January 22, 2001.

Crosscut Hardwoods. 2009. Crosscut Hardwoods Company Website http://www.crosscuthardwoods.com/. Accessed July 20, 2009.

Dahl. 2005. Email from Matt Dahl, PES Environmental, Inc., to Ronald W. Timm, Ecology. Re: Former VW&R Seattle Site Project Meeting – January 18, 2005. January 6, 2005.

Daily Candy. 2009. Daily Candy Seattle: Counter Culture: Hudson Restaurant Opens, Hudson, 5000 East Marginal Way South, http://www.dailycandy.com/seattle/article/42948/Counter+Culture. April 17, 2009.

Dalton, Olmsted, & Fuglevand, Inc. 1990. Summary of Observations, Response to Diesel Oil Spill, Seattle City Light, Spokane Street and 4th Avenue South, Seattle, Washington. April 10, 1990.

Dames & Moore. 1991. Addendum Report, Geotechnical and Environmental Investigation, Harborview Medical Center, Site Preparation and Relocation Project, Seattle, Washington. Prepared for King County. April 29, 2001.

Dames & Moore. 1993a. Report, Subsurface Soil Characterization, Former Caustic Storage Room, 2300 26th Avenue South, Seattle, Washington. Prepared for ALPAC Corporation. September 20, 1993.

Dames & Moore. 1993b. Report, Underground Storage Tank Site Check/Assessment, ALPAC Corporation Facility, 2300 26th Avenue South, Seattle, Washington. Prepared for ALPAC Corporation. September 22, 1993.

Dames & Moore. 1994a. Letter from David Raubvogel, Dames & Moore, to Ecology Underground Storage Tank Section. Re: UST 30 Day Notice, ALPAC Corporation 2300 26th Ave. South, Seattle, WA. March 16, 1994.

Dames & Moore. 1994b. Underground Storage Tank Temporary/Permanent Closure and Site Assessment Notice, ALPAC/Pepsi Cola, 2300 26th Ave South, Seattle, Wash 98144. June 22, 1994.

Dames & Moore. 1995a. Environmental Site Assessment, Belshaw Brothers Company, 1750 22nd Avenue South, Seattle, Washington. Prepared for Cleary, Gottlieb, Steen & Hamilton. January 4, 1995. As cited in URS 2004.

Dames & Moore. 1995b. Report, UST Site Assessment & Independent Remedial Action, Former ALPAC Corporation Facility, 2300 26th Ave South, Seattle, Washington, Site I.D. # 007876. Prepared for Former Shareholders of ALPAC Corporation. January 16, 1995.

Dames & Moore. 1996. Report, Groundwater Monitoring Program, Former ALPAC Corporation Facility, 2300 26th Ave South, Seattle, Washington, Site I.D. # 007876. Prepared for Former Shareholders of ALPAC Corporation. April 15, 1996.

Dames & Moore. 1999. Phase I Environmental Site Assessment - 3612 34th Avenue South Property, Seattle, Washington. Prepared for Low Income Housing Institute. March 31, 1999.

Darigold. 1991a. Unsigned Letter or Memo from Darigold. No recipient designated. Re: UST, gasoline and oil tanks, Rainier Avenue. March 15, 1991.

Darigold. 1991b. Letter from William DeRousse, Darigold, to Joe Hickey, Ecology. Re: UST Clean Up. March 15, 1991.

Davidson. 2007. Letter from Daylin Davidson, Ecology, to Mary Stewart, Dynacare NW Inc Rapid Response Lab. Re: Dangerous Waste Compliance Inspection at Dynacare NW Inc Rapid Response Lab, RCRA ID# WAH 000 017 285 on October 3, 2007. November 13, 2007.

DCLU (City of Seattle Department of Design, Construction, and Land Use). 2000. Land Use Notice of Violation No. 2000051800076. Issued to Vance R. and Judy A. Gribble. Subject: Premises known as 800-822 Poplar Place South. February 29, 2000.

Deckert Environmental. 2003. Site Assessment Swedish Medical, Providence Hospital Project. Letter report Prepared by Michael Deckert. Prepared for Joe Hall Construction Company. March 14, 2003.

Deeny Construction. 2002. Letter from Terry Deeny, Deeny Construction, to John Bails, Ecology. Re: Deeny Construction/ 2545 Rainier Ave. S, Seattle, Ecology UST # 2621. September 5, 2002.

Delta (Delta Environmental Consultants, Inc.). 2005a. Environmental Oversight during Retail Facility Upgrade Activities. Submitted to BP West Coast Products, LLC, Mill Creek, WA. March 9, 2005.

Delta. 2005b. Subsurface Investigation Report ARCO Facility No. 5445 665 23rd Ave. Prepared for Remediation Management, Renton, WA. Prepared by Delta Environmental Consultants, Inc., Redmond, WA. October 25, 2005.

Delta. 2006. Groundwater Monitoring Report Atlantic Richfield Company First and Second Quarters of 2006. Prepared for Atlantic Richfield Company. August 15, 2006.

Delta. 2009a. Groundwater Monitoring Report Atlantic Richfield Company Third and Fourth Quarters of 2008. Prepared for Atlantic Richfield Company. February 11, 2009.

Delta. 2009b. Fourth Quarter 2009 Monitoring, Former Shell Service Station-3199519, 2921 Martin Luther King, Jr. Way South. Prepared for Shell Oil Products US. February 19, 2009.

Depew. 1990. Letter from Chuck Depew, Seattle Department of Community Development, to Norm Peck, Ecology. Re: Potential Site Contamination Questionnaire at the Jefferson Bus Base site. January 31, 1990.

Development Services of America. 2006. Letter from Richard Wilson, Development Services of America, to Carrie Pederson, Ecology. Re: United Motor Freight, 4103 2nd Ave South, Seattle WA Underground Storage Tank No. 453. July 3, 2006.

Direct Connect Group West. 2009. Direct Connect Group West Website for Mailhandlers http://www.dcgwest.com/about/. Accessed July 20, 2009.

DOWL Engineers. 1992. Site Characterization Report Gasoline and Diesel LUST Site United Motor Freight Facility Seattle, Washington Volume I. Prepared for Development Services of America, Seattle, WA. April 1992.

DOWL Engineers. 1993. Remedial Investigation/ Feasibility Study Petroleum Contaminated Soils and Groundwater 4103 Second Ave South Seattle, Washington Volume 1. Prepared for Development Services of America, Seattle, WA. August 1993.

DOWL Engineers. 2000. Technical Memorandum 1999 Interim Monitoring and Cleanup Activities – United Motor Freight Property, 4103 2nd Avenue South, Seattle, WA. July 2000.

E&E (Ecology & Environment, Inc.). 1987. Site Inspection Report for Metal Laundry Site, Seattle, Washington. Prepared for U.S. Environmental Protection Agency, Region X. October 1987.

E&E. 1991a. Site Assessment Work Plan for Clayton Volkswagen Repair, 4709 Martin Luther King Way South, Seattle, Washington. Prepared for Washington State Department of Ecology. April 30, 1991.

E&E. 1991b. Draft Site Assessment for Clayton Volkswagen Repair. Prepared for Washington State Department of Ecology. July 26, 1991.

E&E. 2001. Rainier Court Targeted Brownfields Assessment Seattle, Washington. Prepared for USEPA Region 10. January 2001.

EA Engineering (EA Engineering, Science, and Technology, Inc.). 2007. Site Cleanup Report for 1313 East Columbia Street, Seattle, Washington 98122. Prepared for Qwest Corporation. December 2007.

Earth Consultants. (Earth Consultants, Inc.). 1989a. Geotechnical Engineering Study, Proposed Building Addition, 3405 – 6th Avenue South, Seattle, Washington. Prepared for Alaskan Copper Works. November 27, 1989.

Earth Consultants. 1989b. Letter from Mary L. Lynch and Charles L. Vita, Earth Consultants, to Bill Rosen, Alaskan Copper Works. Re: Possible Hydrocarbon Contamination, Alaskan Copper Site, 3405 – 6th Avenue South, Seattle, Washington. December 22, 1989.

Earth Consultants. 1991. Supplemental Environmental Study, Spear Trusts Warehouse Expansion, 6th Avenue South at South Andover Street, Seattle, Washington. Prepared for Seattle First National Bank and Bradley K. Spear. January 30, 1991.

Earth Consultants. 2006. Underground Storage Tank Site Assessment and Independent Cleanup Report, First Hill Property, 426 Broadway Avenue, Seattle, Washington, ERTS 55403. Prepared for TPV, LLC. April 24, 2003.

ECA (Environmental Consulting Associates, LLC). 2005a. Letter from Jason D. Souza, ECA, to Gail Colburn, Ecology. Re: Limited Soil and Groundwater Investigation, Central Bark, 838 Poplar Place South, Seattle, Washington. April 29, 2005.

ECA. 2005b. Letter from Jason D. Souza, ECA, to Mark Adams, Ecology. Re: Limited Soil and Groundwater Investigation, Central Bark, 838 Poplar Place South, Seattle, Washington. September 13, 2005.

Ecohaus. 2009. Ecohaus Company Website http://www.ecohaus.com/community/seattle/default.html. Accessed July 17, 2009.

Ecology. 1972. Letter from R. Jerry Bollen to Alaskan Copper Works. Re: Issue of Waste Discharge Permit Number 3967 to Alaskan Copper Works, 3200 6th Avenue S, Seattle. February 28, 1972.

Ecology. 1981. Letter from M.M. Dawda, Ecology, to Steve Ralph, Seattle City Light. Re: Discharge of Microcide CA-39 and Scale Pro L-38 into a storm drain tributary to the Duwamish Waterway. March 17, 1981.

Ecology. 1983. Letter from Julie Sellick, Ecology, to Al Cuplin, Seattle City Light. Re: Dangerous Waste Designation of Surplus Pesticides. December 21, 1983.

Ecology. 1984. Letter from Julie Sellick, Ecology, to James Brown, Alaskan Copper Works. Re: RCRA/Dangerous waste compliance Inspection at the Alaskan Copper Works Facility (WAD 9880738546) in Seattle, Washington, on May 31, 1984. June 4, 1984.

Ecology. 1985a. Letter from Julie Sellick, Ecology, to James Brown, Alaskan Copper Works. Re: Dangerous Waste Inspection at the Alaskan Copper Works Facility (WAD980738546) in Seattle, Washington, on March 12, 1985. June 20, 1985.

Ecology. 1985b. Memorandum from Julie Sellick, Ecology, to John Conroy and Dangerous Waste Files, Ecology. Subject: Narrative Report for Dangerous Waste Inspection at the Alaskan Copper Works Facility (WAD980738546) in Seattle, Washington, on March 12, 1985. June 20, 1985.

Ecology. 1988. Environmental Complaint Form, BMP Inc., 647 S Alaska. Prepared by Dan Cargill, Ecology. December 14, 1988.

Ecology. 1989a. Letter from Ron Devitt, Ecology, to Skip Gribble, Ralph's Concrete Pumping. Re: Warning Letter. January 26, 1989.

Ecology. 1989b. Memorandum from Dave Lundstrom, Ecology, to Julie Sellick and John Conroy, Ecology. Subject: Dangerous waste compliance and land ban inspection on June 30 1989 at Alaskan Copper and Brass, (WAD 980738546) located in Seattle, Washington. July 5, 1989.

Ecology. 1989c. Environmental Complaint Form, UST Notice of Release, Providence Hospital, 500 17th Avenue, Seattle. Prepared by Joe Hickey. September 8, 1989.

Ecology. 1989d. Potential Hazardous Waste Site, Site Identification, Washington Industries DBA N.W. Plating. Prepared by Lee Dorrigan, Ecology. October 23, 1989

Ecology. 1989e. Potential Hazardous Waste Site, Site Identification, BMP, Inc., 647 S. Alaska, Seattle, WA. Prepared by Norm Peck, Ecology. November 15, 1989.

Ecology. 1989f. Potential Hazardous Waste Site, Site Identification, Alaska Copper and Brass, 3223 6th Avenue S, Seattle. Prepared by David Lundstrom. November 22, 1989.

Ecology. 1989g. ERTS Initial Report/Followup - Owl Transfer. December 15, 1989.

Ecology. 1990a. ERT System – Initial Report/Followup, Report #:120, BMP Painting, 647 Alaska Street. Prepared by Elin Abramson. January 4, 1990.

Ecology. 1990b. TSCA Inspection Report, Rainier Brewing Company, Seattle, Washington. Prepared by Peter A. Maule, Ecology. January 19, 1990.

Ecology. 1990c. Letter from Annette M. Petrie, Ecology, to Atlas Applicators. Re: Sammis Land Co. Site #N-17-5009-000. January 31, 1990.

Ecology. 1990d. Letter from Annette M. Petrie, Ecology, to Duroboat Mfg. Co. Re: Sammis Land Co. Site #N-17-5009-000. January 31, 1990.

Ecology. 1990e. ERT System – Initial Report/Followup, Unique Record #N1412, Northwest Plating, 825 South Dakota ST, Seattle. Prepared by Elin Abramson. May 15, 1990.

Ecology. 1990f. Letter from Ron Devitt, Ecology, to Mr. Cribble, Ralph's Concrete Pumping. Re: Follow Up to July 9, 1990 discussion. July 11, 1990.

Ecology. 1990g. ERT System – Initial Report/Followup, Unique Record #N1964, B. Leonard, Vacant Lot on 34th (3630). Prepared by Elin Abramson. July 12, 1990.

Ecology. 1990h. Environmental Report Tracking Form, Initial Report and Follow-up, Clayton VW Repair. Prepared by Lundstrom and Joe Hickey, Ecology. September 13, 1990.

Ecology. 1990i. Letter from Joseph M. Hickey, Ecology, to Navarro W. Journee. Re: Petroleum Contamination of Soil at 4714 30th Avenue South. October 11, 1990.

Ecology. 1990j. Letter from Barbra Trejo, Ecology, to Charles Fredrickson, Western Peterbilt, Inc., Re: Water Quality Violations. November 2, 1990.

Ecology. 1991a. Initial Investigation, 80 S Hudson Street. Prepared by John Stormon. January 15, 1991.

Ecology. 1991b. Letter from Bruce Smith, Ecology, to David Carlton. Re: Acknowledgment of UST removal at 4000 Airport Way South. February 12, 1991.

Ecology. 1991c. Letter from Louise Bardy, Ecology, to David Clayton, Clayton VW Repair. Re: Early Notice Letter, Clayton VW Repair #N-17-5100-000. March 20, 1991.

Ecology. 1991d. Memorandum from Joe Hickey, Ecology, to Trish Akana, Ecology. Subject: Interim Action Request, Clayton VW Repair, Seattle. March 25, 1991.

Ecology. 1991e. Initial Investigation Inspection, Report #N1964, B. Leonard and Son, 3626 34th Avenue S., Seattle 98144. May 17, 1991.

Ecology. 1991f. Letter from Joe Hickey, Ecology, to Valerie Polack, Acme Food Sales, Inc. Re: Petroleum Contamination Remediation at Acme Poultry Company, 2001 21st Ave South, Seattle. May 21, 1991.

Ecology. 1991g. Underground Storage Tank Notice of Confirmed Release: Chubby & Tubby. Prepared by Roger Nyer. June 12, 1991.

Ecology. 1991h. Department of Ecology-NWRO Underground Storage Tank Notice of Confirmed Release, Site Name: Griffin Envelope, Inc. 4301 East Marginal Way S., Seattle. Prepared by John Stormon, Ecology. August 15, 1991.

Ecology. 1992a. Letter from Dave Garland, Ecology, to Rob Lindsay, Sweet-Edwards/EMCON. Re: Comments on Proposal for Site Remediation, SES Seattle, Inc., Project W65-01.02. January 23, 1992.

Ecology. 1992b. Letter from Joseph Hickey, Ecology, to Marla Stremca (sic), Olympus Environmental, Inc. Re: Petroleum Contamination Cleanup at 3433 4th Ave South, Seattle. April 22, 1992.

Ecology. 1992c. Department of Ecology Inspection Report. Enforcement Inspection at Western Peterbilt, Inc. 3707 Airport Way South, Seattle on May 4, 1992. Prepared by J. Polayes-Wien. May 6, 1992.

Ecology. 1992d. Letter from Joanne Polayes-Wien, Ecology, to Elmer G. Opdahl, Washington State Liquor Control Board. Re: Water Quality and Dangerous Waste Violations. July 7, 1992.

Ecology. 1992e. Facility Pollution Prevention Site Visit Report, North Star Casteel. Visit Conducted by Bruce Hamner. July 24, 1992.

Ecology. 1992f. Letter from Burt Hamner, Ecology, to Mike McDowell, North Star Casteel Products, Inc. Re: Pollution Prevention Planning requirements. July 24, 1992.

Ecology. 1992g. Waste Reduction, Recycling, and Litter Control Program, Site Visit or Contact Report, Seattle Technical Finishes, 1005 S. King St. Seattle, WA 98104. Prepared by Deborah Helstrom, Ecology. August 5, 1992.

Ecology. 1992h. Facsimile from Mary O'Herron, Ecology, to Steve Burke, Seattle-King County Department of Public Health. Re: Complaints received for the Jefferson Bus Barn Site. August 18, 1992.

Ecology. 1992i. Order No. DE 92TC-N284, Lloyd's Rocket and Heating Oil Co., UST #101554. September 1, 1992.

Ecology. 1992j. Inspection Report, Washington State Liquor Control Board Distribution Center, 4401 East Marginal Way South, Seattle. December 9, 1992.

Ecology. 1992k. Letter from James D. Krull, Ecology, to James Brown, Alaskan Copper & Brass Co. Re: Coverage Under the Storm Water Baseline General Permit. Permit No. SO3-00139. December 22, 1992.

Ecology. 1992l. Letter from James D. Krull, Ecology, to Scott Kiilsgaard, Arctic Ice Cream Novelties. Re: Coverage Under the Storm Water Baseline General Permit. Permit No. SO3-000088. December 24, 1992.

Ecology. 1993a. Form: UST Notice of Confirmed Release – 450 S. Spokane St. October 22, 1993.

Ecology. 1993b. Form: UST Notice of Confirmed Release – 5237 Rainier Avenue South. November 2, 1993.

Ecology. 1993c. ERT System – Initial Report/Followup, ALPAC Bottling Facility Site, 2300 26th Avenue S, Seattle, WA 98144. November 29, 1993.

Ecology. 1994a. Inspection Report, Rainier Brewing Company, 3100 Airport Way South, Seattle, 98134. March 23, 1994.

Ecology. 1994b. Letter from Louise Bardy, Ecology, to Ralph Banchero. Re: Early Notice Letter #N-17-5220-00, Rainier Plaza/Banchero Estate, 3800 Rainier Ave. S., Seattle, WA 98118. April 28, 1994.

Ecology. 1994c. Initial Investigation Inspection, Alaskan Copper. Prepared by M.K. O'Herron. June 30, 1994.

Ecology. 1994d. NPDES Compliance Inspection Report, G. Heileman Brewing Co. (Rainier Beer Company) 3100 Airport Way South, Seattle WA 98134. September 12, 1994.

Ecology. 1994e. Letter from Elaine Atkinson, Ecology, to James Kintner. Re: Business Pro Computers Independent Remedial Action. October 26, 1994.

Ecology. 1995. Hazardous Waste and Toxic Reduction Inspection, Fleet Service Truck Repair/Unknown, 625 S Alaska, Seattle, Inspection Date: August 4, 1994. February 15, 1995.

Ecology. 1996a. Letter from James D. Krull, Ecology, to Alaska Copper & Brass Co. Re: Stormwater Baseline General Permit for Industrial Activity. January 10, 1996.

Ecology. 1996b. Letter from Elaine Atkinson, Ecology, to Tom Tierney, City of Seattle, Office of Management and Planning. Re: Restrictive Covenant request for Rainier Plaza or Rainier Valley Square site at 3820 Rainier Avenue South in Seattle. January 25, 1996.

Ecology. 1996c. Letter from Elaine P. Atkinson, Ecology, to Richard Embry, Gramor Development. Re: Ecology review of the independent remedial action for the Rainier Valley Square property located at 3820 Rainier Avenue South in Seattle, Washington. February 9, 1996.

Ecology. 1996d. Letter from Elaine P. Atkinson, Ecology to Richard Embry, Gramor Development. Re: Ecology review of the independent remedial action for the Rainier Valley Square property located at 3820 Rainier Avenue South in Seattle, Washington. April 2, 1996.

Ecology. 1996e. ERTS Complaint Information, Incident ID: N23447, Rainier Brewery 820 S Forest, Seattle, WA. March 13, 1996.

Ecology. 1996f. Hazardous Waste and Toxic Reduction Inspection Report, Alaska Copper Works, 3200 6th Ave S, Seattle, WA 98124. Prepared by Bob Stone. August 15, 1996.

Ecology. 1998a. Water Compliance Inspection Report, Rainier Brewing Company. Inspection Date: March 27, 1998. April 14, 1998.

Ecology. 1998b. Letter from Lydia Cabeza, Ecology, to Damascus Baptist Church. Re: Petroleum Contamination at Damascus Baptist Church in Seattle, WA. August 10, 1998.

Ecology. 1998c. Letter from Lydia Cabeza, Ecology, to Deeny Construction Company. Re: Petroleum Contamination at Deeny Construction Company, Inc. in Seattle, WA. August 10, 1998.

Ecology. 1998d. Letter from Ecology to Providence Seattle Medical Center. Re: UST Site Number 3724. Signature page missing. August 18, 1998.

Ecology. 1998e. ERTS Referral Incident ID N30131 leaking UST. August 27, 1998.

Ecology. 1999a. Letter from Dan Cargill, Ecology, to Timothy J. Peter, AESI, and Alex G. Perlman, Whalen & Company, Inc. Re: Proposed GTE Wireless Communications Tower, Rainier Valley Shopping Center, 3820 Rainier Avenue, South, Seattle, Washington. January 12, 1999.

Ecology. 1999b. Letter from Annette P. Ademasu, Ecology, to Leroy Kramer, Gai's Northwest Bakeries. Re: Notice of Correction for Site #7985. January 20, 1999.

Ecology. 1999c. Letter from Elliott Zimmermann, Ecology, to Tom Nibarger and William Knight, Belshaw Brothers. Re: Notice of Correction. Dangerous waste compliance inspection at Belshaw Brothers Inc. (WAD103351581) on February 18, 1999. March 15, 1999.

Ecology. 1999di. Letter from Robert Stone, Ecology, to Lisa Woodings, VA Puget Sound Health Care System. Re: Dangerous Waste Compliance Inspection VA Puget Sound Health Care System (WA1360007313). March 18, 1999.

Ecology. 1999e. Letter from Melodie Selby, Ecology, to Mac McFatridge, ColorGraphics. Re: Stormwater Baseline General Permit for Industrial Activity, ColorGraphics. July 1, 1999.

Ecology. 1999f. Letter from John Lillie, Ecology, to Joel Richards, Colorado Avenue Investments L.P. Re: Bloch Steel Industries – 4580 Colorado Avenue south, Seattle, Washington, Parcel #357320-0040. November 16, 1999.

Ecology. 2000a. Letter from Julie Sellick, Ecology, to H. Christine Pratt, Seattle City Light. Re: Request for extension of waste accumulation period at City Light's Mederate Risk Waste Facility. January 20, 2000.

Ecology. 2000b. ERTS, Incident ID: N509811, Ralph's Concrete 800-822 Poplar Pl S. Seattle, WA 98144. March 16, 2000.

Ecology. 2000c. Letter from Nnamdi Madakor, Ecology, to Peter Jewett, Farallon Consulting. Re: Request for Review and Opinion Letter, Washington Trucking Associations, 4101 4th Avenue South, Seattle, Washington, 98101. TCP I.D. #NW0465. June 5, 2000.

Ecology. 2000d. Letter from Joseph Hickey, Ecology, to James Kintner, Hall, Pinckney, Kintner and West, PS. Re: Independent Cleanup Action / Restrictive Covenant and 3422 (sic) 4th Ave South, Seattle, Your File No. 11752.03. June 7, 2000.

Ecology. 2000e. Letter from Joseph Hickey, Ecology, to James Kintner, Hall, Pinckney, Kintner and West, PS. Re: Independent Cleanup Action / Restrictive Covenant and 3444 (22?) 4th Ave South, Seattle, Your File No. 11752.03. June 29, 2000.

Ecology. 2000f. Letter from Nnamdi Madakor, Ecology, to Peter Jewett, Farallon Consulting. Re: Voluntary Cleanup Program, Washington Trucking Associations, 4101 4th Avenue South, Seattle Washington, 98101. TCP I.D. NW0465. August 21, 2000.

Ecology. 2000g. Letter from Ronald W. Timm, Ecology, to J. Michael Shields, Spieker Properties. Re: Independent Remedial Action, City Commerce Park property, 4115 1st Avenue South, Seattle, WA 98134. September 8, 2000.

Ecology. 2000h. ERTS Incident ID: N513800, Ralph's Concrete Pumping, 1517 Rainier Avenue S. October 19, 2000.

Ecology. 2000i. Industrial Stormwater General Permit, Alaskan Copper Works – NWRO, SO3-000139, 3200 6th Ave S, Seattle. Coverage Date: November 18, 2000, Expiration Date: November 18, 2005. November 18, 2000.

Ecology. 2000j. Industrial Stormwater General Permit, Arctic Ice Cream Novelties – NWRO, SO3-000088, 1901 23rd Ave S, Seattle. Coverage Date: November 18, 2000, Expiration Date: November 18, 2005. November 18, 2000.

Ecology. 2000k. Letter from Robert Store, Ecology, to Douglas Quimby, Saint Gobain Performance Plastics. Re: Dangerous Waste Compliance Inspection at Furon Seattle on 11/15/00. December 20, 2000.

Ecology. 2001a. Initial Investigation Field Report, Rainier Mall, 4208 Rainier Ave. So., Seattle. Prepared by Ron Timm. April 27, 2001.

Ecology. 2001b. Letter from Gail Colburn, Ecology, to Richard Buono. Re: Early Notice Letter 88987973, Rainier Mall, 4208 Rainier Ave. S. Seattle, WA 98118-1357. May 16, 2001.

Ecology. 2001c. Letter from Melodie A. Selby, Ecology, to John Borghese, WMI. Re: Coverage Under the General Stormwater Permit Associated with Industrial Activity, Facility Name: Alaska Street Reload & Recycle Facility, Location: 70 South Alaska Street, Seattle, WA 98134, Discharge to: Duwamish River. October 29, 2001.

Ecology. 2001d. Letter Sunny Linhao Becker, Ecology, Adam Hasson, Samis Foundation. Re: Independent Remedial Action, Webster Brinkley Property, 651 South Alaska Street, Seattle, WA. November 6, 2001.

Ecology. 2001e. Hazardous Waste and Toxic Reduction Program, Site Visit/Meeting Report, Belshaw Brothers, 1750 22nd Avenue S. December 4, 2001.

Ecology. 2002a. Letter from Ecology (signature page missing) to Patty Billings, North Star Casteel Products. Re: Notice of Termination of Coverage Under the Industrial Stormwater Baseline General Permit, Permit No. SO3-001214. February 28, 2002.

Ecology. 2002b. Letter from Ronald Timm, Ecology, to Pat Chemnick, SEED. Re: Request for Review of Conceptual Remedial Action Plan, VCP #NW0716, Rainier Court, 3500-3700 Rainier Ave. South, Seattle, WA. March 13, 2002.

Ecology. 2002c. Letter from Carrie McDougal, Ecology, to R.C. Partnership. Re: Western Peterbilt, Inc., 3707 Airport Way South, Seattle/ Ecology UST #1748; Requesting More Information Regarding Site Cleanup Activities. March 29, 2002.

Ecology. 2002d. ERTS# 526498. Entered by Donna Musa and Steve Bremer. June 11, 2002.

Ecology. 2002e. Letter from Ronald W. Timm, Ecology, to James Carbone, CalWest Industrial Properties, LLC. Re: Independent Remedial Action, VCP #NW0477, UST Area, City Commerce Park, 4115 First Avenue S. Seattle, WA. June 11, 2002.

Ecology. 2002f. Letter from Grant Yang, Ecology, to Douglas Quimby, Saint Gobain Performance Plastics. Re: Request for Review: Site Cleanup and NFA Request 3711 South Hudson Street. July 23, 2002.

Ecology. 2002g. Letter from Melodie A. Selby, Ecology, to John Borghese, Waste Management of Washington, Inc. Re: Coverage Under General Stormwater Permit Associated with Industrial Activity, including an Administrative Order to sample discharge. July 24, 2002.

Ecology. 2002h. Letter from Carrie McDougal, Ecology, to Damascus Baptist Church. Re: Damascus Baptist Church, 5261 Rainier Ave South, Seattle Ecology UST #102142, Requesting Additional Information Regarding Site Cleanup Activities. July 25, 2002.

Ecology. 2002i. Letter from Desiree Wells, Ecology, to Paul Berry, City of Seattle. Re: Seattle Fire Station 13 / 3601 Beacon Ave S / Ecology UST #7902. Status change to "Reported Cleaned Up." August 10, 2002.

Ecology. 2002j. Letter from Desiree Wells, Ecology, to Deeny Construction Company. Re: Deeny Construction Company Inc/ 2545 Rainier Ave S, Seattle / Ecology UST #2621. August 14, 2002.

Ecology. 2002k. Letter from Steve Bremer, Ecology, to Belshaw Brothers, Inc. Re: Early Notice Letter, Site #97763114, Belshaw Brothers, Inc., 1750 22nd Ave S, Seattle, WA 98144, Tax Parcel #: 1822300180. August 26, 2002.

Ecology. 2002l. Letter from Grant Yang, Ecology, to Douglas Quimby, Saint Gobain Performance Plastics. Re: Site Cleanup and NFA Request - No Further Action Determination 3711 South Hudson Street. September 11, 2002.

Ecology. 2002m. Letter from Carrie McDougal, Ecology, to O Mun Kwon, Property Owner. Re: Beacon Market, 3219 Martin Luther King Way South, Seattle/Ecology UST #101937; requesting additional information regarding site cleanup activities. September 13, 2002.

Ecology. 2002n. Letter from Warren J. Walton, Ecology, to John Borghese, Alaska Street Reload & Recycling. Re: Information site visit on October 15, 2002. November 1, 2002.

Ecology. 2003a. Letter from Desiree Wells, Ecology, to Darigold, Inc. Re: Darigold Seattle Remaining Contamination. January 17, 2003.

Ecology. 2003b. Letter from Joseph Crossland, Ecology, to Tong Family Partnership. Re: Review of High Priority Sites Files Related to USTs. March 6, 2003.

Ecology. 2003c. Washington Department of Ecology, Hazardous Waste & Toxics Reduction Program Compliance Report, Alaskan Copper Works 3200 6th Avenue South. Inspection Date: February 27, 2003. March 12, 2003.

Ecology. 2003d. Letter from Joseph Crossland, Ecology, to Loren & Ruth Chotzen, property owners. Re: Current Starbuck's Coffee (formerly Dunkin' Donuts) 2921 Martin Luther King Jr. Way South, Ecology UST # 443678. March 21, 2003.

Ecology. 2003e. Letter from Rachel Best, Ecology, to Lisa Woodings, VA Puget Sound Health Care System. Washington Department of Ecology Hazardous Waste and Toxics Reduction Program Compliance Report. Inspection Date January 29, 2003. April 5, 2003.

Ecology. 2003f. Letter from Warren Walton, Ecology, to James Brown, Alaskan Copper Works. Re: Dangerous waste compliance inspection on February 27, 2003 at Alaskan Copper Works, 3200 6th Avenue South, Seattle, WA 98124, RCRA ID# WAD 980 738 546. May 2, 2003.

Ecology. 2003g. Hazardous Waste and Toxic Reduction Program, Site Visit/Meeting Report, Belshaw Brothers, 1750 22nd Avenue S. May 20, 2003.

Ecology. 2003h. Letter from Nnamdi Madakor, Ecology, to John Bredvik. Re: Voluntary Cleanup Program 615 South Alaska LLC (The Former Steam Supply and Rubber Company/Flowserve Corp), 615 South Alaska Street, Seattle, WA 98108. TCP I.D. #1051. June 16, 2003.

Ecology. 2003i. Letter from Warren J. Walton, Ecology, to John Borghese, Alaska Street Reload & Recycling. Re: Dangerous Waste 10-Day Transfer Compliance Inspection at Alaska Reload & Recycling on November 20, 2003, RCRA ID# WAH 000 018 796. November 26, 2003.

Ecology. 2003j. Letter from Ronald Timm, Ecology, to Pat Chemnick, Rainier Court Association 2003-IIA, LLC. Re: Request for Review of Cleanup Action Plan: VCP #NW0716, Rainier Court Development Phase II. December 10, 2003.

Ecology. 2004a. Lower Duwamish Waterway Source Control Strategy. Publication No. 04-09-043. Prepared by Washington State Department of Ecology, Northwest Regional Office, Toxics Cleanup Program. January 2004.

Ecology. 2004b. Letter from K.Y. Su, Ecology, to Ruth Ha, BP. Re: Underground Storage Tank Site # 97618 – Notice of Non-Compliance. June 1, 2004.

Ecology. 2004c. Letter from Carrie Pederson, Ecology, to Pastor P.J. Oliver, Damascus Baptist Church. Re: Damascus Baptist Church, 5261 Rainier Ave South, Seattle Ecology UST #102142, Requesting Additional Information Regarding Site Cleanup Activities. August 17, 2004.

Ecology. 2004d. Letter from Sunny Linhao Becker, Ecology, to Adam Hasson, Samis Foundation. Re: Independent Remedial Action, Webster Brinkley Property, 651 South Alaska Street, Seattle, WA. August 26, 2004.

Ecology. 2004e. Letter from John Wietfeld, Ecology, to Cecil Leung and Sound Transit. Re: Notice of Non-Compliance, UST 100272, "Cecil Leung" Arco, 3005 Rainier Av S, Seattle. October, 5, 2004.

Ecology. 2004f. Letter from Michael Kuntz, Ecology, to John Long, Geomatrix. Re: Request for Review: Independent Remedial Action NW1331, Warehouse Site 4130 1st Ave. S., Seattle, WA. October 22, 2004.

Ecology. 2004g. Letter from Sunny Linhao Becker, Ecology, to Adam Hasson, Samis Foundation. Re: Re: Independent Remedial Action, Webster Brinkley Property, 651 South Alaska Street, Seattle, WA. December 6, 2004.

Ecology. 2004h. Lower Duwamish Waterway Source Control Action Plan for the Duwamish/Diagonal Way Early Action Cleanup. Ecology Publication No. 04-09-003. December 2004.

Ecology. 2005a. Notice of Penalty Incurred and Due No. 2487, Ralph's Concrete Pumping, 816 Poplar Place South. June 15, 2005.

Ecology. 2005b. Underground Storage Tank Notice of Confirmed Release, Daley's Dump Truck Svc, 3646 33rd S. Release ID (LKUST#): 591969. Site ID (UST#): 9031. Prepared by Carrie Pederson and Gayle Garbush. July 14, 2005.

Ecology. 2005c. Letter from Michael Kuntz, Ecology, to John Long, Geomatrix. Re: Further Action Necessary: Independent Remedial Action NW 1331, Warehouse Site 4130 1st Ave. S, Seattle, WA 98134. July 26, 2005.

Ecology. 2005d. Letter from Mark Adams, Ecology, to Gary Lane, Poplar Associates. Re: Further Action Determination under WAC 173-340-515(5) for the following Hazardous Waste Site: Name: Central Bark, Address: 838 Poplar Place South, Seattle WA 98144, Facility/Site No.: 66122831, VCP No.: NW1485. September 26, 2005.

Ecology. 2005e. Letter from Gayle Garbush, Ecology, to Ruth Ha, BP, Re: Early Notice Letter UST Site 97618. November 2, 2005.

Ecology. 2005f. Letter from Michael Kuntz, Ecology, to John Long, Geomatrix. Re: Further Action Determination under WAC 173-340-515(5) for the following Hazardous Waste: Warehouse 4130 1st Ave S., Seattle, WA 98134, Facility No. 1388018, VCP No. 1331. November 8, 2005.

Ecology. 2005g. Stormwater Compliance Inspection Report – United Parcel Service WASAU, 4329 7th Ave. S., Inspection Date August 3, 2005. November 16, 2005.

Ecology. 2005h. Stormwater Compliance Inspection Report – United Parcel Service Inc., 4455 7th Ave. S., Inspection Date August 3, 2005. November 16, 2005.

Ecology. 2005i. ERTS Report # 552041, Swedish Medical 500 17th Ave. Prepared by Donna Musa. December 6, 2005.

Ecology. 2006a. Letter from Nnamdi Madakor, Ecology, to John Bredvik. Re: Partial Sufficiency and Further Action Determination under WAC 173-340-515(5) for the following Hazardous Waste Site: Site Name: Alaska Street Property, Site Address: 615 S Alaska St Seattle WA, Facility/Site No.: 8112883, VCP No.: NW1051. April 24, 2006.

Ecology. 2006b. Letter from Carrie Pederson, Ecology, to Bysirus Investment Account. Re: United Motor Freight, 4103 2nd Ave South, Seattle WA, Underground Storage Tank No. 453, Requesting Additional Information Relating to Site Cleanup Activities. May 16, 2006.

Ecology. 2006c. Letter from Nnamdi Madakor, Ecology, to John Bredvik. Re: Inactive Determination Letter for the following Hazardous Waste Site enrolled in the Voluntary Cleanup Program: Site Name: Alaska Street Property, Site Address: 615 S Alaska St Seattle WA, Facility/Site No.: 8112883, VCP No.: NW1051. May 22, 2006.

Ecology. 2006d. Letter from Christopher Maurer, Ecology, to Dawn Wulf, Shannon & Wilson, Inc. Re: No Further Action Determination for Providence Campus South Addition. May 22, 2006.

Ecology. 2006e. Letter from Elliott Zimmerman, Ecology, to Douglas Quimby, Saint Gobain Performance Plastics. Re: Dangerous Waste Compliance Inspection at Saint Gobain Performance Plastics on June 8, 2006. June 21, 2006.

Ecology. 2006f. Letter from Rachel Best, Ecology, to Lisa Woodings, VA Puget Sound Health Care System. Re: Follow-Up to Citizen Complaint (ERT #556982) at VA PSHCS Seattle Division RCRA ID# WA1360007313 on 8/22/06. August 30, 2006.

Ecology. 2006g. Letter from Donna Musa, Ecology, to Earl Richardson, Rainier Court Associates-I, LLC. Re: Early Notice Letter Site #6147650, Rainier Court SW, 3700 Rainier Ave. South. September 13, 2006.

Ecology. 2006h. Washington Department of Ecology, Hazardous Waste & Toxics Reduction Program Compliance Report, Alaskan Copper Works 3200 6th Avenue South. Inspection Date: October 19, 2006. October 31, 2006.

Ecology. 2006i. VCP Agreement, Former Colman Building, 2203 East Union Street. November 20, 2006.

Ecology. 2006j. Stormwater Compliance Inspection Report: ColorGraphics, NPDES Permit #SO3003679C. November 22, 2006.

Ecology. 2007a. Stormwater Compliance Inspection Report, Alaska Street Reload and Recycling, 70 South Alaska Street, Seattle, WA 98134. February 22, 2007.

Ecology. 2007b. Letter from Megan Wisdom, Ecology, to John Borghese, Alaska Street Reload and Recycling. Re: Warning Non-Compliance - with Industrial Stormwater General Permit at Alaska Street Reload and Recycling, Permit# SO#-004605B, on 02/07/2007. February 23, 2007.

Ecology. 2007c. Letter from Christopher Dew, Ecology, to Cathie Farrel, Ecology. Re: Warning - non-compliance with Industrial Stormwater General Permit at Darigold Rainier Ave Plant. March 12, 2007.

Ecology. 2007d. Hazardous Waste & Toxics Reduction Program, New Notifier Technical Assistance Report, Blue Origin, 21218 76th Ave S, Kent, WA 98032-2442. Inspection performed on March 14, 2007. April 19, 2007.

Ecology. 2007e. Stormwater Compliance Inspection Report, Pepsi Bottling Group, Seattle Plant on April 12, 2007. April 25, 2007.

Ecology. 2007f. Stormwater Compliance Inspection Report, Recycle Depot, Inc., 851 Rainier Ave S., Seattle, WA 98144-2837. May 7, 2007.

Ecology. 2007g. Letter from Nnamdi Madakor, Ecology, to Mark Menard, Central Puget Sound Regional Transit Authority. Re: Determination Status for the following Hazardous Waste Site enrolled in the Voluntary Cleanup Program: Site Name: Rainier Brewery, Site Address: 3100 airport Way S Seattle WA, Facility/Site No.: Ecology ID: 9192461, VCP No.: NW0435. May 29, 2007.

Ecology. 2007h. Letter from Dale Myers, Ecology, to Paul Fitzgerald, Seattle Housing Authority. Re: Opinion pursuant to WAC 173-340-515(5) on Proposed Remedial Action for the following Hazardous Waste Site: Name: C. Miller Property, Turner Beatter Property & Former NuWay Cleaners, Address: 109 thru 117 12th Ave, Seattle, WA, Facility/Site No.: 1203357, 2949013, & 3520941, VCP No.: NW1733. May 29, 2007.

Ecology. 2007i. Letter from Michael Kuntz, Ecology, to John Funderburk, Urban Development. Re: Further Action Determination WAC 173-340-515(5) for the following Hazardous Waste Site: Former Coleman Building, 2203 East Union Street, Seattle, Washington, Facility/Site No. 5529237, VCP No.: NW 1697. June 6, 2007.

Ecology. 2007j. Stormwater Compliance Inspection Report – Skyline Electric & Manufacturing Company. June 11, 2007.

Ecology. 2007k. Lower Duwamish Waterway Source Control Status Report, 2003 to June 2007. Publication No. 07-09-064. Prepared by Washington State Department of Ecology, Northwest Regional Office, Toxics Cleanup Program. July 2007.

Ecology. 2007l. Letter from Nnamdi Madakor, Ecology, to Matt Koritz, Equity Office, and Peter A. McGing, Continuum Real Estate Advisors, LLC. Re: Partial Sufficiency and Further Action Determination under WAC 173-340-515(5) for the following Hazardous Waste Site: Site Name: Penthouse Drapery Former, Site Address: 4115 1st Ave S Seattle WA, Facility/Site No.: 13523822, VCP No.: NW0477. July 19, 2007.

Ecology. 2007m. Letter from Christopher Maurer, Ecology, to Mark Chandler, Time Oil Company. Re: Partial Sufficiency and Further Action Determination under WAC 173-340-515(5) for the following Hazardous Waste Site, Name: Time Oil Bulk Plant – Seattle, Address: 2465 S. College St., Seattle, WA, Facility/Site No. 2998786, VCP No.: NW1737. August 17, 2007.

Ecology. 2007n. Letter from Daylin Davidson, Ecology, to Mary Stewart, Dynacare NW Inc Rapid Response Lab. Re: Dangerous Waste Compliance Inspection at Dynacare NW Inc Rapid Response Lab, RCRA ID# WAH 000 017 285 on October 3, 2007. October 10, 2007.

Ecology. 2007o. Stormwater Compliance Inspection Report, Seattle Lighthouse for the Blind, 2501 S. Plum Street, Seattle, WA 98144-4711. Prepared by Robert Wright. October 22, 2007.

Ecology. 2008a. Letter from Nnamdi Madakor, Ecology, to Matt Koritz, Equity Office, and Tom Lindely, Perkins Coie LLP & Affliates. Re: No Further Action Determination under WAC 173-340-515(5) for the following Hazardous Waste Site: Site Name: City Commerce Former Penthouse Drapery, Site Address: 4115 1st Ave S Seattle WA, Facility/Site No.: 13523822, VCP No.: NW1904 (Former NW0477). March 18, 2008.

Ecology. 2008b. Letter from Nnamdi Madakor, Ecology, to Matt Koritz, Equity Office, and Tom Lindely, Perkins Coie LLP & Affliates. Re: Further Action Determination under WAC 173-340-515(5) for the following Hazardous Waste Site: Site Name: City Commerce Former Penthouse Drapery Deep Groundwater Zone, Site Address: 4115 1st Ave S Seattle WA, Facility/Site No.: 13523822, VCP No.: NW1905 (Former NW0477). March 18, 2008.

Ecology. 2008c. Stormwater Compliance Inspection Report - United Parcel Service - Automotive (WASAU). Inspection Date: February 26, 2008. Prepared by Robert Wright. Report finalized April 10, 2008.

Ecology. 2008d. Stormwater Compliance Inspection Report, Alaskan Copper Works, 3200 6th Avenue South. April 29, 2008.

Ecology. 2008e. Lower Duwamish Waterway Source Control Status Report, July 2007 to March 2008. Publication No. 08-09-063. Prepared by Washington State Department of Ecology, Northwest Regional Office, Toxics Cleanup Program. May 2008.

Ecology. 2008f. ERTS Initial Report, Referral, and Followup, resin spill and contamination at North Star Casteel. Prepared by Donna Musa. May 15, 2008.

Ecology. 2008g. Letter from Russ Olsen, Ecology, to Joel Richards, Colorado Avenue Investments, LP. Re: Notification of Pending Inactive Determination Status for the following Hazardous Waste Site enrolled in the Voluntary Cleanup Program: Site Name: Bloch Steel Industries, Site Address: 4580 Colorado Avenue S Seattle WA, Facility/Site No. 57747142, VCP No.: NW0283, (NW1394 & NW1620). May 27, 2008.

Ecology. 2008h. Letter from Russ Olsen, Ecology, to Joel Richards, Colorado Avenue Investments, LP. Re: Notification of Pending Inactive Determination Status for the following Hazardous Waste Site enrolled in the Voluntary Cleanup Program: Site Name: Bloch Steel Industries, Site Address: 4580 Colorado Avenue S Seattle WA, 98124, Facility/Site No. 57747142, VCP No.: NW1620. July 1, 2008.

Ecology. 2008i. Letter from Robert Wright, Ecology, to Paul Randall, North Star Casteel Products. Re: Noncompliance Notification: Discharging Stormwater from an Industrial Activity without Proper Coverage Under the NPDES Industrial Stormwater General Permit. July 18, 2008.

Ecology. 2008j. Letter from John Bails, Ecology, to U-Haul International/U-Haul of Washington. Re: Request for Additional Cleanup Reports for the Confirmed Release at 2515 South Rainier Ave, Seattle WA. July 31, 2008.

Ecology. 2008k. Letter from Mike Jeffers, Ecology, to Al Sanft, Seattle Barrel Co. Subject: Results from the Urban Waters Environmental Compliance Inspection at Seattle Barrel Co. on September 10, 2008: Corrective action required. September 16, 2008.

Ecology. 2008l. Lower Duwamish Waterway Source Control Status Report April 2008 through August 2008. Publication No. 08-09-086. Prepared by Washington State Department of Ecology, Northwest Regional Office, Toxics Cleanup Program. October 2008.

Ecology. 2008m. Seattle Barrel & Cooperage Co., Compliance Certificate for actions needed to achieve compliance, identified during the inspection on 10/23/2008. October 23, 2008.

Ecology. 2008n. Initial Investigation Field Report, Perfection Smokery, 4660 E Marginal Way S, Seattle, WA 98134. Prepared by Wallace Reid. October 27, 2008.

Ecology. 2008o. Form: UST Site Inspection, Swedish Medical Center, 500 17th Ave, Seattle, WA. Prepared by Bryn Oakleaf. October 30, 2008.

Ecology. 2008p. Form: Underground Storage Tank Notice of Non Compliance (NONC), UST Site ID: 3724, Swedish Medical Center, 500 17th Ave Seattle. Prepared by Bryn Oakleaf. October 30, 2008.

Ecology. 2009a. Letter from Luis Buen Abad, Ecology, to Steve Mack, Deeny Construction Company. Re: Underground Storage Tank Compliance Inspection. January 22, 2009.

Ecology. 2009b. Stormwater Compliance Inspection Report, Waste Management Alaska Street Reload & Recycling Facility, 70 South Alaska Street, Seattle, WA 98134. February 13, 2009.

Ecology. 2009c. Letter from Russ Olsen, Ecology, to Nelson Nakata, Madonna Properties, LLC. Re: Early Notice Letter Site #57454884, Perfection Smokery, 4660 E Marginal Way S, Seattle, WA 98134, Tax Parcel # 3573200285. February 18, 2009.

Ecology. 2009d. Letter from Robert Wright, Ecology, to John Borghese, Alaska Street Reload and Recycling Facility. Re: Warning Letter – Noncompliance with Industrial Stormwater General Permit No. SO3-004605B, terms and conditions. February 25, 2009.

Ecology. 2009e. Letter from Kevin C. Fitzpatrick, Ecology, to Suzanne Tilley, MacMillan-Piper, Inc./Airport Way. March 24, 2009.

Ecology. Undated. LUST Cleanup Report Review - Owl Transfer. Form signed by John Bails, Ecology.

ECOSS (Environmental Coalition of South Seattle). 1998. Log of Walking Around Rainier Valley II Properties. July 23, 1998. Seattle, Washington. As cited in E&E 2001.

EMCON (EMCON Northwest, Inc.). 1992. Phase I Clean Up Activities Report, 80 South Hudson Street, Seattle, Washington. Prepared fro SES Seattle, Inc. April 21, 1992.

EMCON. 1993. Letter Report, Perfection Smokery Facility Soil Remediation Project, 4660 East Marginal Way S., Seattle, Washington. Prepared for Vickey Roe, Ocean Beauty Seafoods. June 30, 1993.

EMCON. 1994. Site Investigation Summary and Remedial Activities Report, 80 South Hudson Street, Seattle, Washington. Prepared for SES Seattle. February 7, 1994.

EMCON. 1995. Final Site Investigation Summary and Independent Remedial Action Report, 80 South Hudson Street, Seattle, Washington. Prepared for SES Seattle, Inc. December 21, 1995.

EMCON. 1996a. Response to January 26, 1996 Meeting Regarding the Remediation Effort at SES Seattle, Inc., 80 South Hudson Street, Seattle, Washington. April 17, 1996.

EMCON. 1996b. Draft Independent Remedial Action Report, Former Van Waters & Rogers, Inc. Facility, 4000 First Avenue South, Seattle, Washington. Prepared for Van Waters & Rogers, Inc. September, 9, 1996.

EMCON. 1999. Independent RI/FS Report, Former Van Waters & Rogers, Inc. Facility, 4000 First Avenue South, Seattle, Washington. Prepared for Van Waters & Rogers, Inc. October 7, 1999.

EMS. 1999. Stormwater Pollution Prevention Plan. Prepared for ColorGraphics. April 1999, updated October 2001.

Environmental Associates (Environmental Associates, Inc.) 1996a. Limited Phase I Environmental Audit, Proposed Rainier Valley Square II Development, Approximately 17 Parcels, 3500-3700 Rainier Avenue South, Seattle, Washington 98144. Prepared for Gramor Development NW, Inc. January 24, 1996.

Environmental Associates. 1996b. Preliminary Subsurface Sampling and Testing, Bloch Steel Industries, 4580 Colorado Avenue South, Seattle, Washington. Prepared for Colorado Investments L.P. August 26, 1996.

Environmental Associates. 1997. Additional Subsurface Sampling and Testing, Bloch Steel Industries, 4580 Colorado Avenue South, Seattle Washington. Prepared for Colorado Investments L.P. April 24, 1997.

Environmental Associates. 1999a. Subsurface Assessment, Former UST Site, Bloch Steel Industries, 4580 Colorado Avenue South, Seattle, Washington. Prepared for Colorado Investments L.P. March 24, 1999.

Environmental Associates. 1999b. Supplemental Subsurface Assessment, Former UST Site, Bloch Steel Industries, 4580 Colorado Avenue South, Seattle, Washington. Prepared for Colorado Investments, L.P. June 22, 1999

Environmental Associates. 1999c. Letter from David Holmes, Environmental Associates, to John Lillie, Ecology. Re: Requested Additional Information, Bloch Steel Industries, 4580 Colorado Avenue South, Seattle, Washington 98134. November 10, 1999.

Environmental Associates. 2000. Groundwater Monitoring: 3rd and 4th Quarters 1999, F Former UST Site, Bloch Steel Industries, 4580 Colorado Avenue South, Seattle, Washington. Prepared for Colorado Investments, L.P. March 17, 2000.

Environmental Associates. 2003. Letter from Don Spencer, Environmental Associates, to Pat Tanitutuchi, ACME Poultry Company. Re: Groundwater Sampling and Testing, ACME Poultry Company, 2001 21st Avenue South, Seattle, WA. Report attached. September 19, 2003.

Environmental Associates. 2004a. Preliminary Subsurface Investigation, Two Residences, 109 and 111 Twelfth Avenue, Seattle, Washington. Prepared for Seattle Housing Authority. July 8, 2004.

Environmental Associates. 2004b. Phase 1 Environmental Assessment, Residential/Commercial Property, 113 to 117 Twelfth Avenue, Seattle, Washington. Prepared for Seattle Housing Authority. October 29, 2004.

Environmental Associates. 2004c. Supplemental Subsurface Investigation, Two Residences, 109 and 111 Twelfth Avenue, Seattle, Washington. Prepared for Seattle Housing Authority. October 29, 2004.

Enviros (Enviros Corporation). 1989. Letter from Michael James Nimmons, Enviros, to Joe Hickey, Ecology. Re: Notification of Petroleum Product Release from Underground Storage Tanks, Rainier Brewing Company, Seattle, Washington. November 21, 1989.

Enviros. 1990a. Rainier Brewing Company, Report of Findings and Proposed Remediation Plan for Treatment of Contaminated Soil Associated with Underground Storage Tanks. March 7, 1990.

Enviros. 1990b. Letter from Robert Thomas and Michael Nimmons, Enviros Applied Technologies, to William DeRousse, Darigold. Re: Soil Sampling at the Darigold Rainier Ave South Facility. November 19, 1990.

Enviros. 1990c. Letter from Robert Thomas and Michael Nimmons, Enviros Applied Technologies, to William DeRousse, Darigold. Re: Soil Vapor Sampling at the Darigold Rainier Ave South Facility. November 21, 1990.

EPA and Ecology. 2002. Lower Duwamish Waterway Site Memorandum of Understanding between the United States Environmental Protection Agency and the Washington State Department of Ecology. April 2002.

EPA and Ecology. 2004. Lower Duwamish Waterway Site Memorandum of Understanding between the United States Environmental Protection Agency and the Washington State Department of Ecology. April 2004.

ERM (Environmental Resources Management). 2005. Letter from Paul Hausmann, ERM, to Carrie Pederson, Ecology. Re: Request for Site Status Change regarding 3707 Airport Way South, Seattle, Wa, Ecology Site Identification Number 1748. September 10, 2005.

ESE (Environmental Science and Engineering, Inc.). 1991. Results of Underground Storage Tank Closure, Soil Excavation and Disposal Program, and Groundwater Assessment Program ACME Poultry Company 2001 21st Ave South Seattle, WA. April 4, 1991.

Farallon (Farallon Consulting LLC). 2000a. Closure Report, Washington Trucking Association Property, 4101 Fourth Avenue, Seattle, Washington. Prepared for Washington Trucking Association. April 18, 2000.

Farallon. 2000b. Quarterly Groundwater Monitoring Report, July 2000, Washington Trucking Associations, 4101 4th Avenue, Seattle, Washington, TCP I.D. #NW0465. August 9, 2000.

Farallon. 2000c. Memorandum from Peter Jewett, Farallon Consulting, to Nnamdi Madakor, Ecology. Re: Additional Information/No Further Action Designation, Washington Trucking Associations Site, 4101 4th Avenue South, Seattle, Washington, TCP I.D. NW0465. August 18, 2000.

Farallon. 2000d. Quarterly Groundwater Monitoring Report, October 2000, Washington Trucking Associations Site, 4101 4th Avenue South, Seattle, Washington, TCP I.D. NW0465. November 30, 2000.

Farallon. 2001. Quarterly Groundwater Monitoring Report, January 2001, Washington Trucking Associations Site, 4101 4th Avenue South, Seattle, Washington, TCP I.D. NW0465. February 2, 2001.

Fiberlay. 2009. Fiberlay Company Website: http://fiberlay.com. Accessed on June 29, 2009.

Foster Pepper (Foster, Pepper, & Shefelman PLLC). 2000. Letter from Charles R. Wolfe, Foster Pepper & Shefelman, to Steve Alexander, Ecology. Re: Prospective Purchaser Proposal, Dearborn Corporate Campus Site, Seattle, Washington. August 24, 2000.

Franz Bakery (Franz Family Bakeries). 2009. Franz Family Bakeries Website http://usbakery.com/index.php?page=growth-and-quality. Accessed July 20, 2009.

Friedman & Bruya (Friedman & Bruya, Inc.). 1990. Jefferson Bus Barn Soils Excavation, February 1990. Prepared for City of Seattle, Department of Community Development. March 1, 1990.

Friedman Development. 2009. Friedman Development Website http://friedmandevelopmentllc.com/contact_friedman_development.html. Accessed July 20, 2009.

Galloway (Galloway Environmental, Inc.). 1997. Report of Underground Storage Tank (UST) Removals and Site Assessment, 110 Boren Avenue South, Seattle, Washington. Prepared for Lloyd's Rocket Heating Oil Co. September 3, 1997.

GeoEngineers (GeoEngineers, Inc.). 1991. Report of Geoenvironmental Services, Underground Storage Tank Removal Monitoring, Former Signal Oil Service Station, Seattle, Washington. Prepared for Lesourd & Patten. August 6, 1991.

GeoEngineers. 1992. Form: UST Closure and Site Assessment. Prepared by Lisa Bona. Submitted to Ecology.

GeoEngineers. 1994a. Report, Subsurface Contamination Assessment, Former Dry Cleaner, Rainier Plaza, Seattle, Washington. Prepared for Gramor Development Northwest, Inc. March 17, 1994.

GeoEngineers. 1994b. Report of Remedial Action, Heating Oil UST Removal and Remedial Excavation Monitoring, Rainier Plaza, Seattle, Washington. Prepared for Gramor Development Northwest, Inc. March 17, 1994.

GeoEngineers. 1994c. Report of Remedial Action, Remedial Excavation Monitoring and UST Removal, Former Service Station Location, Rainier Plaza, Seattle, Washington. Prepared for Gramor Development Northwest, Inc. March 17, 1994.

GeoEngineers. 1994d. Report of Remedial Action, Heating Oil UST Removal and Remedial Excavation Monitoring, Seattle, Washington. Prepared for Gramor Development Northwest, Inc. December 1, 1994.

GeoEngineers. 1996. Report of Environmental Services Site Assessment for Tank Closure 2545 Rainier Avenue South, Seattle, Washington. Prepared for Deeny Construction Company. September 19, 1996.

GeoEngineers. 1999a. Report, Soil Sampling Interim Total Petroleum Hydrocarbon Analyses, Time Oil Co. Property 01-216, Seattle, Washington. Prepared for Time Oil Co. March 16, 1999.

GeoEngineers. 1999b. Phase I Environmental Site Assessment, City Commerce Park, 3849-4143 First Avenue South, Seattle, Washington. Prepared for Spieker Properties. June 30, 1999.

GeoEngineers. 2001. Preliminary Environmental Site Assessment and Geotechnical Evaluation, Rainier Court Property, 3500 - 3700 Rainier Avenue South, Seattle, WA. Prepared for Simpson Housing Limited Partnership. June 21, 2001.

GeoEngineers. 2002. Conceptual Remedial Action Plan, Rainier Court Property, 5117 Rainier Avenue South. Prepared for Southeast Effective Development. February 7, 2002.

GeoEngineers. 2003a. Amendment No. 1 to Draft Cleanup Action Plan, Rainier Court – Phase I, 3700 Rainier Avenue South, Seattle, WA. Prepared for Rainier Court Associates, 2002-I, LLC. August 27, 2003.

GeoEngineers. 2003b. Sampling and Analysis Plan, Rainier Court Project, Parcel F – UST Removal, Seattle, Washington. Draft. Prepared for Southeast Effective Development. September 2, 2003.

GeoEngineers. 2005a. Cleanup Action Report, Rainier Court Senior Housing (Phase 1) Project. Prepared for Rainier Court Associates, 2002-I, LLC. January 14, 2005.

GeoEngineers. 2005b. Letter to Earl Richardson, Pat Chemnick, and Bryan Park of Rainier Court Associates 2002-I, LLC, From David Cook. Re: Work Plan, Scope, and Fee Estimate – Groundwater Monitoring Well Installation and Groundwater Monitoring (First Quarter), Rainier Court Phase 1, Senior Housing Site. April 7, 2005.

GeoEngineers. 2005c. Monitoring Well Installation and First Quarter 2005 Quarterly Groundwater Monitoring. Rainier Court – Phase I, Senior Housing, 3621 33rd Avenue South, Seattle, Washington. Prepared for Rainier Court Associates, 2002-I, LLC. June 2, 2005.

GeoEngineers. 2005d. Groundwater Monitoring Report, Third Quarter 2005, Rainier Court – Phase I, Senior Housing, 3621 33rd Avenue South, Seattle, Washington. Prepared for Rainier Court Associates, 2002-I, LLC. October 10, 2005.

GeoEngineers. 2006a. Groundwater Monitoring Report, Fourth Quarter 2005, Rainier Court – Phase I, Senior Housing, 3621 33rd Avenue South, Seattle, Washington. Prepared for Rainier Court Associates, 2002-I, LLC. January 6, 2006.

GeoEngineers. 2006b. Letter to Pat Chemnick, Rainier Court Associates 2002-I, LLC, from David Cook. Re: Opinion Letter Related to Vinyl Chloride in SMW-1, Rainier Court, Phase I, Senior Housing. March 17, 2006.

GeoEngineers. 2006c. Groundwater Monitoring, Supplemental Explorations, and NFA Request, First Quarter 2006, Rainier Court Phase I Site, 3621 33rd Avenue South, Seattle, Washington. Prepared for Rainier Court Associates, 2002-I, LLC. March 20, 2006.

GeoEngineers. 2007a. Draft Analysis of Brownfield Cleanup Alternatives, 109 through 117 12th Avenue, Supplemental Delineation 109 and 111 12th Avenue, Seattle Housing Authority Brownfield Cleanup Site, Seattle, Washington 98122. Prepared for Seattle Housing Authority. February 9, 2007.

GeoEngineers. 2007b. Final Draft Cleanup Action Plan, Seattle Housing Authority, Brownfield Cleanup Site, 109 through 117 12th Avenue, Seattle, Washington, 98122. Prepared for Seattle Housing Authority. May 4, 2007.

GeoEngineers. 2007c. Cleanup Action Plan, Brownfield Cleanup Site, 109 through 117 12th Avenue, Seattle, Washington 98122. Prepared for Seattle Housing Authority. June 15, 2007.

GeoEngineers. 2009. Cleanup Action Report, Seattle Housing Authority, 12th Avenue Brownfield Cleanup Site, Ecology TCP ID No. NW1733, 109 through 117 12th Avenue, Seattle, Washington. Prepared for Seattle Housing Authority. January 23, 2009.

Geomatrix (Geomatrix Consultants, Inc.). 2004a. UST Removal and Direct Push Investigation Report, 4130 1st Avenue South, Seattle, Washington. Prepared for Linda James. July 7, 2004.

Geomatrix. 2004b. Letter from John D. Long, Geomatrix, to Michael Kuntz, Ecology. Re: Additional Information Regarding Soil Removal Action, Independent Remedial Action NW 1331, 4130 1st Avenue South, Seattle, Washington 98134. December 1, 2004.

Geomatrix. 2004a. Soil Removal Action and Confirmation Sampling Report, 4130 1st Avenue South, Seattle, Washington. Prepared for 4130 Building LLC. April 6, 2005.

Geomatrix. 2005b. Direct Push Groundwater Investigation Report, Independent Remedial Action NW 1331, 4130 1st Avenue South, Seattle, Washington. Prepared for 4130 Building LLC. July 15, 2005.

GeoTech (GeoTech Consultants, Inc.). 2002a. Memorandum from Timothy A. Johnson, GeoTech, to Franklin Dinces, The Dinces Law Firm. Re: Soil Sample Results and Laboratory Reports. March 20, 2002.

GeoTech. 2002b. Observation of Contaminated Soil Excavation and Sampling, Ralph's Concrete Pumping, 800 Poplar Place South, Seattle, Washington. Prepared for The Dinces Law Firm. October 7, 2002.

GeoTech. 2002c. Observation of Contaminated Soil Excavation and Sampling, Ralph's Concrete Pumping, 1511 Rainier Avenue South, Seattle, Washington. Prepared for The Dinces Law Firm. October 7, 2002.

Global Diving and Salvage. 2008. Underground Storage Tank Retrofit/Repair Checklist. Prepared by Chris Stokes for Swedish Medical Center. November 11, 2008.

Global Fulfillment. 2009. Global Fulfillment Company Website: http://www.gloful.com. Accessed on June 29, 2009.

Gramor Development (Gramor Development Northwest, Inc.). 1995. Letter from Richard Embry, Gramor Development, to Elaine Atkinson, Ecology. Re: Request for Review, Independent Remedial Action Program, Rainier Plaza, Seattle, Washington, File No. 1124-023-R52. October 10, 1995.

Gramor Development. 1996. Declaration of Restrictive Covenants on 3820 Rainier Avenue S., Seattle, WA 98118. Prepared by R.E. Beaupre, Gramor Northwest. March 27, 1996.

GS Associates (Garry Struthers Associates, Inc.). 2000. Fire Station 13 UST Site Assessment Report. Seattle UST – Final Group. Prepared for The City of Seattle – Executive Services Department. February 16, 2000.

GS Associates. 2002. Phase I Environmental Assessment, Sound Transit Link Light Rail, Parcel Tax ID # 505830-0070, Parcel R/W #RV-006. December 16, 2002.

GS. Associates. 2003. Central Link Light Rail Transit Project Phase II Environmental Site Assessment Parcel No. RV-003.4 Tax ID No. 713880-0080. Submitted to Sound Transit, Seattle, WA. September 19, 2003.

GS Associates. 2004a. Sound Transit Link Light Rail, Phase II Environmental Site Assessment, Parcel R/W 3 RV-006, Parcel Tax ID # 505830-0070, 3A Industries. Prepared for Sound Transit. July 20, 2004.

GS Associates. 2004b. Sound Transit Link Light Rail, Supplemental Phase II Environmental Site Assessment, Parcel R/W #RV-006, Parcel Tax ID # 505830-0070, 3A Industries, Inc. Prepared for Sound Transit. August 24, 2004.

GS Associates. 2006. UST Site Assessment Report, Fuel Station Upgrade and Underground Storage Tank Services, South Service Center for the City of Seattle Fleets and Facilities Department. January 13, 2006.

Habitat for Humanity. 2009. Habitat for Humanity Home Improvement Outlet website: http://www.seattlehabitatoutlet.org/inventory.htm. Accessed on May 7, 2009.

HAI (Hahn and Associates, Inc.). 2000. Phase II Environmental Site Assessment, Rainier Mall, 4208 Rainier Avenue South, Seattle, Washington. Prepared for PacTrust. August 1, 2000.

Hall Pinckney (Hall, Pinckney, Kintner and West, PS). 2000. Letter from James Kintner, Hall, Pinckney, Kintner and West, PS, to Elaine Atkinson, Ecology. Re: Independent Remedial Action/ Restrictive Covenant Our File No. 11752.03. February 11, 2000.

Hall Pinckney. 2000. Letter from James Kintner, Hall, Pinckney, Kintner and West, PS, to Joseph Hickey, Ecology. Re: Independent Remedial Action/ Restrictive Covenant at 3444 (22?) 4th Ave South, Seattle (your File No. 11752.03). June 16, 2000.

Hamilton. 2007. E-mail from Sue Hamilton, METRO, to Donna Musa, Ecology. Subject: ERTS Referral 562379. May 17, 2007.

Hart Crowser. 1989a. Letter from Howard Small, Hart Crowser, to Theresa Irvin, Key Bank of Puget Sound. Re: Re: Status Report Former UST Site 3433 4th Ave S. June 7, 1989.

Hart Crowser. 1989b. Letter from Matthew Dalton, Hart Crowser, to Jim Kitner (sic), Hall and Kitner (sic), P.S. Re: Well Point Exploration Results, 3433 Forth Avenue South, Seattle, WA. September 12, 1989.

Hart Crowser. 2000a. Letter from Julie Wukelic, Hart Crowser, to Dan Cargill, Ecology. Re: Dearborn Corporate Campus. September 26, 2000.

Hart Crowser. 2000b. Letter from Charlotte Mason, Hart Crowser, to Dan Cargill, Ecology. Re: Dearborn Corporate Campus. September 29, 2000.

Hart Crowser. 2001a. Technical Memorandum from Julie Wukelic and Mike Ehlebracht, Hart Crowser, to Sharon Coleman and Hamilton Hazelhurst, Wright Runstad & Company. Re: Summary of Environmental Investigations and Preliminary Evaluation of Remedial Options, Dearborn Corporate Campus Site, Seattle, Washington. January 5, 2001.

Hart Crowser. 2001b. Letter from Julie K. Wukelic, Hart Crowser, to Voluntary Cleanup Program, Ecology. Re: Request for No Further Action (NFA) Determination, Webster Brinkley Property/FedEx City Van Station, 651 South Alaska Street, Seattle, Washington 98108. July 6, 2001.

Hart Crowser. 2004. Letter from Jessica Robertson and Julie K. Wukelic, Hart Crowser, to Sunny Linhao Becker, Ecology. Re: Re: Request for No Further Action (NFA) Determination, Webster Brinkley Property, 651 South Alaska Street, Seattle, Washington. September 23, 2004.

Harter and Rollings (Thomas Harter and Larry Rollins). 2008. Watersheds, Groundwater and Drinking Water: A Practical Guide. University of California (System) Division of Agriculture and Natural Resources. 2008.

Helsell, Petterman, Martin, Todd & Hokanson. 1989. Letter from Danferd W. Henke, Helsell, Petterman, Martin, Todd & Hokanson, to Lee Dorigan, Ecology. Re: Washington Industries, d/b/a Northwest Plating. October 5, 1989.

Hudson. 2009. Hudson Restaurant Official Website http://www.hudonseattle.com// Accessed on June 30, 2009.

HWA Geosciences, Inc. 2005. Ground Water Sampling Report, Seattle City Light South Service Center. Prepared for Seattle City Light. January 20, 2005.

HWA Geosciences, Inc. 2006. Ground Water Sampling Report, Seattle City Light South Service Center. Prepared for Seattle City Light. June 14, 2006.

Integral. 2003. Site Investigation Report: WestFarm Foods – Rainier Facility, 4058 Rainier Avenue South, Seattle, WA. Prepared by Integral Consulting Inc. for WestFarm Foods. February 25, 2003.

Isaksen. 1998. Facsimile from Peter Isaksen, SKCDPH, to Skip Gribble, Ralph's Concrete Pumping, Inc. Re: Sampling Results for the Ralph's Concrete Property. June 19, 1998.

ISSI (Integrated Science Solutions, Inc.). 2005. Environmental Characterization and Discussion of Remedial Alternatives for Chemically-Affected Media, Former Reginald Frye Property, 3101 Martin Luther King Jr. Way South, Seattle, Washington and Adjacent City of Seattle Property. Prepared for Reginald Frye. March 11, 2005.

Jacks Inc. 2002a. King County Industrial Waste Survey, Jacks Inc. Prepared by Brian Middlekauff. November 20, 2002.

Jacks Inc. 2002b. Seattle Public Utilities Questionnaire, Jacks Inc. 24 So. Idaho St. Seattle, WA 98134. Prepared by Brian Middlekauff. November 20, 2002.

Jeffers. 2008a. Email from Mike Jeffers, Ecology, to Brian Robinsin, SPU. Re: North Star Casteel Right-of-Way Catch Basin Sampling Data. May 27, 2008.

Jeffers. 2008b. Email from Mike Jeffers, Ecology, to Iris Winstanley, SAIC. RE: Update from Ecology's HWTR LDW inspector. July 7, 2008.

Jeffers. 2008c. Email from Mike Jeffers, Ecology, to Sarah Good, Ecology, and Iris Winstanley, SAIC. RE: July update from Ecology's HWTR LDW inspector. July 30, 2008.

Jeffers. 2008d. Email from Mike Jeffers, Ecology, to Iris Winstanley, SAIC. RE: Update from Ecology's HWTR LDW inspector August 2008. September 4, 2008.

Jeffers. 2008e. Email from Mike Jeffers, Ecology, to Peggy Rice, King County Industrial Waste. Subject: Seattle Barrel. October 27, 2008.

Jeffers. 2008f. Email from Mike Jeffers, Ecology, to Iris Winstanley, SAIC. Re; Update from Ecology's HWTR LDW inspector October 2008. December 1, 2008.

Jeffers. 2008g. Email from Mike Jeffers, Ecology, to Iris Winstanley, SAIC. Re: Update from Ecology's HWTR LDW inspector November 2008. December 1, 2008.

Jeffers. 2009a. Email from Mike Jeffers, Ecology, to Iris Winstanley, SAIC. Re: Update from Ecology's HWTR LDW Inspector December 2008 through February 2009. March 9, 2009.

Jeffers. 2009b. Email from Mike Jeffers, Ecology, to Iris Winstanley, SAIC. Re: Update from Ecology's HWTR LDW inspector March 2009 to June 2009. July 22, 2009.

Joe Hall Construction, Inc. 2003. Underground Storage Tank Closure and Site Assessment Notice, Swedish Medical Center, 1710 East Jefferson Street, Seattle. Prepared by David L. Buck. Submitted to Joe Hickey, Ecology. March 11, 2003.

KCDNR (King County Department of Natural Resources). 1997. Waste Discharge Permit, Pepsi-Cola Company, Northwest Business Unit, 2300 26th Avenue South, Seattle, Washington 98144-5339. Permit No. 7023. Issuance Date: June 9, 1997, Expiration Date: June 9, 2002. June 9, 1997.

KCDNR. 1999. Letter from Barbara Badger-Dawson, KCDNR, to Mike Palmer, Seattle Technical Finishers. Re: Cancellation of Waste Discharge Permit No. 7003.

KCDNR. 2000a. Waste Discharge Permit, Alaskan Copper and Brass Company, 3200 6th Avenue South. Permit No. 7238. Issuance Date: February 18, 2000, Expiration Date: February 24, 2005. February 18, 2000.

KCDNR. 2000b. Letter from Elsie J. Hulsizer, KCDNR, to Joe Muller, WestFarm Foods. Re: Assessment of Penalty and Compliance Order. October 17, 2000.

KCDNR. 2000c. Letter from Don Theiler, KCDNR Wastewater Treatment Division, to Joe Muller, WestFarm Foods. Re: Revised Assessment of Penalty and Compliance Order. December 12, 2000.

KCDNR. 2003a. Joint Inspection Program Lower Duwamish Waterway Initial Inspection, North Star Casteel Foundry. May 22, 2003.

KCDNR. 2003b. Letter from Steve Joyce, KCDNR, to Scott Peterson, North Star Casteel Products. Re: Inspection on May 14, 2003, North Star Casteel. July 10, 2003.

KCDNR. 2003c. Letter from Steve Joyce, KCDNR, to Scott Peterson, North Star Casteel Products. Re: Follow-up Inspection on August 19, 2003, North Star Casteel. August 25, 2003.

KCDNR. 2004a. Letter from Elsie Hulsizer, KCDNR, to Joe Muller, WestFarm Foods. Re: Final Notice and Compliance Order for Discharge Violoations. August 17, 2004.

KCDNR. 2004b. Waste Discharge Permit, Seattle Barrel Company, 4716 Airport Way South, Seattle WA 98108. Permit No. 7113-02. Issuance Date: October 1, 2004, Expiration Date: October 4, 2009. October 1, 2004.

KCDNR. 2005a. Waste Discharge Permit, Alaskan Copper Works – 6th Avenue, 3200 6th Avenue South. Permit No. 7238. Issuance Date: February 24, 2005, Expiration Date: February 25, 2010. February 24, 2005.

KCDNR. 2005b. Waste Discharge Permit, Ralph's Concrete Pumping, Inc., 816 Poplar Place South, Seattle, WA 98144. Permit No. 7795-01, Issuance Date: June 13, 2005, Expiration Date: June 13, 2010. June 13, 2005.

KCDNR. 2007a. King County Brownfields Program, Former Chubby & Tubby/Historic Gas Station, Brownfields Assessment Fact Sheet #1. January 2007.

KCDNR. 2007b. Waste Discharge Permit, Pepsi-Cola Company, 2300 26th Avenue South, Seattle, Washington 98144-5339. Permit No. 7820. Issuance Date: June 8, 2007, Expiration Date: June10, 2012. June 8, 2007.

KCDNR. 2007c. Letter from Sue Hamilton, King County, to Mr. Chapman, Equitable Masonry. Re: Visit to the RAFN Company Construction Site. May 22, 2007.

KCIW (King County Industrial Waste). 2003a. Letter from Arnaud Girard, King County Industrial Waste Program Investigator to Jerry Basher, United Parcel Service. Re: Results from May 28th 2003 pollution prevention inspection: No further action required. May 22, 2003.

KCIW. 2003b. Initial Inspection – United Parcel Service, 4329 7th Ave. South. Joint Inspection Program, Lower Duwamish Waterway. Inspection Date May 28, 2003.

KCIW. 2003c. Joint Inspection Program, Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program, Initial Inspection, Seattle Barrel Co/Sanft & Sanft, 4716 Airport Wy S. June 3, 2003.

Kennedy/Jenks (Kennedy/Jenks Consultants). 1996. Draft Site Investigation and Remedial Action Summary Report, Washington Trucking Association Property, Seattle, Washington. Prepared for Washington Trucking Association. September 19, 1996.

Kennedy/Jenks. 2001. Stormwater Pollution Prevention Plan for Darigold Rainier Avenue Plant. Prepared for Dairgold. October 2001.

Kleinfelder (Kleinfelder, Inc.). 2002. Soil and Groundwater Assessment Report, Penthouse Draperies, City Commerce Park, 4115 First Avenue South, Seattle, Washington. Prepared for Equity Office Properties. April 23, 2002.

Kleinfelder. 2003. Deep Groundwater Characterization Report, City Commerce Park, 4115 First Avenue South, Seattle, Washington. Prepared for Equity Office Properties. January 20, 2003.

Kleinfelder. 2005a. Ground Water Monitoring Fourth Quarter 2004, Former Penthouse Drapery Dry Cleaning Facility, City Commerce Park, 4015 First Avenue South. Submitted to Equity Office Properties. March 29, 2005.

Kleinfelder. 2005b. Letter from Dennis J. O'Neill and Charles Almestad, Kleinfelder, to Ronald W. Timm, Ecology. Re: Fourth Quarter 2004 Ground Water Monitoring Report, Former Penthouse Draperies Facility, City Commerce Park, 4015 First Avenue South, Seattle, Washington. March 29, 2005.

Kleinfelder. 2005c. Ground Water Monitoring Third Quarter 2005, Former Penthouse Drapery Dry Cleaning Facility, City Commerce Park, 4015 First Avenue South, Seattle, Washington. Prepared for Equity Office Properties Trust. December 21, 2005.

Kleinfelder. 2006a. Ground Water Monitoring Fourth Quarter 2005, Former Penthouse Drapery Dry Cleaning Facility, City Commerce Park, 4015 First Avenue South, Seattle, Washington. Prepared for Equity Office Properties Trust. February 24, 2006.

Kleinfelder. 2006b. Remediation System Performance Report, Former Penthouse Draperies Dry Cleaning Facility, City Commerce Park, 4115 First Avenue South, Seattle, Washington. Prepared for Equity Office Properties Trust. June 29, 2006.

Kleinfelder. 2009. City Commerce Park Well Decommissioning, Facility/Site no. 13523822, VCP Nos. NW1904 and NW1905 (former NW0477). March 25, 2009.

Kophs. 2003. Memo to Rainier Court Property Redevelopment File from Sharon Kophs, Brownfields Program Manager. Re: Action Memorandum – Rainier Court Property Redevelopment. Washington Department of Community, Trade, and Economic Development. August 25, 2003.

Law/Crandall (Law/Crandall, Inc.). 1994. Report of Phase I and Phase II Environmental Site Assessment of Washington Trucking Associations, Seattle, Washington. Prepared for Price Costco. February 28, 1994.

Lee Morse (Lee Morse General Contractors). 1989. Form: Notice of UST Removal – CAMCAL CO, Inc. December 15, 1989.

Liquor Control Board (Washington State Liquor Control Board). 1992a. Letter from Richard L. Foltz, Washington State Liquor Control Board, to Joanne Polayes-Wein, Ecology. Re: Your letter of July 7, Outlining Various Violations. July 13, 1992.

Liquor Control Board. 1992b. Letter from Richard L. Foltz, Washington State Liquor Control Board, to Joanne Polayes-Wein, Ecology. Re: Follow-up to letter of July 13, 1992. July 29, 1992.

LoopNet. 2009a. LoopNet website: Industrial Property for Sale – Seattle Dye Works, 11 S. Nevada St., Seattle, WA, 98134, http://www.loopnet.com/property/13953499/11-S-Nevada-St. Accessed on May 4, 2009.

LoopNet. 2009b. LoopNet website: Industrial Property for Sale – Meeco Building, 12 S Idaho Street, Seattle, WA, 98134, http://www.loopnet.com/property/16016721/12-S-Idaho-Street. Accessed on May 6, 2009.

MacMillan-Piper. 2009a. Memo (possibly draft) regarding stormwater system pollution prevention measure and request for connection to sanitary sewer. No apparent author or recipient. March 6, 2009.

MacMillan-Piper. 2009b. MacMillan-Piper Inc. Stormwater Pollution Prevention Plan, Airport Way Facility, Permit # SO3011326A. April 2009.

MacMillan-Piper. 2009c. MacMillan-Piper Airport Way Facility web page http://www.macpiper.com/airport1.htm. Accessed July 20, 2009.

Madakor. 2001. Letter from Nnamdi Madakor, Ecology, to Jim Tutton, Washington Trucking Associations. Re: NFA Determination, Washington Trucking Associations, 4101 4th Avenue Sought, Seattle Washington, 98101. TCP I.D. #NW0465. April 4, 2001.

Madakor. 2009. E-mail from Nnamdi Madakor, Ecology, to Ryan Bixby, Sound Environmental Strategies. Re: Time Oil Co. 216 Former Bulk Fuel Facility (VCP ID NW1737). March 16, 2009.

Marine Vacuum Service. 1990. Invoice No: 4895, Clayton Volkswagen Repair, 4701 Martin Luther King Jr W S, Seattle, WA 98108. October 17, 1990.

Maurer. 2007. Letter from Christopher Maurer, Ecology, to George Sylvester, Univar USA, Inc. Re: Further Action Determination under WAC 173-340-515(5) for the following Hazardous Waste Site: Name: Former Van Waters & Rogers facility, Address: 4000 First Avenue South, Seattle, Washington, Facility/Site No.: 2340, VCP No.: NW0942. December 14, 2007.

Med-Tox Associates. 1990. Phase II Site Assessment, 23rd Avenue East & East Union. January 5, 1990. As cited in Clayton 2003b.

MEECO (MEECO Manufacturing Company, Inc.). 2009. Company website http://www.meecomfg.com. Accessed on May 6, 2009.

METRO. 1971. Memorandum from D.A. Hilderbrand, METRO, to G.D. Farris and A.L. Poole, Ecology. Subject: Alaskan Copper Works (3600 E. Marginal Way S. and 3200 6th Ave. S.) pH and Metal Surveys. November 18, 1971.

METRO. 1977. Letter from Denise M. Healy, METRO, to William M. Rosen, Alaskan Copper Works. Re: Heavy Metal and pH analysis of effluent discharge at Alaskan Copper Works 6th Avenue and East Marginal Way Plants. January 19, 1977.

METRO. 1978a. Letter from Denise M. Healy, METRO, to William M. Rosen, Alaskan Copper Works. Re: Heavy Metal and pH analysis of effluent discharge at Alaskan Copper Works 6th Avenue and East Marginal Way Plants. August 15, 1978.

METRO. 1978b. Letter from Denise M. Healy, METRO, to William M. Rosen, Alaskan Copper Works. Re: Heavy Metal and pH analysis of effluent discharge at Alaskan Copper Works 6th Avenue and East Marginal Way Plants. December 4, 1978.

METRO. 1979a. Letter from Denise M. Healy, METRO, to William M. Rosen, Alaskan Copper Works. Re: Heavy Metal and pH analysis of effluent discharge at Alaskan Copper Works 6th Avenue and East Marginal Way Plants. March 1, 1979.

METRO. 1979b. Letter from Denise M. Healy, METRO, to William M. Rosen, Alaskan Copper Works. Re: Heavy Metal and pH analysis of effluent discharge at Alaskan Copper Works 6th Avenue and East Marginal Way Plants. October 17, 1979.

METRO. 1980a. Letter from Denise M. Healy, METRO, to Jim Brown, Alaskan Copper Works. Re: Heavy Metal and pH analysis of effluent discharge at Alaskan Copper Works 6th Avenue and East Marginal Way Plants. March 4, 1980.

METRO. 1980b. Letter from Denise M. Healy, METRO, to Jim Brown, Alaskan Copper Works. Re: Heavy Metal and pH analysis of effluent discharge at Alaskan Copper Works 6th Avenue and East Marginal Way Plants. August 4, 1980.

METRO. 1981a. Letter from Denise M. Healy, METRO, to Jim Brown, Alaskan Copper Works. Re: Heavy Metal and pH analysis of effluent discharge at Alaskan Copper Works 6th Avenue and East Marginal Way Plants. April 10, 1981.

METRO. 1981b. Letter from Denise M. Healy, METRO, to Jim Brown, Alaskan Copper Works. Re: Heavy Metal and pH analysis of effluent discharge at Alaskan Copper Works 6th Avenue and East Marginal Way Plants. August 17, 1981.

METRO. 1981c. Letter from Denise M. Healy, METRO, to Steve Ralph, Seattle City Light. Re: Results of pH and heavy metals analyses from samples of the generator cooling tower blowdown and water treatment chemicals collected at the Spokane Street South Service Center. August 17, 1981.

METRO. 1981d. Letter from Denise M. Healy, METRO, to Jim Brown, Alaskan Copper Works. Re: Heavy Metal and pH analysis of effluent discharge at Alaskan Copper Works 6th Avenue and East Marginal Way Plants. November 10, 1981.

METRO. 1982. Letter from Denise M. Healy, METRO, to Jim Brown, Alaskan Copper Works. Re: Effluent Sample results from September 29 and 30, 1982. December 16, 1982.

METRO. 1987. Letter from Douglas A. Hilderbrand, METRO, to James C. Brown, Alaskan Copper Works. Re: Compliance Notice. February 3, 1987.

METRO. 1989a. Letter from Elsie J. Hulsizer, METRO, to Milt Haworth, Northwest Plating Company. Re: Informal Compliance Schedule in response to a discharge violation. September 19, 1989.

METRO. 1989b. Letter from Bruce R. Burrow, METRO, to Deborah Dole, Seattle City Light. Re: METRO Discharge Authorization for Minor Dischargers. October 13, 1989.

METRO. 1989c. Letter from Elsie J. Hulsizer, METRO, to Milt Haworth, Northwest Plating Company. Re: Formal Compliance Schedule in response to a discharge violation. October 26, 1989.

METRO. 1989d. Letter from Elsie J. Hulsizer, METRO, to Milt Haworth, Northwest Plating Company. Re: Informal Compliance Schedule in response to a discharge violation. December 22, 1989.

METRO. 1990. Waste Discharge Permit, Alaskan Copper and Brass Company, 3200 Sixth Avenue South. Permit No. 7238. Issuance Date: 1/15/1990, Expiration Date: 1/15/1995. January 15, 1990.

METRO. 1992a. Letter from Elsie J. Hulsizer, METRO, to John Drake, Northwest Plating Company. Re: Post Violation Monitoring Billing in response to a discharge violation. March 11, 1992.

METRO. 1992b. Letter from Elsie J. Hulsizer, METRO, to John Drake, Northwest Plating Company. Re: Assessment of Penalty Notice for discharge violations. December 4, 1992.

METRO. 1993a. Letter from Elsie J. Hulsizer, METRO, to John Drake, Northwest Plating Company. Re: Assessment of Penalty Notice for discharge violations. January 15, 1993.

METRO. 1993b. Letter from Patricia Magnuson, METRO, to John Drake, Northwest Plating Company. Re: Cancellation of Permit No. 7100, Effective Date April 15, 1993. April 22, 1993.

METRO. 1993c. Letter from Christie J. True, METRO, to James C. Brown, Alaskan Copper Works. Re: Copper violation. October 28, 1993.

METRO. 1994. Letter from Debra Liceaga, METRO, to Mary O'Herron, Ecology. Re: Our Reference C9300417. April 18, 1994.

METRO. 1995a. Waste Discharge Permit, Alaskan Copper and Brass Company, 3200 Sixth Avenue South. Permit No. 7238. Issuance Date: February 23, 1995, Expiration Date: February 23, 2000. February 23, 1995.

METRO. 1995b. Compliance Order issued to Alaskan Copper and Brass Company. June 9, 1995.

MFA (Maul Foster & Alongi, Inc.). 1999. Notice of Construction and Application for Approval, Former Dunkin' Donuts Site, 2921 Martin Luther King Jr. Way South, Seattle, Washington. December 3, 1999.

MFA. 2000a. Quarterly Groundwater Sampling Report – February 2000 Event, Former Dunkin' Donuts Site, 2921 Martin Luther King Jr. Way South, Seattle, Washington. March 1 2000.

MFA. 2000b. Remedial Investigation Report, Former Dunkin' Donuts Site, 2921 Martin Luther King Jr. Way South, Seattle Washington. Prepared for Shell Oil Products. May 24, 2000.

MFA. 2002. Soil Vapor Extraction System Performance Report, Former Dunkin' Donuts Site, 2921 Martin Luther King Jr. Way South, Seattle, Washington. Prepared for Shell Oil Products U.S. April 15, 2002.

MFA. 2003. Additional Subsurface Assessment Report, Former Dunkin' Donuts Site, 2921 Martin Luther King Jr. Way South, Seattle, Washington. Prepared for Shell Oil Products U.S. February 6, 2003.

MJA Consulting, Inc. 1991. Report, Underground Tank Removal and Request for Closure at Griffin Envelope, Inc., 4301 East Marginal Way South, Seattle, Washington 98134. August 2, 1991.

Moon. 1992. Memorandum from Wally Moon, Ecology, to Mike Gallagher, Ecology. Subject: Recommendation for Enforcement, UST #101554, Lloyd's Rocket and Heating Oil Company, 110 Boren Avenue South, Seattle, Washington 98144. August 31, 1992.

North Star Casteel (North Star Casteel Products, Inc.). 2001. Storm Water Pollution Prevention Plan, North Star Casteel Prod. Inc. Permit No. SO3-001214C. August 31, 2001.

North Star Casteel. 2003. King County Industrial Waste Program Survey - North Star Casteel Products, Inc., 3909 9th Ave. So. April 29, 2003.

North Star Casteel. 2008. Memo from Paul Randall, North Start Casteel. Re: Action Plan for Compliance. No recipient indicated. June 25, 2008.

North Star Casteel. 2009a. Letter from Travis Lamberte, North Star Casteel, to Megan Wisdom, SPU. Re: Structural and Operational Source Controls to Prevent Stormwater Pollution. February 2009.

North Star Casteel. 2009b. North Star Casteel Website. http://www.northstarcasteel.com. Accessed on May 15, 2009.

Northwest EnviroServices. 1989a. Letter from Kory Holm, Northwest EnviroServices, to Theresa Irvin, Key Bank. Re: Test Results from Soil Samples Taken from Excavation 1, 500 Gallon Heating Oil Tank at 3433 4th Ave South. March 15, 1989.

Northwest EnviroServices. 1989b. Letter from Kory Holm, Northwest EnviroServices, to Theresa Irvin, Key Trust Co. of the Northwest. Re: Tank removal and remedial cleanup at 3433 4th Ave. So. Seattle. April 6, 1989.

Northwest Plating (Northwest Plating Company). 1982. Letter from S.A. Hegland, Northwest Plating Company, to Betty Wiese, U.S. EPA. Re: Remove Northwest Plating from the USEPA Notification List. June 8, 1982.

Northwest Plating. 1983. Generator Annual Dangerous Waste Report. Prepared by S.A. Hegland. January 28, 1983.

Northwest Plating. 1984. Generator Annual Dangerous Waste Report for 1983. Prepared by Vernon L. Haworth. February 3, 1984.

Northwest Plating. 1985. Notification of Dangerous Waste Activities. Prepared by Vernon Haworth. March 8, 1985.

Northwest Plating. 1993. Notification of Dangerous Waste Activities. Prepared by John Drake. May 25, 1993.

Northwest Pump (Northwest Pump & Equipment Company). 2008. Underground Storage Tank Tightness Testing Checklist. Prepared by Steven Colby. November 7, 2008.

NW Construction (NW Construction General Contracting, Inc.). 1993. Underground Storage Tank Permanent Closure/Change-in-Service Checklist, Washington State Department of Transportation Spokane Street Maintenance Facility, 450 S. Spokane Street, Seattle, Washington. Prepared by Richard Lewis. November 2, 1993.

O'Herron. 1992. Conversation record between Mary O'Herron, Ecology, and Steve Burke, Seattle-King County Department of Public Health. Re: Metro Jefferson St. Bus Barn, N9973/10015. August 26, 1992.

O'Sullivan Omega (O'Sullivan Omega Environmental, Inc.). 1993. Letter from Ed O'Sullivan, Omega, to Ralph Banchero. Re: Analytical results for groundwater samples collected at your Rainier site. February 4, 1993.

Olympus Environmental. 1992. Letter from Marla Stremcha, Olympus Environmental, Inc. to Joe Hickey, Ecology. Re: Kintner Trust/ Commercial Property Status Update, 3433 4th Avenue South, Seattle, WA. January 13, 1992.

OMW (Ogden Murphy Wallace, PLLC). 2000. Letter from Teena J. Williams, Ogden Murphy Wallace, to Larry A. Pursley, Washington Trucking Associations. Re: Washington Trucking Association Restrictive Covenant. December 21, 2000.

OnSite (OnSite Environmental Inc.). 1998a. Analytical Data for Project Ralph's Concrete Pumping Inc., Laboratory Reference No. 9806-077. June 15, 1998.

OnSite. 1998b. Analytical Data for Project D. Leonard & Sons, Laboratory Reference No. 9806-134. June 30, 1998.

Parametrix (Parametrix, Inc.). 1989. Final Environmental Site Assessment Report of the DCD Property. Prepared for City of Seattle, Department of Community Development. October 13, 1989.

Parametrix. 1991. Groundwater Monitoring Report, Seattle City Light – South Service Center. Prepared for Seattle City Light. January 1991.

Parametrix. 2000a. Abandonment of Treatment System Piping and Disposal of Soils and Miscellaneous Materials, POS Warehouse, Rainier Brewery Site, 31000 Airport Way South, Seattle, Washington. May 10, 2000.

Parametrix. 2000b. Results of April 2000 Groundwater Monitoring, Rainier Brewery Site. May 15, 2000.

PBS (PBS Environmental). 1995. Phase Two Environmental Property Assessment, Steam Supply & Rubber Company Site, 615 S. Alaska Street, Seattle, Washington. Prepared for Puget Investments, Inc. August 1995.

Peck. 1989. Inspection Report, Samis Land Company, BMP. Prepared by Norm Peck, Ecology. March 15 1989.

PES (PES Environmental, Inc.). 2002. Independent Remedial Action, Status Report, Volume I, Former Van Waters and Rogers Inc. Facility, 4000 First Avenue South, Seattle, Washington. Prepared for Univar USA, Inc. July 22, 2002.

PES. 2003a. Progress Report, Third Quarter 2002, Former VW&R Facility, 4000 First Avenue South, Seattle, Washington. Prepared for Univar USA Inc. March 3, 2003.

PES. 2003b. Deep Aquifer Investigation Report, Former Van Waters & Rogers Facility, 4000 First Avenue South, Seattle, Washington. Prepared for Univar USA Inc. October 24, 2003.

PES. 2005a. Progress Report, Fourth Quarter 2004, Former Van Waters & Rogers Facility, 4000 First Avenue South, Seattle, Washington. Prepared for Ecology. April 1, 2005.

PES. 2005b. Progress Report, Third Quarter 2005, Former Van Waters & Rogers Facility, 4000 First Avenue South, Seattle, Washington. Prepared for Ecology. November 7, 2005.

PES. 2006. Progress Report, Fourth Quarter 2005, Former Van Waters & Rogers Facility, 4000 First Avenue South, Seattle, Washington. Prepared for Ecology. June 1, 2006.

PES. 2007. Progress Report, Annual 2006, Former Van Waters & Rogers Facility, 4000 First Avenue South, Seattle, Washington. Prepared for Ecology. October 29, 2007.

Pinnacle Environmental Technologies. 1999. Tank Removal Report, U-Haul Center # 701-57 2515 South Rainier Avenue. Prepared for AMERCO Real Estate Company, Phoenix, AZ. May 7, 1999.

Plastics for Lighting. 2009. Plastics for Lighting, Inc. Company website http://www.plasticsforlighting.biz. Accessed July 17, 2009.

PNG (Pacific Northern Geoscience). 1994. Phase I Environmental Site Assessment, Properties at 12th Avenue and East Cherry Street, Seattle, Washington. Prepared for Seattle Pacific University Office of Panned Giving. November 11, 1994.

PNTA (Pacific Northwest Theater Associates). 2009. PNTA Company website: http;//www.pnta.com. Accessed on July 16, 2009.

Praxair. 1998. News Release: Praxair Acquires Seattle-Based Distributor and Opens New Retail Location, http://www.praxair.com/praxair.nsf/AllContent/358315A11BFFFED285256639004BAA37?OpenDocument. Accessed July 20, 2009.

Price Waterhouse Cooper. 2001. Phase I ASTM Site Assessment and Environmental Health & Safety Review, 1750 22nd Avenue South, Seattle, Washington 98144. June 2001. As cited in URS 2004.

PSE (Puget Sound Environmental). 1997. Site Assessment Report, Gai's Bakery, 2006 South Weller Street, Seattle, Washington. Prepared for Metz Baking Company. June 13, 1997.

PTL (Pacific Testing Laboratories). 1990. Letter from Robert Bartlett, PTL, to William DeRousse, Darigold. Re: Contamination Testing of Soil - Darigold facility. October 17, 1990.

PTL. 1991a. In-Place Tank Closure and Results of Soil Contamination Testing, 838 Poplar Place South, Seattle Washington 98144. Prepared for Signal Equipment, Inc. July 10, 1991.

PTL.1991b. Site Characterization and Results of Soil Contamination Testing, 838 Poplar Place South, Seattle Washington 98144. Prepared for Signal Equipment, Inc. August 1, 1991.

Radix Ortega (The Radix Ortega Group, Inc.). 1999. Providence Medical Center, UST Site Assessment, Final Report. Prepared for Providence Seattle Medical Center. August 13, 1999.

Rainier Brewing Company. 1992. Pollution Prevent Plan Executive Summary. September 1, 1992.

Ralph's Concrete Pumping. 2009. Ralph's Concrete Pumping Company website: http://www.ralphsconcrete.com/contact.php. Accessed on July 17, 2009.

RETEC (Remediation Technologies). 1998. Draft Phase II Investigation Report, Former Tyler Refrigeration Facility, 12th Avenue & East Cherry Street, Seattle, Washington. Prepared for Seattle Pacific Foundation (Trustee), Stanley & Shirley Young Charitable Remainder Unitrust. July 6, 1998.

RETEC. 2002a. Remedial Investigation/Feasibility Study and Cleanup Action Plan, Former Tyler Refrigeration (Metals Laundry) Facility, 12th Avenue & East Cherry Street. Prepared fro Seattle Pacific Foundation (Trustee), Stanley & Shirley Young Charitable Remainder Unitrust. July 25, 2002.

RETEC. 2002b. Letter from Grant Hainsworth, RETEC, to Gordon Nygard, Seattle Pacific Foundation (Trustee), Stanley & Shirley Young Charitable Remainder Unitrust. RE: August 2002 Quarterly Groundwater Monitoring Report. November 1, 2002.

RETEC. 2003. Memorandum from Grant Hainsworth, RETEC, to Ron Timm, Ecology. Re: Supplement to RI/FS and CAP, Stanley & Shirley Young Charitable Remainder Unitrust. March 14, 2003.

RETEC. 2004. Letter from Grant Hainsworth, RETEC, to to Gordon Nygard, Seattle Pacific Foundation (Trustee), Stanley & Shirley Young Charitable Remainder Unitrust. Re: Winter 2003/2004 Semi-Annual Groundwater Monitoring Report. March 12, 2004.

RETEC. 2007. Letter from Grant Hainsworth, RETEC, to to Gordon Nygard, Seattle Pacific Foundation (Trustee), Stanley & Shirley Young Charitable Remainder Unitrust. Re: 2007 Groundwater Monitoring Report for Cherry Street – VCP ID # NW0930. November 5, 2007.

Riley Group (The Riley Group, Inc.). 2004. Phase I Environmental Site Assessment, Former Totem Equipment Company, 5000 East Marginal Way South, Seattle, Washington 98134. Prepared for Suzanne Droppert. November 4, 2004.

Riley Group. 2005. Preliminary Phase II Groundwater Investigation Letter Report, Former Totem Equipment Company, 5000 East Marginal Way South, Seattle, Washington. Prepared for Suzanne Droppert, Totem Equipment. April 22, 2005.

Riley Group. 2007. Supplemental Phase II Investigation Letter Report, Former Totem Equipment Company, 5000 East Marginal Way South, Seattle, Washington. Prepared for Suzanne Droppert. May 30, 2007.

Riley Group. 2008a. Groundwater Well Installation & 4th Quarter 2007, Groundwater Sampling Event Letter Report, Former Totem Equipment Company, 5000 East Marginal Way South, Seattle, Washington 98134. Prepared for Suzanne Droppert. January 25, 2008.

Riley Group. 2008b. UST Closure and Site Assessment Report, Former Totem Equipment Company, 5000 East Marginal Way South, Seattle, Washington 98134. Prepared for Suzanne Droppert. March 25, 2008.

Riley Group. 2008c. 2nd Quarter 2008, Groundwater Sampling Event Letter Report, Former Totem Equipment Company, 5000 East Marginal Way South, Seattle, Washington 98134. Prepared for Suzanne Droppert. July 31, 2008.

RK Environmental, Inc. 2006. VCP Interim Action Report, Former Diesel UST – West Scrap Steel Yard, Bloch Steel Industries, 4580 Colorado Avenue South, Seattle, Washington (Associated with VCP #NW0283). Prepared for Bloch Steel Industries and Department of Ecology, Northwest Regional Office. April 19, 2006.

RMT. 1999. Preacquisition Environmental Assessment Conducted at the Steam Supply and Rubber Company facility located at 615 South Alaska Street in Seattle, Washington 9810. November 9, 1999. As cited in Zipper Zeman 2002a.

Rosen. 1994. METRO Wastewater Discharge Permit Application, Alaskan Copper Works, 3200 6th Ave South. Prepared by William M. Rosen, Alaskan Copper Works. July 5, 1994.

Ross Electric (Ross Electric of Wa.)., Inc. 1985. Letter from Bob Ross, Ross Electric, to Jose Vargas, Seattle City Light. Re: Transformer Disposal. 1985

RT Environmental (RT Environmental Services, Inc.) 1998. Site Investigation, Dunkin' Donuts, 2921 Martin Luther King Jr. Way South, Seattle, Washington. Prepared for Allied Domecq Retailing USA. September 18, 1998.

RZA AGRA (RZA AGRA, Inc.). 1993. Quarterly Monitoring Report, Time Oil Co. Property No. 01-216, 2465 South College Street, Seattle, WA. Prepared for Time Oil Co. October 26, 1993.

RZA AGRA. 1994a. Phase I Environmental Site Assessment and Survey for Asbestos-Containing Building Materials, 4130 1st Avenue South, Seattle, Washington. Prepared for Linda James. May 17, 1994.

RZA AGRA. 1994b. Bio-Venting Feasibility Study, Time Oil Property 01-216, Seattle, Washington. Prepared for Time Oil. Co. July 25, 1994.

SAIC. 2006. Soil and Groundwater Screening Criteria, Source Control Action Plan, Slip 4, Lower Duwamish Waterway. Prepared by SAIC for Ecology. August 2006 (Revised February 2007).

SAIC. 2008. Lower Duwamish Waterway, RM 0.9 to 1.0 East, Slip 1, Summary of Existing Information and Identification of Data Gaps. Prepared for Ecology. August 2008.

Saltbush Environmental (Saltbush Environmental Services, Inc.). 1997. Letter from Dennis Saltbush, Saltbush Environmental to Cecil Leung, Imperial Richfield. Re: UST Closure/ Petroleum Contaminated Soil 2,000 gallon unleaded gasoline (Tank#5) Saltbush Project Number 97063785. (Note: signature page missing from file) July 1, 1997.

Saltbush Environmental. 1998. Letter from Dennis Saltbush, Saltbush Environmental, to Cecil Leung. Re: Imperial Richfield, 3005 Rainier Avenue South , Seattle, Washington 98144. July 29, 1998.

Sato. 2004a. Handwritten notes by Brian Sato, Ecology, regarding Belshaw Property West Portion, Meeting with Patti Thompson and David Rubvugel. July 12, 2004.

Sato. 2004b. Handwritten notes by Brian Sato, Ecology, regarding Belshaw Site Visit on July 20, 2004. July 20, 2004.

Schmoyer. 2008a. Email from Beth Schmoyer, SPU, to Dan Cargill, Ecology, Re: Sediment sample results for Tully's site. February 5, 2008.

Schmoyer. 2008b. Email from Beth Schmoyer, SPU, to Iris Winstanley, SAIC, Re: Business Inspections. September 4, 2008.

Schmoyer. 2009a. Email from Beth Schmoyer, SPU, to Dan Cargill, Ecology. Re: PCB sample results from catch basin on Airport Way S. and S. Stevens Street (RCB37 in front of Tully's). March 3, 2009.

Schmoyer. 2009b. Email from Beth Schmoyer, SPU, to Dan Cargill, Ecology. Re: ldw inspections. March 16, 2009.

SCL. 1980. Memorandum from Lee Peha, Seattle City Light, to Jack Wheelock, Seattle City Light. Subject: Microcide CA-39, Scale Pro L-38. December 11, 1980.

SCL. 1985a. Letter from Timothy C. Croll, Seattle City Light, to Tom Cook, Ecology. Re: New Dangerous Waste Rules WAC 173-303 on PCBs. May 8, 1985.

SCL. 1985b. Letter from Timothy C. Croll, Seattle City Light, to John Conroy, Ecology. Re: Extension Request for newly regulated PCB wastes. July 30, 1985.

SCL. 1989a. Letter from Lynn Best, SCL, to William M. Hedgebeth, USEPA. Re: Records to document known PCB levels of SCL transformers which serve Alaskan Copper and Brass Co. March 1, 1989.

SCL. 1989b. Letter from Shirli Axelrod, Seattle City Light, to Joe Hickey, Ecology. Re: 1988 to 1989 Underground Storage Tank removal activities. November 2, 1989.

SCL. 1990. Letter from Shirli Axelrod, Seattle City Light, to Joe Hickey, Ecology. Re: Diesel Oil Spill at Seattle City Light's South Service Center on Wednesday April 4, 1990. May 4, 1990.

SCL. 1992. Seattle City Light Pollution Prevention Plan, Executive Summary. August 1992.

SCL. 1993a. South Service Center – Moderate Risk Waste Facility. March 31, 1993.

SCL. 1993b. Seattle City Light Pollution Prevention Plan. Revised July 1993.

SCL. 1993c. Operations Plan, Seattle City Light South Service Center, Moderate Risk Waste Facility. October 1993.

SCL. 2000. Letter from H. Christine Pratt, Seattle City Light, to Julie Sellick, Ecology. Re: Extension on Accumulation Time for Dioxin-Bearing Waste. January 14, 2000.

SD&C (Slotta Design and Construction). 1998a. Underground Storage Tank Site Assessment Report. Prepared for Darigold. October 23, 1998.

SD&C. 1998b. Site Assessment Supplemental Report, Gai's Northwest Bakeries, 2006 S. Weller St., Seattle, WA 98124. Prepared for Gai's Northwest Bakeries. December 21, 1998.

Seattle Barrel (Seattle Barrel Company). 1994. Wastewater Discharge Permit Application. Prepared by Al Sanft, Seattle Barrel Company. June 2, 1994.

Seattle Barrel. 2003. King County Industrial Waste Survey, Seattle Barrel Company, 4716 Airport Way South. Prepared by Al Sanft. March 21, 2003.

Seattle City Attorney (Seattle City Attorney's Office). 2009. Notice of Violation and Order for Corrective Action #2009-01, Voluntary Compliance Agreement, North Star Casteel Products, Inc. Issued by Stephen Karbowski, Seattle City Attorney's Office, to Kurtis Gray, North Star Casteel. Unsigned Draft. March 24, 2009.

Seattle Housing Authority. 2006. Seattle Housing Authority News Release, http://www.seattlehousing.org/news/releases/2006/environmental-clean-up/. August 18, 2006.

Seattle Lighthouse (Seattle Lighthouse for the Blind). 2002. Horizons Newsletter: Spring 2002. History of the Seattle Lighthouse for the Blind. http://www.seattlelighthouse.org/newsletters/horiz_archives/history.html. Accessed July 28, 2009.

Seattle Lighthouse (Seattle Lighthouse for the Blind). 2009. Seattle Lighthouse for the Blind website http://www.seattlelighthouse.org/. Accessed July 28, 2009. \

The Seattle Times. 2006. Co-founder of West Seattle ice cream store dies at age 96. Prepared by Carol M. Ostrom for The Seattle Times. October 12, 2006.

The Seattle Times. 2008. School is transformed into museum, housing. Prepared by Jack Broom for The Seattle Times. January 12, 2008.

Seattle Parks and Recreation. 2009. City of Seattle Department of Parks and Recreation Website on Genesee Park and Playfield http://www.seattle.gov/parks/park_detail.asp?ID=409. Accessed July 21, 2009.

Seattle Technical Finishing. 1992. Pollution Prevention Plan for Seattle Technical Finishing, Inc. August 20, 1992.

Seattle Technical Finishing. 1994. Pollution Prevention Plan, Worksheet 1, Facility Identification, Progress Towards Goals. 1994.

SEC (Specialized Environmental Consulting, Inc.). 1996. Interim Independent Remedial Action Report, Washington Trucking Association, 4101 4th Ave., Seattle, WA. April 12, 1996.

SECOR (SECOR International Incorporated). 2002a. Independent Remedial Action Report Saint Gobain Performance Plastics. Prepared for Saint Gobain Performance Plastics, Seattle, WA. Prepared by SECOR International Incorporated, Redmond, WA. February 19, 2002.

SECOR. 2002b. Letter from Christopher Robinson and Todd Tiffany, SECOR, to Grant Yang, Ecology. Re: Response to Washington State Dept of Ecology Letter, Saint Gobain Performance Plastics. September 10, 2002.

SEED (SouthEast Effective Development). 2001. Letter from Pat Chemnick, SEED, to Joe Hickey, Ecology. Re: Voluntary Cleanup Program Request for Review - Rainier Court Project, Seattle, Washington. March 16, 2001.

SEED. 2009. SouthEast Effective Development Economic Development, Chubby & Tubby website: http://www.seedseattle.org/econ_dev/chubtub.htm. Accessed on June 11, 2009.

SES (Sound Environmental Strategies Corporation). 2004a. UST Decommissioning and Site Assessment - WestFarm Foods Rainier Avenue Facility. Prepared by Sound Environmental Strategies Corporation for WestFarm Foods. March 3, 2004.

SES. 2004b. Groundwater Investigation- WestFarm Foods Rainier Avenue Facility. Prepared by Sound Environmental Strategies Corporation for WestFarm Foods. June 22, 2004.

SES. 2006. Groundwater Monitoring Report, First Quarter of 2006, Time Oil Co., Facility #01-216, Seattle, Washington. Prepared for Time Oil. May 22, 2006.

SES. 2008a. Remedial Excavation of On Property Source Material, Former Colman Property, 2203 East Union Street, Seattle, Washington. Prepared for Ecology. May 16, 2008.

SES. 2008b. Groundwater Monitoring Report, First Quarter of 2008, TOC Holdings Co., Facility #01-216, Seattle, Washington. Prepared for TOC Holdings Co. May 21, 2008.

SES. 2009a. Groundwater Monitoring Report, Third Quarter of 2008, TOC Holdings Co., Facility #01-216, Seattle, Washington. Prepared for TOC Holdings Co. January 5, 2009.

SES. 2009b. Closure Report, TOC Holdings Co., Facility No. 01-216, 2465 South College Street, Seattle, Washington 98144. Prepared for TOC Holdings Co. January 28, 2009.

Shamrock (Shamrock Services, Inc.). 1995a. Report, Ground Water Contamination Assessment, Former Service Station, Rainier Valley Square, Seattle, Washington. Prepared for Gramor Development NW, Inc. August 15, 1995.

Shamrock. 1995b. Letter from Edward O'Sullivan, Shamrock, to Richard Embry, Gramor Development. Re: Rainier Valley Square – SW Corner, Ground Water Test Results – Gasoline. October 13, 1995.

Shamrock. 1996a. Letter from Edward O'Sullivan, Shamrock, to Richard Embry, Gramor Development. Re: Rainier Valley Square – Former Service Station Site, Ground Water Test Results – 3rd Quarter. January 18, 1996.

Shamrock. 1996b. Letter from Edward O'Sullivan, Shamrock, to Richard Embry, Gramor Development. Re: Rainier Valley Square – Former Service Station Site, Ground Water Test Results – 4th Quarter. March 11, 1996.

Shannon & Wilson, Inc. 2006. UST Site Assessment and Remedial Cleanup Report, Providence Campus South Addition. Submitted to Lindsay Clark, Trammell Crow Company. February 8, 2006.

SKCDPH (Seattle-King County Department of Public Health). 1984. Memorandum from Wally Swofford, SKCDPH, to Rod Hansen, King County Solid Waste Division. Re: Waste Material Cleared for Local Landfill, Alaskan Copper Works, 3200 6h Avenue South. July 9, 1984.

SKCDPH. 1986. Seattle-King County Abandoned Landfill Toxicity/Hazard Assessment Project. December 31, 1986.

SKCDPH. 1993. Letter from Wallace C. Swofford, SKCDPH, to Ann Kenny, Ecology. Re: Seattle City Light Proposed Hazardous/Moderate Risk Waste Collection/Storage Facility – Determination of Non-Significance. July 15, 1993.

SKCDPH. 1996. Letter from Carsten Thomsen, SKCDPH, to David Hasson, Samis Land Co. Re: Site Hazard Assessment. July 22, 1996.

SKCDPH. 1997a. Letter from Jill Trohimovich, SKCDPH, to Cullen Stephenson, Ecology. Re: Waste Management of Seattle's Alaska Street Reload and Recycling Facility, Solid Waste Treatment Site Permit Determination of Non-Significance. August 20, 1997.

SKCDPH. 1997b. Letter from Jill Trohimovich, SKCDPH, to Nick Harbert, Waste Management of Seattle. Re: Permit Application Approval for Waste Management's Alaska Street Reload and Recycling Facility, 70 South Alaska Street, Seattle. September 17, 1997.

SKCDPH. 1998a. Letter from Peter Isaksen, SKCDPH, to Dominic D'Angelo. Re: Site Hazard Assessment of D. Leonard & Sons Site. July 29, 1998.

SKCDPH. 1998b. Letter from Peter Isaksen, SKCDPH, to Skip Gribble, Ralph's Concrete Pumping, Inc. Re: Site Hazard Assessment Ranking Correction. September 8, 1998.

SKCDPH. 1998c. Letter from Jill Trohomivich, SKCDPH, to Nick Harbert, Waste Management of Seattle. Re: Soils from Waste Management's Alaska Street Reload and Recycling Facility to Olympic View Sanitary Landfill. September 23, 1998.

SKCDPH. 1999a. Letter from Jill Trohomivich, SKCDPH, to Jerry Hardebeck, Waste Management of Seattle. Re: Tire Processing at Waste Managements Alaska Street Reload and Recycling Facility, 70 South Alaska Street, Seattle. February 23, 1999.

SKCDPH. 1999b. Site Hazard Assessment, Metal Laundry Site. August 3, 1999.

SKCDPH. 1999c. Letter from Eileen D. Hennessy, SKCDPH, to Mr. Calcaterra, Waste Management of Seattle. Re: Approved Materials at Alaska Street Reload and Recycling Facility, 70 South Alaska Street, Seattle. December 29, 1999.

SKCDPH. 2000a. Notice of Violation; Permit Suspension Order (Notice and Order), Alaska Street Reload Facility, 70 South Alaska Street, Seattle, Washington 98134. February 28, 2000.

SKCDPH. 2000b. Letter from Eileen Hennessy, SKCDPH, to Steve Seed, Waste Management. Re: Industrial Sludge Processing at Alaska Street Reload and Recycling Facility, 70 South Alaska Street, Seattle. March 31, 2000.

SKCDPH. 2001a. Site Hazard Assessment, Seattle City Light South Service Center, Moderate Risk Waste Facility. August 3, 2001.

SKCDPH. 2001b. Site Hazard Assessment, Seattle Public Utilities Operations Center. August 3, 2001.

SKCDPH. 2002. Site Hazard Assessment, Spear Trusts Warehouse site (4005 6th Avenue S, Seattle, WA). August 22, 2002.

SKCDPH. 2003a. Site Hazard Assessment, Ralph's Concrete Pumping Vacant Lot, 1517 Rainier Avenue S., Seattle, WA). January 23, 2003.

SKCDPH. 2003b. Joint Inspection Program, Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program, Initial Inspection, Jacks Inc, 24 South Idaho Street, Seattle. March 20, 2003.

SKCDPH. 2003c. Letter from Larry Brown, SKCDPH, to Larry Burris, Stewart Industries. Re: Results from March 20, 2003 inspection. April 18, 2003.

SKCDPH. 2003d. Letter from Larry Brown, SKCDPH, to Brian Middlekauff, Jacks, Inc. Re: Results from March 20, 2003 inspection. April 18, 2003.

SKCDPH. 2003e. Joint Inspection Program, Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program, Initial Inspection, Stewart Industries, 16 S. Idaho St. March 26, 2003.

SKCDPH. 2003f. Joint Inspection Program, Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program. Follow-Up Inspection, Stewart Industries, 16 S. Idaho Street, Seattle Washington. May 29, 2003.

SKCDPH. 2004a. Letter from Larry Brown, SKCDPH, to Larry Burris, Stewart Industries, Inc. Subject: Results from the May 21 and 29, 2003 stormwater pollution prevention re-inspections: No further action required. April 8, 2004.

SKCDPH. 2004b. Joint Inspection Program, Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program, Follow-Up Inspection, Jacks Inc. 24 S. Idaho St., Seattle. Inspected May 21 and 29, 2003, Inspection form revised April 9, 2004.

SKCDPH. 2004c. Letter from Larry Brown, SKCDPH, to Brian Middlekauff, Jacks Inc. Subject: Results from the 5/21/03 and 5/29/03 stormwater pollution prevention re-inspections: No further action required. April 9, 2004.

SKCDPH. 2004d. Letter from Jill Trohimovich, SKCDPH, to Todd Vaught, Waste Management Cascade Recycling. Re: Cascade Recycling Glass Cullet and Plan of Operation Update. October 4, 2004.

SKCDPH. 2007. Site Hazard Assessment, Goodwill Dearborn Campus, 1200-1590 S. Dearborn Street. January 23, 2007.

Skyline (Skyline Electric & MFG Co., Inc.). 2003. King County Industrial Waste Survey. March 11, 2003.

SME Corp. 1997. Underground Storage Tank Tightness Testing Checklist, Plymouth Poultry Company 4500 7th South, Seattle, WA 98108-0923. March 7, 1997.

SME Corp. 1998. Underground Storage Tank Tightness Testing Checklist, Plymouth Poultry Company 4500 7th South, Seattle, WA 98108-0923. April 22, 1998.

Sound Transit. 2009. Sound Transit Baker Street Station web page, http://www.soundtransit.org/Riding-Sound-Transit/Schedules-and-Facilities/Transit-Facilities/Mt-Baker-Station.xml. Accessed July 21, 2009.

Speer. 1992. Underground Storage Tank, Permanent Closure/Change-In-Service Checklist, Harborview Medical Center, 325 9th Ave, Seattle, WA 98134. Prepared by John Speer. September 14 and December 30, 1992.

Spieker Properties. 2000. Letter from James M. Rock, Spieker, to Joe Hickey, Ecology. Re: Request for Assistance Under Voluntary Cleanup Program, City Commerce Park Site. May 1, 2000.

SPU (Seattle Public Utilities). 1997. Underground Storage Tank Closure and Site Assessment at Ecology Site (007925), Seattle Public Utilities Field Operations Control Center, 2700 Airport Way S., Seattle Washington. December 1, 1997.

SPU. 2001a. Letter from Ryean-Marie Woods, SPU, to Julie Hiatt, Global Fulfillment. Subject: Results from the March 29, 2001 stormwater pollution prevention inspection: No action required. April 2, 2001.

SPU. 2001b. Letter from Tasha Bassett, Seattle Public Utilities, to James C. Brown, Alaska Copper & Brass. Subject: Results from the April 19th 2001 stormwater pollution prevention inspection: No action required. April 26, 2001.

SPU. 2001c. Business Inspection Checklist: UPS. May 21, 2001.

SPU. 2001d. Letter from Ryean-Marie Woods, Seattle Public Utilities, to Marvin Lock, United Parcel Service. Re: Results from the May 21, 2001, stormwater pollution prevention inspection: No action required. June 6, 2001.

SPU. 2001e. Letter from Ryean-Marie Woods, Seattle Public Utilities, to Julie Hiatt, Global Fulfillment. Subject: Results from June 20, 2001 stormwater pollution prevention re-inspection: Corrective action required. June 20, 2001.

SPU. 2001f. Letter from Ryean-Marie Woods, Seattle Public Utilities, to Larry Burris, Stewart Industries, Inc. Subject: Results from June 20, 2001 stormwater pollution prevention inspection: Corrective action required. June 25, 2001.

SPU. 2001g. Seattle Public Utilities, Business Inspection Checklist: Stewart Industries, Inc., 16 South Idaho Street. Prepared by Ryean-Marie Woods. September 14, 2001.

SPU. 2001h. Seattle Public Utilities, Business Inspection Checklist: Seattle Barrel Company, 4716 Airport Way South. Prepared by Ryean-Marie Woods and Ellen Stewart. September 17, 2001.

SPU. 2001i. Letter from Ryean-Marie Woods, Seattle Public Utilities, to Larry Burris, Stewart Industries, Inc. Subject: Results from the September 14, 2001 stormwater pollution prevention re-inspection: No further action required. September 18, 2001.

SPU. 2001j. Letter from Ryean-Marie Woods, Seattle Public Utilities, to Julie Hiatt, Global Fulfillment. Subject: Results from the November 27, 2001 stormwater pollution prevention re-inspection: No further action required. November 27, 2001.

SPU. 2001k. Seattle Public Utilities, Business Inspection Checklist: Global Fulfillment 4-8 South Idaho St. Prepared by Ryean-Marie Woods. November 27, 2001.

SPU. 2003a. Joint Inspection Program, Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program, Initial Inspection, Alaskan Copper & Brass, 3200 6th Avenue S. June 5, 2003.

SPU. 2003b. Letter from Ellen Stewart, Seattle Public Utilities, to Al or John Sanft, Seattle Barrel Company. Subject: Results from June 3, 2003 pollution prevention inspection: Corrective action required. June 23, 2003.

SPU. 2003c. Letter from Tanya Treat, SPU, to Suzanne Tilley, MacMillan-Piper. Re: Results from June 4, 2003 Stormwater Pollution Prevention Inspection: Corrective Action Required. July 11, 2003.

SPU. 2003d. Letter from Tasha Bassett, Seattle Public Utilities, to Jim Brown, Alaskan Copper & Brass Co. Subject: Results from the May 15th 2003 pollution prevention inspections: No action required. July 22, 2003.

SPU. 2003e. Letter from Tanya Treat, SPU, to Suzanne Tilley, MacMillan-Piper. Re: Results from August 26, 2003 Stormwater Pollution Prevention Inspection: Corrective Action Required. August 28, 2003.

SPU. 2003f. Letter from Ellen Stewart, Seattle Public Utilities, to Al or Louie Sanft, Seattle Barrel Co. Subject: Results from the September 25, 2003 pollution prevention inspection: No further action required. September 25, 2003.

SPU. 2003g. Joint Inspection Program, Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program, Initial Inspection, Liquor Control Board. September 29, 2003.

SPU. 2003h. Letter from Tanya Treat, SPU, to Suzanne Tilley, MacMillan-Piper. Re: Results from October 6, 2003 Stormwater Pollution Prevention Inspection: Corrective Action Required. October 7, 2003.

SPU. 2003i. Letter from Ellen Stewart, SPU, to James Austin, Liquor Control Board. Subject: Results from September 29 and October 15, 2003 pollution prevention inspections: Corrective action required. October 23, 2003.

SPU. 2003j. Initial Inspection: Skyline Electric & MFG Company. Joint Inspection Program, Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program. December 1, 2003.

SPU. 2003k. Letter from Tanya Treat, Seattle Public Utilities, to Michael Bell, Skyline Electric & MFG Co. Re: Results from December 1, 2003 stormwater pollution prevention inspection: Corrective Action Required. December 22, 2003.

SPU. 2004a. Letter from Tanya Treat, Seattle Public Utilities, to Michael Bell, Skyline Electric & MFG Co. Re: Results from February 24th stormwater pollution prevention re-inspection: No Further Action Required. February 24, 2004.

SPU. 2004b. Letter from Tanya Treat, SPU, to Suzanne Tilley, MacMillan-Piper. Re: Results from February 26, 2004 Stormwater Pollution Prevention Inspection: Corrective Action Required. March 5, 2004.

SPU. 2004c. Joint Inspection Program, Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program, Follow-Up Inspection, Liquor Control Board. March 11, 2004.

SPU. 2004d. Letter from Ellen Stewart, SPU, to Elmer Opdahl, Liquor Control Board. Subject: Results from the March 11, 2004 pollution prevention re-inspection: No further action required. March 15, 2004.

SPU. 2004e. Letter from Tanya Treat, SPU, to Suzanne Tilley, MacMillan-Piper. Re: Results from May 18, 2004 Stormwater Pollution Prevention Inspection: Corrective Action Required. May 19, 2004.

SPU. 2004f. Letter from Savina Uzunow, SPU, to Scott Peterson, North Star Casteel Products. Re: Results from May 5, 2004 Stormwater Pollution Prevention Re-Inspection: Corrective Action Required. June 24, 2004.

SPU. 2004g. Joint Inspection Program Lower Duwamish Waterway Follow-Up Inspection, North Star Casteel Foundry. Prepared by Savina Uzunow, SPU. July 30, 2004.

SPU. 2004h. Letter from Tanya Treat, SPU, to Suzanne Tilley, MacMillan-Piper. Re: Results from July 30, 2004 Stormwater Pollution Prevention Inspection: Corrective Action Required. August 30, 2004.

SPU. 2004i. Letter from Tanya Treat, SPU, to Suzanne Tilley, MacMillan-Piper. Re: Results from September 27, 2004 Stormwater Pollution Prevention Inspection: Corrective Action Required. October 1, 2004.

SPU. 2004j. Letter from Savina Uzunow, SPU, to Scott Peterson, North Star Casteel Products. Re: Results from December 9, 2004 Stormwater Pollution Prevention Re-Inspection: No Further Action Required. December 13, 2004.

SPU. 2005. Letter from Tanya Treat, SPU, to Suzanne Tilley, MacMillan-Piper. Re: Results from the February 8, 2005 Stormwater Pollution Re-Inspection: No Further Action Required. February 8, 2005.

SPU. 2006a. Letter from Tanya Treat, Seattle Public Utilities, to Eitan Alon, Ariel Development, Inc. Subject: Follow-up to Site Meeting on December 12, 2005. January 6, 2006.

SPU. 2006b. Handwritten notes by Megan Wisdom on MacMillan-Piper Inspection. April 22, 2006.

SPU. 2006c. Joint Inspection Program Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program, Initial Inspection, Seattle Barrel Co, 4716 Airport Way S. Prepared by Paula Fedirchuk. August 2, 2006.

SPU. 2006d. Letter from Paula Fedirchuk, Seattle Public Utilities, to Al Sanft, Seattle Barrel Company. Subject: Results from August 2, 2006 stormwater pollution prevention inspection: Corrective action required. August 16, 2006.

SPU. 2007a. Joint Inspection Program Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program, Follow-Up Inspection, Seattle Barrel Co, 4716 Airport Way S. January 22, 2007.

SPU. 2007b. Letter from Tasha Bassett, Seattle Public Utilities, to Al Sanft, Seattle Barrel Company. Subject: Results from January 22, 2007 environmental compliance re-inspection: Corrective action required. February 14, 2007.

SPU. 2007c. Joint Inspection Program Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program, Follow-Up Inspection, Seattle Barrel Co, 4716 Airport Way S. Prepared by Tasha Bassett. March 22, 2007.

SPU. 2007d. Letter from Tasha Bassett, Seattle Public Utilities, to Al Sanft, Seattle Barrel Company. Subject: Results from the pollution prevention re-inspection: In Compliance. March 23, 2007.

SPU. 2007e. Joint Inspection Program Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program, Initial Inspection Liquor Control Board, State of Washington. June 12, 2007.

SPU. 2007f. Letter from Ellen Stewart, SPU, to Leo Conte, Liquor Control Board. Subject: Results from the Environmental Compliance Inspection: Corrective action required. June 27, 2007.

SPU. 2007g. Joint Inspection Program Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program, Follow-Up Inspection Liquor Control Board. August 9, 2007.

SPU. 2007h. Joint Inspection Program Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program, Follow-Up Inspection Liquor Control Board. September 4, 2007.

SPU. 2007i. Letter from Ellen Stewart, SPU, to Leo Conte, Liquor Control Board. Subject: Results from the Environmental Compliance re-inspection: In Compliance. September 13, 2007.

SPU. 2007j. Letter from Tasha Bassett, SPU, to Suzanne Tilley, MacMillan-Piper. Re: Results from an Environmental Compliance Inspection: Corrective Action Required. November 13, 2007.

SPU. 2008a. SPU Business Inspection Program, Initial Inspection, Zevia LLC, 14 S. Idaho St., Seattle WA. April 25, 2008.

SPU. 2008b. The City of Seattle, Seattle Public Utilities, Notice of Violation and Order fro Corrective Action, File Number: 2008-011. Subject: Premises known as Zevia LLC, 14 S. Idaho St., Seattle, WA 98134. April 28, 2008.

SPU. 2008c. Letter from Megan Wisdom, SPU, to Suzanne Tilley, MacMillan-Piper. Re: Results from an Environmental Compliance Inspection: Corrective Action Required. May 7, 2008.

SPU. 2008d. Letter from Megan Wisdom, SPU, to Travis Lamberte, North Star Casteel Products, Inc. Re: Results from Environmental Compliance Inspection: Corrective Action Required. May 27, 2008.

SPU. 2008e. Letter from Megan Wisdom, SPU, to Paul Randall, North Star Casteel Products, Inc. Re: Results from Environmental Compliance Inspection: Corrective Action Required July 9, 2008.

SPU. 2008f. Letter from Megan Wisdom, SPU, to Suzanne Tilley, MacMillan-Piper. Re: Results from an Environmental Compliance Inspection: Corrective Action Required. July 10, 2008.

SPU. 2008g. Joint Inspection Program Lower Duwamish Waterway, Seattle Public Utilities, Karla's Hand Bindery, Inc. dba Global Fulfillment, 4 S. Idaho St. August 28, 2008.

SPU. 2008h. Letter from Megan Wisdom, Seattle Public Utilities, to Julie Hiatt, Global Fulfillment. Subject: Results from the Environmental Compliance Inspection: Corrective action required. September 3, 2008.

SPU. 2008i. Handwritten inspection notes, likely by Megan Wisdom, on MacMillan-Piper Reinspection. September 26, 2008.

SPU. 2008j. Letter from Megan Wisdom, SPU, to Paul Randall, North Star Casteel Products, Inc. Re: Results from Environmental Compliance Inspection: Corrective Action Required. September 30, 2008.

SPU. 2008k. Joint Inspection Program Lower Duwamish Waterway, King County Industrial Waste, Seattle Public Utilities, Local Hazardous Waste Management Program, Initial and Follow-Up Inspections on September 10 and October 23, 2008. Prepared by Mike Jeffers and Megan Wisdom. October 23, 2008.

SPU. 2008l. Letter from Megan Wisdom, Seattle Public Utilities, to Al Sanft, Seattle Barrel Company. Subject: Results from the Environmental Compliance re-inspection. November 19, 2008.

SPU. 2008m. Handwritten inspection notes, likely by Megan Wisdom, on North Star Casteel closeout inspection. November 21, 2008.

SPU. 2008n. Letter from Megan Wisdom, Seattle Public Utilities, to Julie Hiatt, Global Fulfillment. Subject: Results from the Environmental Compliance re-inspection: In Compliance. November 21, 2008.

SPU. 2009a. Notice of Violation and Order for Corrective Action #2009-01, Illicit Discharge into the City of Seattle Storm Drain System, North Star Casteel Products, Inc. Submitted by Megan Wisdom, SPU, to Paul Randall, North Star Casteel Products, Inc. January 21, 2009.

SPU. 2009b. Handwritten inspection notes, likely by Megan Wisdom, on North Star Casteel Reinspection. January 30, 2009.

SPU. 2009c. Joint Inspection Program Sediment Remediation, Seattle Public Utilities, Initial Inspection, Seattle Barrel Company, 4716 Airport Way S. Prepared by Brian Robinson. February 9, 2009.

SPU. 2009d. Letter from Brian Robinson, SPU, to Al and Louie Sanft, Seattle Barrel Company. Subject: Results from the Environmental Compliance Inspection: Corrective action required. March 4, 2009.

SPU. 2009e. Handwritten inspection notes, likely by Megan Wisdom, on MacMillan-Piper Reinspection. March 4, 2009.

SPU. Undated. Storm Water Drainage Figure for Vicinity of North Star Casteel Facility.

Spud! Seattle. 2009. Spud! Seattle Company website: https://www.spud.com. Accessed on May 6, 2009.

St. Gobain (Saint Gobain Performance Plastics). 2001. Letter from Douglas Quimby, Saint Gobain Performance Plastics, to Alice North, Ecology. Re: Submittal of Saint-Gobain's Pollution Prevention Annual Progress Report. August 28, 2001.

St. Gobain. 2006. Letter from Douglas Quimby, Saint Gobain Performance Plastics, to Elliott Zimmerman, Ecology. Re: Saint-Gobain Response to Dangerous Waste Compliance Inspection May 21, 2006. June 27, 2006.

Stewart Industries. 2002. King County Industrial Waste Survey, Stewart Industries, Inc. Prepared by Larry Burris. December 10, 2002.

Stone. 1995. Memorandum from Bob Stone, Ecology, to Dave Hovik. Re: Samis Land Co./Fleet Truck Service Repair. February 8, 1995.

Stroh Brewery Company. 1996. Pollution Prevention Progress Report, Rainier Brewing Co. 1995. August 21, 1996.

SWD (Seattle Water Department). 1996a. Underground Storage Tank Closure and LUST Status Update Report (Incident-4758) at Ecology Site (007925). February 1, 1996.

SWD. 1996b. Hydraulic Hoist Closure and Status Update Report for SIS (N175155000) ERTS (N4894). December 16, 1996.

Sweet-Edwards (Sweet-Edwards/EMCON, Inc.). 1990. Testing for Hydrocarbons in Soils, Alaskan Copper Works, Sixth Avenue South Site. Prepared for Alaskan Copper Works. August 14, 1990.

Sweet-Edwards. 1991a. Environmental Site Assessment 80 South Hudson Street, Seattle, Washington. Prepared for SES Seattle, Inc. January 11, 1991.

Sweet-Edwards. 1991b. Underground Storage Tank Removal and Subsurface Soil and Ground Water Quality Assessment, 80 South Hudson Street Site, Seattle, Washington. Prepared for SES Seattle, Inc. May 10, 1991.

Sweet-Edwards. 1991c. Letter from Robert Lindsay, Sweet-Edwards/EMCON, to Glynnis Carrosino, Ecology. Re: MTCA Release Report, 80 South Hudson Street Seattle Washington. May 20, 1991.

Sweet-Edwards. 1991d. Underground Storage Tanks Removal and Initial Soil Remediation, Perfection Smokery Canning Facility, Seattle, Washington. Prepared for Ocean Beauty Seafoods, Inc. August 12, 1991.

Sweet-Edwards. 1991e. Proposal for Remediation Services, 80 South Hudson Street, Seattle, Washington. December 2, 1991.

Terra (Terra Associates, Inc.). 1993. Level I Environmental Assessment, Rainier Plaza, 3800 Rainier Avenue South, Seattle, Washington. Prepared for Gramor Development Northwest, Inc. February 17, 1993.

Thomsen. 2000. Handwritten notes by Carsten Thomsen, SKCDPH, regarding ERTS Referral, Incident ID: N509283. April 13, 2000.

Thomsen. 2004. Swanson Property, ERTS #543546, Initial Investigation Report. Prepared by Carsten Thomsen, SKCDPH. November 17, 2004.

Tiffany. 2008. Comments from Bruce Tiffany, KCIW, regarding the Lower Duwamish Waterway, RM 1.7-2.0 East (Slip 2 to Slip 3) Summary of Existing Information and Identification of Data Gaps Draft Report. September 30, 2008.

Time Oil (Time Oil Company). 1993. Letter from William Carroll, Time Oil, to Joe Hickey, Ecology. Re: Facility Update Report, Time Oil Co. Property 01-216, 2465 S. College St., WA. September 2, 1993.

Timm. 2000. Handwritten notes by Ronald W. Timm, Ecology, regarding ERTS Referral, Incident ID: N509283. May 1, 2000.

Tiny's Organic. 2009. Tiny's Organic Website, CSA Program Page. http://www.ilovetiny.com/CSAProgram.aspx. Accessed on May 18, 2009.

TME Environmental Services. 1994. Independent Remedial Action Report – Business Pro Computers, 3433 4th Ave. South, Seattle, WA. Prepared for Mr. Jim Kintner, Hall, Pinckney and Kintner, Bremerton, WA. Prepared by TME Environmental Services, Inc., Bremerton, WA. June 15, 1994.

UPS (United Parcel Service). 1997a. Stormwater Pollution Prevention Plan: UPS Seattle Hub, 4455 Seventh Avenue South, Seattle, WA. August 26, 1997.

UPS. 1997b. Stormwater Pollution Prevention Plan: UPS Seattle Automotive, 4329 Seventh Avenue South, Seattle, WA. August 26, 1997.

Urban Redevelopment (Urban Redevelopment, LLC). 2001. VCP Site Closure Report, Bloch Steel Industries – West Scrap Steel Yard, 4580 Colorado Avenue South, Seattle,

Washington (Associated with VCP #NW0283). Prepared for Bloch Steel Industries and Washington State Department of Ecology. September 10, 2001.

Urban Redevelopment. 2004. Letter from Roy Kuroiwa, Urban Redevelopment, to Byung Maeng, Ecology. Re: Transmittal of Waste Manifests for WAD 092285592, Former KWIK Cleaners Property, Seattle, Washington. February 19, 2004.

Urban Redevelopment. 2005. VCP Site Closure Report, Former Shop Diesel UST, Bloch Steel Industries, Seattle, Washington. Prepared for Washington State Department of Ecology. January 31, 2005.

URS (URS Corporation). 2003. Report, UST Site Assessment, Swedish Medical Center, Providence Campus, Seattle, Washington.

URS. 2004. Report, UST Site Assessment and Voluntary Cleanup, Belshaw Brothers, Inc., Main/Assembly Buildings, 1750 22nd Avenue South, Seattle, Washington. For Davis Wright Tremaine. April 19, 2004. April 19, 2004.

URS. 2005. Colman Building Targeted Brownfields Assessment Report, Seattle, Washington. Prepared for URS Operating Services Region VIII START2 Contractor and U.S. Environmental Protection Agency, Region 10. February 7, 2005.

URS. 2007. Report, Limited Phase II Investigation, Qwest Facility, Seattle, Washington. June 2007. As cited in EA Engineering 2007.

USEPA (U.S. Environmental Protection Agency). 1981. Letter from Linda Dawson, USEPA, to Jim Brown, Alaskan Copper Works. Re: Emergency EPA Identification Number WAP000008103 assigned to Alaskan Copper Works. March 23, 1981.

USEPA. 1982. Letter from Betty A. Wiese, USEPA, to James C. Brown, Alaskan Copper Works. Re: EPA/State Identification Number WAD98738546 assigned. July 26, 1982.

USEPA. 1990. Letter from Gil Haselberger, USEPA, to Steven Sarich, Rainier Brewing Company. Re: January 19, 19990 Environmental Protection Agency (EPA) inspection performed by Peter Maule. June 26, 1990.

USEPA. 1993. Letter from Monica Rolluda, USEPA, to Holly Miller, City of Seattle Parks and Recreation. Re: Genesee Landfill site, Seattle, Washington. March 26, 1993.

USEPA. 2002. Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites. OSWER Directive 9285.6-08. U.S. Environmental Protection Agency. February 12, 2002.

USEPA. 2007a. EPA Inspection at WA UST Sites Data Entry Form, Pepsi Bottling Group. Prepared by Aaron Baron. May 7, 2007.

USEPA. 2007b. Memorandum from Veronica Henzi, USEPA, to Paul Fitzgerald, Seattle Housing Authority. Subject: Comments on the Final Draft Cleanup Action Plan, Seattle Housing Authority, Brownfield cleanup Site 109-117 12th Avenue. May 18, 2007.

USEPA. 2009a. EPA Region 10 PCB Compliance Inspection Report, Facility Name: Rainier Commons, LLC. April 16, 2009.

USEPA. 2009b. Memorandum from Bruce Long, EPA, to Scott Downey and Daniel Duncan, EPA. Subject: Rainier Commons, Inc., Seattle, Washington – WAD05123994, Follow-up to PCB Compliance Inspection; March 24, 2009. April 27, 2009.

Vernon (Vernon Environmental, Inc.). 2006a. Final Catch Basin Sediment Field Sampling Plan, Former Rainier Brewery Property, 3100 Airport Way South, Seattle, Washington, King County. Prepared for Rainier Commons LLC c/o Ariel Development LLC. May 2006.

Vernon. 2006b. Final Catch Basin Sediment Field Sampling Results Report, former Rainier Brewery Property, 3100 Airport Way South, Seattle, Washington, King County. Prepared for Rainier Commons, LLC c/o Ariel Development, LLC. June 2006.

WA CTED (Washington Department of Community, Trade, and Economic Development). 2003. Memo to Rainier Court Property Redevelopment File from Sharon Kophs, Brownfields Program Manager. Re: Action Memorandum – Rainier Court Property Redevelopment. October 24, 2003.

Washington Secretary of State. 2009a. Washington Secretary of State website Corporation Search: Sleepy Koala LLC, http://www.secstate.wa.gov/corps/search_detail.aspx?ubi=602419233. Accessed July 17, 2009.

Washington Secretary of State. 2009b. Washington Secretary of State website Corporation Search: SNARF LLC, tp://www.secstate.wa.gov/corps/search_detail.aspx?ubi=602419234. Accessed July 17, 2009.

Washington Secretary of State. 2009c. Washington Secretary of State website Corporation Search: Brunzer, LLLC, http://www.secstate.wa.gov/corps/search_detail.aspx?ubi=602419167. Accessed August 5, 2009.

WdOnline.biz. 2009. WD Online, web page for Camcal Company, http://wdonline.biz/company/276636/. Accessed July 21, 2009.

Wellspring Family Services. Western Logistics Inc. Company website, http://www.westernlogisticsinc.com/. Accessed July 20, 2009.

Western Drug. 1998. Real Estate Excise Tax Affidavit between Western Drug dba Drug Emporium NW and Longs Drug Store. August 27, 1998.

Western Logistics. 2009. Western Logistics Inc. Company website, http://www.westernlogisticsinc.com/. Accessed July 20, 2009.

Weston (Roy F. Weston, Inc.). 1999. Site inspection report: Lower Duwamish River, RM 2.5-11.5, Volume 1 – Report and appendices. Prepared by Roy F. Weston, Inc., for U.S. Environmental Protection Agency Region 10, Seattle, WA.

Weston. 2001a. Sampling and Quality Assurance Plan, Rainier Court Phase 2 Targeted Brownfields Assessment, Seattle, WA. Submitted to Joanne LaBaw, Task Monitor, U.S. Environmental Protection Agency. August 6, 2001.

Weston. 2001b. Rainier Court Area 2 Targeted Brownfields Assessment, Seattle, WA. Submitted to Joanne LaBaw, Task Monitor, U.S. Environmental Protection Agency. December 10, 2001.

Wietfeld. 2008. Personal communication between John Wietfeld (Ecology Toxics Cleanup Unit) and Megan Gay (SAIC) regarding soil sampling requirements for UST removals and excavations. August 21, 2008.

Windward (Windward Environmental LLC). 2003. Phase 1 Remedial Investigation Report, Final. Prepared by Windward Environmental LLC for the Lower Duwamish Waterway Group. July 3, 2003.

Windward. 2004. Data Report: Survey and Sampling of Lower Duwamish Waterway Seeps, Final. Prepared by Windward Environmental LLC for the Lower Duwamish Waterway Group. November 18, 2004.

Windward. 2007. Phase 2 Remedial Investigation Report, Draft. Prepared by Windward Environmental LLC for the Lower Duwamish Waterway Group. November 5, 2007.

Wisdom. 2008. Email from Megan Wisdom, SPU, to Suzanne Tilley, MacMillan-Piper. Re: update? MacMillan-Piper Stormwater. December 4, 2008.

WMI (Waste Management, Inc.). 1996. Operations Plan, Washington Waste Hauling & Recycling, Inc. (d/b/a Waste Management of Seattle) a.k.a. Hudson Street Reload Facility, 70 South Alaska Street, Seattle, WA. December 1996.

WMI. 1997. Letter from William A. Harbert, WMI, to Jill Trohimovich, Seattle-King County Department of Public Health. Re: 70 South Alaska Street – Additional Information. January 17, 1997.

WMI. 2001. Application for General Permit to Discharge Stormwater Associated with Industrial Activity (Notice of Intent). Prepared by Jamey DeSoer, WMI. August 23, 2001.

WMI. 2005a. Alaska Street Reloading & Recycling Facility, Solid Waste Facility Operating Permit Application, 70 South Alaska Street, Seattle, Washington 98134, A Waste Management of Washington, Inc. Facility. April 2005.

WMI. 2005b. Letter from John Borghese, Alaska Street Reload & Recycling, to Jill Trohimovich, Seattle-King County Department of Public Health. Re: Revised Operations Plan – Alaska Street Reload & Recycling Facility. April 29, 2005.

Woodward-Clyde. 1997. Phase I Environmental Site Assessment and Limited Site Characterization Study, Steam Supply and Rubber Company, Seattle, Washington. Prepared for Innovative Valve Technologies, Inc. August 13, 1997.

Wright Runstad (Wright Runstad & Company). 2008. 1200 12th Avenue South Seattle, Washington 98144 Property Description. Website: http://www.wrightrunstad.com/Properties&Services/Current/120012th.pdf. Accessed on August 25, 2009.

Yerian (Yerian Environmental Services). 1997. Summary of Groundwater Sampling Activities at Water Operations Control Center, Seattle, Washington. Prepared for SPU. March 26, 1997.

Zevia (Zevia LLC). 2009. Zevia Company Website: http://www.zevia.com. Accessed on June 29, 2009.

Zipper Zeman (Zipper Zeman Associates, Inc.). 2002a. Phase I Environmental Site Assessment, 601 and 615 South Alaska Street, Seattle, Washington. Prepared for Seattle Mortgage Services. June 25, 2002.

Zipper Zeman. 2002b. Phase II Environmental Site Assessment, 601 and 615 South Alaska Street, Seattle, Washington. Prepared for Seattle Mortgage Services. August 7, 2002.

Zipper Zeman. 2002c. Quarterly Groundwater Monitoring, 615 South Alaska Street, Seattle, Washington. Prepared for Seattle Mortgage Services. December 17, 2002.

Zipper Zeman. 2003a. Supplemental Phase II Environmental Site Assessment, 601 South Alaska Street, Seattle, Washington 98108. April 14, 2003.

Zipper Zeman. 2003b. Quarterly Groundwater Monitoring, 615 South Alaska Street, Seattle, Washington. Prepared for Seattle Mortgage Services. May 13, 2003.

This page intentionally left blank.