



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

# **Lower Duwamish Waterway Source Control Status Report January through December 2013**

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June 2014

Publication No. 14-09-337

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**ECOLOGY**  
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# **Lower Duwamish Waterway Source Control Status Report January through December 2013**

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Produced by

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

and

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18912 North Creek Parkway, Suite 101  
Bothell, WA 98011

With Assistance from:

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## List of Acronyms

2LAET	Second Lowest Apparent Effects Threshold
BDC	Boeing Developmental Center
BEHP	bis(2-ethylhexyl)phthalate
BMP	best management practice
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAP	Cleanup Action Plan
CB	catch basin
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CKD	cement kiln dust
CNE	Conditional No Exposure
COC	chemical of concern
cPAH	carcinogenic polycyclic aromatic hydrocarbon
CSCSL	Confirmed and Suspected Contaminated Sites List
CSL	Cleanup Screening Level
CSO	combined sewer overflow
DDT	dichloro-diphenyl-trichloroethane
DSI	Duwamish Shipyard, Inc.
DW	dry weight
EAA	Early Action Area
Ecology	Washington State Department of Ecology
EMF	Electronics Manufacturing Facility
EOF	emergency overflow
EPA	U.S. Environmental Protection Agency
ERD	Enhanced Reductive Dechlorination
FS	Feasibility Study
GAC	granular activated carbon
GTSP	Georgetown Steam Plant
HPAH	high molecular weight polycyclic aromatic hydrocarbon
HWTR	Hazardous Waste & Toxics Reduction
ISGP	Industrial Stormwater General Permit
ISIS	Integrated Site Information System
KC	King County
KCIA	King County International Airport
KCIW	King County Industrial Waste
LAET	Lowest Apparent Effects Threshold
LDW	Lower Duwamish Waterway
LDWG	Lower Duwamish Waterway Group
LNAPL	light non-aqueous phase liquids
LPAH	low molecular weight polycyclic aromatic hydrocarbon
LUST	leaking underground storage tank
MFC	Military Flight Center (Boeing)
mg/kg	milligrams per kilogram
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System

## List of Acronyms (Continued)

MSGP	Municipal Stormwater General Permit
MTCA	Model Toxics Control Act
NA	not applicable or not analyzed
NBF	North Boeing Field
ng/kg	nanograms per kilogram
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
OC	organic carbon
OWS	oil water separator
PAH	polycyclic aromatic hydrocarbon
PARIS	Water Quality Permitting and Reporting Information System
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PLP	potentially liable party
Port	Port of Seattle
PSCAA	Puget Sound Clean Air Agency
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
RM	river mile
ROD	Record of Decision
SAIC	Science Applications International Corporation
SCAP	Source Control Action Plan
SCWG	Source Control Work Group
SD	storm drain
SHA	Site Hazard Assessment
SIM	Seattle Iron & Metals
SMS	Washington State Sediment Management Standards
SPU	Seattle Public Utilities
SQS	Sediment Quality Standard
SVE	soil vapor extraction
SVOC	semivolatile organic compound
SW	stormwater
SWPPP	Stormwater Pollution Prevention Plan
TCE	trichloroethylene
TCP	Toxics Cleanup Program
TEQ	toxic equivalency quotient
TOC	total organic carbon
TPH	total petroleum hydrocarbons
TSCA	Toxic Substances Control Act
µg/L	micrograms per liter
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey



## **List of Acronyms (Continued)**

USEPA	U.S. Environmental Protection Agency
VCP	Voluntary Cleanup Program
VOC	volatile organic compound
WARM	Washington Ranking Method
WQ	water quality
WQC	water quality criteria

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## **Executive Summary**

This report summarizes source control activities conducted by the Lower Duwamish Waterway (LDW) Source Control Work Group (SCWG) between January 1, 2013 and December 31, 2013. Previous status reports provided an overview of the LDW site, the strategy for controlling sources of pollutants to the LDW, the process for developing Source Control Action Plans (SCAPs), the methods and process for implementing SCAPs, issues associated with permitted discharges, and a summary of source control actions conducted between 2003 and December 2012. This current report updates this information, including:

- Updated SCAP publication and implementation schedule;
- Status of business inspections, other source tracing activities, site assessments and cleanups, and other source control activities described in previous status reports;
- Public involvement and outreach activities; and
- Source control activities conducted between January 2013 and December 2013 at each of the 24 identified source control areas.

### **Source Control Action Plans**

Since publication of the previous Source Control Status Report, reports summarizing existing information, known as Data Gaps Reports, were completed for two source control areas: River Mile (RM) 3.8 to 4.2 West (Sea King Industrial Park) and RM 4.2 to 5.8 West (Restoration Areas). Washington State Department of Ecology (Ecology) completed SCAPs for these and two additional source control areas during the current reporting period (January through December 2013): RM 0.0 to 1.0 West (Spokane Street to Kellogg Island) and RM 2.1 West (1<sup>st</sup> Avenue S Storm Drain [SD]). This completes the preparation of SCAPs for all 24 source control areas. In addition, Ecology prepared a SCAP Handbook that documents the evolution of changes to format and content between 2004 and 2013.

A total of 683 source control action items have been identified based on the 24 SCAPs; 224 of these action items have been completed, and 8 are not needed or have been combined with another action item (a total of 34 percent). Of the remaining 451 action items, 97 (22 percent of the remaining action items) are considered high priority (to be completed prior to sediment cleanup), 220 (49 percent) are medium priority (to be completed prior to or concurrent with sediment cleanup), and 134 (30 percent) are low priority (ongoing actions or actions to be completed as resources become available). The current status of action items is shown in Figure ES-1.

The action item tally presented above reflects a net increase of 104 action items during the current reporting period as a result of the completion of four SCAPs (Spokane Street to Kellogg Island, 1<sup>st</sup> Avenue S SD, Sea King Industrial Park, and Restoration Areas). A total of 23 action items were completed during this period. High priority action items that are not yet complete are listed in Table ES-1 at the end of this section.

## Source Control Implementation

Business inspection and source tracing efforts continue. Under the Urban Waters Initiative, inspectors from the Ecology Water Quality (WQ) and Hazardous Waste & Toxics Reduction (HWTR) programs, together with Seattle Public Utilities (SPU) inspectors and Toxics Cleanup Program (TCP) staff, developed a master list of facilities, priorities for coordinating inspections and avoiding overlap, and a multimedia Source Control Checklist that is being used during source control inspections. SPU conducted 284 inspections at 177 facilities between January 2013 and December 2013, and Ecology conducted 208 inspections at 179 facilities within the LDW basin during this period. In addition, King County conducted 14 inspections at 16 facilities located in unincorporated areas of the county.

Source tracing activities are continuing, including collection of sediment trap samples, catch basin samples, and in-line solids samples. Through an interagency agreement between Ecology and SPU, sediment traps were installed and sampled at various locations in the LDW study area. The catch basin and in-line sampling has helped to identify a number of pollutant sources to the LDW.

Site characterization or cleanup is in progress at several facilities that are known or suspected threats to LDW sediments. Terminal 117, Rhone-Poulenc, Boeing Plant 2 (which includes part of Jorgensen Forge), and Slip 4 are being managed by the U.S. Environmental Protection Agency (USEPA or EPA). Ecology is managing the following sites under the Model Toxics Control Act (MTCA): Industrial Container Services/Trotsky Property, Douglas Management Company, North Boeing Field (NBF)-Georgetown Steam Plant (GTSP), Crowley Marine Services/8<sup>th</sup> Avenue Terminals, Boeing Isaacson/Thompson, 8801 Site (former PACCAR), Duwamish Shipyard, Glacier Northwest/Reichhold Chemical, Port of Seattle (Port) N Terminal 115, and Duwamish Marine Center.

Site characterization or cleanup is also in progress at several facilities that are known or suspected threats to human health or the environment, but are not necessarily a source of contaminants to LDW sediments. Cleanup at the former Boeing Electronics Manufacturing Facility (EMF) is being managed by EPA. Ecology is managing the following sites under MTCA: Burlington Environmental, General Electric-Dawson Street Plant, Capital Industries, Art Brass Plating, Blaser Die Casting, Jorgensen Forge uplands, Fox Avenue Building, and South Park Landfill.

Other source control activities in progress or completed during 2013 include the following:

- Ecology is conducting Site Hazard Assessments (SHAs) in the LDW basin;
- Ecology and King County are working on several studies related to contaminants and potential chemical loads associated with upstream Green River sediments and surface water;
- Ecology completed an air deposition scoping study in the LDW basin;
- Ecology completed review of Stormwater Pollution Prevention Plans (SWPPPs) for facilities in the LDW basin with water quality permits;

- King County collected samples in the Brandon CSO basin to assess CSO basin inputs in the LDW;
- The University of Washington completed a study of diesel exhaust exposure in the LDW basin.

The schedule for river-wide source control continues to be dependent on the time and resources needed to conduct cleanup at contaminated upland sites. Ecology updated the assumptions and long-term projection for implementing source control. Additional upland sites that may require site assessment and cleanup continue to be identified. Ecology's TCP currently has four full-time site managers working on contaminated upland sites in the LDW. The long-term schedule projection for implementing source control assumes that up to 23 upland contaminated cleanup sites will be identified for which Ecology will need to assign one of its full-time site managers. Work has started at 10 of these sites. The projected schedule estimates that source control from all 23 potentially contaminated upland sites could be implemented by January 2025.

### **Source Control Activities**

Major source control actions completed in 2013 are summarized below. Additional information is provided in Sections 4 through 27 for each source control area.

#### *RM 0.0-0.1 East (Spokane Street to Ash Grove Cement)*

- Ash Grove Cement obtained an individual stormwater permit in April 2010. In 2013, the company agreed to pay EPA a penalty of \$600,000 for illegally discharging industrial stormwater to the East Waterway without a permit from 1992 to 2010.

#### *RM 0.0-0.1 East (Spokane Street to Ash Grove Cement)*

- The Port collected groundwater, bank soils, and stormwater solids data from T108W, T108E, and T106W beginning in December 2012. Most of the data were validated in 2013.

#### *RM 0.1-0.9 East (EAA-1: Duwamish Diagonal Way)*

- Ecology issued a \$35,000 penalty to ConGlobal for discharging pollutants into the LDW and for violating the conditions of the Industrial Stormwater General Permit (ISGP) in March 2013.
- ConGlobal installed interim treatment in drainage area #3, on the Terminal 108 portion of the facility in December 2013.
- Rainier Commons completed cleaning and jetting of the storm drain lines on their property in February 2013.
- EPA approved a work plan for Rainier Commons in December 2013. The work plan includes removal of all paint from the building exterior surfaces, sampling some substrates, and finish removing paint from the interior stairwell area. Ongoing monitoring will ensure that the protective measures put in place are effectively preventing

polychlorinated biphenyls (PCBs) from contaminating the surroundings. Work is expected to begin in the spring of 2014.

*RM 1.2-1.7 East (Saint Gobain to Glacier Northwest)*

- Ecology requested that Art Brass Plating, Blaser Die Casting, Capital Industries, and Burlington Environmental (PSC-Georgetown facility) jointly conduct a feasibility study (FS) for the West of 4th site in March 2013. Ecology started negotiating an Agreed Order to continue cleanup-related work at the West of 4th site in south Seattle in September 2013. Negotiations associated with the draft Agreed Order took place through the remainder of 2013.
- Burlington Environmental observed light non-aqueous phase liquids (LNAPL) in the condensate collected from the part of the system located in Argo Yard in March 2013. Later, trace amounts of LNAPL were detected at the water table in a monitoring well corresponding to the same location. The Argo Yard portion of the soil vapor extraction (SVE) system was subsequently shut down, and did not operate throughout the rest of 2013. Burlington Environmental evaluated SVE gas treatment options (to granular activated carbon [GAC]) during this period and eventually chose and procured a catalytic oxidation unit.
- Ecology held a public comment period for the GE Aviation site from December 18, 2013 to January 16, 2014 for the proposed consent decree and Cleanup Action Plan (CAP) to implement in situ chemical oxidation with groundwater hydraulic control as the final facility remedy for this site.

*RM 1.7-2.0 East (Slip 2 to Slip 3)*

- Ecology approved a Remedial Investigation/Feasibility Study (RI/FS) work plan for Duwamish Marine Center to begin Remedial Investigation (RI) activities. Field work is expected to begin in early 2014.

*RM 2.3-2.8 East (Seattle Boilder Works to Slip 4)*

- Ecology reissued the National Pollutant Discharge Elimination System (NPDES) permit for Seattle Iron & Metals (SIM) in September 2013. The new permit requires SIM to treat runoff from the main yard and has a compliance schedule for treatment of runoff from roofs and employees parking lots. Ecology asked SIM to maximize use of treated stormwater and/or tap water for dust suppression to respond to EPA's concerns regarding atmospheric deposition.
- In December 2013, Ecology sent SIM a warning letter because their September 2013 discharge monitoring reports indicate that the facility was out of compliance with the conditions of their NPDES permit.
- Groundwater remediation started on January 8, 2013 at the Fox Avenue Building site.
- Ecology held a public comment period from March 25 through April 26, 2013 for an amendment to the 2012 Fox Avenue Building site Agreed Order. EPA updated information about the toxicity of three contaminants found at the Fox Avenue Building

site: trichloroethene (TCE), tetrachloroethene (PCE), and vinyl chloride. As a result of EPA's rule change, the state adjusted the cleanup levels for PCE, TCE and vinyl chloride. The amendment to the Agreed Order reflects these changes.

- In 2013, Fox Avenue continued to use Enhanced Reductive Dechlorination (ERD) to treat solvent in the down gradient groundwater plume. The solvent plume discharges into LDW through seeps. The most recent seep samples, taken in July 2013, show one seep sample with a vinyl chloride concentration of 52 ppb, reduced from 1400ppb in June 2009.
- In September 2013, Fox Avenue completed their thermal treatment to reduce source area solvent concentrations. They achieved the soil remediation level of 10 ppm for average PCE+TCE.

*RM 2.8 East (EAA 3: Slip 4)*

- Crowley Marine Services completed field work for a Phase 1 RI in November 2013. They will prepare a data summary report. Field work for Phase 2 is expected to begin in summer 2014.
- In 2013, King County International Airport (KCIA) monitored stormwater in each of the airport's three major drainage basins in accordance with the ISGP. The three basins sampled included the north area (Slip 4 basin), central area (Former Slip 5 basin), and the south-central area (Slip 6 basin). Sample parameters include turbidity, pH, zinc, copper, and petroleum sheen.
- The Slip 4 basin/north area of KCIA is monitored at two ISGP sampling points. SP1 sampling point represents the east areas and SPM represents the north (Airport Maintenance Shop) and the northeast areas of the airport. Based on 2013 ISGP data for SP1 and SPM, KCIA remained below benchmarks for turbidity, zinc and copper (KCIA 2013). Source control activities at KCIA included tenant inspections to assess pollutant sources and best management practices (BMPs), performing daily sweeping, weekly oil water separator (OWS) inspections, spill/Stormwater Pollution Prevention Plan (SWPPP) training, and monthly airport-wide inspections.
- In May 2013, KCIA sampled in-line sediment traps and solids at locations up-gradient of the NBF site. Annual in-line sediment trap and grab sampling will continue for several years to monitor potential changes in airport activities and to evaluate the ongoing effectiveness of source control activities.
- Source control activities conducted at the NBF/GTSP site in 2012 are listed below. Additional detail is provided in Section 12.
  - Boeing completed a technical memorandum documenting paint abatement and storm drain cleaning activities that were conducted in 2012 (January 2013).
  - Boeing completed an evaluation of the Long-Term Stormwater Treatment (LTST) system at the NBF for the 2011-2012 reporting period (March 2013).
  - The City of Seattle prepared a memorandum regarding groundwater monitoring in the two new wells at GTSP (May 2013).

- Ecology's contractor, Science Applications International Corporation (SAIC), completed a data report on stormwater sampling conducted during the 2011-2012 wet season (September 2013).
- Ecology's contractor, Leidos (formerly SAIC) completed the final RI/FS work plan for the site (November 2013).
- There was a jet fuel spill at the main fuel farm area of NBF in September 2013. Boeing prepared a report on the investigation and cleanup of the jet fuel spill (November 2013).
- In 2013, Boeing continued to use ERD injections at the Former Boeing EMF site. In August 2013, Boeing submitted the analytical results for the August EMF groundwater monitoring event. Data from the August 2013 biannual sampling event showed high levels of toluene in some of the ERD injection wells, but not in the monitoring wells.
- Boeing submitted a Biosynthesis of Toluene as Part of ERD Treatment within the EMF Plume Technical Memorandum to EPA in October 2013. EPA instructed Boeing to sample and analyze each batch of substrate for the compounds that could be precursors to in situ toluene biogenesis, prior to any further ERD injections. EPA also advised that Boeing may wish to analyze the substrate for toluene.

RM 2.8-3.7 East (EAA-4: Boeing Plant 2 to Jorgensen Forge)

- In 2013, Jorgensen Forge and Ecology negotiated the First Amendment to the 2007 Agreed Order (DE-4127). This amendment (effective July 8, 2013) requires Jorgensen Forge to perform an interim action to excavate and remove soils impacted by PCBs within the access road area of the site. The removal of PCB-impacted soil in this area will prevent the potential migration of contaminated soils at the site and remove near-surface PCB-impacted soils that could otherwise migrate to the LDW.
- Jorgensen Forge installed a treatment system and stormwater conveyance system in late 2012. This system went on-line in the middle of January 2013.
- The sampling conducted at the end of the Boeing/Jorgensen 24-inch boundary pipe (former King County-Jorgensen discharge) in October 2013 indicated that high levels of PCBs (above 50 ppm dry weight [DW]) are present in banks and sediments and require removal. EPA continues to be the lead agency for the pipe outfall cleanup, which is expected to occur in 2015.

RM 3.7-3.9 East (EAA-6: Boeing Isaacson/Central KCIA)

- Boeing submitted a Draft RI report for the Boeing Isaacson site to Ecology in February 2013. Ecology expects the final RI Report in spring 2014.
- In 2013, KCIA monitored stormwater in each of the airport's three major drainage basins in accordance with the ISGP. The three basins sampled included the north area (Slip 4 basin), central area (Former Slip 5 basin), and the south-central area (Slip 6 basin). Ecology approved the discontinuation of sampling at the south area (Norfolk SD/CSO basin) since no industrial activity is performed in that basin. Sample parameters include turbidity, pH, zinc, copper, and petroleum sheen.



- Based on 2013 ISGP stormwater data for the central area sampling point (SP2), average quarterly turbidity was 24.9 ntu. KCIA installed a large water quality vault and repaired the stormwater conveyance system at the three basins to reduced turbidity. As part of this project stormwater pipes and structures were also cleaned of solids in 2013 for stormwater pipe re-lining work.
- At the Former Slip 5/central area basin of KCIA, 2009-2013 data from in-line trap and grab samples at the KCIA SD#2 sampling point show average total low molecular weight polycyclic aromatic hydrocarbon (LPAH), high molecular weight polycyclic aromatic hydrocarbon (HPAH), phthalate and PCBs concentrations below the Sediment Quality Standard (SQS)/Lowest Apparent Effects Threshold (LAET). Annual in-line sediment trap and grab sampling will continue for several years to monitor potential changes in airport activities and to evaluate the ongoing effectiveness of source control activities.
- At KCIA SD#2, average zinc and arsenic concentrations were above the SQS.
- In 2013, KCIA performed an independent remedial action at a former Standard Gas facility for soil and groundwater contamination of petroleum hydrocarbons.

RM 3.9-4.3 East (Slip 6)

- PACCAR submitted a draft Interim Action Work Plan to Ecology on July 31, 2013. Paccar is preparing a revised draft final Interim Action Work Plan that is expected to be ready for public comment by summer 2014. The FS will go out for public review when the draft final Interim Action Work Plan is complete.

RM 4.9 East (EAA-7: Norfolk CSO/SD)

- Boeing completed the 2012 Annual Sampling Report for post-removal monitoring associated with the south storm drain system at the Boeing Developmental Center (BDC) in April 2013. The results of this sampling showed that concentrations in all four sediment samples were below the SQS.
- BDC annual sampling included solids from the Vortechincs 9000 sediment trap installed in the south storm drain line and solids from selected manholes. The results of this sampling will be summarized in an Annual Sampling Report to be completed in 2014.
- In December 2013, Boeing completed a PCB source evaluation investigation at the Military Flight Center (MFC). The purpose of the investigation was to determine the extent of PCBs in storm drain solids associated with the MFC facility storm drain system, and to identify potential sources of PCBs. This investigation involved the collection of storm drain solids samples, surface debris samples, soil samples, paint chip samples, caulk samples, and wipe samples. Results are described in the PCB Source Evaluation report and are summarized below.
- Boeing began PCB cleanup at the MFC in 2013. This included surface cleaning, storm drain system cleaning, and soil excavation on the KCIA property. Boeing plans to submit a report describing soil excavation, storm drain cleaning, and surface cleaning activities conducted during 2013 to Ecology in early 2014.

RM 1.3-1.6 West (Glacier Bay)

- Ecology approved a Supplemental RI Work Plan for Duwamish Shipyard in May 2013.
- Duwamish Shipyard conducted shoreline seep sampling and marine railway sediment sampling and analysis in July 2013. In November 2013, Duwamish Shipyard provided Ecology with validated data tables with results from the July 2013 shoreline seep and railway sediment sampling.
- In October 2013, Duwamish Shipyard performed test pit excavation in the area of the old U.S. Army and Reichhold, Inc. septic tank in the south end of the property, and in the northern area for an old underground storage tank. Both tanks were located and adjacent soil samples were collected and sent for analysis. Catch basin solids were also collected and analyzed.
- In November and December 2013, Duwamish Shipyard performed soil boring, soil sampling and well installation activities. Groundwater monitoring was conducted in December 2013.
- Glacier Northwest sent Ecology data from the spring 2012 groundwater sampling event in January 2013. Exceedances of screening criteria were identified for metals, semivolatile organic compounds (SVOCs), and dioxin/furans.
- In February 2013, Glacier Northwest submitted results for the groundwater sampling events which occurred during summer/fall of 2012 to Ecology. Exceedances of screening criteria in groundwater were noted for the following constituents: arsenic, copper, pentachlorophenol, and total petroleum hydrocarbons (TPH)-Diesel.
- In April 2013, Glacier Northwest submitted the stormwater analytical results for sampling events conducted by the Glacier Northwest in October 2012. The results showed stormwater exceedances for copper and bis(2-ethylhexyl)phthalate (BEHP).
- Ecology received a Final Sediment Results Memorandum from the Glacier Northwest in June 2013. This presented and discussed the analytical results for sediment samples collected in the spring of 2012. A total of 20 surface sediment samples and 17 sediment cores were collected within the embayment and the maintained berthing area during the May/June 2012 sediment sampling event.
- In November 2013, Glacier Northwest submitted soil analytical results for sampling which occurred in October 2012.

RM 1.6-2.1 West (Terminal 115)

- On August 6, 2013, Ecology approved the Port's draft RI/FS Work Plan for the N Terminal 115 site in August 2013.
- The Port completed test pit excavation and sampling, soil boring soil sampling, and well installation in December, 2013.

*RM 2.1 West (1<sup>st</sup> Avenue S SD)*

- In April 2013, Ecology, the City of Seattle, and South Park Property Development proposed an interim cleanup of the South Park Landfill site to address contamination on a portion of the site. The interim action will include constructing an impervious landfill cap; installing landfill gas and surface water control systems; restricting future land use activities; and establishing landfill gas monitoring.
- Ecology prepared an amendment to Agreed Order DE-6706 to add a requirement to conduct an interim action as described above. The amendment became effective on June 6, 2013.
- Low concentrations of vinyl chloride were detected in monitoring wells on the northeast and eastern edges of the landfill. Ecology will continue to discuss and negotiate the work necessary to understand the nature and extent of this contamination through the MTCA process.

*RM 2.1-2.2 West (EAA-2: Trotsky Inlet)*

- In 2013 Industrial Container Services completed field data collection for the investigation described in the RI/FS Work Plan. Ecology and the potentially liable parties (PLPs) are negotiating the activities and requirements for an additional phase of the RI.
- In September 2013, the PLPs at the Industrial Container Services site conducted a geophysical survey and video survey of the stormwater pipe in the area of the former waste lagoon as part of the RI activities. They submitted a report to Ecology in October 2013.
- The PLPs for the Douglas Management site submitted a final RI/FS Work Plan to Ecology in 2013.
- By the end of 2013 the PLP was almost finished with the field work for the RI at the Douglas Management site.

*RM 2.2-3.4 West (Riverside Drive)*

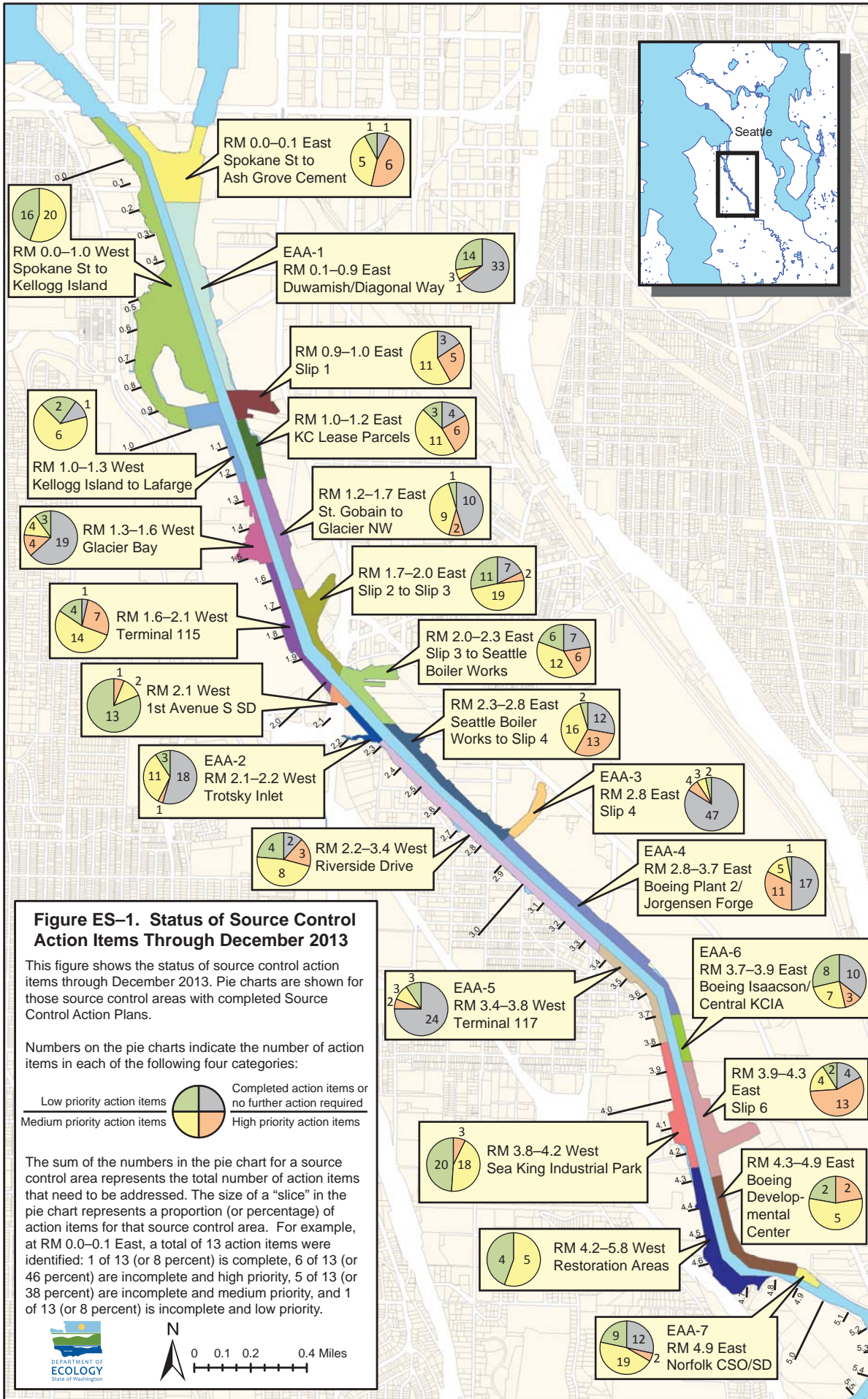
- Ecology issued an Administrative Order to Independent Metals in January 2013. The Administrative Order requires Independent Metals to expand coverage of their existing stormwater permit to include Plant 1 and the dirt lot on 7<sup>th</sup> Avenue S. Independent Metals must meet sampling requirements, including sampling for total PCBs at all stormwater discharge sampling locations. They must also comply with BMPs and other conditions as described in the Order. Ecology also required Independent Metals to develop and implement a SWPPP for the expanded areas and begin monitoring.
- In 2013, Marine Lumber Service completed a partial cleanup, including a 10 x 100 foot excavation in front of their property. SPU collected soil samples along the edge of the excavation to determine whether contaminants were left in place. Arsenic concentrations up to 220 milligrams per kilogram (mg/kg) remain along the drainage pathway to the east of the Marine Lumber property.

*RM 3.4-3.8 West (EAA-5: Terminal 117)*

- The upland portion of the cleanup at T-117 started in June 2013. During the first month of construction, three buildings were demolished and excavation of contaminated soil started. In August 2013 the sheet piling along the shoreline was completed.
- At the T-117 site the contractors hit an unmarked underground storage tank in July 2013. In August 2013, the contractor uncovered an underground storage tank and approximately 40 buried drums containing liquid waste and other products. As a result, the construction at T-117 was placed on temporary suspension, starting August 19, 2013. NRC was hired to characterize and properly dispose of the material. By September 2013, all of the unanticipated materials were sampled and characterized for proper disposal. In October 2013, cleanup construction continued along the north and south river banks.

*RM 3.8-4.2 West (Sea King Industrial Park)*

- In August 2013, Ecology issued Administrative Order to Gary Merlino Construction. As part of the Order, the company is required to install filter inserts in all catch basins on site; submit an engineering report for Ecology review and approval by March 31, 2014; and install and make operational a final or permanent stormwater treatment system no later than September 30, 2014.



**Table ES-1.High Priority Source Control Action Items to be Completed**

Source Control Facility or Outfall	Action Item	Type	Responsible Party	Status	Estimated Completion Date
<b>RM 0.0-0.1 East (Spokane Street to Ash Grove Cement)</b>					
Harbor Marina Corporate Center / Port of Seattle Terminal 102	Demonstrate that the marina is in compliance with all applicable permits.	SCAP	Port of Seattle	Planned	TBD
Port of Seattle Terminal 104	Determine how to address identified data gaps in the western portion of T-104.	SCAP	Ecology, Port of Seattle	Planned	TBD
	Ensure that storm drain structures and function are completely delineated and properly permitted. Existing drainage problems have been identified and need to be addressed.	SCAP	Ecology, Port of Seattle	Planned	TBD
	Review post remediation reports and annual report as part of the VCP and determine whether further action is needed.	SCAP	Ecology	Planned	TBD
Ash Grove Cement	Negotiate an agreed order for a Remedial Investigation/ Feasibility Study that will focus on potential soil and groundwater contamination at the site.	SCAP	Ecology, Property owner/operator	Planned	TBD
	Conduct additional source control inspections to ensure compliance and implementation of BMPs.	SCAP	Ecology, SPU	Planned	TBD
<b>RM 0.1-0.9 East (EAA-1: Duwamish/Diagonal Way)</b>					
Rainier Commons / Former Rainier Brewery Property	Sample and remove PCB-contaminated building materials, including interior paint, as needed.	New	EPA/Property Owner	In Progress	Dec 2018
<b>RM 0.9-1.0 East (Slip 1)</b>					
Federal Center South	Perform Site Hazard Assessment	SCAP	Ecology	Planned	TBD
Former Snopac Products Property	Collect additional samples from Seep 76 to determine if the arsenic concentration reported in 2004 was an anomaly. Analyze sample for all sediment COCs.	SCAP	Ecology	Planned	TBD
Manson Construction Company	Obtain laboratory data and site plans from historical site assessment(s) and remediation performed at the property. Confirm that satisfactory completion of soil cleanup activities was achieved. Determine if arsenic or other sediment COCs are present in soil and groundwater beneath the facility at concentrations that may recontaminate sediments.	SCAP	Ecology	Planned	TBD
	If satisfactory soil cleanup was not achieved, require the property owner/operator to conduct a site assessment to determine residual concentrations of sediment COCs in soil and groundwater beneath the property.	SCAP	Ecology	Planned	TBD
	Collect additional samples from Seep 76 to determine if the arsenic concentration reported in 2004 was an anomaly. Analyze sample for all sediment COCs.	SCAP	Ecology	Planned	TBD
<b>RM 1.0-1.2 East (KC Lease Parcels)</b>					
Cadman Seattle, Inc. and Lehigh Northwest	Conduct a follow-up business inspection of Cadman and Lehigh Northwest to verify compliance with Ecology's 2007 and 2009 recommendations, applicable regulations, and BMPs to prevent the release of contaminants to the LDW.	SCAP	Ecology	Planned	TBD
	Require Cadman and Lehigh Northwest to report when discharges to Outfall No. 2244 occur to allow Ecology to track overflow events and evaluate potential impacts to the LDW.	SCAP	Ecology	Planned	TBD

**Table ES-1.High Priority Source Control Action Items to be Completed**

Source Control Facility or Outfall	Action Item	Type	Responsible Party	Status	Estimated Completion Date
	Review the updated Stormwater Pollution Prevention Plan (SWPPP), when completed, to ensure compliance with Ecology's requirements.	SCAP	Ecology	Planned	TBD
J.A. Jack & Sons	Conduct a follow-up inspection of J.A. Jack to verify compliance with corrective actions identified by Ecology in 2007 and SPU in 2009, applicable regulations, and BMPs to prevent the release of contaminants to the LDW.	SCAP	Ecology	Planned	TBD
	Evaluate the onsite stormwater collection system to determine its efficiency since Ecology inspectors observed stormwater flowing to the catch basins on the St. Gobain facility.	SCAP	Ecology	Planned	TBD
	Obtain additional information, through facility inspections/ observations or environmental sampling, to determine if discharges from the Pinch Point area are permissible and if these discharges are a potential source of sediment recontamination.	SCAP	Ecology	Planned	TBD
<b>RM 1.2-1.7 East (Saint Gobain to Glacier Northwest)</b>					
Saint Gobain Containers Inc.	Determine appropriate engineering controls for the inaccessible contamination located beneath the soil/water separator described in the 1991 Limited UST Assessment.	SCAP	Property Owner/Operator	Planned	TBD
Longview Fibre Paper and Packaging	Review the latest groundwater monitoring report regarding exceedances of diesel-range hydrocarbons.	SCAP	Ecology	Planned	TBD
<b>RM 1.7-2.0 East (Slip 2 to Slip 3)</b>					
Duwamish Marine Center	Determine the status of Outfalls 2021 and 2022; if they are currently in use, determine the area drained by these outfalls and assess the potential for COCs to reach the LDW via this pathway.	SCAP	SPU, Ecology	Planned	Jan-14
	Require the property owner/operator to collect data on concentrations of chemical contaminants in river bank soils to assess the potential for sediment recontamination by erosion.	SCAP	Ecology	Planned	Jan 2015
<b>RM 2.0-2.3 East (Slip 3 to Seattle Boiler Works)</b>					
S Brighton Street CSO/SD	Conduct source tracing in the S Brighton Street CSO/SD basin.	Follow-On	SPU, Ecology	In Progress	TBD
S River Street SD	Conduct source tracing in the S River Street SD basin.	Follow-On	SPU, Ecology	In Progress	TBD
Seattle Distribution Center	Conduct a source control inspection to determine whether the facility needs a NPDES permit, and confirm the presence of discharge points to the LDW including Outfall 2025 and an additional private storm drain line.	SCAP	SPU, Ecology	In Progress	TBD
Glacier Marine Services	Conduct a source control inspection to clarify issues related to storm drain system configuration and location of outfalls, sanitary sewer connections, and current activities at the facility as identified in the SCAP; conduct storm drain sampling as needed.	SCAP	SPU, Ecology	Planned	TBD
	Conduct in-line storm drain sampling to evaluate whether COCs are migrating to LDW sediments via the Glacier Marine Services storm drain system.	SCAP	SPU, Ecology	Planned	TBD
Riverside Industrial Park	Conduct a source control inspection to address the two former shop building floor drains, determine if storm drain lines between the shop building and office building pass through areas where contaminated soil has been excavated, and conduct in-line storm drain sampling as needed.	SCAP	Ecology, SPU	Planned	TBD

**Table ES-1.High Priority Source Control Action Items to be Completed**

Source Control Facility or Outfall	Action Item	Type	Responsible Party	Status	Estimated Completion Date
<b>RM 2.3-2.8 East (Seattle Boiler Works to Slip 4)</b>					
SPU Storm Drains and Outfalls	Conduct source tracing to identify potential contaminant sources to stormwater discharging to the LDW through the S Myrtle Street and S Garden Street outfalls.	SCAP	SPU	In Progress	TBD
Guimont Parcel (Dawn Foods/former Bunge Foods)	Review responses to EPA's Request for Information 104(e) letters sent to William P. Guimont, Fox Avenue Warehouse Corporation, Bunge Foods Processing LLC, and Dawn Food Products, Inc.	SCAP	Ecology	Planned	TBD
Seattle Boiler Works, Inc.	Review responses to EPA's Request for Information 104(e) letters sent to Fred Hopkins/Seattle Boiler Works, Inc., Frank H. Hopkins Family LLC, and National Steel Construction Company, and identify additional data gaps/source control action items as needed.	SCAP	Ecology	Planned	TBD
	Conduct follow-up inspections to the June 2007 stormwater compliance inspection as needed to verify that deficiencies noted during the inspection have been corrected. Obtain an updated facility plan showing the locations of all catch basins, maintenance holes, storm drain lines, stormwater conveyance lines, and outfalls and field verify the locations of these drainage system features.	SCAP	Ecology	In Progress	TBD
	Determine if the five outfalls that are not included in Seattle Boiler Work's NPDES permit are in use. If in use and Seattle Boiler Works is the source of discharge, modify the facility's stormwater permit to include these outfalls.	SCAP	Ecology	Planned	TBD
	If Seattle Boiler Works is not the source of discharges to these five outfalls, perform source tracing to identify potential sources discharging to the outfalls.	SCAP	Ecology/SPU	Planned	TBD
Seattle Iron & Metals Corporation	Review responses to EPA's Request for Information 104(e) Letter sent to Seattle Iron & Metals, Manson Construction Company, Othello Street Warehouse Corporation, and The Maust Corporation in July 2008.	SCAP	Ecology	Planned	TBD
Puget Sound Truck Lines	Review responses to EPA's Request for Information 104(e) letters sent to Puget Sound Truck Lines and R&A Properties LLC.	SCAP	Ecology	Planned	TBD
	Determine whether the five outfalls identified at the property are active, and identify the source of discharge from these outfalls, if any.	SCAP	Ecology, Property owner/operator	Planned	TBD
Seattle City Light Georgetown Pump Station	Determine if the drainage ditch/pipe is active and if it discharges to the LDW. If active, determine the area drained by the drainage ditch/pipe and determine the potential for sediment COCs to reach the LDW.	SCAP	Ecology, SPU	Planned	TBD
Crowley Marine Services	In conjunction with an Agreed Order for the Crowley Marine Services site, perform additional investigations that include collection of data on chemical concentrations in soil and groundwater at the western and southern portions of the property.	SCAP	Property owner/operator	In Progress	2014
	Review information submitted to EPA in response to the Request for Information 104(e) letters sent to Crowley Marine Services, Samson Tug and Barge Company, Northland Services, and Evergreen Marine Leasing.	SCAP	Ecology	Planned	TBD



**Table ES-1.High Priority Source Control Action Items to be Completed**

Source Control Facility or Outfall	Action Item	Type	Responsible Party	Status	Estimated Completion Date
	Collect stormwater and/or solids samples from storm drain system to determine if onsite system is source of COCs found in waterway sediment.	SCAP	Ecology	In Progress	2014
<b>RM 2.8 East (EAA-3: Slip 4)</b>					
North Boeing Field / KCIA / I-5 Storm Drains	Reinstall sediment traps and continue monitoring as needed.	SCAP	SPU, Boeing	In Progress	2014
North Boeing Field	Determine impact of remaining joint sealant material on PCB concentrations in stormwater.	Follow-On	Ecology	In Progress	2014
	Continue source tracing in north drain line to identify and/or eliminate transport of PCBs to Slip 4.	Follow-On	Boeing	In Progress	2014
NBF-GTSP	Conduct RI/FS and implement interim actions (as needed).	New	Ecology, Boeing, City of Seattle, King County	In Progress	2015
<b>RM 2.8-3.7 East (EAA-4: Boeing Plant 2/Jorgensen Forge)</b>					
Boeing Plant 2	Complete design and implementation of dredging, capping, and/or backfilling of the Duwamish Sediment Other Area Interim Measure.	SCAP	EPA, Ecology, Boeing	In Progress	TBD
	Remove contaminated bank fill material.	SCAP	EPA, Boeing	Planned	TBD
	Continue quarterly shoreline groundwater monitoring.	SCAP	EPA, Boeing	In Progress	TBD
	Excavate PCB-contaminated soil in the substation area (southwest corner of Plant 2).	New	Boeing, Jorgensen	Planned	TBD
	Conduct a joint hydrologic investigation with Jorgensen Forge to provide additional hydrogeologic data at the boundary of the two facilities.	SCAP	Boeing, Jorgensen	Planned	TBD
	Collect in-line sediment samples in the City of Seattle and City of Tukwila systems immediately prior to discharge to Plant 2's storm drain system.	SCAP	EPA, Boeing	Planned	TBD
	Conduct stormwater source control sampling of suspended solids and/or water along active storm drain lines.	New	Boeing	In Progress	TBD
	Implement catch basin solids sampling program.	New	Boeing	In Progress	TBD
Jorgensen Forge	Contain and remove soils from upland outfall area of the 12-and 24-inch pipes.	Follow-On	EPA, Boeing, Jorgensen	In Progress	TBD
	Develop a hydrogeologic site model as part of the source control investigation to characterize the groundwater system on site, including tidal influence.	SCAP	Jorgensen, Boeing	In Progress	TBD
	Implement Non-Time Critical Removal Action.	Follow-On	EPA, Jorgensen	In Progress	TBD
<b>RM 3.7-3.9 East (EAA-6: Boeing Isaacson/Central KCIA)</b>					
Boeing Isaacson/Thompson Site	Characterize contaminant concentrations in subsurface soil near the former location of the Slip 5 outfall, to the north of the 48-inch storm drain line, and at other locations on the property as needed.	SCAP	Boeing	Planned	TBD
	Conduct a comprehensive soil and groundwater investigation at this property, including groundwater monitoring at selected wells and evaluation of potential arsenic sources; include wet and dry season samples.	SCAP	Boeing	Planned	TBD
	If COCs in soil and groundwater are present at concentrations that pose a risk of sediment recontamination, then develop a plan for controlling these contaminant sources.	SCAP	Ecology, Boeing	Planned	TBD

**Table ES-1.High Priority Source Control Action Items to be Completed**

Source Control Facility or Outfall	Action Item	Type	Responsible Party	Status	Estimated Completion Date
<b>RM 3.9-4.3 East (Slip 6)</b>					
King County Stormwater Outfall	Collect in-line water and storm drain solids samples to evaluate if COCs are migrating to Slip 6 source control area sediments via the storm drain outfall.	SCAP	King County	In Progress	TBD
	Conduct source tracing to identify sources of COCs to the storm drain line, as necessary.	SCAP	King County	Planned	TBD
8801 Site (Former PACCAR Site)	Re-evaluate existing soil and groundwater data and compare to site-specific screening levels (to be developed) for metals, PAHs, petroleum hydrocarbons, PCBs, SVOCs, and VOCs as COCs in the LDW, and test for dioxin/furans.	SCAP	Ecology, Property owner/operator	In Progress	TBD
	Expand investigation of the southwest storage area and northwest corner of the site to determine the extent of soil and groundwater contamination.	SCAP	Ecology, Property owner/operator	In Progress	TBD
	Complete Phase 2 of the Sediment Evaluation Work, which includes sediment core sampling in selected locations in the LDW adjacent to the site.	SCAP	Ecology, Property owner/operator	In Progress	TBD
	Negotiate expanding the stormwater and storm drain solids monitoring to add COCs at the site. Review future monitoring results to determine if further actions are necessary.	SCAP	Ecology, Property owner/operator	In Progress	TBD
Former Rhône-Poulenc Site	Address the toluene groundwater contamination in the southwest corner of the East Parcel, in accordance with the Revised East Parcel Corrective Measures Implementation Work Plan.	SCAP	EPA, Property owner/operator	In Progress	TBD
	Continue to monitor the effectiveness of the hydraulic interim control measure, and investigate the presence of elevated copper concentrations in groundwater outside the barrier wall and the potential leak in the barrier wall.	SCAP	EPA, Property owner/operator	Ongoing	TBD
	Investigate and address shoreline bank contamination from historical site operations and releases (e.g. application of vanillin black liquor solids to the shoreline bank for weed control).	SCAP	EPA, Property owner/operator	In Progress	TBD
	Review the current SWPPP and Operations and Maintenance Plan. Make necessary changes and additions to prevent contaminants from potential upland sources (such as fuel leaks from damaged vehicles) from migrating to Slip 6 source control area sediments via the stormwater system.	SCAP	Ecology, Property owner/operator	Planned	TBD
Museum of Flight (MOF)	Monitor stormwater and/or storm drain solids at MOF and former BDC properties in the vicinity of USTs and associated groundwater contamination.	SCAP	Ecology, Property owner/operator	Planned	TBD
	Identify the source and extent of groundwater contamination on the former BDC property, and conduct remedial action, as necessary.	SCAP	Ecology, Property owner/operator	Planned	TBD
Boeing Developmental Center (BDC)	Conduct stormwater and/or storm drain solids monitoring for outfalls DC14 and DC15.	SCAP	Ecology, Boeing	In Progress	TBD
<b>RM 4.3-4.9 East (Boeing Developmental Center)</b>					
BDC Outfalls	Request Boeing to collect grab solids samples from the BDC SD system. Priority should be given to SD lines with medium to high flows and SD lines serving areas with significant industrial activities. Samples should be analyzed for PCBs, PAHs, and metals.	SCAP	Ecology/Boeing	In Progress	TBD
	If COCs are detected in the SD system at concentrations above the SQS, request Boeing to conduct source tracing and control as needed to reduce the potential for sediment recontamination.	SCAP	Ecology/Boeing	In Progress	TBD

**Table ES-1.High Priority Source Control Action Items to be Completed**

Source Control Facility or Outfall	Action Item	Type	Responsible Party	Status	Estimated Completion Date
<b>RM 4.9 East (EAA-7: Norfolk CSO/SD)</b>					
Boeing Developmental Center (BDC)	Continue sediment monitoring in the vicinity of the south storm drain sediment removal activities.	SCAP	Boeing	In Progress	TBD
	Continue monitoring storm drain solids.	SCAP	Boeing	In Progress	TBD
<b>RM 1.3-1.6 West (Glacier Bay)</b>					
Duwamish Shipyard	Conduct site investigations as specified in the Agreed Order Statement of Work.	SCAP	Property owner/operator	In Progress	Mar-14
	Review site investigation results and assess potential for sediment recontamination and need for remedial actions.	SCAP	Ecology	In Progress	Sep-14
Glacier Northwest	Upon approval of work plans by Ecology, conduct site investigations as specified.	SCAP	Property owner/operator	In Progress	Aug-14
	Review site investigation results and assess potential for sediment recontamination and need for remedial actions.	SCAP	Ecology	Planned	Jun-15
<b>RM 1.6-2.1 West (Terminal 115)</b>					
Terminal 115 - Port of Seattle Storm Drain Outfalls (Outfalls 2122, 2123, 2124, 2220, and POS 6146)	Negotiate an Agreed Order with the Port, to include Terminal-wide investigations to characterize the nature and extent of potential COC sources in fill material, soil, groundwater, and stormwater at Terminal 115, including specific areas identified in the Terminal 115 SCAP.	SCAP	Ecology, Port of Seattle	Planned	TBD
	Collect storm drain solids samples from the storm drain lines discharging to Outfalls 2122, 2123, 2124, 2128, 2220, and POS 6146 and provide the data to Ecology to identify potential contaminant sources. Samples were recently collected from the storm drain lines discharging to Outfalls 2123, 2124, 2128, and 2220.	SCAP	Port of Seattle	In Progress	TBD
	Perform a video inspection of storm drain lines to identify areas where groundwater infiltrates the storm drain system.	SCAP	Port of Seattle	Planned	TBD
	Provide information regarding discharges to the deck drains north of Berth 1 to Ecology. Information to be provided will include, at minimum, a description of BMPs employed to prevent pollution of the stormwater runoff that is conveyed to the deck drains.	SCAP	Port of Seattle	Planned	TBD
	Provide additional information to Ecology regarding stormwater drainage to the LDW from the 150 SW Michigan Street area of the Terminal 115 property. Information to be provided will include, at minimum, a map showing the area draining to the two small outfalls and a description of BMPs employed to prevent stormwater pollution.	SCAP	Port of Seattle	Planned	TBD
Shultz Distributing	Determine if stormwater from the Shultz Distributing facility is conveyed to the Highland Park Way SW SD system without treatment.	SCAP	SPU, Port of Seattle	Planned	TBD
Former Foss Environmental Services	Request that Haslund MP perform an environmental investigation to characterize the nature and extent of potential sediment COCs in soil and groundwater beneath the property. Soil and groundwater contamination may be present due to historical operations by Boeing.	SCAP	Ecology	Planned	TBD
<b>RM 2.1 West (1st Avenue S SD)</b>					
1st Avenue S Bridge Drains (Outfalls 2505, 2507, 2510, 2512)	Request additional information from WSDOT regarding the quantity and quality of stormwater and solids discharged to the LDW through the bridge drains.	SCAP	Ecology	Planned	TBD

**Table ES-1.High Priority Source Control Action Items to be Completed**

Source Control Facility or Outfall	Action Item	Type	Responsible Party	Status	Estimated Completion Date
<b>RM 2.1-2.2 West (EAA-2: Trotsky Inlet)</b>					
2nd Avenue S SD	Continue source tracing to identify sources of phthalates and other COCs.	SCAP	SPU	In Progress	TBD
<b>RM 2.2-3.4 West (Riverside Drive)</b>					
Independent Metals Plant 2	Conduct a follow-up stormwater compliance inspection to verify compliance with the corrective actions identified repeatedly by Ecology during inspections performed from 2007 to 2011. Evaluate compliance with corrective actions, and take enforcement action as appropriate.	SCAP	Ecology	In Progress	TBD
	Request drainage information from Independent Metals for Outfalls 2109 and 2111 to determine if the outfalls are operational and to identify the drainage areas associated with the outfalls, if any.	SCAP	Ecology	Planned	TBD
American Civil Constructors Barge Removal Ramp	Request American Civil Constructors to provide information about the fill used for a barge removal ramp, to determine if the fill is a potential source of contaminants to adjacent sediments.	SCAP	EPA, USACE	Planned	TBD
<b>RM 3.4-3.8 West (EAA-5: Terminal 117)</b>					
Terminal 117	Conduct removal action in accordance with EPA Enforcement Order on Consent.	Follow-On	City of Seattle, Port of Seattle	In Progress	2014
Adjacent Streets/Dallas Ave.	Continue monitoring of stormwater and catch basin sediments	Follow-On	SPU, Port of Seattle	In Progress	TBD
<b>RM 3.8-4.2 West (Sea King Industrial Park)</b>					
S 96th Street SD Basin	Perform further environmental investigations and cleanup activities to address sources of contaminants to the LDW.	SCAP	Ecology, King County	Planned	TBD
Former Advance Electroplating	Provide to Ecology the environmental data and sample location maps from the 1995 remedial actions and related investigations performed at the property. Ecology will review the information to determine if metals are present in soil and groundwater at concentrations exceeding current MTCA cleanup levels and to determine the potential for sediment recontamination via the groundwater discharge pathway.	SCAP	EPA, Ecology	Planned	TBD
Ace Galvanizing	Request that the property owner collect additional groundwater samples to assess current concentrations of zinc in groundwater and to evaluate whether additional source control actions are needed to minimize the potential for sediment recontamination via the groundwater discharge pathway.	SCAP	Ecology	Planned	TBD

**Type:**

- SCAP Action item identified in a SCAP
- Follow-On Action item is a follow-on to an action item identified in a SCAP
- New Action item identified after publication of the SCAP

**Responsible Party:** Includes owner/operators as well as government entities responsible for enforcement/follow-up

## 1.0 Introduction

This report summarizes the status of source control efforts in the Lower Duwamish Waterway (LDW) from January 1 through December 31, 2013. The Washington State Department of Ecology (Ecology) published the first Source Control Status Report in July 2007, covering the period from 2003 to June 2007 (Ecology 2007b). The July 2007 Source Control Status Report contains more detailed information on:

- the history of the LDW Superfund Site,
- agency roles and responsibilities,
- the LDW Source Control Work Group (SCWG),
- the Lower Duwamish Waterway Group (LDWG) and the Remedial Investigation/Feasibility Study (RI/FS), and
- site-wide source control programs.

Subsequent updates were published in May 2008 (Ecology 2008d), October 2008 (Ecology 2008h), August 2009 (Ecology 2009k), August 2011 (Ecology 2011f), July 2012 (Ecology 2012e), and June 2013 (Ecology 2013ae). Detailed background information on individual source control areas is provided in the Data Gaps Reports and Source Control Action Plans (SCAPs) for each area, as referenced in the text.

This section summarizes background information on the LDW Superfund Site. Section 2 describes the process for developing SCAPs for known or potential sediment cleanup areas. Section 3 describes source control methods and the process for implementing SCAPs, and describes the status of source control activities being conducted for the entire LDW. Sections 4 through 27 describe recent source control activities associated with each of the 24 source control areas. Source control areas on the east side of the LDW are presented in Sections 4 through 17, from north to south by river mile (RM); Section 18 through 27 present source control areas on the west side of the LDW. Section 28 contains a list of references. Figures and tables are presented after each section.

### 1.1 Lower Duwamish Waterway Site

The LDW is the downstream portion of the Duwamish River, which extends from the southern tip of Harbor Island to just south of the Norfolk Combined Sewer Overflow (CSO)/Storm Drain (SD) (Figure 1-1).

Chemicals of concern (COCs) in the waterway include arsenic and other metals, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), phthalates, and other organic compounds. These chemicals pose a threat to people, fish, and wildlife.

The Remedial Investigation (RI) for the LDW Superfund Site was conducted in two phases. Results of Phase 1 were published in July 2003 (Windward 2003b). The Phase 1 RI used existing data to provide an understanding of the nature and extent of chemical distributions in LDW

sediments, develop preliminary risk estimates, and identify candidate sites for early cleanup action within the LDW.

The *Technical Memorandum: Data Analysis and Candidate Site Identification*, issued in June 2003, described seven candidate sites for early sediment cleanup action (Windward 2003a). The seven sites, shown in Figure 1-1 and identified as early action areas (EAAs), as listed in the *Technical Memorandum*, are the following:<sup>1</sup>

- Area 1: Duwamish/Diagonal CSO and SD, east side of the waterway (RM 0.4 to 0.6)
- Area 2: RM 2.2, west side of the waterway, just south of the 1<sup>st</sup> Avenue S bridge
- Area 3: Slip 4 (RM 2.8)
- Area 4: South of Slip 4, on the east side of the waterway, just offshore of Boeing Plant 2 and Jorgensen Forge properties (RM 2.9 to 3.7)
- Area 5: Terminal 117/Malarkey, west side of the waterway (approximately RM 3.6)
- Area 6: RM 3.8, east side of the waterway
- Area 7: Norfolk CSO/SD area, east side of the waterway (RM 4.9 to 5.5)

The final RI, published in July 2010, presents the results of many years of investigations conducted for the LDW study area (Windward 2010). It describes what is known about the LDW, including:

- the history, environmental setting, habitat, and uses of the LDW;
- the deposition and transport of sediment within the LDW;
- the distribution of contamination in the LDW, including concentrations of chemicals in sediment, water, and tissues;
- information regarding potential historical and ongoing sources of chemicals to the LDW, as well as the source control and identification strategy; and
- the results of the baseline human health risk assessment and ecological risk assessment, which assess risks to people and ecological species from contamination within the LDW prior to remedial actions.

In October 2010 LDWG submitted the Draft Final Feasibility Study (FS) to the U.S. Environmental Protection Agency (USEPA or EPA) for public input and agency review. LDWG

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<sup>1</sup> In this report, the seven candidate early action areas are referred to by the following designations:

- Area 1 – EAA-1 (Duwamish/Diagonal Way)
- Area 2 – EAA-2 (Trotsky Inlet)
- Area 3 – EAA-3 (Slip 4)
- Area 4 – EAA-4 (Boeing Plant 2/Jorgensen Forge)
- Area 5 – EAA-5 (Terminal 117)
- Area 6 – EAA-6 (Boeing Isaacson/Central KCIA)
- Area 7 – EAA-7 (Norfolk CSO/SD)

used the input received from the agencies and the public to finalize the FS. A final FS was published in October 2012 (AECOM 2012b). The FS evaluates cleanup options for the LDW. The cleanup options included various combinations of contaminated sediment removal, containment, and natural recovery.

In 2013, EPA issued a Proposed Plan that includes a summary of the cleanup alternatives and identifies EPA's preferred cleanup option for the LDW (USEPA 2013a). The Proposed Plan calls for cleanup of the most contaminated sediment in conjunction with cleanups already underway in the LDW. It also includes an environmental justice analysis and source control strategy. EPA held a formal comment period on the Proposed Plan from February 28 through June 13, 2013 (USEPA 2013b). EPA will evaluate public comments on the Proposed Plan and coordinate with Ecology to select the final remedial alternative that will be used to clean up the LDW.

Further information about the LDW can be found at the EPA LDW website: <http://yosemite.epa.gov/r10/cleanup.nsf/sites/lduwamish> and the LDWG website: <http://www.ldwg.org>.

## **1.2 Lower Duwamish Waterway Source Control Strategy**

Ecology revised the LDW Source Control Strategy in December 2012. The draft final strategy was available for public comment from February 28 through June 13 2013, as Appendix A to EPA's Proposed Plan (Ecology 2013o, USEPA 2013a, Ecology 2012g). Ecology and EPA are reviewing comments. Ecology will publish a revised strategy once review and incorporation of comments is completed.

The revised strategy will update and replace the first Source Control Strategy published in 2004 (Ecology 2004a). The revised strategy uses existing administrative and legal authorities to control sources of contamination, to perform inspections, and to require other necessary source control actions. It describes how recontamination of waterway sediments will be controlled to the extent practicable. Once it is finalized, the SCWG (Ecology, King County, the City of Seattle, the Port of Seattle [Port], and EPA) will use the revised strategy to identify source control issues, implement control of contaminant sources, and monitor source control. The revised plan will clarify roles between Ecology and EPA, remove prioritization of areas by a tiered structure, and add a section addressing agency-specific implementation plans.

Further information about LDW source control can be found at Ecology's Lower Duwamish Source Control website: [http://www.ecy.wa.gov/programs/tcp/sites\\_brochure/lower\\_duwamish/lower\\_duwamish\\_hp.html](http://www.ecy.wa.gov/programs/tcp/sites_brochure/lower_duwamish/lower_duwamish_hp.html)

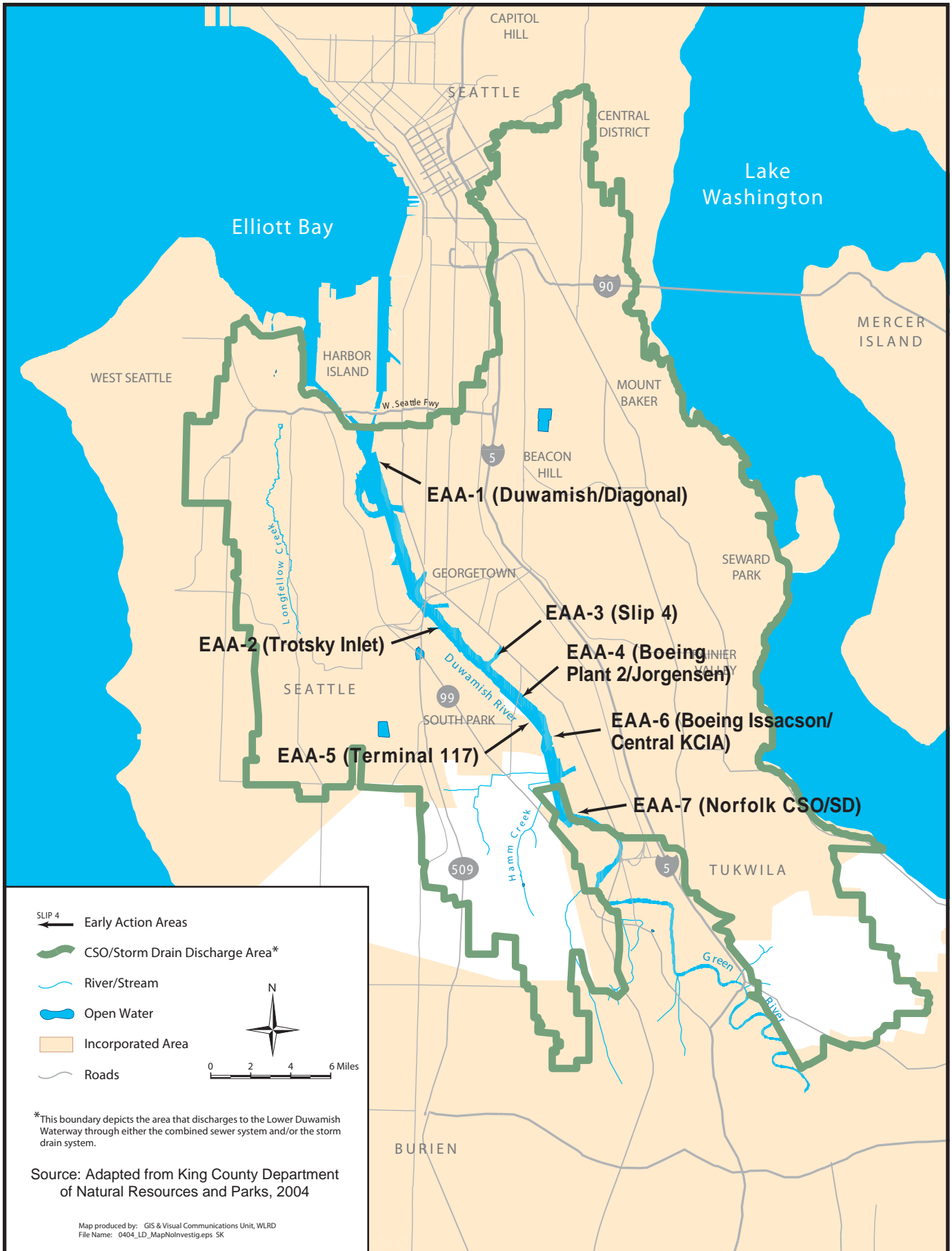
## **1.3 Source Control Work Group**

The primary public agencies responsible for source control for the LDW are Ecology, the City of Seattle, King County, the Port, the City of Tukwila, and the EPA. Together they are known as the LDW SCWG.

The roles of the SCWG agencies are summarized in the July 2007 Source Control Status Report (Ecology 2007b). Additional agency roles are described in the area-specific SCAPs. Roles for

other public agencies, such as the Washington State Department of Transportation, Puget Sound Clean Air Agency (PSCAA), or Public Health – Seattle and King County, may also be developed as source control proceeds.





**Figure 1-1. Lower Duwamish Waterway Site**

## 2.0 Developing Source Control Action Plans

### 2.1 Background

Ecology developed SCAPs for 24 sub-basins (or source control areas) that drain to the LDW Superfund Site (Figure 2-1). Preparation of the first SCAP began in February 2003, and the last one was completed in September 2013. During this period, Ecology and its contractors continually refined and improved the content and organization of the SCAPs. In 2013, Ecology developed a SCAP Handbook that summarizes the process used to develop data gaps reports and SCAPs during the 10 years from 2003 to 2013 (Leidos 2013c). The handbook explains how the SCAPs were developed and the reasons for some of the differences between earlier and later SCAPs. The handbook documents the evolution of changes to the format and content of SCAPs that were implemented between the publication of the first action plan in 2004, and the last one, published in 2013.

The Source Control Strategy (Ecology 2004a) established four prioritized tiers of work:

- Tier 1: Source control associated with Early Action sediment cleanups,
- Tier 2: Source control associated with EAAs identified in Phase 1 and cleanup areas identified in Phase 2 of the sediment RI and EPA's Record of Decision (ROD),
- Tier 3: Source control necessary to prevent future sediment contamination from basins that may not drain directly to an identified sediment cleanup area, and
- Tier 4: Source control necessary to address any recontamination identified by post-cleanup monitoring of sediment.

SCAPs were developed for the Tier 1 source control areas along the LDW, which includes the seven candidate EAAs identified in Section 1.1. In 2007 Ecology, in consultation with EPA, identified eight potential Tier 2 source control areas. These were based on available sediment data, size of the upland basin draining to the source control area, and general knowledge about facilities operating in the basin. In February 2008 Ecology identified the sub-drainage basins for areas of the LDW that were not already included in a SCAP or planned SCAP. Using the same criteria as in 2007, eight additional potential source control areas were added to the list. One additional source control area was added by Ecology in 2010, for a total of 24 source control areas.

The designation of a sediment area as Tier 2 or Tier 3 depends on whether the area needs sediment cleanup. That decision will not be made until EPA publishes the ROD in 2014. Until that time, there is no way to distinguish Tier 2 and Tier 3 areas with any certainty. The seven candidate EAAs (Tier 1) and 17 Tier 2 and Tier 3 areas are shown in Figure 2-1.

The SCAP for each of these sediment areas identifies potential contaminant sources and actions needed to control them and evaluates whether ongoing sources are present that could recontaminate sediments after cleanup. In addition, the SCAPs describe source control actions that are planned or currently underway, and sampling and monitoring activities that will be conducted to identify additional sources.

Ecology worked with the SCWG members to develop SCAPs. Members of the SCWG provided information that was incorporated into the SCAPs, such as information needed to define the storm drain and CSO basins, as well as to identify and evaluate National Pollutant Discharge Elimination System (NPDES) permitted facilities and contaminated properties.

## 2.2 SCAP Publication Dates

Ecology published SCAPs for each of the 24 source control areas. Publication dates for these SCAPs are as follows:<sup>2</sup>

Source Control Area	Publication Date
RM 0.0-0.1 East (Spokane Street to Ash Grove Cement)	June 2009
RM 0.1-0.9 East (EAA-1: Duwamish/Diagonal Way)	December 2004
RM 0.9-1.0 East (Slip 1)	May 2009
RM 1.0-1.2 East (King County Lease Parcels)	January 2011
RM 1.2-1.7 East (Saint Gobain to Glacier Northwest)	June 2009
RM 1.7-2.0 East (Slip 2 to Slip 3)	June 2009
RM 2.0-2.3 East (Slip 3 to Seattle Boiler Works)	April 2009
RM 2.3-2.8 East (Seattle Boiler Works to Slip 4)	June 2009
RM 2.8 East (EAA-3: Slip 4)	July 2006
RM 2.8-3.7 East (EAA-4: Boeing Plant 2/Jorgensen Forge)	December 2007
RM 3.7-3.9 East (EAA-6: Boeing Isaacson/Central KCIA)	March 2009
RM 3.9-4.3 East (Slip 6)	September 2008
RM 4.3-4.9 East (Boeing Developmental Center [BDC])	December 2010
RM 4.9 East (EAA-7: Norfolk CSO/SD)	September 2007
RM 0.0-1.0 West (Spokane Street to Kellogg Island)	February 2013
RM 1.0-1.3 West (Kellogg Island to Lafarge Cement)	June 2011
RM 1.3-1.6 West (Glacier Bay)	November 2007
RM 1.6-2.1 West (Terminal 115)	October 2011
RM 2.1 West (1 <sup>st</sup> Avenue S Storm Drain)	March 2013
RM 2.1-2.2 West (EAA-2: Trotsky Inlet)	June 2007
RM 2.2-3.4 West (Riverside Drive)	August 2012
RM 3.4-3.8 West (EAA-5: Terminal 117)	July 2005
RM 3.8-4.2 West (Sea King Industrial Park)	August 2013
RM 4.2-5.8 West (Restoration Areas)	September 2013

KCIA = King County International Airport

<sup>2</sup> Company names are used only to designate source control area locations; source control area names are not intended to assign responsibility for contamination or to identify properties that may need remediation.

## 2.3 SCAP Implementation Schedule

The early stage of source control within a drainage basin (or source control area) includes conducting business/industrial inspections and tracing sources. This is an intensive effort and continues until apparent sources are controlled. As businesses and land use change, the potential sources may change as well. For large drainage basins such as the Diagonal Avenue S CSO/SD, business inspections and source tracing are long-term, ongoing efforts. While it may be possible to reduce the level of effort needed over time within a given drainage basin, inspections and source tracing must continue regularly over the longer term in order to identify and control new potential sources as they arise.

For discrete upland sources, such as facilities that require cleanup under the Model Toxics Control Act (MTCA) or federal cleanup laws, cleanup and control are also long-term efforts. Contaminated soil may be a source of sediment recontamination through several pathways. Contaminants in soil adjacent to the LDW can enter the waterway through erosion. Some soil contaminants migrate into groundwater or change the chemistry of the soil and cause other contaminants to become more mobile. Some groundwater contaminants accumulate as they come into contact with sediments. These sites may directly affect sediments in the river and, while identifying them and bringing them under control is possible, it often takes several years. Due to the time it takes to clean up a contaminated site, Ecology believes the time and available resources needed to complete upland site cleanups will be a limiting factor for achieving river-wide source control. This will affect the schedule for the cleanup of sediment areas identified in the ROD.

The SCAPs include action items needed to complete source control for each source control area. As investigations are conducted, these action items have been updated as appropriate. Routine functions, such as ongoing inspections and review of NPDES permits, have been removed from the action item tables for specific source control areas. In some cases, multiple action items have been consolidated into a single action item or an action item has been split into its component parts to allow more efficient tracking. Some action items have been edited for brevity and clarity. Follow-on action items have been added based on the outcomes of original action items published in the SCAPs. In addition, new action items have been added as new information about a facility or source control area has become available. For example, if an inspection was conducted that led to additional investigation activities at a facility, these activities were added as a new action item.

The table below lists the number of action items as published in the original SCAPs and the number of action items currently identified for each source control area.

Source Control Area	Original No. of Action Items As Listed in SCAP	Updated No. of Action Items <sup>a</sup>	Action Items Completed <sup>a</sup>	Action Items Planned or In Progress
RM 0.0-0.1 East (Spokane Street to Ash Grove Cement)	13	13	1	12
RM 0.1-0.9 East (EAA-1: Duwamish/Diagonal Way)	16	51	33	18
RM 0.9-1.0 East (Slip 1)	19	19	3	16

Source Control Area	Original No. of Action Items As Listed in SCAP	Updated No. of Action Items <sup>a</sup>	Action Items Completed <sup>a</sup>	Action Items Planned or In Progress
RM 1.0-1.2 East (King County Lease Parcels)	24	24	4	20
RM 1.2-1.7 East (Saint Gobain to Glacier Northwest)	17	22	10	12
RM 1.7-2.0 East (Slip 2 to Slip 3)	37	39	7	32
RM 2.0-2.3 East (Slip 3 to Seattle Boiler Works)	31	31	7	24
RM 2.3-2.8 East (Seattle Boiler Works to Slip 4)	42	43	12	31
RM 2.8 East (EAA-3: Slip 4)	44	56	47	9
RM 2.8-3.7 East (EAA-4: Boeing Plant 2/Jorgensen Forge)	31	34	17	17
RM 3.7-3.9 East (EAA-6: Boeing Isaacson/Central KCIA)	31	28	10	18
RM 3.9-4.3 East (Slip 6)	29	23	4	19
RM 4.3-4.9 East (BDC)	9	9	0	9
RM 4.9 East (EAA-7: Norfolk CSO/SD)	44	42	12	30
RM 0.0-1.0 West (Spokane Street to Kellogg Island)	36	36	0	36
RM 1.0-1.3 West (Kellogg Island to Lafarge Cement)	9	9	1	8
RM 1.3-1.6 West (Glacier Bay)	32	30	19	11
RM 1.6-2.1 West (Terminal 115)	26	26	1	25
RM 2.1 West (1 <sup>st</sup> Avenue S SD)	16	16	0	16
RM 2.1-2.2 West (EAA-2: Trotsky Inlet)	30	33	18	15
RM 2.2-3.4 West (Riverside Drive)	17	17	2	15
RM 3.4-3.8 West (EAA-5: Terminal 117)	19	32	24	8
RM 3.8-4.2 West (Sea King Industrial Park)	38	41	0	41
RM 4.2-5.8 West (Restoration Areas)	9	9	0	9
<b>Total</b>	<b>520</b>	<b>683</b>	<b>232</b>	<b>451</b>

a – Includes action items that have been canceled because they were not needed.

Currently, a total of 683 source control action items have been identified:

- 224 action items (33 percent) have been completed,
- 90 action items (13 percent) are in progress,
- 355 action items (52 percent) are planned,
- 6 action items (1 percent) are ongoing, long-term actions, and
- 8 action items (1 percent) have been cancelled (not needed).

Of the 451 action items that are active (i.e., in progress, planned, or ongoing), 97 (22 percent) are considered high priority (to be completed prior to sediment cleanup), 220 (49 percent) are

medium priority (to be completed prior to or concurrent with sediment cleanup), and 134 (30 percent) are low priority (ongoing actions, or actions to be completed as resources become available).

The action item tally presented above reflects an increase of 104 action items during the current reporting period (January 2013 through December 2013) as a result of the completion of the Spokane Street to Kellogg Island, Sea King, and Restoration Areas SCAPs, and the addition of follow-up action items, as appropriate. A total of 23 action items were completed during this period. The status of action items for each source control area is shown in Figure ES-1.

Ecology developed a Source Control Summary Table in 2012 (Appendix F). This table lists summary information about potential sources of contamination to LDW sediment found in various media (soil and groundwater, stormwater, and bank soil). Ecology updates this table periodically.

Ecology developed long-term schedule projections for implementing source control in the LDW during preparation of the July 2007 Source Control Status Report, and updated them in May 2008, October 2008, August 2009, August 2011, July 2012, and June 2013. Ecology continues to review scheduling assumptions, specifically the current and future site manager staffing needs, which may be revised for future status reports. The updated schedule for upland site assessment and cleanup activities is presented in Table 2-1; the entire schedule, including SCAP preparation and implementation, is shown in more detail in Appendix A.

The updated schedule, including Table 2-1 and Appendix A, is in preparation and will be included in the final version of this report.

The schedule for river-wide source control continues to be dependent on the time and resources needed to conduct cleanup at contaminated upland sites, and the availability of site managers to oversee these cleanups is a limiting factor. Additional upland sites that may require site assessment and cleanup continue to be identified.

Now that all the SCAPs have been published, the next step is for Ecology to evaluate source control sufficiency. The revised draft final Source Control Strategy states that Ecology will conduct source control evaluations to determine whether controls are at the point where a sediment cleanup can proceed with some assurance that recontamination potential has been reduced (Ecology 2012g).

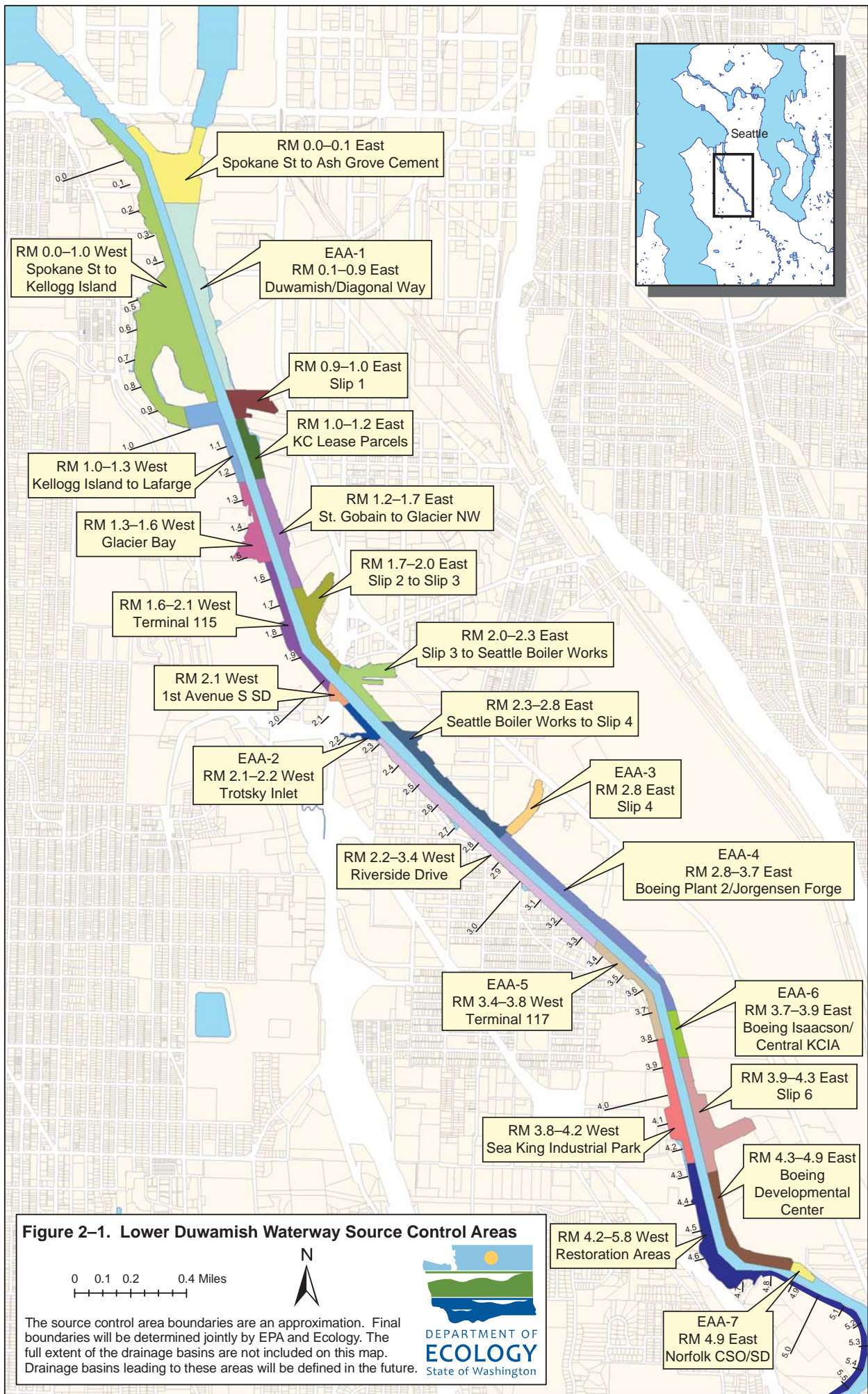
Ecology will provide source control sufficiency evaluations to EPA. Ecology is still determining the final procedures for and content of these evaluations. Ecology's approach will be to provide source control evaluations to EPA that describe the contaminants, media, and potential pathways of concern, and whether source control activities have sufficiently reduced the potential for sediment recontamination. The evaluation will be based on:

- adequacy of the information and data gathered,
- characterization of sources,
- level of controls in place for those sources,

- completion of identified high priority source control actions,
- long-term sediment monitoring results and trends, and
- water quality monitoring results and trends.

Ecology and EPA are working together to develop the procedures for prioritizing sites for cleanup in a Memorandum of Understanding (MOU). The MOU is expected to be finished in 2014 and will define the roles and responsibilities of each agency and how they will continue to work together (Ecology 2013o, Ecology 2012g).





**Figure 2-1. Lower Duwamish Waterway Source Control Areas**

The source control area boundaries are an approximation. Final boundaries will be determined jointly by EPA and Ecology. The full extent of the drainage basins are not included on this map. Drainage basins leading to these areas will be defined in the future.

DEPARTMENT OF  
**ECOLOGY**  
State of Washington



**Table 2-1. Projected Source Control Site Assessment and Cleanup Schedule**

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
<b>LDW Site Manager 1</b>															
RM 2.1-2.2W: Trotsky Property															Start Jan 2008; Finish Aug 2020
RM 2.1-2.2W: Douglas Management Co.															Start Jan 2008; Finish Feb 2020
RM 2.8E: Crowley/8th Ave Terminals															Start Apr 2008; Finish Aug 2020
RM 1.7-2.0E: Duwamish Marine Center															Start Oct 2010; Finish Feb 2021
RM 2.2-3.4W: Site 21.1															Start Sep 2015; Finish Dec 2022
RM 2.8E: Site 9.3															Start Mar 2016; Finish Jun 2023
RM 0.1-0.9E: Site 2.2															Start Sep 2016; Finish Dec 2023
<b>LDW Site Manager 2</b>															
RM 2.8E: NBF/GTSP															Start Aug 2008; Finish Sep 2020
RM 1.6-2.1W: Site 18.2															Start Sep 2014; Finish Dec 2021
RM 0.0-1.0W: Site 15.1				Jul											Start Apr 2016; Finish Jul 2023
RM 0.0-1.0W: Site 15.3															Start Oct 2017; Finish Jan 2025
<b>LDW Site Manager 3</b>															
RM 1.3-1.6W: Glacier NW/Reichhold															Start Jul 2008; Finish Nov 2020
RM 1.3-1.6W: Duwamish Shipyard															Start Sep 2010; Finish Aug 2020
RM 1.6-2.1W: North Terminal 115															Start Mar 2011; Finish Feb 2021
RM 2.2-3.4W: Site 21.3															Start Mar 2016; Finish Jun 2023
RM 0.1-0.9E: Site 2.1															Start Jun 2016; Finish Sep 2023
RM 0.0-0.1E: Site 1.1															Start Sep 2016; Finish Dec 2023
<b>LDW Site Manager 4</b>															
RM 4.3-4.9E: Site 13.1															Start Aug 2014; Finish Dec 2021
RM 2.3-2.8E: Site 8.1															Start Feb 2015; Finish Jun 2022
RM 2.2-3.4W: Site 21.2															Start Feb 2016; Finish Jun 2023
RM 0.0-1.0W: Site 15.2															Start Jul 2017; Finish Oct 2024
<b>LDW Site Manager 5 (Part-Time)</b>															
RM 3.9-4.3E: 8801 Site/PACCAR															Start Nov 2008; Finish Mar 2019
RM 3.7-3.9E: Boeing Isaacson/Thompson															Start Jul 2009; Finish Aug 2020
<b>Non-LDW Site Managers</b>															
RM 2.0-2.3E: Fox Avenue Building															Start Jun 2008; Finish Jul 2015
RM 2.1W: South Park Landfill															Start 2007; Finish Feb 2015

Note: Timeline is based on current assumptions, which are under review by Ecology; end dates may change. Start date is initiation of PLP Determination process; finish date is completion of Source Control Determination.

The following MTCA Cleanup Sites are not included in the schedule above; these are located in the LDW basin but are in the combined sewer area and not within the boundaries of a source control area: General Electric - Dawson Street Plant, Capital Industries, Art Brass Plating, Blaser Die Casting, and Burlington Environmental.

The following EPA-lead sites are not included in the schedule above: Boeing Plant 2, Terminal 117, Rhone-Poulenc, Rainier Commons, and Boeing Former EMF.

## 3.0 Source Control Implementation

The three main types of source control activities are business inspections, source tracing, and upland site assessment and cleanup. These and other source control methods that are being implemented for the LDW as a whole were described in the July 2007 Source Control Status Report (Ecology 2007b); updates were provided in the May 2008, October 2008, August 2009, August 2011, July 2012, and June 2013 Source Control Status Reports (Ecology 2008d, 2008e, 2009j, 2011f, 2012e, 2013ae). The following sections provide updates on the status of these activities. Action items associated with LDW-wide source control activities are summarized in Table 3-1. Source control activities related to specific source control areas are discussed in Sections 4 through 27, and are summarized in Table 3-2.

EPA continues to send Request for Information letters to current and former property owners, tenants, or facility operators in the vicinity of the LDW. These letters, issued pursuant to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 104(e), request information about materials handled at these sites, past practices, and known or suspected releases of contamination to the LDW. As of November 2012 EPA had issued Request for Information letters to 325 entities (current or previous property owners and operators). As of In December 2013 EPA sent General Notice Letters to 116 potential responsible parties; a list of entities who have received these letters is available at EPA's LDW website: <http://yosemite.epa.gov/r10/CLEANUP.NSF/sites/LDuwamish>

### 3.1 Business Inspections

Seattle Public Utilities (SPU) inspects businesses in areas that discharge to the LDW through either the city-owned storm drain system or the combined sanitary/storm sewer system. SPU's business inspection program conducts stormwater inspections and refers hazardous waste or industrial waste issues to Ecology and the King County Waste Program, respectively.

King County provides technical support on industrial waste and hazardous waste issues as needed, and it inspects facilities permitted through its Industrial Waste program. King County's inspections are for industrial users of the sanitary sewer system, including facilities within combined sewer systems of the LDW basin that discharge to the LDW during CSO events. King County also inspects businesses with stormwater runoff through its Stormwater Management in unincorporated areas and for county facilities that discharge to the LDW.

The City of Seattle operates the local sanitary/combined sewers that collect wastewater and stormwater and route it to the King County interceptor system, and it operates the municipal storm drains within the city. King County operates the large interceptor pipes that convey municipal and industrial wastewater to the West Point treatment plant, and it operates the storm drain system in unincorporated King County. The sanitary/combined sewer and storm drains (including private storm drains) serve an area of about 19,800 and 8,940 acres, respectively.

Ecology conducts water quality inspections for NPDES-permitted facilities; these inspections focus on stormwater permit compliance issues. In addition, Ecology, SPU, and King County work together to conduct source control inspections under the Urban Waters Initiative.

### 3.1.1 SPU Business Inspection Program

During the current reporting period (January through December 2013), SPU continued inspecting local businesses in the Lower Duwamish service area to ensure that businesses are implementing appropriate pollution prevention practices and complying with local stormwater, industrial pretreatment, and hazardous waste regulations.

SPU conducted a total of 284 inspections at 177 facilities during the period from January through December 2013. This includes three audits, one screening visit, 169 initial inspections, and 115 follow-up inspections. Of the 177 facilities inspected, all but 19 were in compliance as of December 31, 2013. Compliance information was unavailable for 17 additional facilities at the time this Status Report was prepared.

Inspection locations are shown in Figure 3-1. Facilities that were inspected by SPU during the current reporting period are listed in Appendix B.

During the period January through December 2013, SPU conducted inspections in the following source control areas:

Source Control Area	Sub-Basin	No. of Facilities Inspected in 2013	No. of Inspected Facilities In Compliance as of 12/31/2013
RM 0.1-0.9 East (EAA-1: Duwamish/Diagonal Way)	Diagonal Avenue S SD, Diagonal CSO	102	80
RM 1.7-2.0 East (Slip 2 to Slip 3)	1 <sup>st</sup> Avenue S Bridge SD (East), Michigan CSO	3	3
RM 2.0-2.3 East (Slip 3 to Seattle Boiler Works)	S River Street SD, S Brighton Street SD, Duwamish East Direct	5	3
RM 2.3-2.8 East (Seattle Boiler Works to Slip 4)	S Garden Street SD, S Myrtle Street SD	3	2
RM 2.8 East (EAA-3: Slip 4)	KCIA SD#3, Slip 4 Direct	9	5
RM 4.9 East (EAA-7: Norfolk CSO/SD)	Norfolk CSO/SD/Emergency Overflow (EOF)	12	10
RM 0.0-1.0 West (Spokane St to Kellogg Island)	SW Dakota Street SD	6	5
RM 1.0-1.3 West (Kellogg Island to Lafarge)	Duwamish Direct West	1	1
RM 1.3-1.6 West (Glacier Bay)	Duwamish Direct West	2	2
RM 1.6-2.1 West (Terminal 115)	Highland Park Way SW SD, SW Kenny SD	3	2
RM 2.1 West (1 <sup>st</sup> Avenue S SD)	1 <sup>st</sup> Avenue S SD	12	11
RM 2.1-2.2 West (EAA-2: Trotsky Inlet)	2 <sup>nd</sup> Avenue S SD, Duwamish West Direct	2	2

Source Control Area	Sub-Basin	No. of Facilities Inspected in 2013	No. of Inspected Facilities In Compliance as of 12/31/2013
RM 2.2-3.4 West (Riverside Drive)	7 <sup>th</sup> Avenue S SD, 8 <sup>th</sup> Avenue CSO, Duwamish West Direct	14	12
RM 3.8-4.2 West (Sea King Industrial Park)	S 96 <sup>th</sup> Street SD	3	3
<b>Total</b>		<b>177</b>	<b>141*</b>

\*Includes six screening visits, two self-certifications and four audits. A total of 19 facilities were not in compliance as of December 31, 2013. Compliance information was unavailable for 17 additional facilities at the time this Status Report was prepared.

### 3.1.2 Ecology and King County Source Control Inspections

Ecology's Water Quality (WQ) and Hazardous Waste & Toxics Reduction (HWTR) Programs continue to conduct source control inspections in the LDW. During the current reporting period (January through December 2013), Ecology conducted 208 inspections at 179 facilities. Ecology inspections are listed in Appendix C, and are summarized by source control area below.

Source Control Area	No. of Facilities Inspected in 2013
RM 0.1-0.9 East (EAA-1: Duwamish/Diagonal Way)	13
RM 0.9-1.0 East (Slip 1)	1
RM 1.0-1.2 East (King County Lease Parcels)	67
RM 1.2-1.7 East (Saint Gobain to Glacier NW)	1
RM 1.7-2.0 East (Slip 2 to Slip 3)	13
RM 2.0-2.3 East (Slip 3 to Seattle Boiler Works)	4
RM 2.3-2.8 East (Seattle Boiler Works to Slip 4)	6
RM 2.8 East (EAA-3: Slip 4)	2
RM 2.8-3.7 East (EAA-4: Boeing Plant 2/Jorgensen Forge)	2
RM 3.7-3.9 East (EAA-6: Boeing Isaacson/Central KCIA)	1
RM 4.9 East (EAA-7: Norfolk CSO/SD)	3
RM 0.0-1.0 West (Spokane St to Kellogg Island)	2
RM 1.0-1.3 West (Kellogg Island to Lafarge)	1
RM 1.3-1.6 West (Glacier Bay)	1
RM 1.6-2.1 West (Terminal 115)	3
RM 2.1 West (1 <sup>st</sup> Avenue S SD)	8
RM 2.1-2.2 West (EAA-2: Trotsky Inlet)	13
RM 2.2-3.4 West (Riverside Drive)	18
RM 3.4-3.8 West (EAA-5: Terminal 117)	1
RM 3.8-4.2 West (Sea King Industrial Park)	14
RM 4.2-5.8 West (Restoration Areas)	1

Source Control Area	No. of Facilities Inspected in 2013
<b>Total</b>	<b>177*</b>

\*Includes two facilities that were not listed with an address.

King County Stormwater Services conducted source control inspections in unincorporated areas of King County during the current reporting period. Specifically, King County conducted 16 inspections at 14 facilities in the Riverside Drive and Sea King Industrial Park source control areas (Hickey 2014a). King County inspections are listed in Appendix D.

The King County Industrial Waste (KCIW) Program is a state and federal delegated pretreatment program with the authority to regulate the discharge of industrial wastewater to the King County sanitary sewer system. KCIW is required by federal and state requirements to conduct annual inspections of the significant industrial users of the sanitary sewer system. There were 21 facilities in the LDW with waste discharge permits issued by KCIW that were inspected at least once in 2013. KCIW also issues lower level discharge authorizations; these facilities are inspected less frequently (e.g., every 5 years), but are not included in this number.

The lead investigator for the KCIW regularly attends meetings with inspectors from Ecology and SPU to coordinate and discuss source control issues at facilities in the LDW, and to identify issues of regulatory overlap. In 2013, this coordination resulted in the issuance of two letters of authorization for facilities to discharge industrial wastewater to the King County sanitary sewer system. A letter of authorization is the lowest level of discharge authorization that KCIW issues, indicating that the associated discharger is in the lowest level risk category of industrial users of the sanitary sewer system (Tiffany 2014).

King County CSO basins and permitted facilities are shown in Figure 3-2.

### Ecology NPDES Inspections

Ecology issues NPDES permits for some businesses in the LDW. While the permits limit and control the discharge of a number of water quality pollutants, they do not necessarily control contaminants that pose a threat to sediments, such as PCBs, phthalates, arsenic, mercury, and PAHs. As of December 2013, Ecology had 102 active NPDES permits on record for the LDW source area (not including construction stormwater permits). This includes five sand and gravel general permits, two boatyard general permits, two individual permits, and 93 industrial stormwater general permits (ISGPs). The following facilities were granted coverage under the ISGP in 2013:

- NW Container Services Seattle Intermodal Yard (WAR301360)
- Plymouth Poultry (WAR301508)
- Charles Air Hangar – Starbucks (WAR127177)
- Seafreeze Cold Storage (WAR127040)
- Alaska Marine Lines 7100 1st Ave (WAR127039)
- Old Dominion Freight Line Inc (WAR301509)
- Samson Tug & Barge South Park Facility (WAR301372)

The types of NPDES permits issued to facilities in the LDW basin are described in detail in the July 2007 Source Control Status Report (Ecology 2007b). The ISGP was reissued on October 21, 2009, and became effective on January 1, 2010.

Between March and June 2013, the Ecology Water Quality Program and Toxics Cleanup Program (TCP) conducted joint inspections at 11 NPDES permitted facilities that discharge to the LDW. During the inspections, Ecology collected storm drain solids and water samples from manholes, catch basins, outfalls, treatment systems, and other stormwater conveyance structures at the facilities. Storm drain solids samples were analyzed for PCB aroclors, phthalates, PAHs, other SVOCs, pesticides, total petroleum hydrocarbons (TPH)-diesel, TPH-gasoline, volatile organic compounds (VOCs), metals, and conventionals. A subset of samples was analyzed for dioxins/furans. Water samples were analyzed for PCB congeners, phthalates, PAHs, other semivolatile organic compounds (SVOCs), pesticides, metals, pH, total suspended solids, specific conductance, alkalinity, anions, total organic carbon (TOC) and dissolved organic carbon. Sampling results for individual facilities are provided in source control area summaries below.

Ecology is continuing to inspect NPDES-permitted facilities to ensure compliance with permit conditions (Appendix C). In addition, WQ inspectors have been visiting facilities as needed to determine whether a permit is required. Recent inspections have identified numerous facilities that may need to apply for NPDES permits. Ecology will follow up with these facilities to ensure that they submit an application for a stormwater permit or a Conditional No Exposure (CNE) Certificate, as appropriate.

In December 2013, the City of Seattle notified Ecology's WQ program that they were in violation of their NPDES Phase 1 Municipal Stormwater Permit. The city's municipal storm sewer system (MS4) was causing or contributing to a known or likely violation of water quality standards to the LDW. On November 7, 2013, the City of Seattle completed analysis of data and confirmed a linkage between near-end-of-pipe storm drain solids and in-water surface sediment standard violations. The city reviewed storm drain solids data collected from sediment traps and sediment grab samples collected from the city's MS4. The city compared this data to receiving water body surface sediment data collected from within the LDW. The notification regarding sediment was made for the following outfalls and constituents to the LDW (City of Seattle 2013):

- Diagonal Avenue S CSO/SD: bis(2-ethylhexyl)phthalate (BEHP), butylbenzylphthalate, dimethyl phthalate, and total PCBs;
- I-5 SD at Slip 4 for BEHP;
- Norfolk CSO/EOF/SD for BEHP and butylbenzylphthalate;
- Highland Park Way SW SD for BEHP; and
- 7<sup>th</sup> Avenue S SD for BEHP.

In 2013, the King County Wastewater Treatment Division continued funding a stormwater inspector position at Ecology to conduct stormwater inspections of facilities in the separated stormwater system of the LDW and to conduct stormwater assessments of facilities that

discharge to the combined sewer systems associated with King County CSO outfalls in the LDW. Under the interagency agreement between Ecology and King County, the work of the stormwater inspector was split evenly between separated stormwater inspections and combined sewer system stormwater assessments. In 2013, the Ecology stormwater inspector conducted 97 facility assessments in the Brandon combined sewer basin. As a result, Ecology sent letters with recommendations for best management practices (BMPs) to 23 facilities (Tiffany 2014) (Appendix C). Section 7.2 provides a more detailed summary of the Brandon basin assessment (Waldo 2013).

### **Urban Waters Initiative Inspections**

The Urban Waters Initiative, a component of the Puget Sound Initiative since 2007, has consisted of a comprehensive, multi-program approach to accomplish the following:

- Identify potential sources of contamination.
- Ensure that facilities are both permitted (if applicable) and in compliance with their permit conditions.
- Increase inspections of regulated facilities.
- Assist in the development of appropriate source control measures.
- Provide assistance on toxics reduction and pollution prevention.
- Build capacity at the local level to safely manage and reduce toxics at small businesses and households.

The initiative is described in more detail in the May 2008 LDW Source Control Status Report (Ecology 2008d).

During the current reporting period Ecology's WQ and HWTR inspectors, along with SPU inspectors and Ecology TCP staff, continued to coordinate inspections of facilities and priorities to avoid overlap in the field. King County coordinates with Ecology and SPU in conducting inspections and conducts inspections in unincorporated areas of the county and at county-owned properties and facilities. Urban Waters inspections are listed in Appendix C.

### **3.2 Source Tracing**

Source tracing activities include identification and assessment of potential sources of contaminants to the LDW through the storm drain/combined sewer systems. Source tracing is designed to identify sources by strategically collecting samples at key locations within the LDW drainage basin. The following source tracing activities were conducted during the current reporting period, as discussed in more detail below:

- collection of in-line sediment trap samples (SPU, King County),
- collection of storm drain catch basin and in-line solids samples (SPU, King County), and
- CSO Basin Inputs Study (King County).

SPU and King County have been conducting source tracing sampling activities to support source control efforts since 2003 (King County and SPU 2004, 2005a, 2005b; SPU 2010). Source tracing sampling is designed to identify sources by strategically collecting samples at key locations within the drainage/combined sewer systems. A variety of sampling techniques are used because no single sampling method exists to effectively trace sources of contaminants to LDW sediments.

The following types of source tracing samples have been collected to identify sources of chemicals of concern:

- in-line sediment traps installed in the storm drain and combined sewer systems,
- onsite catch basins,
- catch basins in the public right-of-way, and
- in-line grab samples from stormwater or combined sewer lines.

Storm drain solids data are compared to the Washington State Sediment Management Standards (SMS) to provide a rough indication of overall quality. The SMS include the Sediment Quality Standards (SQS), which identify surface sediments that have no adverse effects on biological resources, and Cleanup Screening Levels (CSLs), which are used as an upper regulatory threshold for making decisions about source control and cleanup. For organics, the measured dry weight (DW) concentrations are organic carbon (OC) normalized to allow comparison to the SQS/CSL.

Alternatively, if OC-normalized data are unavailable or if TOC concentrations are outside the accepted range (0.5 to 4.0 percent), the storm drain solids data have been compared to the Lowest Apparent Effects Threshold (LAET) or Second Lowest Apparent Effects Threshold (2LAET) values, which are functionally equivalent to the SQS and CSL, respectively (Windward 2010). The LAET and 2LAET values are expressed in terms of DW concentrations. In some cases, OC-normalized data may be available for only a portion of a data set (e.g., data from sediment traps at Slip 4); in these cases, the LAET/2LAET values have been used for screening purposes to allow for sample comparisons.

For petroleum hydrocarbons, MTCA Method A Soil Cleanup Levels are used for comparison to storm drain solids concentrations. Dioxin/furan concentrations were compared to the LDW Remedial Action Level of 25 nanograms per kilogram (ng/kg) toxic equivalency quotient (TEQ).

In this document, values described above (SQS/CSL, LAET/2LAET, MTCA Method A, and LDW Remedial Action Level) that are used for comparison to storm drain solids data are referred to as “storm drain screening levels.” It should be emphasized that none of these values are applied as cleanup levels to storm drain or combined sewer solids. It is important to note that any comparison of this kind is most likely conservative given that sediments discharged from storm drains are highly dispersed in the receiving environment and mixed with the natural sedimentation taking place in the system.

In 2008 Ecology signed an interagency agreement with the City of Seattle to conduct source tracing sampling. As part of this agreement, SPU installed sediment traps at 20 locations in the



LDW study area, including areas on King County International Airport (KCIA) and in unincorporated King County. In addition, the Ecology-SPU interagency agreement included funding to collect catch basin samples in areas where there has been little or no sampling to date. Under this agreement, SPU collected 124 in-line, catch basin, and dirt samples.

A second interagency agreement was signed in September 2010 to facilitate collection of additional sediment trap, in-line, and catch basin samples. This agreement included: collection and analysis of solids from 21 existing sediment traps approximately every six months; and collection and analysis of up to 65 in-line and catch basin solids samples in areas where contaminants have been detected during previous sampling events, near businesses identified by Ecology inspectors, and in selected residential areas within the LDW basin.

Source tracing locations where samples were collected during the current reporting period (January through December 2013) are shown on Figure 3-3. Sampling results for the current reporting period are provided in Appendix E. Results are discussed as relevant in subsequent sections for the source control areas in which they are located.

### 3.2.1 In-Line Sediment Trap Samples (SPU)

In-line sediment traps consist of a small bracket mounted inside the collection system pipe that holds a wide-mouth sample bottle. Traps are installed at selected locations in the drainage system to identify and isolate problem areas. Samples represent contributions from relatively large areas (> 50 acres). They are installed for a period of 6 to 12 months to passively collect solids in the stormwater flow passing that location.

SPU has installed sediment traps at the following locations:

Drainage System	No. of Traps	Year Installed	Responsible Agency
Diagonal Avenue S CSO/SD <sup>a</sup>	6	2003	SPU
I-5 SD at Slip 4	1	2005	SPU
KCIA SD#3/PS44 EOF	9	2005	SPU/Boeing <sup>b</sup>
KCIA SD at RM 3.6 <sup>c</sup>	1	2008 and 2009	SPU
KCIA SD#2/PS 45 EOF	1	2008	SPU
KCIA SD#1	1	2008	SPU
Norfolk CSO/SD/PS17 EOF	5	2007	SPU
SW Idaho Street SD	3	2008	SPU
SW Kenny Street SD/T115 CSO	1	2008	SPU
Highland Park Way SW SD	2	2008	SPU
1st Avenue S SD (west side of LDW)	4	2008	SPU
7 <sup>th</sup> Avenue S SD	3	2008	SPU
S 96 <sup>th</sup> Street SD	3	2008	SPU
Hamm Creek	1	2008	SPU
<b>Total</b>	<b>41</b>		

- a – Traps removed in April 2010 after collection of 13 rounds of samples. SPU re-installed two traps in this system in May 2013.
- b – Boeing maintains six of the traps and SPU maintains three of the traps.
- c – Storm drain that crosses between Boeing and Jorgensen properties. Existing trap moved in January 2010 after King County replumbed this drainage system.

During the current reporting period (January through December 2013), SPU collected sediment trap samples in the following areas (Figure 3-3):

<b>Outfall</b>	<b>No. of Sediment Trap Samples</b>
King County Airport SD#3/PS44 EOF	1
Norfolk CSO/SD/PS17 EOF	5
SW Idaho Street SD	3
SW Kenny Street SD/T115 CSO	1
Highland Park Way SW SD	2
1 <sup>st</sup> Avenue S SD	4
7 <sup>th</sup> Avenue S SD	3
S 96 <sup>th</sup> Street SD	3
Hamm Creek	1

Sampling results for these sediment trap samples are provided in Appendix E. Results are summarized in subsequent sections specific to the source control areas in which they are located.

### 3.2.2 In-Line Solids and Catch Basin Samples (SPU)

In-line solids samples are grab samples collected from manholes located on the storm drain mainline, and they represent contributions from the entire drainage basin upstream of the sampling location. In-line grab samples typically represent the heavier particles that accumulate and are transported as part of bed load material that moves along the bottom of the pipe (SPU 2010). In-line solids samples are usually collected prior to installing a sediment trap or before and after cleaning the drain to characterize the chemical quality of sediment in the storm drain system.

A catch basin is a storm drain structure that contains a sump to capture sediment and other debris before it can enter the conveyance system. Catch basin samples are grab samples of solids that have accumulated in the catch basin sump. Catch basins collect runoff from the nearby area (typically <0.5 acre). These samples are used to characterize contributions from specific sites and confirm whether they are sources of pollutants to the drainage system. Onsite catch basin samples have been collected at sites of interest identified during business inspections or simply at sites where sufficient solids were available for chemical analysis.

Between January and December 2013, SPU collected a total of 36 in-line solids samples, two onsite catch basin samples, and 12 right-of-way catch basin samples from various locations in the LDW study area (Appendix E).

The number of samples collected during the current reporting period in each storm drain basin is listed below. Results specific to each source control area are discussed in Sections 4 through 27.

LDW East Side	No. of Samples 2013
Diagonal Avenue S CSO/SD	24
1 <sup>st</sup> Ave S (east)	2
KCIA SD#3/PS44 EOF	2
Norfolk CSO/SD/PS17 EOF	4

LDW West Side	No. of Samples 2013
SW Idaho Street SD	1
SW Kenny Street SD	1
2 <sup>nd</sup> Avenue S SD	1
S 96 <sup>th</sup> Street SD	7
Hamm Creek	1

Additional in-line and catch basin samples have been collected by Seattle City Light (in-line samples in the Georgetown Flume), King County (oil water separator [OWS] samples and in-line sediment traps at KCIA, sediment trap samples in the Brandon and Michigan combined sewer basins [Section 3.2.3]), Boeing (sediment traps at North Boeing Field [NBF]), and the Port (various Port properties along the LDW). Results for additional in-line and catch basin sampling conducted in 2013 are discussed in Sections 4 through 27.

### 3.2.3 Combined Sewer System Sampling (King County)

King County has been collecting solids samples from pipes, wet wells, or outfall weir structures located within the combined sewer collection system of the LDW basin since 2011. In 2013, this work included sampling in the Brandon and Michigan combined sewer basins. Other basins have either yielded no solids in lines, have access issues, were sampled in 2011 or 2012, or have no recent history of discharges. King County focused on sediment trap sampling in 2013. Five sediment trap samples were collected from the Brandon combined sewer system and four sediment traps samples from the Michigan combined sewer system. Validated results were not available at the time this status report was prepared (Tiffany 2014).

### 3.3 Site Assessment and Cleanup

During SCAP development, Ecology and its contractors identify contaminated properties that have the potential to recontaminate sediments associated with a source control area. This includes review of available information about each property and assessment of whether the site poses a threat to LDW sediments. The detailed information on each property is documented in either a Property Review Report (Duwamish/Diagonal Way, Terminal 117, and Slip 4 source control areas) or in a Data Gaps Report (all other source control areas). As of December 31, 2013, Ecology and its contractors conducted assessments of 841 properties in 24 source control areas (Table 3-3). These are shown in Figure 3-4. In addition, assessments have been conducted for approximately 724 facilities located solely within a CSO basin.

The investigation or cleanup of a contaminated property may be performed before a SCAP is written. This may occur when an owner wants to expedite cleanup or Ecology considers it necessary for source control. Site characterization or cleanup is in progress at several facilities that are known or suspected threats to LDW sediments (Figure 3-4).

EPA is managing six sites under the Resource Conservation and Recovery Act (RCRA), CERCLA, and/or the Toxic Substances Control Act (TSCA):

- Terminal 117 (RM 3.4-3.8 West) (CERCLA)
- Rhone-Poulenc (RM 3.9-4.3 East) (RCRA)
- Boeing Plant 2 (RCRA), including part of Jorgensen Forge (RM 2.8-3.7 East) (CERCLA)
- Boeing Former Electronics Manufacturing Facility (EMF) (RM 2.8-3.7 East) (RCRA)
- Rainier Commons (RM 0.1-0.9 East) (TSCA)
- Slip 4 EAA cleanup, including the Georgetown Flume outfall replacement, which was completed in 2009 (RM 2.8 East) (CERCLA)

Ecology is managing the following sites under MTCA (as of December 31, 2013):

- General Electric–Dawson Street Plant (combined sewer area) – Agreed Order signed May 2007
- Jorgensen Forge, upland of the EPA-managed area (RM 2.8-3.7 East) – Agreed Order signed July 2007, Amendment signed July 2013
- Capital Industries (combined sewer area) – Agreed Order signed January 2008
- Art Brass Plating (combined sewer area) – Agreed Order signed January 2008
- Blaser Die Casting (combined sewer area) – Enforcement Order issued March 2008
- North Boeing Field (NBF)/Georgetown Steam Plant (GTSP) (RM 2.8 East) – Agreed Order signed August 2008
- 8801 Site (RM 3.9-4.3 East) – Agreed Order signed September 2008
- Glacier Northwest/Reichhold Chemical (RM 1.3-1.6 West) – Agreed Order signed May 2009
- Fox Avenue Building (RM 2.3-2.8 East) – Agreed Orders signed May 2009 and June 2012, Amendment signed June 2013
- South Park Landfill (RM 2.1 West) – Agreed Order signed May 2009, Amendment signed June 2013
- Crowley Marine Services/8<sup>th</sup> Avenue Terminals (RM 2.8 East) – Agreed Order signed July 2009
- Boeing Isaacson/Thompson (RM 3.7-3.9 East) – Agreed Order signed April 2010
- Industrial Container Services/Trotsky Property/Former Northwest Cooperage (RM 2.1-2.2 West) – Agreed Order signed May 2010
- Burlington Environmental (combined sewer area) – Agreed Order signed May 2010
- Duwamish Shipyard, Inc. (DSI) (RM 1.3-1.6 West) – Agreed Order signed September 2010
- Port N Terminal 115 (RM 1.6-2.1 West) – Agreed Order signed March 2011
- Douglas Management Company (RM 2.1-2.2 West) – Agreed Order signed May 2011

- Duwamish Marine Center (RM 1.7-2.0 East) – Agreed Order signed September 2011

In addition, Ecology has collected site characterization samples at the following sites:

- Soil, groundwater, and sediment at Industrial Container Services/Trotsky Property/Former Northwest Cooperage (RM 2.1-2.2 West) – April through July 2007
- Soil, groundwater, and sediment at Douglas Management Company (RM 2.1-2.2 West) – June through July 2008
- Soil, groundwater, and bank sediment/soil at South Park Marina (RM 3.4-3.8 West) – September 2007 through July 2008
- Soil and groundwater at Basin Oil (RM 3.4-3.8 West) – May 2009
- Soil, groundwater and catch basin solids at the Washington State Liquor Control Board (RM 0.1-0.9 East) – July 2011

The total number of sites that will require characterization and/or cleanup in the LDW site area is unknown at this time.

### **3.4 Other Source Control Activities**

#### **3.4.1 Source Control Action Plan Handbook (Ecology)**

Ecology developed a SCAP handbook that summarizes the process used to develop data gaps reports and SCAPs over the past 10 years. During this period, Ecology and its contractors continually refined and improved the content and organization of the SCAPs. The purpose of the handbook is to answer questions that readers may have. It explains how the SCAPs were developed and the reasons for some of the differences between earlier and later SCAPs. The handbook documents the evolution of changes to the format and content of SCAPs that have occurred between the publication of the first action plan in 2004, and the last one, published in 2013 (Leidos 2013c).

#### **3.4.2 Site Hazard Assessments in LDW Basin (Ecology)**

Ecology is conducting Site Hazard Assessments (SHAs) in the LDW basin. Activities during 2013 included:

- Identification of all cleanup sites within the 32-square mile LDW drainage basin using Ecology's Confirmed and Suspected Contaminated Sites List (CSCSL) and Leaking Underground Storage Tank (LUST) list, as provided in Ecology's Integrated Site Information System (ISIS) database. A total of 398 facilities were identified.
- Development of a spreadsheet that lists each facility, its Washington Ranking Method (WARM) score, whether it has been included in a Data Gaps Report or SCAP, whether it is located within one-half mile of the LDW, current cleanup site status, relevant contaminants and media, site coordinates (including corrections to Facility/Site Database coordinates as needed), tax parcels, and other relevant information. The spreadsheet was used to prioritize sites (Leidos 2013b).

- Preparation of a map showing locations of all cleanup and LUST sites.

SHAs will be conducted during 2014 for approximately 200 cleanup sites, and each will consist of a review of readily available information, an Initial Investigation if existing information is not sufficient to develop a WARM score, and field sampling as needed.

### **3.4.3 Green River Study (Ecology)**

Ecology is preparing a preliminary report summarizing existing information and data gaps for the Green-Duwamish River basin, located upstream of the LDW Superfund Site. Modeling conducted as part of the LDW RI found that approximately 99 percent of the sediment load to the LDW comes from the upstream Green-Duwamish River. The quality of incoming sediment from the Green-Duwamish River may influence the quality of LDW sediments after cleanup. An analysis of suspended solids collected upstream of the LDW site indicates that this sediment load could be a possible source of contaminants to the LDW sediments under certain conditions.

This preliminary study will help Ecology develop a strategy for future source control efforts. The strategy may include additional data collection to characterize contributions from the Green-Duwamish River and to refine earlier sediment loading estimates, and the identification of areas for targeted source control upstream of the LDW site. The following activities were conducted during 2013:

- Collected and compiled information from various Ecology databases (Facility/Site, ISIS, Water Quality Permitting and Reporting Information System [PARIS]) for all facilities within the Green River basin upstream of the LDW.
- Collected and compiled information about sediment and water samples collected in the Green River and its tributaries.
- Generated maps of natural drainage sub-basin boundaries for major tributaries to the Green-Duwamish River upstream of the LDW site.
- Collected and compiled municipal stormwater system maps in the Green-Duwamish River watershed upstream of the LDW site.
- Identified and mapped locations of contaminated sites, facilities with NPDES permits, fully regulated hazardous waste generators, and facilities registered with PSCAA.
- Compiled and mapped available sediment, suspended sediment, and whole water data upstream of the LDW site.
- Prepared an overview of the Green-Duwamish River watershed upstream of the LDW site, including a description of municipalities; past and current initiatives and projects aimed at protecting water quality, controlling runoff or toxics, and salmon recovery; and other efforts that may reduce or control releases of LDW contaminants of concern.

A preliminary summary of existing information report is currently in preparation, and will be completed in 2014.

### 3.4.4 Assessing Sediment and Toxic Chemical Loads from Green River to the LDW (Ecology/USGS)

Ecology contracted with the U.S. Geological Survey (USGS) to develop better estimates of annual sediment and toxic chemical loads associated with upstream sources in the Green River to the LDW. The study focused on high flow/high turbidity events that were are likely to contribute more to the annual loading than average flow conditions (USGS 2013a).

During 2013, the USGS Washington Water Science Center collected representative samples of water, suspended solids, and surface sediment from a single strategically located site along the Green River: USGS 12113390 – Duwamish River at Golf Course at Tukwila, approximately RM 10.4 (USGS 2013a).

Samples represented a range of flow conditions. Samples were analyzed for a large suite of compounds, including PAHs and other semivolatile compounds; PCB aroclors and the full suite of 209 congeners; metals, including arsenic; dioxins and furans; pesticides; tributyltin; volatile organic compounds; and TOC. Suspended solids concentration and particle size distribution were also to be measured.

Water and suspended solids samples were flow-weighted and depth-integrated. Surface sediment samples (0 to 10 cm) were collected from target areas with a high deposition of fine sediment material. Sediment samples were wet sieved to remove particles larger than 2 mm in diameter. Suspended solids were concentrated from water samples using a flow-through centrifuge. If enough sediment and suspended solids sample material was available, samples were separated into fines (<63 um) and sand (63 um to 2 mm) fractions.

Although a data report summarizing the results of this study was not available at the time this Source Control Status Report was prepared, USGS presented preliminary results at the September 2013 Elliott Bay Regional Background Workshop (USGS 2013b).

Average DW concentrations of contaminants in suspended solids and surface sediments are summarized below:

- Arsenic: 1.8 to 4.8 milligrams per kilogram (mg/kg)
- Chromium: 5.6 to 12.8 mg/kg
- Copper: 19.9 to 58.3 mg/kg
- Total PCBs: 0.0024 to 0.0061 mg/kg
- Total carcinogenic polycyclic aromatic hydrocarbons (cPAHs) (TEQ): 0.011 to 0.051 mg/kg
- Total dioxins/furans (TEQ): 0.68 to 3.1 ng/kg
- TOC: 1.8 to 4.8 percent

Whole water and suspended solids data were used to calculate instantaneous chemical loads. In general, contaminant loads were highest during the storm peaks of high precipitation events (over 5.1 cm). During low precipitation events (less than or equal to 1 cm), whole water loads

were larger than suspended solids loads for PCBs and dioxins/furans, but lower than suspended solids loads for metals and TOC (USGS 2013b).

Preliminary conclusions from this study include:

- Metals, PAHs, PCBs, and dioxins/furans were always detected in suspended solids and surface sediment samples.
- Concentrations were generally higher in suspended solids samples than in surface sediment samples.
- Metals, PCBs, and dioxins/furans were detected in water samples, but PAHs were not.
- A greater number of compounds were detected during storm events.
- Storm concentrations were up to 3.5 times higher (PCBs) than during periods of low precipitation.
- Instantaneous loading estimates indicated that loadings are higher during peak storm events than during rising limb or low precipitation events.

USGS recommended that additional research be conducted to evaluate seasonal variability by sampling fall/early winter storms; that annual chemical loading be estimated by relating discrete samples to continuous records of discharge and turbidity; and comparing the Green River to other Puget Sound river systems (USGS 2013b).

Additional sampling is planned for 2014, including high flow/high turbidity events that may contribute more to the annual loading than average flow conditions. These measurements will help to assess the potential for future recontamination of remediated sediment in the LDW. A final report is expected in June 2015 (USGS 2014).

### **3.4.5 LDW Air Deposition Scoping Study (Ecology)**

Ecology contractor Leidos conducted an Air Deposition Scoping Study during 2013 (Leidos and NewFields 2013). The primary goals of this study were to assess atmospheric deposition to the LDW based on previously completed local and nationwide studies, and identify data gaps that need to be filled in order to improve the understanding of these processes.

A conceptual model was created that includes all major loading pathways to the LDW. All pathways were modeled as inputs only. Outflow of contaminants from the LDW and loss processes to the atmosphere remain a data gap. Lateral and upstream flows were represented by thoroughly reviewed models and results from the LDW FS. Atmospheric deposition loadings were calculated from various flux studies conducted in Washington State.

Depending on the sampled location, the flux results were divided into background, regional, and local fluxes. Loadings were calculated from these fluxes. Background and/or regional sources made up 50 percent or more of total loadings to the LDW for dioxins and mercury. This high regional contribution suggests that source control effort to reduce local emissions will not have a major impact on reducing total loadings for these two chemicals. By contrast, local sources of PCBs and PAHs (and presumably phthalates) dominated, making up over 80 percent of total loadings.



Direct atmospheric loadings to the surface of the LDW were compared to upstream and lateral loads. Atmospheric deposition to the LDW accounted for 2.8 to 8.4 percent of BEHP and butylbenzylphthalate loadings, respectively. For all other contaminants, direct atmospheric deposition was responsible for less than 0.4 percent of total loadings.

Atmospheric deposition to the river is only a portion of total atmospheric deposition. Indirect deposition, or atmospheric loadings to the watershed surface that can later enter the LDW, were also evaluated. Literature studies suggested that only 1 to 3 percent of indirect atmospheric loadings are ultimately transported to the target waterway. However, these studies were conducted in rural areas lacking the industry and amount of impervious surfaces present in the LDW. Indirect loadings in this study were calculated using two different assumptions. The first was conservative and assumed that 5 percent of indirect loadings are transported to the LDW. The second was a worst-case scenario, in which all deposition to impervious surfaces is assumed to be transported to the river. These two estimates resulted in a wide range of possible loadings. Regardless of the assumption, all estimates of indirect loadings were greater than direct loadings. Obtaining a better estimate of indirect deposition remains an important data gap.

Various emissions inventories were summarized in the report. Differences in reporting methodologies amongst the agencies responsible for the inventories made comparisons between sources and between emissions and loadings difficult. Point and mobile on-road sources were reported for the 10 zip codes within the LDW airshed. By contrast, non-point and mobile off-road sources were reported for all of King County. For each COC, emissions were greater than loadings. This comparison is not particularly informative; given the large area over which emissions were totaled compared to the small area of the LDW, emissions would be expected to be greater than loadings.

Seasonal trends were observed for arsenic and cPAH. Arsenic fluxes decreased in the winter and were higher in the summer. cPAH fluxes were at their maximum in the winter in several of the studies reviewed for this report. Elevated winter cPAHs are presumably due to wood burning. Evaluation of temporal trends was difficult given the limited sampling time scale for the flux studies conducted within Washington.

Based on the results of this air deposition scoping study, the following conclusions were made:

- Atmospheric emissions are a major contaminant source for many of the COCs. For example, the PAH Chemical Action Plan states that over 70 percent of PAH releases are air emissions. The primary pathway for phthalates to enter the environment is through volatilization from plastics.
- Because the area of the LDW is small compared to the surrounding watershed, the contribution of atmospheric deposition to the river surface is minimal compared to upstream and lateral sources.
- However, the atmospheric contribution due to indirect deposition could be significant, with estimates in this report ranging from just 6 percent of lateral loads to over 100 percent, depending on the assumptions used.
- More work is needed to determine the full extent of indirect deposition, but clearly the atmosphere can be a major pathway for contamination to the LDW.

- Local sources represent a significant portion of contaminant loadings to the LDW from atmospheric deposition for arsenic (77 percent local), cPAHs (84 percent local), and PCBs (95 percent local). Local source control efforts for these chemicals may help to reduce lateral loadings to the LDW.
- Regional sources represent a significant portion of contaminant loadings to the LDW from atmospheric deposition for dioxins/furans (80 percent regional) and mercury (49 percent regional/background). Local source control efforts will have more limited effects in reducing lateral loadings for these chemicals.

Ongoing work by Ecology to prepare CAPs will help to further identify and provide recommendations for reducing loadings from all sources.

### **3.4.6 Stormwater Pollution Prevention Plan Review and LDW Outfall Inventory Update (Ecology)**

In 2012, Ecology and its contractor began a review of Stormwater Pollution Prevention Plans (SWPPPs) for facilities in the LDW basin that are covered under an NPDES individual industrial stormwater permit, an ISGP, or another general permit. The purpose of this review was to assess whether there are links between COCs in LDW sediments and stormwater discharges at specific outfalls. Ecology compiled information about stormwater discharge monitoring locations for permitted facilities, and will use this information to update an inventory of outfalls to the LDW. Monitoring data for sediments near the outfalls will be compared to nearby storm drain solids to identify correlations, if any, between chemical concentrations in stormwater at the monitored discharge points and the corresponding solids/sediment concentrations. Ecology will use these correlations as a starting point for future source tracing. Review of the SWPPPs was completed in 2013, and an updated outfall inventory will be completed in 2014.

### **3.4.7 Cement Kiln Dust Study (Ecology)**

There are a large number of sites in the LDW that are affected by cement kiln dust (CKD). Ecology is investigating whether the CKD sites may be a source of contaminants to LDW sediments. This study will summarize basic information about the composition and characteristics of CKD, including its fate and transport in groundwater downgradient of CKD sites. In addition, this study will compile existing information about CKD sites in the LDW basin. Ecology plans to use this study as it begins focusing on sampling storm drains and catch basins in the areas around the CKD sites. This is scheduled to be complete in 2014.

### **3.4.8 CSO Control Plan (King County)**

King County completed an updated CSO Control Plan in 2012. The plan carries forward the nine CSO control projects presented in the October 2011 Wastewater Treatment Division's recommended CSO Control Plan. Completion of the projects will meet federal and state regulations by controlling King County CSO locations to no more than one untreated overflow per year, on average, at each location.

On January 30, 2013 Executive Constantine signed a consent decree with the EPA and the Department of Justice ensuring that the county's CSO control plan, developed to meet Ecology's

requirements, is implemented and completed. The consent decree requires the county to complete nine CSO control projects to control the remaining 14 uncontrolled sites, and imposes requirements around documenting progress (King County 2013a). Five of these uncontrolled CSO outfalls are in the LDW basin (Hanford #1, Michigan, Brandon, West Michigan, and Terminal 115). Between 2006 and 2010, King County discharged approximately 900 million gallons of combined stormwater and sanitary wastewater annually from all CSOs combined. By implementing this plan, King County expects to reduce its combined sewage discharges by approximately 95 to 99 percent. The improvements will cost about \$860 million. King County is also required to pay a civil penalty of \$400,000 (USEPA 2013i).

### **3.4.9 CSO Control Plan (Seattle)**

In 2013, the City of Seattle entered into a consent decree with EPA and the Department of Justice that requires the city to develop and implement a long-term plan for better controlling sewer overflows and improve system-wide operations and maintenance. Between 2007 and 2010 the city discharged approximately 200 million gallons of raw sewage annually. The city plans to reduce its raw sewage discharges by approximately 99 percent. The improvements will cost about \$600 million. Seattle is also required to pay a civil penalty of \$350,000 (USEPA 2013i).

### **3.4.10 Suspended Solids Sampling in the Green River Basin (King County)**

King County is conducting a suspended solids sampling study. The study will make relative comparisons of PCBs, arsenic, dioxins/furans, and PAHs associated with suspended solids in the Green River and its major tributaries. This study is also intended to provide a measure of initial estimates of contaminant inputs to the LDW from the Green River and from major tributaries. King County is sampling the six locations in the Green River for suspended solids. They will use sediment traps to collect suspended solids over a 2-3 month period. They will also use filter bags to collect suspended solids during storm events and during one baseflow event. In February, May, and October 2013, King County collected 18 sediment trap samples from five locations (after approximately 3 month deployment period). The last trap deployment will be retrieved in January 2014. In 2013 King County collected 20 filter solids samples at six locations; these included one baseflow event at each location and one to four storm events depending on the location. Filtered solids sampling will continue in 2014. A data report will be completed in 2015 (Tiffany 2014).

### **3.4.11 CSO Basin Inputs Study (King County)**

King County's Brandon CSO Basin Inputs Study evaluates chemical input apportionment between sanitary/wastewater (dry baseflow), stormwater (storm), and infiltration/inflow (wet baseflow). Combined sewer basins include inputs from domestic wastewater, industrial wastewater, groundwater infiltration into combined sewer lines (infiltration), and stormwater runoff (inflow). Stormwater runoff is collected from streets, parking lots, roof drains, and other impervious surfaces. The chemical input differences will be used to better understand the general sources of chemicals within the combined sewer system (i.e., stormwater versus wastewater).

King County selected the Brandon and Michigan sewer basins for this study, both of which are priorities for CSO control within the LDW. In 2011 and 2012, King County sampled three

locations in the Brandon CSO basin. King County will summarize the findings of the Brandon study in a draft data report to be completed in 2014.

In 2013 King County started sampling in the Michigan combined sewer basin at three locations; 23 samples were collected during 2013. Sample collection in the Michigan Basin is expected to be completed in 2014. King County will summarize the findings of the Michigan basin study in a draft data report to be completed in 2015 (Tiffany 2014).

### **3.4.12 Stream Sediment Sampling in the Green River Basin (King County)**

In 2012 King County conducted stream sediment monitoring in the Green River Basin (King County 2012). This work was done to evaluate sediment quality within streams in the Green Basin and to better understand the potential sources of sediment-associated chemicals to the Green and Duwamish Rivers. This project involved collection of approximately 40 composite sediment samples in the Green River Basin, including Mill (Hill) Creek in Auburn, Mill Creek in Kent, Jenkins Creek, and Covington Creek. Samples were also collected at four locations in the main stem Green River. The samples were analyzed for metals, mercury, PCBs, PAHs, and other organic compounds. These data, as well as previously collected stream sediment data from three different Green River stream basins (Newaukum, Soos, and Springbook creeks), will be summarized in a King County data report that is scheduled to be completed in February 2014.

### **3.4.13 Green River Whole Water Study (King County)**

King County conducted a whole water study that makes relative comparisons of PCBs, arsenic, and PAHs in the Green River and its major tributaries. The study also provides information to assist in understanding upstream sources to the LDW. This study included the collection and analysis of surface water samples from four major tributaries to the Green River (Newaukum, Soos and Mill Creeks, and the Black River), as well as at two locations on the main stem Green River: an upstream location at Flaming Geyser State Park (upriver of the major tributaries being samples), and a downstream location in Tukwila at Foster Links Golf Course (downstream of the tributaries). The data report for samples collected in 2011 and 2012 is scheduled to be completed in March 2014.

In 2013, additional water samples were collected to improve the understanding of contaminant concentrations in the upper reach of the main stem Green River (below the Howard Hanson Dam), above most rural development, and the Upper Green River Basin (above the Howard Hanson Dam) where access by anadromous salmon is restricted and contaminant sources are limited (largely atmospheric or geologic in the case of arsenic). Samples were collected at Kanaskat-Palmer State Park and at two locations above the Howard Hanson Dam. A total of 20 samples were collected: five storm and three baseflow at Kanaskat-Palmer State Park, and three storms and three baseflow at each of the two Upper Green River locations. Additional sampling is scheduled for 2014. King County will summarize the findings of these samples in a data report that is scheduled to be completed in 2014 (Tiffany 2014).

### **3.4.14 Green/Duwamish Atmospheric Deposition Study (King County)**

King County's Atmospheric Deposition Study compares the measurements of bulk deposition (dry particulate and rainfall) in areas of different land use within the Green/Duwamish River Watershed and provides information to assist in understanding atmospheric sources to the LDW. The study collected samples at six stations from July 2011 to October 2012. The Duwamish and South Park stations were located in the urban areas of the LDW. The Duwamish station represents the most industrial area, whereas the South Park station represents a mix of industrial/commercial and residential land uses. Of the remaining stations, one station was in an urban residential neighborhood (Beacon Hill), one station was located in suburban/commercial area (Kent), and one station was located in the rural area of Enumclaw (Mud Mountain). King County completed the final data report for this study in December 2013 (King County 2013b).

Additional atmospheric disposition sampling was conducted in 2013 to fill a spatial gap in Georgetown and to collect supplemental data for PBCs and dioxins/furans in the Lower Duwamish Valley. In 2013, 17 samples were collected for metals and PAHs at both Georgetown and Beacon Hill and five samples were collected for PCBs and dioxin/furan congeners at each of three locations: Georgetown, South Park, and Duwamish stations. The report documenting the 2013 sampling is schedule to be complete in 2014 (Tiffany 2014).

### **3.4.15 Lower Duwamish Waterway, East Waterway, and West Waterway Subsurface Sediment Characterization (U.S. Army Corps of Engineers)**

The U.S. Army Corps of Engineers (USACE) conducted a sediment characterization study for the LDW, East Waterway, and West Waterway. A data report was finalized in May 2013 that describes the results of sediment sampling, chemical and biological analyses, and other evaluations needed to provide a reconnaissance-level characterization of sediments within and adjacent to the navigation channels of the Duwamish River. This project was designed to provide information needed for planning potential future dredging maintenance within the federal navigation channels of the Duwamish (USACE 2013).

### **3.4.16 Diesel Exhaust Exposure in the Duwamish Study (University of Washington)**

The University of Washington worked with Puget Sound Sage to characterize the gradient of diesel exhaust in the South Park and Georgetown neighborhoods. They sampled in the summer of 2012 and winter 2012 through 2013. The technical report was finalized in September 2013. This study measured levels of diesel exhaust in a high-density air sampling effort, built statistical models to identify spatial features predictive of diesel exhaust, and created maps of the pollution across the neighborhoods. The results showed a wide degree of variation in pollution levels across the study area. By combining community-level monitoring and advanced modeling, the study was able to identify and display predictors of fine-scale differences in concentrations of diesel exhaust in these communities. The results of this study indicated that compared to other residential neighborhoods, pollution levels were higher in South Park and Georgetown. Within South Park and Georgetown, the areas with the highest levels of pollutions were found near heavy traffic and industrial activity (University of Washington 2013).

### 3.5 Source Control Area-Specific Activities

Based on results of the LDW Phase 1 RI, seven early action candidate sites were proposed. These seven candidate EAAs, also referred to as Tier 1 areas, are shown in Figure 2-1.

The potential for sediment recontamination associated with these EAAs is described in detail in the Data Gaps Reports and SCAPs, as cited in the text below for each EAA. These documents are available from Ecology's LDW Source Control website.<sup>3</sup> Source control actions that were conducted between 2003 and June 2007 are described in the July 2007 Source Control Status Report (Ecology 2007b); updates have been published as listed below:

- July 2007 to March 2008 (Ecology 2008d, published in May 2008)
- April 2008 to August 2008 (Ecology 2008h, published in October 2008)
- September 2008 to June 2009 (Ecology 2009k, published in August 2009)
- July 2009 to September 2010 (Ecology 2011f, published in August 2011)
- October 2010 through December 2011 (Ecology 2012e, published in July 2012)
- January 2012 through December 2012 (Ecology 2013ae, published in June 2013)

The current status report describes source control actions that were conducted from January through December 2013.

Table 3-2 lists action items that were identified for the seven candidate EAAs for which final SCAPs have been completed. The tables include new source control action items that have been added since initial publication of the SCAPs. Source control activities conducted from January through December 2013 are described in Sections 4 through 10. Properties for which no source control activities were conducted during this period are not discussed below; however, all identified actions items (completed, in progress, or planned) are listed in Table 3-2.

Site maps for the seven candidate EAAs are presented in Sections 4 through 10 to help identify locations discussed in the text below; these maps are located at the end of each section. Additional figures are available in the referenced reports.

Additional source control areas where long-term sediment cleanup actions may be implemented as part of the EPA ROD for the LDW Superfund Site are identified as Tier 2 Areas. At Tier 3 Areas, source control is necessary to prevent future sediment contamination from basins that may not drain directly to an identified sediment cleanup area.

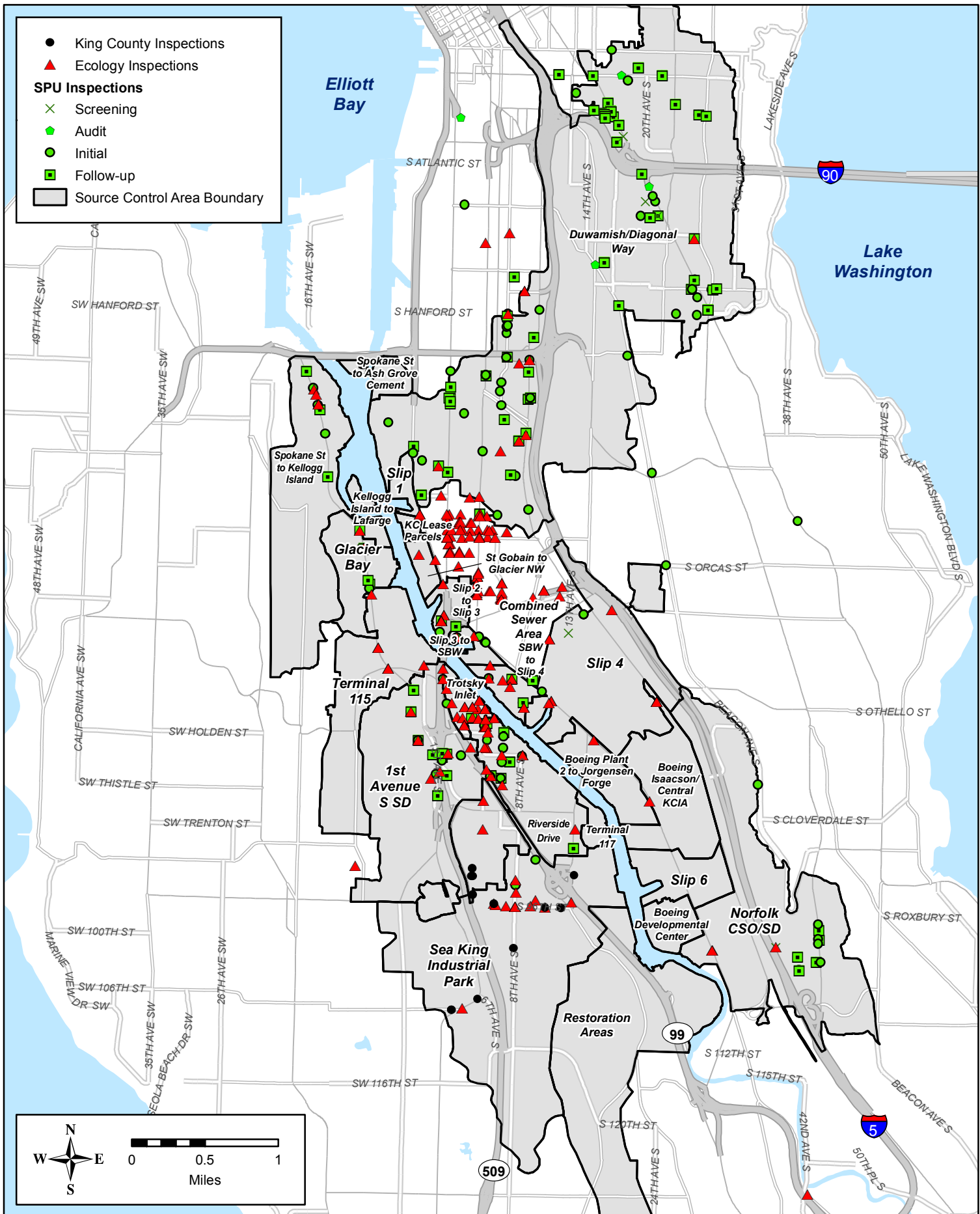
As discussed in Section 2.1, the designation as a Tier 2 or Tier 3 source control area depends on whether the sediments in the river segment to which it drains need cleanup. Since the ROD has not been published, there is currently no way to distinguish between Tier 2 and Tier 3 areas. The 17 potential Tier 2 or Tier 3 source control areas are discussed in Sections 11 through 27.

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<sup>3</sup> [http://www.ecy.wa.gov/programs/tcp/sites\\_brochure/lower\\_duamish/lower\\_duamish\\_hp.html](http://www.ecy.wa.gov/programs/tcp/sites_brochure/lower_duamish/lower_duamish_hp.html)

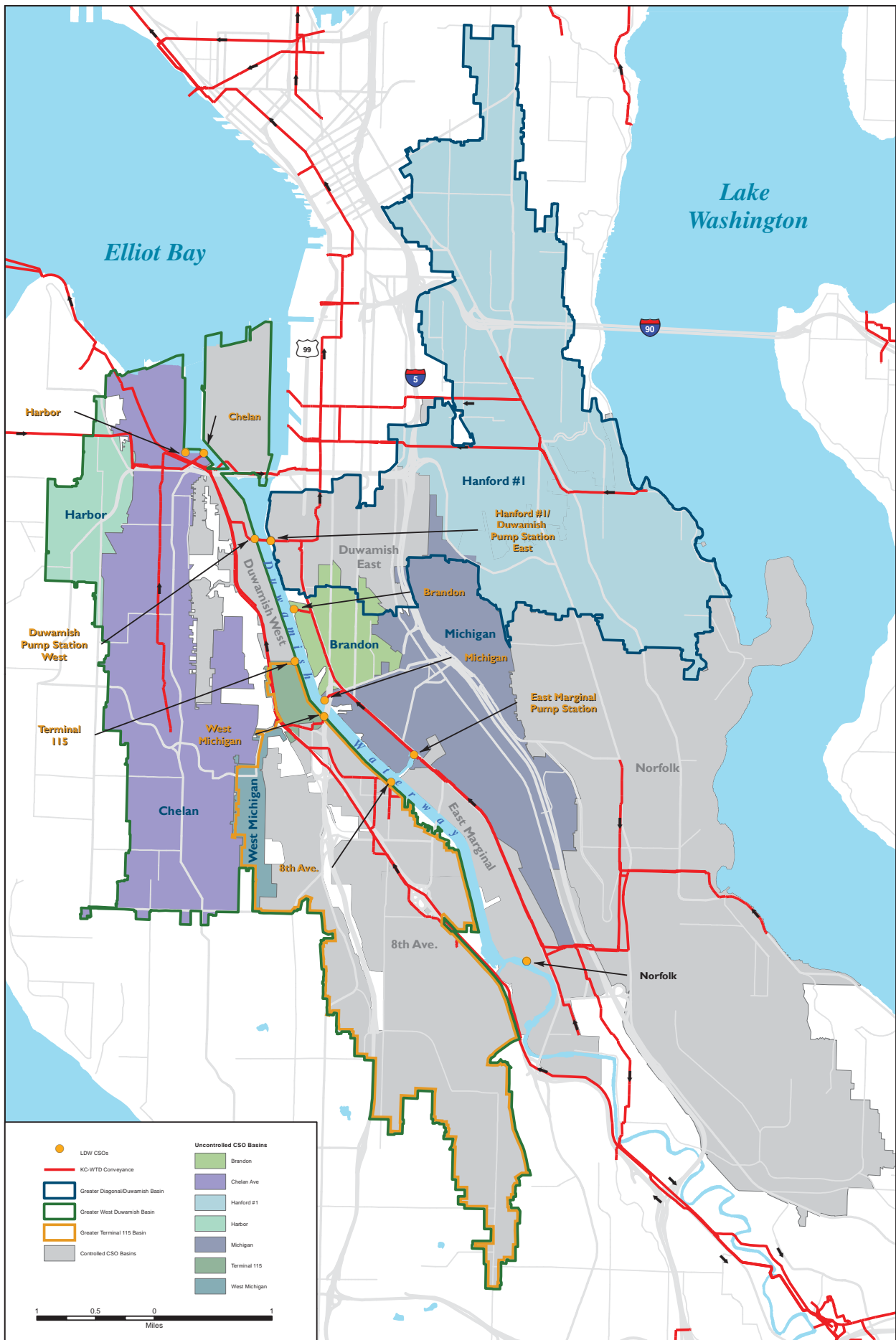
Site maps are presented for Tier 2/3 source control areas. These maps are intended to help identify locations discussed in the text. Additional figures are available in the referenced reports.














Ecology conducted source control evaluations for each of the 24 source control areas, including review of existing information, identification of data gaps, and preparation of a SCAP. The 17 Tier 2 and Tier 3 areas and the seven candidate EAAs (a total of 24 source control areas) are shown in Figure 2-1.



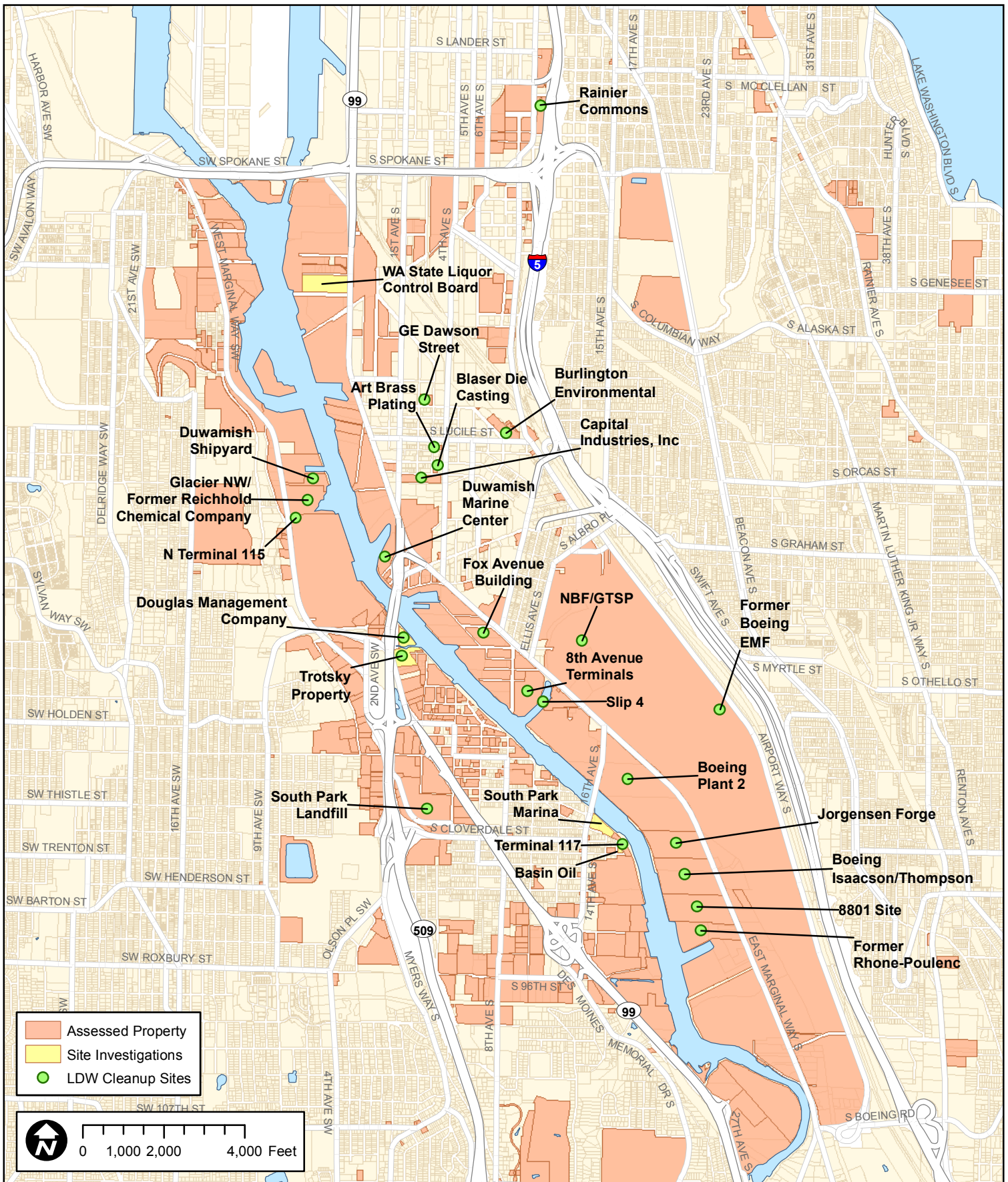
**Figure 3-1. Inspections in the Lower Duwamish Waterway Basin  
January through December, 2013**





	LDW CSOs		Brandon
	KC-WTD Conveyance		Chelan Ave
	Greater Diagonal/Duwamish Basin		Hanford #1
	Greater West Duwamish Basin		Harbor
	Greater Terminal 115 Basin		Michigan
	Controlled CSO Basins		Terminal 115
			West Michigan





**Figure 3-4. Ecology Property Assessments Through December 2013**



**Table 3-1. General Source Control Action Items**

Action Item	Responsible Party	Status	Estimated Completion Date	Date Completed	Notes/Follow-On Actions
Locate/track 22 "unknown" outfalls	Ecology, SPU	Complete		Dec 2011 updated Mar 2014	Ecology updated and expanded the inventory of LDW outfalls, and collected surface sediment samples near outfalls for which data were previously unavailable. The outfall inventory will continue to be updated as new information becomes available.
Conduct sampling of bank soils and high intertidal sediments	Ecology	Complete		Mar 2012	Bank sampling was conducted in May 2011; a final report was completed in March 2012.
Continue study of the air-to-stormwater-to-sediment contaminant pathway	City of Tacoma, City of Seattle, King County, Ecology, EPA	Complete	Sep 2013	Dec 2013	Ecology updated the inventory of point sources registered with PSCAA and prepared a data gaps report for air deposition to the LDW (Leidos and NewFields 2013). Additional studies include King County's Passive Atmospheric Deposition Sampling (King County 2008), the Duwamish Valley Regional Modeling and Health Risk Assessment (WDOH 2008), the University of Washington's Diesel Exhaust Exposures in the Duwamish Study (Schulte et al. 2013), and King County's Bulk Atmospheric Deposition Study (King County 2013b).

The action items listed below are elements of the basic source control program; they are applicable to all source control areas. These are long-term efforts that will be necessary for the duration of the LDW cleanup after the Record of Decision. These will no longer be listed as separate action items.

Action Item	Responsible Party	Status	Estimated Completion Date	Date Completed	Notes/Follow-On Actions
Prepare LDW Source Control Status Reports	Ecology	Ongoing	NA		Source control status reports have been published in July 2007, May 2008, October 2008, August 2009, August 2011, and July 2012.
Monitor upland spills	Ecology	Ongoing	NA		Ecology continues to monitor upland spills as they occur.
Continue source control and NPDES inspections as needed within the LDW drainage basin	SPU, Ecology, King County	Ongoing	NA		SPU, Ecology, and King County continue to conduct inspections in the LDW basin.
Continue public involvement and outreach efforts	Ecology, EPA, King County, DRCC	Ongoing	NA		
Complete development of LDW Source Control Database	Ecology	In Progress	NA		
Collect storm drain system solids samples (in-line and grab samples) as needed to conduct source tracing within the LDW drainage basin	SPU	Ongoing	NA		SPU and Ecology continue to collect storm drain solids samples to identify sources.

**Table 3-1. General Source Control Action Items**

<b>Action Item</b>	<b>Responsible Party</b>	<b>Status</b>	<b>Estimated Completion Date</b>	<b>Date Completed</b>	<b>Notes/Follow-On Actions</b>
Evaluate and implement stormwater source control and treatment options to address air-to-stormwater-to-sediment pathway, as appropriate	City of Tacoma, City of Seattle, King County, Ecology, EPA	Ongoing	NA		Stormwater source control and treatment options are considered when appropriate

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
<b>RM 0.0-0.1 East (Spokane Street to Ash Grove Cement)</b>								
Harbor Marina Corporate Center / Port of Seattle Terminal 102	Inspect drainage connections to all outfalls. Work with adjacent property owners to clarify origins and ownership of each outfall at the Harbor Marina Corporate Center.	Low	SCAP	Ecology, Port of Seattle	Planned	TBD		
	Determine the permitting requirements and responsible parties for each outfall. Work with adjacent property owners to confirm permit requirements for outfall HRE-1 and assign appropriate responsibility.	Medium	SCAP	Ecology, Port of Seattle	Planned	TBD		
	Demonstrate that the marina is in compliance with all applicable permits.	High	SCAP	Port of Seattle	Planned	TBD		
Port of Seattle Terminal 104	Determine how to address identified data gaps in the western portion of T-104.	High	SCAP	Ecology, Port of Seattle	Planned	TBD		
	Prepare and submit an annual report to document groundwater monitoring results and provide recommendations for future remedial efforts as stated in the VCP Cleanup Action Plan	Medium	SCAP	Port of Seattle	Planned	TBD		
	Ensure that storm drain structures and function are completely delineated and properly permitted. Existing drainage problems have been identified and need to be addressed.	High	SCAP	Ecology, Port of Seattle	Planned	TBD		
	Review post remediation reports and annual report as part of the VCP and determine whether further action is needed.	High	SCAP	Ecology	Planned	TBD		
Ash Grove Cement	Negotiate an agreed order for a Remedial Investigation/ Feasibility Study that will focus on potential soil and groundwater contamination at the site.	High	SCAP	Ecology, Property owner/operator	Planned	TBD		
	Obtain a new NPDES permit for discharge into the City storm drain that discharges at S Hind Street.	High	SCAP	Ecology, Property owner/operator	Complete	--	Apr 2010	NDPES individual permit was issued in April 2010 and was effective in June 2010.
	Ensure that storm drain system structures and function are delineated, properly permitted, and existing drainage problems have been identified.	Medium	SCAP	Ecology	Planned	TBD		
	Demonstrate appropriate separation of wastewater from storm water and install an appropriate treatment system.	Medium	SCAP	Property Owner/Operator	Planned	TBD		
	Inspect condition and operational records of the groundwater well used for cooling water to ensure that it cannot release contaminants into the aquifer.	Medium	SCAP	Ecology	Planned	TBD		
	Conduct additional source control inspections to ensure compliance and implementation of BMPs.	High	SCAP	Ecology, SPU	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
<b>RM 0.1-0.9 East (EAA-1: Duwamish/Diagonal Way)</b>								
Diagonal Ave. S. CSO/SD	Conduct inspections of 200 businesses in the western portion of the Diagonal Ave. S. CSO/SD basin.	Medium	SCAP	SPU	Complete	--	Mar 2002	Over 90% of facilities in compliance with stormwater source control requirements; reinspect as needed to maintain compliance.
	Conduct follow-up inspections at 41 facilities in the CSO/SD basin for which corrective actions were identified during 2008-2009 and which had not achieved compliance as of June 30, 2009.	Low	New	SPU/Ecology	Complete	--	Dec 2011	Some facilities identified in the Data Gaps Report are no longer present; inspections were conducted at all relevant locations.
	Conduct initial inspections at properties/facilities identified in the Duwamish/Diagonal CSO/SD Data Gaps Report.	Low	New	SPU/Ecology	Complete	--	Dec 2011	Some facilities identified in the Data Gaps Report are no longer present, while new ones were identified. Inspections were conducted at all relevant locations.
	Remove accumulated sediment from the lower portion of the Diagonal Avenue S CSO/SD.	High	SCAP	SPU	Complete	--	Nov 2004	Conduct video-inspection to identify connections and potential dischargers, and to verify that sediment removal was complete.
	Video-inspection to identify connections and potential dischargers and to verify that sediment removal was complete.	High	Follow-On	SPU	Complete	--	Feb 2005	
	Clean catch basins in the public right-of-way.	Medium	New	SPU	Complete	--	Jun 2008	
	Conduct sediment trap sampling.	High	New	SPU	Complete	--	Mar 2009	Sampling discontinued due to consistency of results over time. SPU plans to reinstall two sediment traps in this system in 2013.
	Conduct first round of multi-agency business inspections.	Medium	SCAP	SPU, King County	Complete	--	Sep 2004	Over 90% of facilities in compliance with stormwater source control requirements; reinspect as needed to achieve compliance.
	Conduct second round of multi-agency business inspections.	Medium	Follow-On	SPU, King County	Complete	--	Dec 2008	
Nevada Street SD	Investigate the Nevada Street SD to locate the outfall, identify connections, confirm drainage areas, and sample sediments.	High	SCAP	SPU	Complete	--	Jun 2005	All manholes in the right-of-way were clean and could not be sampled; determine whether any further action is needed.
	Collect a sediment sample from the last manhole above the outfall.	Medium	Follow-On	SPU	Complete	--	Jan 2009	In-line sediment sample collected; zinc, fluoranthene, butylbenzylphthalate, and PCBs detected slightly above the SQS/LAET. No further actions are planned.
ConGlobal (formerly Container Care)	Conduct inspection to confirm that all issues related to poor housekeeping and BMPs have been addressed.	Low	SCAP	SPU, Ecology	Complete	--	May 2003	
	Verify the installation of stormwater treatment and resolution of permit and stormwater quality issues.	Low	Follow-On	Ecology	In Progress	Sep 2015		In December 2013, interim treatment was installed at drainage area #3 on T108 portion of ConGlobal. Ecology WQ ordered ConGlobal to install and have final treatment operational for all drainage basins by September 30, 2015.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
UPRR Argo Yard	Review existing information to assess the potential for sediment recontamination from this property.	Low	SCAP	Ecology, SPU, UPRR	Complete	--	Dec 2005	Referred to King County for Site Hazard Assessment; source control staff will remain vigilant for evidence of contaminant infiltration. In May 2013 UPRR installed stormwater RX treatment systems for all three drainage basins at Argo Yard, as required by NPDES ISGP for Level 3 corrective actions.
	Conduct Site Hazard Assessment	Low	Follow-On	King County	Planned	TBD		
Terminal 108	Conduct groundwater investigation to quantify levels of COCs in groundwater, obtain information about groundwater flow, and assess the potential for sediment recontamination.	Medium	SCAP	Port of Seattle	Complete	--	Oct 2007	
	Develop work plan describing source control strategy to be implemented.	Medium	New	Port of Seattle	Complete	--	Feb 2008	
	Develop Environmental Conditions Report; identify data gaps.	Medium	New	Port of Seattle	Complete	--	Jan 2009	Develop Source Control Strategy Plans for Eastern and Western parcels.
	Develop Source Control Strategy Plan for Western parcel.	Medium	Follow-On	Port of Seattle	Complete	--	Oct 2009	Implement source control actions.
	Develop Source Control Strategy Plan for Eastern Parcel.	Medium	Follow-On	Port of Seattle	Complete	--	Aug 2011	Source Control Strategy Plan was submitted to Ecology on August 29, 2011. Follow-On: Implement source control actions.
	Implement appropriate source control actions.	Medium	Follow-On	Port of Seattle	In Progress	TBD		Sampling was conducted in 2012.
GSA / Federal Center South	Investigate to determine whether this facility is a potential source of sediment recontamination	Low	SCAP	Ecology, EPA, SPU, GSA	Complete	--	Jun 2004	Clean and repair drainage system; correct housekeeping issues.
	Clean and repair storm drain system; correct housekeeping issues	Medium	Follow-On	GSA	Planned	TBD		See also action items identified for the RM 0.9-1.0 East (Slip 1) source control area.
Former JANCO-United, Inc.	Review existing information and conduct a site inspection to determine if wastes dumped on ground have been removed and to assess the potential for sediment recontamination.	Low	SCAP	Ecology	Complete	--	Dec 2006	Data reviewed December 2006. Soil samples collected by EPA in 1984 contained VOCs and SVOCs; no record that the soil was removed or the illegal pipe to storm drain was sealed. Follow-On: Conduct Site Hazard Assessment.
	Conduct Site Hazard Assessment	Low	Follow-On	Public Health-Seattle & King County	Planned	TBD		Deferred pending review of groundwater data collected under VCP by property owner/agent.
	Review groundwater data collected under VCP; determine if further source control actions are needed.	Low	New	Ecology	Planned	TBD		
Rainier Commons / Former Rainier Brewery Property	Sample catch basin solids; identify required actions.	Medium	New	SPU	Complete	--	Jan 2008	Require property owner/operator to take corrective action; verify completion.
	Require property owner/operator to take corrective action to remove catch basin solids; verify completion.	Medium	New	SPU	Complete	--	Jan 2008	Piping and downstream catch basins cleaned; resample system to confirm that PCBs have been controlled.



**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Resample storm drain system to confirm that PCBs have been controlled.	Low	New	SPU	Complete	--	Feb 2009	Sample from downstream catch basin contained 0.5 mg/kg DW PCBs.
	Conduct cleanup and disposal of PCB-contaminated paint chips on the ground surface and in the storm drain system.	High	New	EPA/Property Owner	Complete	--	May 2010	Cleanout of storm drain lines conducted by property owner.
	Conduct annual catch basin cleaning.	High	New	King County/Property Owner	Complete	--	Dec 2011	The owner is responsible for annual in-line sediment sampling under the KCIW discharge authorization. Rainier Commons is responsible for sampling the monitoring manhole for whole wastewater and in-line sediment under a discharge authorization issued by KCIW. Sampling results reported to King County indicate concentrations above action limits specified in the existing discharge authorization. King County to follow up.
	Sample and remove PCB-contaminated building materials, including interior paint, as needed.	High	New	EPA/Property Owner	In Progress	Dec 2018		EPA approved Rainier's general work plan in December 2013. Removal will take place in phases, with each phase commencing only after EPA approves the individual phase work plan. Current estimates of remediation duration are on the order of 5 years, given the complexities in removing paint from some of the surfaces, the protective measures that must be in place, and the oversight required of both the Work Plans and Completion Reports. It will be possible to make better time estimates once the first few phases are complete.
Alaskan Copper Works	Review results of 2007 dye testing to determine which catch basins are discharging to the storm drain system.	Medium	New	SPU/Ecology	Complete	--	Jul 2010	SPU/Ecology inspection conducted on July 28, 2010; discharge is to combined sewer, not storm drain.
	Request facility to submit an updated facility plan, to assess locations/plumbing of floor drains in the buildings located on the west side of 6th Avenue S.	Low	New	Ecology	Complete	--	Jul 2010	See above. Facility discharges to combined sewer. In February 2013 Ecology WQ compliance inspection resulted in submittal of updated SWPPP.
Bloch Steel Industries	Request Bloch Steel to provide updated information regarding groundwater monitoring activities at this facility after 2004.	Low	New	Ecology	Planned	TBD		
ColorGraphics	Conduct source control inspections to determine whether stormwater from this facility is discharging to the LDW or to Lake Washington.	Low	New	SPU/Ecology	Complete	--	Sep 2010	Facility in compliance as of September 15, 2010. Stormwater drains to the Diagonal Avenue S SD. Ecology WQ compliance inspection in June 2012 resulted in submittal of updated SWPPP.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Emerald City Bindery	Verify storm drain and sanitary connections to ensure that the sanitary sewer is not inadvertently connected to the storm drain.	Low	New	SPU	Planned	TBD		
MacMillan-Piper, Inc. - Airport Way Facility	Collect catch basin solids to determine if pollutants from agricultural sources at the property are a source of sediment COCs.	Low	New	SPU/Ecology	Planned	TBD		
North Star Casteel	Verify that facility is in compliance with the final Voluntary Compliance Agreement, when issued.	Low	New	SPU	Planned	TBD		
	Review results of environmental investigations to determine if sediment COCs are present in soil and/or groundwater at concentrations that exceed screening levels, and determine if additional actions are needed for source control.	Low	New	Ecology	Planned	TBD		
Pepsi Bottling Group	Review DMRs from 2007 to present to determine if facility is in compliance with its NPDES permit. Conduct follow-up inspections as needed, if review indicates that facility is not in compliance.	Low	New	Ecology	Complete	--	Sep 2010	Facility in compliance as of September 28, 2010 and after follow-up NPDES inspection in March 2013.
Recycling Depot, Inc.	Review DMRs from 2007 to present to determine if facility is in compliance with its NPDES permit. Conduct follow-up inspections as needed, if review indicates that facility is not in compliance.	Low	New	Ecology	In Progress	TBD		Joint Ecology, EPA and SPU inspection conducted in November 2011. Several compliance issues were noted. In 2012 EPA reviewed facility compliance and considered taking lead status. In 2013 EPA decided to have Ecology WQ retain compliance lead. Ecology needs to conduct an inspection to determine permit compliance. Ecology has not conducted a compliance inspection since November 2011.
Seattle Barrel & Cooperage	Sample catch basins on Airport Way to determine if EAA-1 sediment COCs, originating from Seattle Barrel, are present in the public storm drains.	Medium	New	SPU	Complete	--	Apr 2009	Catch basin samples collected in March/April 2009 by SPU (samples RCB204, RCB205, RCB206) and analyzed for metals. No screening level exceedances were observed.
Seattle Radiator	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.	Low	New	SPU/Ecology	Planned	TBD		
	Review discharge permit/authorization records to determine if Discharge Authorization 366 is valid.	Low	New	King County/Ecology	Planned	TBD		
Skyline Electric & Manufacturing	Review DMRs from 2007 to present to determine if facility is in compliance with its NPDES permit.	Low	New	Ecology	Complete	--	Jul 2010	NPDES compliance inspection in April 2013 determined facility was in compliance with permit requirements.
Western Peterbilt, Inc.	Review the February 2009 dye test results and determine if this facility's discharges to the storm drain and/or sanitary sewer require coverage under the Industrial Stormwater General Permit or a KCIW discharge permit or authorization.	Low	New	Ecology/SPU	In Progress	TBD		Dye test conducted in June 2012 confirms that an internal trench drain, oil/water separator, and steam cleaning wash bay are connected to the storm drain which ties into the Diagonal Avenue S CSO/SD and discharges to the LDW.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Other Upland Properties	Review files for 37 identified upland sites.	Low	SCAP	Ecology	Complete	--	Aug 2009	Duwamish/Diagonal CSO/SD Data Gaps Report published August 2009.
	Review files for Leaking Underground Storage Tank sites; determine need for additional action.	Low	SCAP	Ecology	Complete	--	Aug 2009	Duwamish/Diagonal CSO/SD Data Gaps Report published August 2009.
	Review responses to EPA CERCLA 104(e) Request for Information letters for 18 facilities as identified in Duwamish/Diagonal CSO/SD Data Gaps Report.	Low	New	Ecology	In Progress	TBD		As of December 2013, Ecology has reviewed responses for 3 of the 5 facilities for which 104(e) responses have been received.
	Assess whether 18 facilities (as listed in the Duwamish/Diagonal CSO/SD) are required to apply for coverage under the Industrial Stormwater General Permit. Request facilities to submit applications for coverage, as appropriate.	Medium	New	Ecology	In Progress	TBD		
<b>RM 0.9-1.0 East (Slip 1)</b>								
Federal Center South	Review historical property files for information regarding the status and contents of three 30,000-gallon USTs; determine if sediment COCs may be present in soil and groundwater in this area.	Medium	SCAP	Ecology	Planned	TBD		
	If file review indicates that sediment COCs may be present in soil and/or groundwater, require the property owner/operator to perform an environmental assessment of soil and groundwater around the 30,000-gallon UST area.	Medium	SCAP	EPA	Planned	TBD		
	Conduct a visual bank survey; collect and analyze bank soil samples for sediment COCs to evaluate the potential for sediment recontamination from bank erosion.	Medium	SCAP	Ecology, Property owner/operator	Planned	TBD		
	Perform Site Hazard Assessment	High	SCAP	Ecology	Planned	TBD		
	Conduct a follow-up stormwater inspection at the facility to verify completion of corrective actions requested in June 2004, and to collect information on current site operations/conditions.	High	SCAP	Ecology, EPA, SPU	Complete	--	Aug 2010	EPA and Ecology inspection identified potential compliance issues. Follow-up needed.
	Determine if Federal Center South must apply for coverage under the Industrial Stormwater General Permit.	Medium	SCAP	EPA, Ecology	Planned	TBD		
Former Snopac Products Property	Review responses to EPA's Request for Information 104(e) Letter sent to Unimar in July 2008; assess potential for historical release(s) of arsenic or other sediment COCs to soil and groundwater beneath this property.	Medium	SCAP	Ecology	Planned	TBD		
	If there is potential for historical releases, require the property owner/operator to collect soil and groundwater samples and analyze them for sediment COCs. Prepare and implement a plan to remediate soil and/or groundwater, as needed.	Medium	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	If EPA sends a 104(e) Request for Information Letter to Snopac Products, review responses for relevant information on potential sources of contaminants to Slip 1.	Medium	SCAP	Ecology	Planned	TBD		
	Collect additional samples from Seep 76 to determine if the arsenic concentration reported in 2004 was an anomaly. Analyze sample for all sediment COCs.	High	SCAP	Ecology	Planned	TBD		
	Conduct a visual bank survey during low tide conditions; collect and analyze bank soil samples for sediment COCs to evaluate the potential for sediment recontamination from bank erosion and leaching. Reconnaissance cores should be collected along the top and bottom of the bank to determine "as is" conditions.	Medium	SCAP	Ecology	Planned	TBD		
	Obtain information from Snopac or other historical property owners regarding the construction of the dock adjacent to the property. If no information is available, perform an evaluation of the materials used to construct the dock.	Medium	SCAP	Ecology	Planned	TBD		
	Perform an inspection at the facility when or if a new business occupies the property to ensure compliance with applicable regulations/codes.	Medium	SCAP	Ecology, SPU, King County	Planned	TBD		
Manson Construction Company	Obtain laboratory data and site plans from historical site assessment(s) and remediation performed at the property. Confirm that satisfactory completion of soil cleanup activities was achieved. Determine if arsenic or other sediment COCs are present in soil and groundwater beneath the facility at concentrations that may recontaminate sediments.	High	SCAP	Ecology	Planned	TBD		
	If satisfactory soil cleanup was not achieved, require the property owner/operator to conduct a site assessment to determine residual concentrations of sediment COCs in soil and groundwater beneath the property.	High	SCAP	Ecology	Planned	TBD		
	Collect additional samples from Seep 76 to determine if the arsenic concentration reported in 2004 was an anomaly. Analyze sample for all sediment COCs.	High	SCAP	Ecology	Planned	TBD		
	Conduct a visual bank survey during low tide conditions; collect and analyze bank soil samples for COCs. Reconnaissance cores should be collected along the top and bottom of the bank to determine "as is" conditions.	Medium	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Review responses to EPA's Request for Information 104(e) letter sent to Manson Construction in July 2008.	Medium	SCAP	Ecology	Complete	--	Dec 2011	
	Inspect the facility to verify that stormwater is discharged to the sanitary sewer and to ensure that operations at the facility are in compliance with applicable regulations/codes.	Medium	SCAP	SPU, Ecology, King County	Complete	--	2008	A January 2008 investigation by King County indicated that some stormwater from the property occupied by Manson Construction is conveyed to the Cadman stormwater system. Follow-up action items were included in the RM 1.0-1.2 East (King County Lease Parcels) SCAP.
<b>RM 1.0-1.2 East (KC Lease Parcels)</b>								
Public Outfall Nos. 2007 and 2244	Conduct business inspections at facilities with stormwater drainage to Outfall Nos. 2007 and 2244 including Cadman, Lehigh Northwest, and J.A. Jack.	Medium	SCAP	King County, Ecology	Planned	TBD		
S Brandon Street Combined Sewer Overflow	Provide data to Ecology from solids samples collected in June 2010 in the S Brandon Street CSO basin.	Medium	SCAP	King County	Planned	TBD		
	Evaluate the 2009 effluent discharge and 2010 solids sample data to assess whether the effluent concentrations and/or solids sample concentrations represent a potential source of contaminants to sediments associated with the KC Lease Parcels source control area, and develop source control actions if necessary.	Medium	SCAP	Ecology	Planned	TBD		
	Use source tracing data to identify and evaluate possible point source contributions of LDW COCs to CSO discharges. Determine if contaminant loading analyses are necessary for King County Industrial Waste (KCIW) Program permit holders in this CSO basin.	Medium	SCAP	King County	Planned	TBD		
Manson Construction Company	Conduct a follow-up inspection at the Manson Construction facility to determine if corrective measures have been implemented and to ensure that operations at Manson Construction are in compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW. Assess whether the facility should apply for coverage under the Industrial Stormwater General Permit.	High	SCAP	Ecology	Complete	--	Jan 2013	Ecology and King County conducted a joint site inspection in January 2013. Many source control measures were improved and or installed.
	Determine if the catch basin on the Manson Construction facility that was identified by the City of Seattle and field-verified by King County is connected to the Cadman stormwater system.	High	SCAP	King County, Ecology	Complete	--	Jan 2013	At an inspection in January 2013, Ecology verified that the catch basin is connected to the Cadman stormwater drainage system.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Obtain and review a copy of <i>Environmental Site Assessment, Duwamish Properties</i> prepared by Boateng for King County in January 1997, to identify additional potential sources of COCs to sediment and develop appropriate source control actions, if necessary.	Medium	SCAP	Ecology	Planned	TBD		
Cadman Seattle, Inc. and Lehigh Northwest	Conduct a follow-up business inspection of Cadman and Lehigh Northwest to verify compliance with Ecology's 2007 and 2009 recommendations, applicable regulations, and BMPs to prevent the release of contaminants to the LDW.	High	SCAP	Ecology	Planned	TBD		
	Require Cadman and Lehigh Northwest to report when discharges to Outfall No. 2244 occur to allow Ecology to track overflow events and evaluate potential impacts to the LDW.	High	SCAP	Ecology	Planned	TBD		
	Review the updated Stormwater Pollution Prevention Plan (SWPPP), when completed, to ensure compliance with Ecology's requirements.	High	SCAP	Ecology	Planned	TBD		NPDES Sand and Gravel Permit compliance inspection scheduled for early 2013. Revised SWPPP dated June 2012 was submitted to Ecology in September 2012.
	Obtain and review a copy of <i>Environmental Site Assessment, Duwamish Properties</i> , prepared by Boateng for King County in January 1997, to identify additional potential sources of COCs to sediment and develop appropriate source control actions, if necessary.	Medium	SCAP	Ecology	Planned	TBD		
United Western Supply	Perform a source control inspection of United Western Supply and the buildings on the southern portion of the property to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.	Medium	SCAP	King County, Ecology	Planned	TBD		
	Review responses from Western Utilities and United Western Supply to EPA's CERCLA Section 104(e) Request for Information letters, when available.	Medium	SCAP	Ecology	Planned	TBD		Partially complete. Response from Western Utilities was reviewed in the December 2011 LDW: Review of 104(e) Responses.
	Obtain and review the March 1997 environmental assessment report, prepared by Boateng, in order to identify potential sources of COCs to sediment and develop appropriate source control actions.	Medium	SCAP	Ecology	Planned	TBD		
J.A. Jack & Sons	Conduct a follow-up inspection of J.A. Jack to verify compliance with corrective actions identified by Ecology in 2007 and SPU in 2009, applicable regulations, and BMPs to prevent the release of contaminants to the LDW.	High	SCAP	Ecology	Planned	TBD		Inspection scheduled for January 2013.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Evaluate the onsite stormwater collection system to determine its efficiency since Ecology inspectors observed stormwater flowing to the catch basins on the St. Gobain facility.	High	SCAP	Ecology	Planned	TBD		
	Determine if the infiltration gallery is in compliance with Underground Injection Control regulations.	Medium	SCAP	Ecology	Complete	--	Feb 2013	A February 2013 Ecology NPDES inspection determined the infiltration gallery was in compliance with Underground Injection Control regulations. The facility however did not have an adequate site management plan as per the Sand & Gravel permit.
	Obtain additional information, through facility inspections/ observations or environmental sampling, to determine if discharges from the Pinch Point area are permissible and if these discharges are a potential source of sediment recontamination.	High	SCAP	Ecology	Planned	TBD		
	Require J.A. Jack to obtain environmental data to assess the groundwater quality in the infiltration gallery in order to determine if sediment COCs are present in groundwater and if these COCs may be transported to the LDW.	Medium	SCAP	Ecology	Planned	TBD		
	Conduct a visual bank survey. If bank erosion is likely, collect bank soil samples and analyze them for sediment COCs to evaluate the potential for contaminants to enter the LDW via bank erosion.	Medium	SCAP	Ecology	Planned	TBD		
Facilities Within the S Brandon Street CSO Basin	Conduct business inspections within the S Brandon Street CSO basin to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.	Low	SCAP	King County, Ecology, SPU	Complete		Dec 2013	Inspections were conducted in the Brandon Street CSO Basin in 2013. Stormwater source control recommendations were issued to 55 of 107 facilities.
	Review information regarding two Leaking Underground Storage Tank facilities, Bob's Texaco Service and Chevron 9-0636, to evaluate the potential for sediment recontamination, if any, that may be associated with these facilities.	Low	SCAP	Ecology	Planned	TBD		
	Perform an inspection at Union Pacific Motor (a LUST facility) to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.	Low	SCAP	Ecology	Planned	TBD		
	Perform inspections at two facilities holding KCIW discharge authorizations, City of Seattle--SPU Materials Storage Yard and Kamco Seafood, Inc., that have not been assigned Facility/Site ID numbers by Ecology.	Low	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
<b>RM 1.2-1.7 East (Saint Gobain to Glacier Northwest)</b>								
Saint Gobain Containers Inc.	Review response to EPA 104(e) Request for Information letter sent to Saint Gobain Containers Inc. in July 2008.	High	SCAP	Ecology	Complete	--	Dec 2011	Evaluate need for further investigations.
	Determine appropriate engineering controls for the inaccessible contamination located beneath the soil/water separator described in the 1991 Limited UST Assessment.	High	SCAP	Property Owner/Operator	Planned	TBD		
	Conduct a source control inspection to confirm compliance with regulations/permits and implementation of BMPs.	Medium	SCAP	EPA, SPU	Complete	--	Aug 2010	SPU conducted initial inspection July 2009, follow-up inspection August 2010. Corrective actions required. EPA is NPDES lead for Saint Gobain.
	Conduct follow-up source control inspections as needed until compliance is achieved.	Low	Follow-on	SPU	Complete	--	Apr 2012	In April 2012 Ecology conducted a follow-up NPDES ISGP compliance inspection. In spring of 2012 EPA became the NPDES compliance lead for Saint Gobain (now doing business as Verallia).
	Sample catch basins as needed.	Medium	SCAP	Ecology, SPU	Planned	TBD		If needed, conduct source tracing.
Longview Fibre Paper and Packaging	Review response to EPA 104(e) Request for Information letter sent to Longview Fibre Paper and Packaging in March 2008.	High	SCAP	Ecology	Complete	--	Dec 2011	Evaluate need for further investigations.
	Review the latest groundwater monitoring report regarding exceedances of diesel-range hydrocarbons.	High	SCAP	Ecology	Planned	TBD		If needed, require the property owner/operator to prepare a remedial action plan.
	Conduct a source control inspection to confirm compliance with regulations/permits and implementation of BMPs.	Medium	SCAP	Ecology, SPU	Planned	TBD		
	Sample catch basins as needed.	Medium	SCAP	Ecology, SPU	Planned	TBD		If needed, conduct source tracing.
Certainteed Gypsum	Review response to EPA 104(e) Request for Information letter sent to Certainteed Gypsum in July 2008.	High	SCAP	Ecology	Complete	--	Dec 2011	Evaluate need for further investigations.
	Conduct a source control inspection to confirm compliance with regulations/permits and implementation of BMPs.	Medium	SCAP	Ecology, SPU	Complete	--	Sep 2009	SPU conducted initial inspection July 2009, follow-up inspection July 2009. Compliance achieved.
	Sample catch basins as needed.	Medium	SCAP	Ecology, SPU	Planned	TBD		If needed, conduct source tracing.
	Locate and review the 500-gallon UST closure report documented in Ecology's UST database. Evaluate the potential for groundwater contamination.	Low	SCAP	Ecology	Planned	TBD		
Burlington Environmental/PSC Environmental Services	Negotiate Agreed Orders and issue new permit. One order will include implementation of the Cleanup Action Plan for the eastern portion of the site.	Medium	SCAP	Ecology, PSC	Complete	--	May 2010	Draft Agreed Order DE-7347 for eastern portion of site issued by Ecology in February 2010. Agreed Order and CAP finalized in May 2010.



**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Implement Cleanup Action Plan as specified in Agreed Order and Dangerous Waste Permit.	Medium	Follow-on	Property Owner/Operator	Planned	Dec-16		Ecology approved the environmental design report in the summer of 2011. Elements of the cleanup action were initiated in late 2011. Some elements (excavation) were completed in 2013; some (SVE) are on-going.
Art Brass Plating	Complete interim action and RI in accordance with Agreed Order.	Medium	SCAP	Property Owner/Operator	Complete	--	Dec 2012	Agreed Order DE-5296. Air sparging and SVE interim action initiated in 2008. Still operating. Revised RI Report conditionally approved in December 2012.
	Negotiate Agreed Order to include an FS and draft Cleanup Action Plan for the area west of 4th Avenue S.	Medium	Follow-on	Property Owner/Operator	Planned	Mar-14		An Agreed Order for a joint (4-PLP) FS and draft Cleanup Action Plan was negotiated in 2013. The Order will become effective in early 2014.
	Conduct a source control inspection to confirm compliance with regulations/permits and implementation of BMPs.	Medium	SCAP	Ecology, King County	Planned	TBD		
Blaser Die Casting	Complete RI in accordance with MTCA Enforcement Order.	Medium	SCAP	Property Owner/Operator	Complete	--	Dec 2012	Enforcement Order DE-5479. Revised RI Report conditionally approved in October 2012.
	Negotiate Agreed Order to include an FS and draft Cleanup Action Plan for the area west of 4th Avenue S.	Medium	Follow-on	Property Owner/Operator	Planned	Mar-14		An Agreed Order for a joint (4-PLP) FS and draft Cleanup Action Plan was negotiated in 2013. The Order will become effective in early 2014.
Capital Industries Inc.	Complete RI report in accordance with Agreed Order.	Medium	SCAP	Property Owner/Operator	Complete	--	Dec 2012	Agreed Order DE-5348. Revised RI Report conditionally approved in October 2012.
	Negotiate Agreed Order to include an FS and draft Cleanup Action Plan for the area west of 4th Avenue S.	Medium	Follow-on	Property Owner/Operator	Planned	Mar-14		An Agreed Order for a joint (4-PLP) FS and draft Cleanup Action Plan was negotiated in 2013. The Order will become effective in early 2014.
<b>RM 1.7-2.0 East (Slip 2 to Slip 3)</b>								
1st Avenue S Bridge Storm Drain (Outfall 2503)	Assess the effectiveness of the vegetated swale in treating stormwater discharged via Outfall 2503.	Medium	SCAP	Ecology	Planned	TBD		
	Conduct business inspections at properties with stormwater drainage to the 1st Avenue S Bridge (East) outfall, including Seattle Truck Repair, Evergreen Tractor, and the former Taco Time parcel.	Medium	SCAP	SPU, Ecology	Planned	TBD		
Michigan Street CSO	Provide data regarding contaminant concentrations in Michigan Street CSO discharges.	Medium	SCAP	King County	In Progress	TBD		King County conducted in-line solids sampling in the Michigan CSO basin. Validated data were not available as of the end of the current reporting period (September 2010).

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Conduct business inspections within the Michigan Street CSO basin to identify undocumented industrial operations, if any, that may represent sediment recontamination sources.	Low	SCAP	SPU	Planned	TBD		
	Conduct a stormwater compliance inspection at the King County Airport Staging Yard/Georgetown Yard; this facility is covered under the Industrial Stormwater General Permit but no information on inspections was identified.	Low	SCAP	Ecology	On-going	TBD		Ecology conducted an inspection in September 2013. Inspectors found numerous source control problems at the maintenance storage yard. Ecology will conduct a follow-up inspection at the King County Airport maintenance staging storage area.
Slip 2 Outfall (Glacier Northwest; Outfall 2019)	Conduct business inspections at properties with stormwater drainage to Outfall 2019, including Bank and Office Interiors, Ener-G Foods, and Shippers Transport Express (formerly Consolidated Freightways).	Medium	SCAP	SPU, Ecology	Planned	TBD		
	Identify the owner of Outfall 2019 and evaluate the adequacy of existing NPDES permits with regard to stormwater discharges from this outfall.	Medium	SCAP	SPU, Ecology	Planned	TBD		According to Ecology WQ, SPU believes that this drainage system is private and not their responsibility.
	Review response to EPA Section 104(e) Request for Information submitted by Ener-G Foods to determine whether this facility is a potential source of LDW sediment recontamination.	Medium	SCAP	Ecology	Complete	--	Dec 2011	
Glacier Northwest, Inc.	Conduct a follow-up source control inspection to verify compliance with previous recommendations.	Medium	SCAP	Ecology	Complete	--	May 2010	Ecology inspection conducted on May 25, 2010. Warning letter issued. Corrections subsequently made.
	Request additional information from Glacier Northwest regarding the process water treatment and recycling system at the facility, including the capacity of the system and the frequency and volume of discharges to the LDW.	Medium	SCAP	Ecology	Planned	TBD		If discharges are frequent, collect catch basin solids samples and/or effluent discharge samples as needed.
	Request additional information from Glacier Northwest regarding (a) the trench drain installed in 1985; (b) the storm drain line shown on SPU maps that appears to discharge to Slip 2 approximately half-way between the head and mouth of the slip; (c) connections to Outfall 2018, if any; and (d) ownership of Outfall 2019.	Medium	SCAP	Ecology	Planned	TBD		
	Review information submitted by Glacier Northwest in response to EPA Section 104(e) Request for Information.	Medium	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Seattle Biodiesel	Conduct a follow-up source control inspection to verify compliance with Ecology recommendations and applicable regulations/codes.	Medium	SCAP	Ecology	Complete	--	Aug 2013	Seattle Biodiesel is no longer in business; General Biodiesel now operates at this location under a new NPDES permit number. Ecology conducted NPDES compliance inspections in April 2011 and August 2013. Permit compliance issues were noted and corrected.
	Collect information regarding chemical concentrations in bank soils.	Medium	SCAP	Ecology	Planned	TBD		
	Review information submitted by Lonestar Investors LP (the property owner) in response to EPA Section 104(e) Request for Information.	Medium	SCAP	Ecology	Planned	TBD		
Duwamish Marine Center	Conduct a follow-up source control inspection at Duwamish Marine Center to verify compliance with applicable regulations/code and implementation of appropriate stormwater BMPs.	Medium	SCAP	Ecology, SPU	Planned	TBD		
	Conduct a follow-up business inspection at Samson Tug and Barge to verify compliance with corrective actions requested by SPU in July and October 2008. Also verify that the cleaning solution tank belonging to Burgess Enterprises has been removed.	Medium	SCAP	SPU	In Progress	TBD		Samson Tug & Barge triggered a requirement to install stormwater treatment. Work started on treatment system in 2012.
	Determine the status of Outfalls 2021 and 2022; if they are currently in use, determine the area drained by these outfalls and assess the potential for COCs to reach the LDW via this pathway.	High	SCAP	SPU, Ecology	Planned	Jan-14		
	Verify the status of NPDES permits for Samson Tug and Barge and Duwamish Metal Fabricators.	Medium	SCAP	Ecology	On-going	TBD		Duwamish Metal Fabricators was granted NPDES coverage in December 2011. Samson Tug & Barge triggered Level 3 treatment corrective action. In 2013 Stormwater treatment was installed but was not yet operational. Wheel wash at north gate was installed in late 2012 but was not fully operational in 2013.
	Require the property owner/operator to collect additional soil/groundwater data.	High	SCAP	Ecology	Complete	--	May 2009	An RI Report was submitted to Ecology on May 11, 2009, which presents results of subsurface investigation activities.
	Assess the need for additional investigation/cleanup activities to be conducted under an Agreed Order.	High	Follow-On	Ecology	Complete	--	Nov 2009	Additional investigation/cleanup activities needed; Ecology will negotiate an Agreed Order.
	Negotiate an Agreed Order to conduct additional investigation/cleanup activities.	High	Follow-On	Ecology	Complete	--	Sep 2011	Entered into Agreed Order No. DE-8072 on September 2, 2011
	Require the property owner/operator to collect data on concentrations of chemical contaminants in river bank soils to assess the potential for sediment recontamination by erosion.	High	SCAP	Ecology	Planned	Jan 2015		To be conducted as part of Agreed Order.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Review information submitted by James Gilmur and Samson Tug and Barge in response to EPA Section 104(e) Requests for Information.	Medium	SCAP	Ecology	In Progress	--	Dec 2011	Partially complete. Response from James Gilmur was reviewed in the December 2011 LDW: Review of 104(e) Responses.
Seattle Department of Transportation Parcel	Complete discussions with the adjacent property owner to prevent parking and vehicle maintenance on the Seattle Department of Transportation property.	Low	SCAP	SPU	In Progress	TBD		
Former Frank's Used Cars	Conduct a brief site visit to assess current site conditions and determine whether stormwater from this property is a potential source of sediment recontamination.	Low	SCAP	Ecology, SPU	Planned	TBD		
	Review the current status of cleanup activities at this site to determine whether residual soil contamination poses a risk of sediment recontamination.	Medium	SCAP	Ecology	Planned	TBD		
Bank and Office Interiors/Other Tenants	Conduct source control inspections at Bank and Office Interiors and other businesses located on this property.	Medium	SCAP	SPU, Ecology	Planned	TBD		
	Review information submitted by Ener-G Foods in response to EPA 104(e) Request for Information.	Low	SCAP	Ecology	Complete	--	Dec 2011	
Fittings, Inc.	Determine whether this facility should apply for coverage under the Industrial Stormwater General Permit	Medium	SCAP	Ecology	Planned	TBD		
Former Consolidated Freightways	Conduct a site inspection to identify whether activities along the western edge of the property (in the area that drains to Slip 2) could be a source of sediment recontamination via stormwater discharge.	Low	SCAP	Ecology, SPU	Planned	TBD		
	Locate and review the results of soil and groundwater sampling proposed in 2000 (if the sampling plans were implemented), and assess the potential for sediment recontamination via groundwater transport.	Medium	SCAP	Ecology	Planned	TBD		
	Search for additional information regarding the two dump areas located at this property in 1940, as identified in historical aerial photographs, and evaluate the potential for sediment recontamination associated with these areas.	Medium	SCAP	Ecology	Planned	TBD		
Facilities Within the Michigan Street CSO Basin	Emerald Tool, Inc.: Conduct a business inspection at this facility; request information regarding concentrations of sediment COCs in soil and catch basins at this property.	Low	SCAP	SPU, Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Kelly Moore Paint Company: Assess the current nature and extent of soil and groundwater contamination associated with this facility to determine the potential for contaminated groundwater to infiltrate the combined sewer system.	Low	SCAP	Ecology	Planned	TBD		
	Kelly Moore Paint Company: Determine the current status of cleanup efforts to evaluate whether additional remedial activities are required.	Low	SCAP	Ecology	In Progress	TBD		Sampling and cleanup activities are underway. Ecology continues to track progress.
	Pioneer Porcelain Enamel Company: Conduct a business inspection to assess current activities at the site and verify that they are in compliance with applicable regulations/code and have implemented appropriate stormwater BMPs.	Low	SCAP	SPU, Ecology	Planned	TBD		
	Former Unocal Service Station 0907: Conduct a site inspection to verify current activities at the site and that activities are in compliance with applicable regulations/code and that appropriate stormwater BMPs have been implemented.	Low	SCAP	Ecology	Planned	TBD		
	Pioneer Porcelain Enamel Company, Scougal Rubber Corporation, former Sonn Property, former Unocal Service Station 0907, Winters Investment LP/Riveretz's Auto Care/Former Georgetown Gasco/Tesoro: Request the property owner to provide information regarding the nature and extent of soil contamination at the site to determine if contaminants in soil may be leaching to groundwater, and if contaminated groundwater may then be infiltrating into the combined sewer system.	Low	SCAP	Ecology	Planned	TBD		Interim Action Work Plan and Final Cleanup Report for Scougal Rubber was submitted to Ecology on June 30, 2010. Scougal Rubber Corp. submitted a technical memorandum in December 2012 summarizing remedial actions conducted September 2011-September 2012. Scougal Rubber Corp. submitted a technical memorandum in November 2013 summarizing remedial actions conducted September 2012-November 2013.
<b>RM 2.0-2.3 East (Slip 3 to Seattle Boiler Works)</b>								
S Brighton Street CSO/SD	Conduct in-line storm drain sampling to evaluate whether COCs may be transported to the LDW via the S Brighton Street CSO/SD.	High	SCAP	SPU	Complete	--	Jun 2009	Metals (arsenic, copper, lead, mercury, zinc), phthalates (BEHP, BBP, dimethylphthalate), PCBs, and other chemicals detected at levels of potential concern in catch basin and in-line storm drain solids samples.
	Conduct source tracing in the S Brighton Street CSO/SD basin.	High	Follow-On	SPU, Ecology	In Progress	TBD		SPU collected one source tracing samples in this basin during the current reporting period.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Review VCP files pertaining to four former facilities at South Seattle Community College (Arrow Transportation, Inland Transportation Company, Ben's Truck Repair, and Hat n' Boots Gas Station). Investigate the South Seattle Community College property to determine what cleanup actions may have been conducted during development, and whether potential sources of sediment recontamination may remain onsite from the four former facilities.	Medium	SCAP	Ecology	Planned	TBD		
S River Street SD	Conduct in-line storm drain sampling to evaluate whether COCs are migrating to the LDW via the S River Street SD.	High	SCAP	SPU	Complete	--	Jun 2009	Metals (arsenic, copper, zinc), phthalates (BEHP, BBP, diethylphthalate, dimethylphthalate), PCBs, and other chemicals detected at levels of concern in catch basin and in-line storm drain sediment samples
	Conduct source tracing in the S River Street SD basin.	High	Follow-On	SPU, Ecology	In Progress	TBD		
SCS Refrigerated Services	Review the PRP response to EPA's CERCLA 104(e) letters sent to SCS Holding LLC and SCS Refrigerated Services LLC in March 2008.	Low	SCAP	Ecology	Planned	TBD		Identify additional source control actions as needed.
	Conduct a source control inspection to assess whether recommendations from the May 2007 inspection have been addressed, confirm whether the facility discharges to the LDW through Outfall 2024, and determine the discharge point of storm drain lines along the northern and western edges of the facility.	High	SCAP	SPU, Ecology	Complete	--	May 2009	Initial inspection on 3/6/09; follow-up inspection on 5/22/09 found facility in compliance with stormwater regulations/code.
Seattle Distribution Center	Review the response to EPA's CERCLA 104(e) letter sent to CLPF Seattle Distribution in March 2008.	Low	SCAP	Ecology	Planned	TBD		Identify additional source control actions as needed.
	Conduct a source control inspection to determine whether the facility needs a NPDES permit, and confirm the presence of discharge points to the LDW including Outfall 2025 and an additional private storm drain line.	High	SCAP	SPU, Ecology	In Progress	TBD		Inspections conducted 3/18/09, 5/22/09, and 6/4/09; corrective actions in progress. Continue inspections until compliance is achieved.
Glacier Marine Services	Review responses to EPA's CERCLA 104(e) Request for Information letters sent to Northland Services, Inc., Fox Avenue LLC, Seatac Marine Properties, Evergreen Marine Leasing, and Fox Avenue Warehouse in 2008.	Low	SCAP	Ecology	Planned	TBD		Partially complete. Responses from Northland Services-Fox Avenue and Fox Avenue LLC were reviewed in the December 2011 LDW: Review of 104(e) Responses.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Conduct a source control inspection to clarify issues related to storm drain system configuration and location of outfalls, sanitary sewer connections, and current activities at the facility as identified in the SCAP; conduct storm drain sampling as needed.	High	SCAP	SPU, Ecology	Planned	TBD		
	Conduct in-line storm drain sampling to evaluate whether COCs are migrating to LDW sediments via the Glacier Marine Services storm drain system.	High	SCAP	SPU, Ecology	Planned	TBD		
V. Van Dyke	Review responses to EPA's Request for Information 104(e) Letter sent to V. Van Dyke, Inc. in March 2008	Low	SCAP	Ecology	Planned	TBD		
	Determine whether a UST may have been removed from the property without a proper closure.	Medium	SCAP	Ecology	Planned	TBD		
	Conduct a source control inspection to verify compliance with applicable regulations/codes.	High	SCAP	SPU, Ecology	Complete	--	May 2009	SPU inspections conducted on March 19 and May 5, 2009. Facility in compliance with applicable codes and regulations. NPDES compliance inspection conducted in January 2013 determined the facility to be in compliance.
	Locate and review additional reports related to V. Van Dyke property that are missing from Ecology's files.	Medium	SCAP	Ecology	Planned	TBD		
	Work with V. Van Dyke to complete quarterly groundwater or other monitoring suggested by Adapt, if needed.	Medium	SCAP	Ecology	Planned	TBD		
Riverside Industrial Park	Review responses to EPA's Request for Information 104(e) Letter sent to Riverside Industrial Park and Big John's Truck Repair in 2008.	Low	SCAP	Ecology	Planned	TBD		
	Conduct a source control inspection to address the two former shop building floor drains, determine if storm drain lines between the shop building and office building pass through areas where contaminated soil has been excavated, and conduct in-line storm drain sampling as needed.	High	SCAP	Ecology, SPU	Planned	TBD		
	Determine the status of cleanup at the facility and whether to pursue additional investigation and cleanup under an administrative order.	Medium	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Shultz Distributing	Conduct a source control inspection to verify compliance with applicable regulations/codes, determine whether storm drain lines pass through the area of chlorinated solvent groundwater contamination near the tank farm, determine whether the storm drains discharge to the S Brighton Street CSO/SD, confirm that the pump was removed from the oil/water separator, and that stormwater now discharges to the municipal storm drain system.	High	SCAP	SPU, Ecology	Complete	--	Aug 2010	SPU inspection conducted on August 18, 2010; facility in compliance.
	Conduct in-line storm drain sampling to evaluate whether COCs are migrating to LDW sediments via the Shultz Distributing storm drain system.	High	SCAP	SPU, Ecology	Complete	--	Aug 2010	One on-site CB sample, three right-of-way CB samples, and two in-line samples conducted in this area; metals, PCBs, PAHs, phthalates, and other SVOCs above screening levels.
	Review AGI's results and conclusions and determine whether additional investigations should be conducted.	Medium	SCAP	Ecology	Planned	TBD		
Fox Avenue Building	Review responses to EPA's CERCLA 104(e) letter sent to Great Western Chemical Company in July 2008.	Low	SCAP	Ecology	Planned	TBD		Action item also included in RM 2.3-2.8 East SCAP for Fox Avenue Building.
	Coordinate any source control to be implemented at Cascade Columbia Distribution with the work that is to be conducted under the new 2009 Agreed Order.	Medium	SCAP	Ecology	Planned	2013-2015		Ecology and Fox negotiated a second Agreed Order in 2012, signed in June 2012. Thermal treatment was completed in 2013 under the Agreed Order.
	Verify that the source of the "NW Corner Plume" will be investigated under the new Agreed Order.	Medium	SCAP	Ecology	Complete	--	Jun 2012	
Bunge Foods/Dawn Food Products/Guimont Parcel	Review responses to EPA's CERCLA 104(e) letter sent to Bunge Foods Processing LLC in July 2008.	Medium	SCAP	Ecology	Planned	TBD		Action item also included in RM 2.3-2.8 East SCAP for Guimont Parcel/Dawn Food Products/Former Bunge Foods.
Muckleshoot Seafood Products	Review responses to EPA's CERCLA 104(e) letter sent to Silver Bay Logging in March 2008.	Medium	SCAP	Ecology	Planned	TBD		Identify additional source control actions as needed.
Rainier Petroleum	Review responses to EPA's CERCLA 104(e) letter sent to Rainier Petroleum Corporation in July 2008.	Medium	SCAP	Ecology	Planned	TBD		Identify additional source control actions as needed.
Morton Marine Equipment	Review responses to EPA's CERCLA 104(e) letter sent to Morton Marine Equipment in March 2008.	Medium	SCAP	Ecology	Planned	TBD		
R.A. Barnes	Conduct additional investigations as needed to determine facility location and potential for sediment recontamination.	Medium	SCAP	Ecology	Planned	TBD		



**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
<b>RM 2.3-2.8 East (Seattle Boiler Works to Slip 4)</b>								
SPU Storm Drains and Outfalls	Collect additional solids samples from catch basins and maintenance holes in city-owned storm drains as needed to evaluate concentrations of COCs in the drainage basin.	High	SCAP	SPU	Complete	--	Jun 2009	Two samples collected from S Garden Street SD in June 2009 contained metals, PCBs, phthalates, PAHs, and TPH present at levels of concern. Samples collected in September 2008 in S Myrtle Street SD also contained elevated concentrations of metals, PAHs, phthalates, phenols, and PCBs.
	Conduct source tracing to identify potential contaminant sources to stormwater discharging to the LDW through the S Myrtle Street and S Garden Street outfalls.	High	SCAP	SPU	In Progress	TBD		No samples collected from S Myrtle Street SD or S Garden Street SD during the current reporting period.
Guimont Parcel (Dawn Foods/former Bunge Foods)	Review responses to EPA's Request for Information 104(e) letters sent to William P. Guimont, Fox Avenue Warehouse Corporation, Bunge Foods Processing LLC, and Dawn Food Products, Inc.	High	SCAP	Ecology	Planned	TBD		Ecology verified drainage at Dawn Foods. Dawn Foods originally believed storm flow went out to Fox Avenue. Investigation found it to be the reverse. The whole site and storm flow from Fox Ave discharges on bank north of Seattle Boiler Works. A flapper valve was installed in late 2012 to minimize river flow into storm drainage system.
Seattle Boiler Works, Inc.	Review responses to EPA's Request for Information 104(e) letters sent to Fred Hopkins/Seattle Boiler Works, Inc., Frank H. Hopkins Family LLC, and National Steel Construction Company, and identify additional data gaps/source control action items as needed.	High	SCAP	Ecology	Planned	TBD		
	Conduct follow-up inspections to the June 2007 stormwater compliance inspection as needed to verify that deficiencies noted during the inspection have been corrected. Obtain an updated facility plan showing the locations of all catch basins, maintenance holes, storm drain lines, stormwater conveyance lines, and outfalls and field verify the locations of these drainage system features.	High	SCAP	Ecology	In Progress	TBD		Ecology WQ permit compliance inspection conducted on June 22, 2010. No inspection report available as of the end of the current reporting period.
	Determine if the five outfalls that are not included in Seattle Boiler Work's NPDES permit are in use. If in use and Seattle Boiler Works is the source of discharge, modify the facility's stormwater permit to include these outfalls.	High	SCAP	Ecology	Planned	TBD		
	If Seattle Boiler Works is not the source of discharges to these five outfalls, perform source tracing to identify potential sources discharging to the outfalls.	High	SCAP	Ecology/SPU	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Seattle Iron & Metals Corporation	Review responses to EPA's Request for Information 104(e) Letter sent to Seattle Iron & Metals, Manson Construction Company, Othello Street Warehouse Corporation, and The Maust Corporation in July 2008.	High	SCAP	Ecology	Planned	TBD		Partially complete. Manson Construction Company's initial response was reviewed as part of the December 2011 LDW: Review of 104(e) Responses (SAIC 2012 [10616]). SAIC reviewed and summarized Seattle Iron & Metals 104(e) response in August 2012 (SAIC 2012 [10615]).
	Locate and review Hart Crowser's 1998 Voluntary Cleanup Action Report, 606 South Myrtle Street, to evaluate the extent of soil and groundwater sampling that has been conducted at this property, identify any sediment COCs and evaluate the potential pathways for sediment recontamination.	Medium	SCAP	Ecology	Complete	--	Aug 2012	The Voluntary Cleanup Action Report and subsequent environmental investigation reports were reviewed in August 2012. The potential for sediment recontamination associated with contaminants in soil and groundwater is believed to be low (SAIC 2012 [10615]).
	Obtain records from the soil removal and remediation performed by U.S. SeaCon and determine if the action was the Independent Remedial Action that was performed prior to 1998 or an additional remedial action performed at the property. Determine if additional sampling is needed to characterize site for sediment COCs.	Medium	SCAP	Ecology	Complete	--	Aug 2012	The Independent Remedial Action was performed by Hart Crowser in 1997. Additional sampling and characterization was performed between 1998 and 2008. The report was reviewed in August 2012. The potential for sediment recontamination associated with contaminants in soil and groundwater is believed to be low (SAIC 2012 [10615]).
	Monitor compliance with Ecology Follow-Up Order No. 6185.	High	SCAP	Ecology	Complete	--	2011	Seattle Iron & Metals has complied with this order. Ecology renewed the stormwater permit for this facility in September 2013.
	Investigate means to determine if ASR is reaching the LDW directly or via the Seattle Iron & Metals or Seattle Boiler Works storm drain systems.	Medium	SCAP	Ecology	Complete	--	Aug 2012	A <i>Stormwater Treatment Engineering Report</i> prepared for Seattle Iron & Metals in 2010 indicates that the company was in the process of relocating the ASR processing operation. In addition, improvements to the metal recovery and stormwater collection systems were planned (SAIC 2012 [10615]).
	Review stormwater improvements, when completed, to assess the potential for transport of ASR to the LDW.	Medium	Follow-On	Ecology	Planned	TBD		
	Obtain information documenting the status of the furnace to determine if it was relocated from the Harbor Island facility to Seattle Iron & Metals' current facility. Current furnace operations, if any, will be identified.	Medium	SCAP	Ecology/PSCAA	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Request information from the facility operator regarding the source of discharge, if any, to Outfall 2034, observed along the Seattle Iron & Metals shoreline during SPU's outfall survey.	High	SCAP	Ecology	Complete	--	Aug 2012	Information submitted with Seattle Iron & Metals' response to Follow-up Order No. 6185 and 104(e) Response verifies that stormwater from the facility is conveyed to Outfalls 2026 and 2035. Outfall 2034 is presumed abandoned and does not have a discharge source (SAIC 2012 [10615]).
Puget Sound Truck Lines	Review responses to EPA's Request for Information 104(e) letters sent to Puget Sound Truck Lines and R&A Properties LLC.	High	SCAP	Ecology	Planned	TBD		
	Review records of soil cleanup activities completed in 1995 to verify that groundwater discharge from this property is not a potential sediment recontamination source.	Medium	SCAP	Ecology	Complete	--	2011	Petroleum hydrocarbon contamination in soil associated with four USTs removed in 1990 is not likely to pose a risk of LDW sediment recontamination.
	Perform a follow-up stormwater compliance inspection to determine whether catch basins are cleaned regularly and if housekeeping has improved. Obtain a facility plan that shows the locations of all catch basins and storm drain lines at the facility.	Medium	SCAP	Ecology	Planned	TBD		
	Determine whether the five outfalls identified at the property are active, and identify the source of discharge from these outfalls, if any.	High	SCAP	Ecology, Property owner/operator	Planned	TBD		
Seattle City Light Georgetown Pump Station	Determine if the drainage ditch/pipe is active and if it discharges to the LDW. If active, determine the area drained by the drainage ditch/pipe and determine the potential for sediment COCs to reach the LDW.	High	SCAP	Ecology, SPU	Planned	TBD		
	Obtain and review information about any groundwater sampling that has been conducted at this property. Based on this review, evaluate the need for further source control actions.	Medium	SCAP	Ecology	Planned	TBD		
Crowley Marine Services	In conjunction with an Agreed Order for the Crowley Marine Services site, perform additional investigations that include collection of data on chemical concentrations in soil and groundwater at the western and southern portions of the property.	High	SCAP	Property owner/operator	In Progress	2014		To be conducted in accordance with Agreed Order No. DE-6721. See also Table 3-2, Early Action Area 3.
	Review information submitted to EPA in response to the Request for Information 104(e) letters sent to Crowley Marine Services, Samson Tug and Barge Company, Northland Services, and Evergreen Marine Leasing.	High	SCAP	Ecology	Planned	TBD		Partially complete. Responses from Northland Services and Evergreen Marine Leasing were reviewed as part of the LDW: Review of 104(e) Responses (SAIC 2011 [10616]). Response from Crowley Marine Services, Inc. has been reviewed (document index only). Response from Samson Tug & Barge has been received by Ecology, but has not been reviewed.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Conduct facility inspections for current tenants at the Crowley Marine Services property to determine if operations could be a source of LDW sediment recontamination.	Medium	SCAP	Ecology, SPU	Complete	--	Jun 2010	SPU conducted inspections at Boom Boys Cranes LLC; Heko Services Inc.; and Organic Fuel Processors; all in compliance. Ecology inspected First Student - 8th Ave S facility and Organic Fuel Processors. Organic Fuel Processors and subtenants are not in compliance with NPDES requirements.
	Require the owner and/or tenants to obtain an NPDES permit if facility inspections conclude that business operations require a stormwater discharge permit.	Medium	SCAP	Ecology	Complete	--	2011	Organic Fuel Processors obtained ISGP coverage in 2010. First Student - 8th Avenue obtained ISGP coverage in 2011.
	Collect stormwater and/or solids samples from storm drain system to determine if onsite system is source of COCs found in waterway sediment.	High	SCAP	Ecology	In Progress	2014		To be conducted in accordance with Agreed Order No. DE-6721. See also Table 3-2, Early Action Area 3.
	Review the Environmental Investigation Report, Crowley Marine Services Site, dated August 1, 2008 (prepared by SLR International Corp) and identify remaining data gaps and source control actions for the property.	High	SCAP	Ecology	Complete	--	2012	
Fox Avenue Building	Monitor the progress of the RI/FS to investigate and remediate soil and groundwater contamination beneath the property.	Medium	SCAP	Ecology	In Progress	2013-2015		Ecology and Fox negotiated a second Agreed Order in 2012, signed in June 2012. Thermal treatment, required under the 2012 AO, was completed in 2013.
	Review responses to EPA's July 2008 Request for Information 104(e) letter sent to Great Western Chemical Company, including evaluation of the presence and/or potential for generation of dioxin associated with former activities at the property.	Low	SCAP	Ecology	Planned	TBD		
Whitehead Company, Inc./Former Tyee Industries	Require the property owner/operator to address the pentachlorophenol contamination in groundwater discovered by Cascade Columbia Distributions' consultant.	Medium	SCAP	Ecology	Planned	TBD		
	Perform a business inspection to identify current operations at this property, and to evaluate whether operations could be an ongoing source of contaminants to LDW sediments.	Medium	SCAP	Ecology, SPU	Planned	TBD		
Whitehead Company, Inc./Former Perkins Lot	Conduct facility inspection to determine if activities conducted by businesses at this location require an NPDES permit, and to ensure compliance with applicable codes and regulations.	Medium	SCAP	Ecology, KCIW, EPA	In Progress	TBD		In 2013 Taxi King was granted coverage under the NPDES ISGP but does not have a SWPPP or a monitoring plan. EPA pursued enforcement on this facility and is the compliance lead.
	Assist Svendsen Brothers with obtaining coverage under the Industrial Stormwater General Permit and KCIW discharge authorization or permit.	Medium	SCAP	Ecology, KCIW	In Progress	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Perform a follow-up inspection at Taxi King to ensure that corrective actions identified in July 2008 have been implemented.	Medium	SCAP	Ecology, SPU	In Progress	TBD		Follow-up inspection conducted 9/19/08.
	Obtain a list of previous tenants from the property owner to evaluate historical operations and to determine if these operations could have resulted in soil or groundwater contamination.	Medium	SCAP	Ecology, Property owner/operator	Planned	TBD		
Former Trim Systems	Inspect site to ensure that operations at the facility are in compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW. Obtain a facility plan showing the locations of all catch basins and storm drains (if any).	Medium	SCAP	Ecology, SPU	Planned	TBD		Seattle Iron & Metals has proposed to expand its operations to this property. This parcel is included in the draft Seattle Iron & Metals individual NPDES permit renewal, and will be included in future Seattle Iron & Metals site inspections.
	Review responses to EPA's July 2008 Request for Information 104(e) letters sent to Seattle Iron & Metals, Manson Construction, and Northwest Container Services.	High	SCAP	Ecology	Canceled	--	--	EPA letters sent to Manson Construction and Northwest Container Services do not include a request for information regarding this location. Review of 104(e) response for Seattle Iron & Metals included above.
Nitze-Stagen/Frye Parcels	Inspect site to ensure that operations at Pioneer Distribution are in compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW. Obtain facility plans showing the locations of all catch basins and storm drain lines (if any). Require property owner to obtain NPDES permit, as necessary.	Medium	SCAP	Ecology, SPU	Planned	TBD		
	Review responses to EPA's Request for Information 104(e) letters sent to Nitze-Stagen and Pioneer Human Services.	High	SCAP	Ecology	Complete	--	Dec 2011	
Former Sternoff Parcel	Evaluate the need for additional soil and groundwater samples and analyze them for sediment COCs to determine the potential for sediment recontamination via the groundwater discharge pathway.	Medium	SCAP	Ecology	Planned	TBD		
	Locate documentation verifying that a PCB-contaminated "trash pile" and approximately 52,187 pounds of contaminated soil have been removed from the property.	Medium	SCAP	Ecology	Planned	TBD		
	Determine the disposition of petroleum-contaminated soil stockpiled at the property by Remedco and provide the documentation to Ecology.	Low	SCAP	Ecology	Planned	TBD		
	Inspect facility to confirm that stormwater does not drain to the LDW and ensure that operations are in compliance with applicable codes and regulations.	Medium	SCAP	Ecology, SPU	Planned	TBD		
<b>RM 2.8 East (EAA-3: Slip 4)</b>								

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
North Boeing Field / KCIA / I-5 Storm Drains	Distribute 2005/2006 in-line sediment trap data for wet winter season.	High	SCAP	SPU	Complete	--	1905	Continue monitoring of sediment trap data.
	Reinstall sediment traps and continue monitoring as needed.	High	SCAP	SPU, Boeing	In Progress	2014		Reinstall sediment traps every 6 months until 2014.
	Conduct comprehensive analysis of sediment trap and catch basin data.	High	SCAP	Ecology	Complete	--	Feb 2007	
I-5 / Residential Drainage	Complete source tracing.	High	SCAP	SPU	Complete	--	Dec 2006	Continue monitoring of sediment trap data.
	Clean out catch basins and lines.	Medium	SCAP	Ecology, SPU, WSDOT	Canceled	--	NA	Contaminant levels remain very low; no action deemed necessary.
Georgetown Flume	Investigate connection toward North Boeing Field as a possible source of PCBs.	High	SCAP	SPU, Boeing	Complete	--	Aug 2006	
	Close connections, remove contaminated sediment, and demolish and/or replace the flume.	High	SCAP	SCL, SPU	Complete	--	Sep 2009	Removal of flume completed during Summer 2009.
Crowley Marine / 8th Avenue Terminals	Conduct physical site inspection confirming outfalls and what they drain(ed).	Medium	SCAP	Ecology, SPU	Complete	--	2006	
	Compile and evaluate historical groundwater quality data; complete historical use investigation to identify data gaps for recontamination potential (soil and groundwater).	Low	SCAP	Ecology	Complete	--	Oct 2006	
	Determine means to fill data gaps.	Low	SCAP	Ecology	Complete	--	Oct 2006	Negotiate an Agreed Order; conduct groundwater investigation to fill data gaps.
	Negotiate an Agreed Order for investigation and cleanup of the this site.	Medium	Follow-On	Ecology, PLP	Complete	--	Jul 2009	Agreed Order No. DE-6721 (effective October 12, 2009)
	Conduct investigation and cleanup activities in accordance with the Agreed Order, including collection of groundwater and storm drain system samples as appropriate.	Medium	SCAP	8th Avenue Terminals (Crowley)	Planned	2014		
	Collect stormwater runoff and in-line solids to assess recontamination potential from current operations.	Medium	SCAP	Ecology, SPU, Crowley	Complete	--	Jul 2008	Catch basin samples collected at Alaska Logistics by SPU in July 2008; additional sampling to be conducted under Agreed Order.
	Clean catch basins and drain lines.	Medium	SCAP	Crowley	Complete	--	2013	UPRR to clean catch basins; Alaska Logistics in compliance as of August 2008. Conducted as part of Agreed Order No. DE-6721.
	Conduct a Site Hazard Assessment (SHA).	Medium	New	Ecology	Complete	--	Feb 2008	
Review CERCLA 104(e) responses submitted by Crowley Marine Services, Inc. and Samson Tug & Barge Company, Inc.	Medium	New	Ecology, EPA	Planned	TBD		Partially complete. Response from Crowley Marine Services, Inc. has been reviewed (document index only). Response from Samson Tug & Barge has been received by Ecology, but has not been reviewed.	
First South Properties / Emerald Services	Collect stormwater runoff and in-line solids to assess recontamination potential from any ongoing operations.	Medium	SCAP	Ecology, SPU	Complete	--	Nov 2006	

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Investigate two 4- to 6-inch outfalls located on the bank of First South Properties. Determine if the outfalls are still functioning and their drainage areas.	Medium	SCAP	Ecology, SPU	Complete	--	2006	
	Clean catch basins and drain lines.	Medium	SCAP	Emerald Services	Complete	--	2006	
	Reassess drainage swale for erosion and recontamination potential for phthalates.	Medium	SCAP	Ecology	Complete	--	2006	
	Compile and evaluate historical groundwater quality data; complete historical use investigation to identify data gaps for recontamination potential (soil and groundwater).	Low	SCAP	Ecology	Complete	--	Oct 2006	
	Determine means to fill data gaps.	Low	SCAP	Ecology	Canceled	--	--	Not Required
	Conduct sampling if necessary.	Low	SCAP	Ecology	Canceled	--	--	Not Required
	Reinspect facility and collect in-line solids to assess recontamination potential from any ongoing operations.	Medium	New	Ecology, SPU	Planned	TBD		Extensive changes to property drainage and operations since last inspection.
	Review CERCLA 104(e) responses submitted by First South Properties and Evergreen Marine Leasing.	Medium	New	Ecology, EPA	Complete	--	Dec 2011	
Boeing Plant 2	Inspect Bldg. 2-122 area.	Medium	SCAP	Ecology	Complete	--	Apr 2007	Re-inspect as needed to ensure compliance with permit.
	Sample onsite storm drain solids.	Medium	SCAP	Ecology	Complete	--	May 2007	
	Assess existing groundwater data in the area.	Low	SCAP	Ecology, EPA	Planned	TBD		EPA lead
GTSP	Remove PCB contaminated soils; implement erosion or other source control as needed.	High	SCAP	SCL	Complete	--	May 2006	Conduct site-wide site characterization.
	Conduct site wide site characterization to assess need for additional remediation.	High	SCAP	SCL	Complete	--	Mar 2011	Remove additional contaminated soils.
	Remove additional contaminated soils identified as part of site characterization.	High	Follow-On	SCL	Complete	--	Apr 2012	Removal of PCB and TPH contaminated soils took place in spring 2012.
North Boeing Field	Remove last 1,400 linear feet of PCB joint sealant.	High	SCAP	Boeing	Complete	--	2006	Characterize extent of PCBs in new joint sealant.
	Characterize extent of PCBs in new joint sealant material.	High	Follow-On	Boeing	Complete	--	Nov 2011	5,725 linear feet of joint sealant material was removed from the NBF Flight Line in 2011.
	Determine impact of remaining joint sealant material on PCB concentrations in stormwater.	High	Follow-On	Ecology	In Progress	2014		Upstream and downstream stormwater sampling in NBF Flight Line areas completed in 2013. Additional joint sealant testing to be performed in 2014.
	Complete source evaluation at north drain line and complete clean-out.	High	SCAP	Boeing	Complete	--	Nov 2006	Continue source tracing in north drain line.
	Continue source tracing in north drain line to identify and/or eliminate transport of PCBs to Slip 4.	High	Follow-On	Boeing	In Progress	2014		Source tracing completed in 2013. Additional surface debris/building material testing to be performed in 2014.
	Slip-line and/or replace sections of the north storm drain line to reduce the potential for PCB transport to Slip 4.	High	New	Boeing	Complete	--	Mar 2008	

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Characterize the extent of PCBs in soil adjacent to the north drain line.	High	New	Boeing	Complete	--	Nov 2007	
	Clean Oil/Water Separator 640 and catch basins.	High	SCAP	Boeing	Complete	--	Aug 2006	
	Clean out catch basins.	High	SCAP	Boeing	Complete	--	--	Continue source tracing in north drain line.
	Review results of Ecology's TCP, Waste and Water programs, and King County/Hazardous Waste Inspections of NBF (Nov -Dec 2005).	Medium	SCAP	Ecology, EPA	Complete	--	Feb 2007	
	Revise Stormwater Pollution Prevention Plan; conduct additional inspections of the NBF facility as necessary.	Medium	SCAP	Ecology, Boeing	Complete		Mar 2012	Updated SWPPP completed; follow-up inspection pending.
KCIA	Sample eight oil/water separators.	High	SCAP	KCIA	Complete	--	Oct 2006	Continue source tracing at KCIA.
	Test for PCB joint sealant (~1acre); remove as necessary.	High	SCAP	KCIA	Complete	--	Oct 2006	
	Complete source tracing.	High	SCAP	KCIA	Complete	--	Aug 2011	KCIA will be performing stormwater solids monitoring in Spring/Summer of 2014, under the NBF MTCA Agreed Order. The effort will provide more information on pollutants entering NBF from KCIA. In May 2013 KCIA performed in-line sediment trap and grab sampling at the south and south central laterals to NBF. KCIA will continue annual in-line trap sampling in May 2014.
	Clean out catch basins and lines (if required).	High	SCAP	KCIA	Complete	--	Jun 2010	As part of the KCIA Stormwater Pipe Re-lining project in 2013, stormwater lines in the KCIA Slip 4 drainage basin were cleaned of sediment and properly disposed. This project also included stormwater lines in the Former Slip 5 and Slip 6 Basin.
	Reinspect KC Surplus Storage, NE T-Hangars, and Shultz Distributing, Inc. as necessary to achieve compliance with BMPs.	Medium	SCAP	SPU, Ecology	Complete	--	Jul 2007	Conduct periodic re-inspections as needed.
	Conduct follow-up inspections at Shultz Distributing, Inc. until compliance is achieved. Evaluate potential contaminants of concern and pathways.	Low	SCAP	KCIA, Ecology	Complete	--	Jul 2007	KCIA conducted Phase II Environmental Site Assessment at the Shultz site in May 2012 to verify contamination at the site. Shultz Distributing and its lessees are working with Ecology's Voluntary Cleanup Program and UST Program to achieve compliance with regulatory requirements. The operators of the site have been performing well monitoring at the site to determine status of contamination and to plan for cleanup activities.



**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Investigate soil and groundwater investigation and cleanup under Ecology's VCP.	Low	Follow-On	KCIA, property operator	In Progress	TBD		Shultz and subtenant operators are conducting investigations at the site for eventual cleanup under the VCP. In 2013 KCIA conducted investigations and cleanup of the former Standard Gas site in accordance with the substantive MTCA requirements of an Ecology-guided cleanup.
	Conduct thorough NPDES compliance inspection and determine if additional parameters need to be monitored.	Medium	Follow-On	Ecology	Complete	--	Mar 2012	KCIA's stormwater permit was reissued to cover the entire airport facility. In 2012 KCIA updated its SWPPP to cover all industrial activity areas of the airport. Sample parameters include turbidity, pH, zinc, copper, and petroleum sheen. Ecology conducted compliance inspection and sampling in June 2013.
	Continue business source control inspections and re-inspections as needed to verify that facilities comply with applicable regulations and BMPs.	High	Follow-On	SPU, Ecology	Canceled	--	--	Ongoing activity; see Table 3-1.
NBF-GTSP	Negotiate an Agreed Order for investigation and cleanup of the this site.	High	New	Ecology, King County, City of Seattle, Boeing	Complete	--	Aug 2008	Agreed Order No. DE-5685.
	Update NBF/GTSP Data Gaps Report to incorporate recent activities and data.	Medium	New	Ecology	Complete	--	Aug 2009	
	Conduct RI/FS and implement interim actions (as needed).	High	New	Ecology, Boeing, City of Seattle, King County	In Progress	2015		To be conducted in accordance with Agreed Order No. DE-5685. RI to begin in spring 2014 and to be completed in fall 2015.
Upland Properties	Review data for contaminants of concern or pathways to Slip 4 for upland properties.	Low	SCAP	Ecology, SAIC	Complete	--	Dec 2006	
Adjacent and Upland Properties	Review municipal and industrial NPDES permits for COCs found in sediments.	Low	SCAP	Ecology, EPA	Complete	--	Dec 2008	NPDES permits do not track sediment COCs.
<b>RM 2.8-3.7 East (EAA-4: Boeing Plant 2/Jorgensen Forge)</b>								
Boeing Plant 2	Evaluate the remaining Corrective Measures Study study areas and continue to determine needed source control	Medium	SCAP	EPA, Boeing	In Progress	TBD		
	Continue to delineate and evaluate the EMF plume.	Medium	SCAP	EPA, Boeing	In Progress	TBD		
	Complete design and implementation of dredging, capping, and/or backfilling of the Duwamish Sediment Other Area Interim Measure.	High	SCAP	EPA, Ecology, Boeing	In Progress	TBD		
	Remove contaminated bank fill material.	High	SCAP	EPA, Boeing	Planned	TBD		
	Conduct monthly sampling, including groundwater sampling and vapor sampling of the DDC wells and multiple points along the vapor treatment system.	Medium	SCAP	EPA, Boeing	In Progress	TBD		
	Continue quarterly shoreline groundwater monitoring.	High	SCAP	EPA, Boeing	In Progress	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Re-evaluate the SWPPP and make necessary changes if process/operational changes are made at Plant 2.	Low	SCAP	Ecology, Boeing	In Progress	TBD		
	Excavate PCB-contaminated soil in the substation area (southwest corner of Plant 2).	High	New	Boeing, Jorgensen	Planned	TBD		
	Address removal of materials containing PCBs, including joint caulk material.	High	SCAP	EPA, Boeing	Complete	--	Sep 2010	Completed removal of joint caulk material containing PCB concentrations greater than 25ppm from concrete in 2-10 area. Removed 1,545 linear feet of caulk material.
	Conduct a joint hydrologic investigation with Jorgensen Forge to provide additional hydrogeologic data at the boundary of the two facilities.	High	SCAP	Boeing, Jorgensen	Planned	TBD		
	Collect in-line sediment samples in the City of Seattle and City of Tukwila systems immediately prior to discharge to Plant 2's storm drain system.	High	SCAP	EPA, Boeing	Planned	TBD		
	Conduct stormwater source control sampling of suspended solids and/or water along active storm drain lines.	High	New	Boeing	In Progress	TBD		
	Implement catch basin solids sampling program.	High	New	Boeing	In Progress	TBD		
	Determine if the city storm drain outfall discharging to EAA-4 at the South Park Bridge is Outfall J or another outfall.	Medium	SCAP	EPA, City of Seattle	Complete	--	Aug 2008	Completed during reconnaissance for sediment trap installation.
Jorgensen Forge	Conduct a joint hydrologic investigation with Boeing to provide additional hydrogeologic data at the boundary of the two facilities.	Medium	SCAP	Boeing, Jorgensen	Planned	TBD		
	Conduct a source control investigation through Ecology Agreed Order No. DE-4127 to determine if the facility is an ongoing source of contamination to LDW sediments.	High	SCAP	Jorgensen, Ecology	Complete	--	Mar 2011	Completed under Agreed Order No. DE-4127.
	Conduct soil and groundwater sampling in the southeast portion of the site (historically thought to have been occupied by a wood treating facility) to determine if arsenic contamination is present and if so, whether the contamination is leaching into the adjacent sediments.	High	SCAP	Ecology, Jorgensen	Complete	--	Mar 2011	Completed under Agreed Order No. DE-4127.
	Review current groundwater monitoring data to ensure that groundwater is not a pathway for contaminants to the LDW.	High	SCAP	Ecology, Jorgensen	Complete	--	Mar 2011	Completed under Agreed Order No. DE-4127.
	Conduct groundwater sampling in the center of the property (previously occupied by Isaacson Iron Works) to determine if contaminants are present above screening levels.	High	SCAP	Ecology, Jorgensen	Complete	--	Mar 2011	Completed under Agreed Order No. DE-4127.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Determine ownership of the 12- and 24-inch diameter storm drain lines located in an easement along the Jorgensen/Boeing property line; determine the exact locations of the connections between these lines and the stormwater systems of Jorgensen, Boeing, City of Tukwila, and KCIA.	High	SCAP	Ecology, Jorgensen Forge, Boeing, City of Tukwila, KCIA	Complete	--	Nov 2008	Boeing agreed to take responsibility for the 12-inch line. Ecology issued Notice of Violation to King County/City of Tukwila for PCBs in 24-inch line.
	Remove PCB-contaminated sediments from the 24-inch storm drain line.	High	Follow-On	EPA, Boeing, Jorgensen	Complete	--	Feb 2011	Cleaning and closure of 15-inch and 24-inch public storm drains completed in response to an EPA Action Memorandum for a Time Critical Removal Action.
	Contain and remove soils from upland outfall area of the 12-and 24-inch pipes.	High	Follow-On	EPA, Boeing, Jorgensen	In Progress	TBD		
	Assess the quality of discharged water and process through which water is discharged from the vacuum degasser pit, railroad scale sumps, argon-oxygen-decarbonization, and scale sumps.	Low	SCAP	EPA, Jorgensen	Complete	--	Mar 2011	
	Develop a hydrogeologic site model as part of the source control investigation to characterize the groundwater system on site, including tidal influence.	High	SCAP	Jorgensen, Boeing	In Progress	TBD		
	Continue to address PCB and metals contamination in sediments of the LDW and Shoreline Bank Area through EPA CERCLA Order No. 10-2013-0032.	High	SCAP	EPA, Jorgensen	Complete	--	Feb 2012	Certificate of Completion approved by EPA in February 2012.
	Negotiate an Amended Administrative Order on Consent for preparation of a Work Plan to clean up affected sediments along a portion of the LDW adjacent to this property.	High	New	EPA, Jorgensen	Complete	--	Nov 2012	EPA issued an Administrative Settlement Agreement, Order on Consent, and Statement Work for the Jorgensen Forge Early Action Area Non-Time Critical Removal Action Implementation in November 2012.
	Implement Non-Time Critical Removal Action.	High	Follow-On	EPA, Jorgensen	In Progress	TBD		Scheduled to start June/July 2014.
KCIA	Determine the connections between the KCIA stormwater system, the City of Tukwila system, and the 24-inch stormwater pipeline along the Jorgensen/Boeing property line.	High	SCAP	Ecology, KCIA, Jorgensen, Boeing, City of Tukwila	Complete	--	Dec 2009	This drainage was rerouted in December 2009, and currently discharges to KCIA SD#2 (EAA-6).
	Determine whether additional sampling of PCBs in the KCIA stormwater system and joint caulk material is necessary, based on review of PCB sampling results for KCIA Lot 12.	Medium	SCAP	Ecology	Complete	--	Jan 2012	KCIA provided a source control report for KCIA drainage basin #5 in January 2009. An in-line sediment trap located in KCIA Lot 13, remains in place to characterize inputs from Lot 12, which is Boeing's leased area.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Test, and as needed, remove any material that contains elevated levels of PCBs in this portion of KCIA (including caulk containing PCBs).	Medium	SCAP	Ecology, KCIA	Complete	--	Jun 2012	Samples collected at KCIA Lot 13 in May 2013 showed total PCBs undetected mg/kg DW. Caulk samples collected in 2001 contained 0.75 to 0.83 mg/kg DW PCBs. Stormwater in this area now discharges to south pump station and EAA-6. KCIA and Ecology sampled south pump station in May 2013. This area was mechanically swept quarterly in 2013.
	Review the SWPPP and make necessary changes to prevent contaminants from entering the KCIA stormwater system.	Low	SCAP	Ecology, KCIA	Complete	--	Mar 2012	KCIA's stormwater permit was reissued to cover the entire airport facility. In 2012 KCIA updated its SWPPP to cover all industrial activity areas of the airport. Stormwater from Lot 13 was rerouted to the central area basin (EAA-6) in 2009.
	Monitor remedial activities at the former Boeing EMF to ensure that contaminated soil does not enter the storm drain system.	Medium	SCAP	King County, EPA	In Progress	TBD		KCIA is closely monitoring and coordinating access for Boeing to perform remediation work. Boeing plans to perform soil and groundwater sampling at the southern edge of the EMF VOC plume in 2014 to complete revision of Boeing's EECA report.
East Marginal Way S.	Determine location and connection of large pipe crossing the northern edge of the Jorgensen property.	High	SCAP	City of Tukwila, Jorgensen, KCIA	Complete	--	2008	
	Determine connections between the KCIA stormwater system and the City of Tukwila system.	High	SCAP	City of Tukwila, KCIA	Complete	--	Dec 2009	In December 2009, KCIA rerouted its storm drain lines to eliminate discharge to this pipeline.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
<b>RM 3.7-3.9 East (EAA-6: Boeing Isaacson/Central KCIA)</b>								
KC Airport SD #2/PS45 EOF (King County Storm Drain / SPU EOF)	Collect and analyze sediment trap sample to evaluate concentrations of chemicals in the central KCIA drainage basin. Reinstall sediment trap and continue to sample as needed.	High	SCAP	SPU, KCIA	Complete		Jun 2012	At the Former Slip 5/central area basin, 2009-2013 data from in-line trap and grab sample data results at KCIA2 sampling point show average total LPAH, HPAH, phthalate and PCBs concentrations below SQS/LAET. Recent south pump station data collected by KCIA in 2012 and Ecology in May 2013 also reflected average concentrations below SQS/LAET for these pollutants.
	If COCs are present in the storm drain line, conduct source tracing to identify potential contaminant sources at KCIA.	High	SCAP	King County, SPU	Complete		Aug 2012	In August 2012 KCIA initiated source tracing by sampling storm drain solids at the south pump station. In May 2013 Ecology collected south pump station samples from the influent vault to the pump station. Metals, PCBs, PAHs, and phthalates were below screening levels. In October 2012, four OWSs within the central basin were sampled and cleaned.
	Collect and analyze a solids sample from near the KC Airport SD #2/PS45 EOF outfall to evaluate whether chemicals are being discharged to EAA-6 via this outfall.	Medium	SCAP	King County, SPU	Complete		Jun 2012	Samples collected in June 2012 and May 2013 showed no exceedances of screening levels for PCBs, metals, phthalates, or TPH. In-line samples exceeded HPAH screening levels. The south pump station sample did not exceed HPAH screening levels. HPAH concentrations from Ecology's sampling in May 2013 show levels below SQS/LAET.
	Review information from KCIA to determine whether additional source control investigations are needed at central KCIA.	Medium	Follow-On	Ecology	In Progress	TBD		
	If COCs are present in the storm drain line downstream of CB-39, collect a solids sample from CB-39 on the Boeing Thompson property.	Medium	SCAP	Boeing	Planned	TBD		
	Follow up on discharges observed from the KC Airport SD#2/PS45 EOF in 2007 and 2008, to identify sources and/or characteristics of discharges.	High	SCAP	Ecology, SPU, KCIA	Complete		Oct 2012	In October 2012 KCIA repaired and replaced a large number of its stormwater lines and installed a large water quality vault for the south pump station. The south pump station discharge pipes were cleaned in November 2012. KCIA initiated a stormwater pipe relining project in 2013 that will be completed in 2014. Stormwater line cleaning was performed in 2013 and will be performed in 2014 as part of the project.
Boeing Isaacson/Thompson	Negotiate an Agreed Order to conduct a MTCA RI/FS at the Boeing Isaacson/Thompson site.	High	SCAP	Ecology, Boeing	Complete	--	Apr 2010	Agreed Order No. DE-7088.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Site	Characterize contaminant concentrations in subsurface soil near the former location of the Slip 5 outfall, to the north of the 48-inch storm drain line, and at other locations on the property as needed.	High	SCAP	Boeing	Planned	TBD		To be addressed as part of Agreed Order No. DE-7088.
	Conduct a comprehensive soil and groundwater investigation at this property, including groundwater monitoring at selected wells and evaluation of potential arsenic sources; include wet and dry season samples.	High	SCAP	Boeing	Planned	TBD		To be addressed as part of Agreed Order No. DE-7088.
	If COCs in soil and groundwater are present at concentrations that pose a risk of sediment recontamination, then develop a plan for controlling these contaminant sources.	High	SCAP	Ecology, Boeing	Planned	TBD		To be addressed as part of Agreed Order No. DE-7088.
	If needed, conduct additional tidal studies to address the tidal efficiency anomaly identified in well I-205 during a tidal study conducted in 2000, and to collect additional information on tidal influences.	Low	SCAP	Boeing	Planned	TBD		To be addressed as part of Agreed Order No. DE-7088.
	Collect bank samples and analyze them for COCs to evaluate potential for sediment recontamination from bank erosion.	Medium	SCAP	Boeing, Ecology, and/or Port of Seattle (TBD)	Planned	TBD		To be addressed as part of Agreed Order No. DE-7088.
	Investigate the condition of the 48-inch KC Airport SD#2/PS45 EOF that passes through the Boeing Isaacson property.	Medium	SCAP	King County	Planned	TBD		
	Clarify the purpose, function, and configuration of the edge drains along the Boeing Isaacson shoreline.	Low	SCAP	Boeing, Port of Seattle	In Progress	TBD		To be addressed as part of Agreed Order No. DE-7088.
	Collect stormwater solids samples from the catch basins on the Boeing Isaacson property that drain to the Boeing Thompson stormwater system.	Medium	SCAP	Boeing	Planned	TBD		To be addressed as part of Agreed Order No. DE-7088.
	Investigate the status and source of the unidentified outfall pipe located near the Boeing Isaacson/Jorgensen Forge property boundary (Outfall 2063).	Low	SCAP	Boeing	Planned	TBD		To be addressed as part of Agreed Order No. DE-7088.
	Review Boeing memorandum regarding findings associated with the two drainage pipes that may be discharging to the 8801 Site, and assess the potential that these discharges may contribute to recontamination of LDW sediments.	Medium	SCAP	Ecology	In Progress	TBD		To be addressed as part of Agreed Order No. DE-7088.
	Collect storm drain solids samples from the Boeing Thompson stormwater system to assess concentrations of contaminants.	Medium	SCAP	Boeing	Planned	TBD		To be addressed as part of Agreed Order No. DE-7088.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Conduct a source control inspection to clarify the nature of current activities at this property and to assess the current potential for sediment recontamination.	Low	SCAP	Ecology	Planned	TBD		
KCIA	Conduct source tracing as needed, depending on sample results from the sediment trap recently installed on the KC Airport SD#2/PS45 EOF system.	Medium	SCAP	King County	Complete	--	Jun 2012	May 2013 in-line sediment trap and grab data showed no exceedances of SQS/LAET for metals, PCBs, PAH, and phthalates. Arsenic concentrations exceeded SQS/LAET. May 2013 data collected by Ecology at the south pump station influent vault showed no exceedances to SQS/LAET for metals (including arsenic), PCBs, PAH, and phthalates.
	Verify the status of efforts to clean all catch basins in the central KCIA storm drain basin; complete cleaning as necessary.	Medium	SCAP	King County	Complete	--	Oct 2012	Catch basin cleaning is performed at the eastern, central, and western portions of the airport each year with each portion cleaned every three years. Daily sweeping of paved surfaces justify this schedule because of low rate of sediment accumulation at catch basin structures.
	Determine the presence or absence of PCB-containing joint caulking material within the central KCIA drainage basin.	High	SCAP	King County	Complete	--	Dec 2010	May 2013 data from KCIA and Ecology showed total PCB concentrations below screening levels or not detected. June 2012 in-line sediment trap data showed PCB concentrations below screening levels. The associated grab sample had no detection of PCBs. In-line and grab samples collected since 2009 showed PCB concentrations below screening levels or not detected. KCIA has no further plans for sampling for sources of PCBs.
	Conduct a follow-up inspection at United Parcel Service (UPS) Boeing Field to verify that corrective actions have been taken with regard to elevated copper and zinc in stormwater.	Low	SCAP	Ecology	Planned	TBD		
	Conduct a follow-up inspection at Ameriflight to identify which drains discharge to the storm drain system and to ensure that no contaminants are entering storm drains.	Low	SCAP	Ecology	Planned	TBD		
	Assess/confirm the adequate completion of cleanup activities associated with petroleum Leaking Underground Storage Tanks at Hangar Holdings.	Low	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Conduct a follow-up inspection at Western Metal Products to confirm that catch basins were cleaned out as requested, and to evaluate whether this facility should be required to obtain a stormwater permit.	Low	SCAP	SPU, Ecology	Canceled	--	--	As of 2012, Western Metal Products no longer operates at KCIA. This location is now part of UPS operations. UPS presently has an ISGP and is complying separately with Ecology.
	Conduct a follow-up inspection at DHL Express to verify that corrective actions have been completed and that no contaminants are entering the storm drain system.	Low	SCAP	SPU	Planned	TBD		
	Conduct re-inspections at KCIA tenant facilities for which the most recent compliance inspection was conducted more than 3 years ago, and any new tenant facilities, to ensure that activities are in compliance with source control best management practices.	Medium	SCAP	SPU, Ecology, King County	Complete	--	Jun 2012	KCIA inspected current and new tenant facilities in 2013 in accordance with its municipal and industrial NPDES Permit Requirements. New tenants were assessed for pollutant sources and best management practices soon after start of operations. Assessments are performed annually.
<b>RM 3.9-4.3 East (Slip 6)</b>								
King County Stormwater Outfall	Collect in-line water and storm drain solids samples to evaluate if COCs are migrating to Slip 6 source control area sediments via the storm drain outfall.	High	SCAP	King County	In Progress	TBD		Sediment trap installed in September 2008; first sample collected in March 2009; most recent sample was May 2013.
	Conduct source tracing to identify sources of COCs to the storm drain line, as necessary.	High	SCAP	King County	Planned	TBD		Contaminant concentrations in May 2013 sediment trap sample were below sediment screening levels.
8801 Site (Former PACCAR Site)	Negotiate an Agreed Order to address upland cleanup and source control of soil and groundwater contamination at the site.	High	SCAP	Ecology, Property owner/operator	Complete	--	Nov 2008	
	Re-evaluate existing soil and groundwater data and compare to site-specific screening levels (to be developed) for metals, PAHs, petroleum hydrocarbons, PCBs, SVOCs, and VOCs as COCs in the LDW, and test for dioxin/furans.	High	SCAP	Ecology, Property owner/operator	In Progress	TBD		Draft Remedial Investigation Report submitted to Ecology on September 30, 2010, as required by Agreed Order # 6069. Final RI Report submitted to Ecology in February 2012.
	Expand investigation of the southwest storage area and northwest corner of the site to determine the extent of soil and groundwater contamination.	High	SCAP	Ecology, Property owner/operator	In Progress	TBD		Work continuing as required by Agreed Order # 6069.
	Complete Phase 2 of the Sediment Evaluation Work, which includes sediment core sampling in selected locations in the LDW adjacent to the site.	High	SCAP	Ecology, Property owner/operator	In Progress	TBD		
	Negotiate expanding the stormwater and storm drain solids monitoring to add COCs at the site. Review future monitoring results to determine if further actions are necessary.	High	SCAP	Ecology, Property owner/operator	In Progress	TBD		



**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Review the current SWPPP and Operations and Maintenance Plan. Make necessary changes and additions to prevent contaminants from potential upland sources (such as fuel leaks from damaged vehicles) from migrating to Slip 6 source control area sediments via the stormwater system.	Medium	SCAP	Ecology, Property owner/operator	Planned	TBD		
Former Rhône-Poulenc Site	Address the toluene groundwater contamination in the southwest corner of the East Parcel, in accordance with the Revised East Parcel Corrective Measures Implementation Work Plan.	High	SCAP	EPA, Property owner/operator	In Progress	TBD		
	Continue to monitor the effectiveness of the hydraulic interim control measure, and investigate the presence of elevated copper concentrations in groundwater outside the barrier wall and the potential leak in the barrier wall.	High	SCAP	EPA, Property owner/operator	Ongoing	TBD		
	Investigate and address shoreline bank contamination from historical site operations and releases (e.g. application of vanillin black liquor solids to the shoreline bank for weed control).	High	SCAP	EPA, Property owner/operator	In Progress	TBD		
	Review the current SWPPP and Operations and Maintenance Plan. Make necessary changes and additions to prevent contaminants from potential upland sources (such as fuel leaks from damaged vehicles) from migrating to Slip 6 source control area sediments via the stormwater system.	High	SCAP	Ecology, Property owner/operator	Planned	TBD		
	Oversee and inspect discharge to the King County sanitary sewer system from groundwater remediation at this site through the KCIW Program.	Low	SCAP	KCIW	Ongoing	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
KCIA	Evaluate the "Drainage Area 3" portion of the KCIA stormwater system that discharges to the LDW via the King County stormwater line to determine if stormwater and/or storm drain solids monitoring is necessary.	High	SCAP	Ecology, KCIA	Complete	--	Apr 2012	In May 2013 the previous KCIA1 sample location was relocated to an up-gradient location at the airport. In May 2013, KCIA sampled stormwater solids (in-line and grab samples) at the new KCIA1 location. Total metals, total PCBs, total LPAH, total HPAH, and phthalates concentrations were below SQS/LAET. Phanthrene and BEHP were not detected. In May 2013 Ecology sampled stormwater solids from this location, which showed very similar results. Several private and public stormwater systems connect into the KCIA Slip 6 pipe outfall for discharge into the Lower Duwamish Waterway. These include the City of Tukwila East Marginal Way, the Museum of Flight (Aviation High School) property, and International Auto Auction Inc. stormwater systems.
	Review and modify KCIA stormwater management activities to prevent contaminants from entering the KCIA stormwater system.	Medium	SCAP	Ecology, King County	Ongoing	TBD		KCIA implemented airport-wide BMPs in accordance with its ISGP requirements. KCIA implementation of BMPs are provided in its SWPPP.
	Assess and modify all tenant and airport pollutant prevention measures within KCIA.	Medium	SCAP	KCIA	Ongoing	TBD		Efforts to comply with KCIA's industrial and municipal NPDES permits are ongoing and include annual tenant assessments for potential pollutant generating sources.
	Determine if PCBs are present in joint caulk material within this portion of the airport and conduct a removal, if necessary.	Medium	SCAP	KCIA	Complete	--	2012	In-line sediment trap and grab samples collected at KCIA1 in March 2009, December 2010, April 2012, and May 2013 have shown total PCBs below the SQS/LAET. This includes May 2013 samples collected by Ecology.
Museum of Flight (MOF)	Monitor stormwater and/or storm drain solids at MOF and former BDC properties in the vicinity of USTs and associated groundwater contamination.	High	SCAP	Ecology, Property owner/operator	Planned	TBD		
	Develop a plan to remove USTs and associated soil and groundwater contamination on the MOF property.	Medium	SCAP	Ecology, Property owner/operator	Planned	TBD		
	Identify the source and extent of groundwater contamination on the former BDC property, and conduct remedial action, as necessary.	High	SCAP	Ecology, Property owner/operator	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Boeing Developmental Center (BDC)	Conduct stormwater and/or storm drain solids monitoring for outfalls DC14 and DC15.	High	SCAP	Ecology, Boeing	In Progress	TBD		Ecology/SAIC collected two sediment samples near DC14; the only chemical found at concentrations above the SQS was benzyl alcohol. Ecology completed sampling of storm drain solids in an adjacent drain line from the BDC (to outfall 2088).
	Investigate UST locations to determine whether any USTs are located within the Slip 6 drainage basin and whether any USTs present a source of contaminants to soil and/or groundwater.	Low	SCAP	Boeing	In Progress	TBD		The drainage basin to the two outfalls flowing into Slip 6 (DC 14 and DC 15) includes Buildings 9-05, 9-07, 9-04, 9-77, 9-08 at the BDC. The Environmental Compliance Group at the BDC was contacted and they will indicate the presence of USTs near these buildings in March 2012.
	Review the current SWPPP and make changes and additions necessary to prevent contaminants from entering the BDC stormwater system.	Medium	SCAP	Ecology, Boeing	Complete	--	Oct 2011	The SWPPP for the BDC was updated in July 2010, and the SPCC in October 2011.
<b>RM 4.3-4.9 East (Boeing Developmental Center)</b>								
BDC Outfalls	Request Boeing to investigate the status of Outfall 2086, which appears to be abandoned.	Medium	SCAP	Ecology/Boeing	Planned	TBD		
	Request Boeing to prepare a work plan for collection of subsurface sediment samples in the area of the LDW adjacent to the BDC outfalls.	Medium	SCAP	Ecology/Boeing	Planned	TBD		
	Request Boeing to collect grab solids samples from the BDC SD system. Priority should be given to SD lines with medium to high flows and SD lines serving areas with significant industrial activities. Samples should be analyzed for PCBs, PAHs, and metals.	High	SCAP	Ecology/Boeing	In Progress	TBD		In late 2011, Ecology completed solids sampling from 1 drain line in the BDC. Samples were analyzed for PCBs, PAHs, and metals. In whole-water samples, PCB concentrations were less than the Washington State acute and chronic water quality criteria. In filtered solids samples, all samples had PCB concentrations less than the 2LAET.
	If COCs are detected in the SD system at concentrations above the SQS, request Boeing to conduct source tracing and control as needed to reduce the potential for sediment recontamination.	High	SCAP	Ecology/Boeing	In Progress	TBD		According to Boeing, source tracing was evaluated and deemed unnecessary. Ecology's sampling of sediments in the LDW near BDC outfalls did not find exceedances of the SQS for any COCs (with the exception of benzyl alcohol, a ubiquitous contaminant in LDW sediments). Storm water sampling from 1 outfall (high priority) indicated low levels of PCBs below Washington criteria for all samples.
Central portion of BDC	Review response to EPA's Request for Information 104(e) letters sent to Boeing.	Medium	SCAP	Ecology	Planned	TBD		The 104(e) response from the Mellon Bank Desimone Trust includes information regarding BDC.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Continue to monitor RCRA cleanup activities to ensure contaminants present in groundwater as a result of historical releases are not entering the LDW.	Low	SCAP	Ecology	Planned	TBD		
	Conduct a stormwater compliance inspection to ensure that current and planned operations are consistent with stormwater regulations and best management practices. Review changes to industrial activities at BDC to assess potential for sediment recontamination associated with new operations.	Medium	SCAP	Ecology	Planned	TBD		
	Request additional information about the nature of BDC's emissions and air permit as they relate to deposition on impervious surfaces and the stormwater pathway to the LDW.	Low	SCAP	Ecology	Planned	TBD		
	Request Boeing to collect at least one round of seep samples from the four known seepage locations (see Figure 2) to confirm that no contaminants are being discharged to the LDW via this transport pathway.	Medium	SCAP	Ecology/Boeing	Planned	TBD		
<b>RM 4.9 East (EAA-7: Norfolk CSO/SD)</b>								
Norfolk CSO/SD/EOF	Compile available GIS data to gain a better understanding of the configurations, relationships, and interconnections of the various stormwater systems; conduct dye testing if needed.	Medium	SCAP	SPU, City of Tukwila, King County	Complete	--	Jul 2008	
	Obtain drainage plans for private properties along East Marginal Way S. to better delineate drainage basin boundaries in this area.	Low	SCAP	SPU, City of Tukwila, King County	Planned	TBD		
	Conduct further source tracing and sampling within the Norfolk CSO/SD.	Medium	SCAP	Ecology, property owners	In Progress	TBD		20 sediment trap samples have been collected as of December 2011.
Boeing Developmental Center (BDC)	Continue sediment monitoring in the vicinity of the south storm drain sediment removal activities.	High	SCAP	Boeing	In Progress	TBD		Sediment samples were collected in September 2013 as part of annual monitoring; all samples had concentrations less than the SMS criterion for PCBs.
	Determine the source of PCBs in storm drain solids and conduct source control activities to remove PCBs from the system.	High	SCAP	Boeing	Complete	--	Oct 2009	Completed further pressure washing of storm drain line from Vortechincs unit upstream toward and beneath Building 9-101. Boeing conducts annual cleanout of the sediment trap and other oil-water separators.
	Continue monitoring storm drain solids.	High	SCAP	Boeing	In Progress	TBD		Solids samples were collected from Vortechincs sediment trap unit in September 2013. Ecology completed sampling of water and storm drain solids in another drain line from the BDC (to Outfall 2088).

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Determine need for cleanup of PCB-containing caulk and other building materials	Medium	SCAP	Ecology, Boeing	In Progress	TBD		Boeing has focused upland sampling on drainage areas where impacts to the sediments were detected. In the areas investigated through December 2011 there was no need identified to cleanup caulk or other building materials. Other areas (other buildings/areas) may be investigated as necessary.
	Re-evaluate SWPPP to determine whether process/operational changes have been made at the BDC, and modify as necessary to address new conditions.	Low	SCAP	Ecology, Boeing	Complete	--	Oct 2011	The SWPPP was updated in July 2010, and the SPCC in October 2011.
	Re-evaluate the Industrial Stormwater General Permit to assure that the appropriate parameters are measured to assess ongoing sources.	Low	SCAP	Ecology, Boeing	Planned	TBD		
	Determine whether groundwater and soil sampling are needed at Parcel 0423049016 to assess possible historical contamination.	Medium	SCAP	Ecology, Boeing	In Progress	TBD		The initial data gap identified in this area was from a 2007 E&E report noting a barge visible in a historical aerial photo. The barge is still present (now rotten and abandoned) and it is in the LDW on Department of Natural Resources land outside of the noted parcel (Parcel 0423049016). Boeing has identified a historical Phase 1 assessment for the 0423049016 Parcel and is attempting to obtain a copy of that report.
Military Flight Center	Conduct additional testing to assess the effectiveness of removal of PCB-contaminated material; provide caulk removal and testing reports to Ecology.	Medium	SCAP	Boeing	Planned	TBD		
	Re-evaluate the SWPPP and NPDES permit and make any necessary changes, including parameters to address potential ongoing sources.	Low	SCAP	Ecology, Boeing	Planned	TBD		The SWPPP was updated by Boeing in February 2010; the SPCC was updated in August 2009. Ecology found PCBs exceeding 100 ppb in solids from a ditch line Military Flight Center discharges through. Ecology plans to require a source tracing action plan and PCB monitoring of stormwater under NPDES.
	Conduct inspection to ensure that pollution prevention practices are adequate and the facility is in compliance with its stormwater permit.	Low	SCAP	Ecology	In Progress	TBD		
	Monitor stormwater for PCBs at discharge points to assess potential ongoing sources.	Medium	SCAP	Boeing	In Progress	TBD		Boeing conducts annual monitoring for PCBs in an oil-water separator at the Military Flight Center.
	Discuss cleanup options for removal of caulk containing PCBs at less than 50 mg/kg.	Medium	SCAP	Ecology, Boeing	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
KCIA	Determine where the KCIA storm drain system connects to the Norfolk CSO/SD.	Low	SCAP	KCIA	Complete	--	Jul 2005	KCIA has two catch basins that drain grassy areas and connect to the Norfolk CSO/SD basin. There is no industrial activity at this area.
	Test and remove any material, if needed, in the southern portion of KCIA that contains elevated levels of PCBs (e.g., caulk containing PCBs).	Medium	SCAP	KCIA	Complete	--	2010	No caulk material is present in this area, only an asphalt service road. Testing not needed at KCIA areas. There are no KCIA sources for PCBs. In 2013 KCIA was informed of potential PCB sources from the Boeing's Military Flight Center (BMFC) property located southwest and adjacent to the airport. Boeing collected samples at the impacted KCIA areas and up-gradient BMFC structures. High PCB concentrations were found in samples at these locations. Boeing is presently developing a draft PCB removal work plan for KCIA to review.
	Re-evaluate the SWPPP and make any necessary changes to address ongoing sources.	Low	SCAP	Ecology, KCIA	Complete	--	Jul 2005	No airport industrial activity occurs in this area. No changes to the KCIA SWPPP are needed.
Unified Grocers / Associated Grocers	Sample monitoring wells located near the former truck shop to evaluate current groundwater flow and extent of the contaminant plume; determine if additional monitoring wells are needed.	Medium	SCAP	Property owner	Planned	TBD		
	Re-evaluate the free product removal strategy to determine its source control effectiveness.	Medium	SCAP	Property owner	Planned	TBD		
	Determine whether additional groundwater and soil assessment is needed for the maintenance building where UST removal activities took place in 1995.	Medium	SCAP	Ecology	Planned	TBD		
	Apprise the City of Seattle Department of Planning & Development of the potential for new construction or redevelopment activities to encounter contaminated soil or groundwater, so that this can be addressed in the project construction dewatering plan.	Low	SCAP	SPU	Complete		May 2008	
	Evaluate spill prevention/cleanup plan for the two operational USTs to assure adequate control of potential spills.	Low	SCAP	Ecology, Property owner	Planned	TBD		
	Determine whether a SWPPP is required to address potential ongoing sources.	Low	SCAP	Ecology	Complete	--	Apr 2012	NPDES ISGP compliance inspections were conducted by WQ in December 2010 and February 2011. A SWPPP was submitted to Ecology in April 2012.
Northwest Auto Wrecking	Conduct soil, groundwater, surface water, and sediment sampling, as appropriate, to evaluate potential historical sources.	Medium	SCAP	Northwest Auto Wrecking	Planned	TBD		Review sampling results and assess potential for sediment recontamination.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Review results of soil, groundwater, surface water, and/or sediment sampling to assess potential for sediment recontamination.	Medium	SCAP	Ecology	Planned	TBD		
	Conduct facility inspection to assess potential ongoing sources.	Low	SCAP	Ecology	Complete	--	Jul 2007	Business has closed; property is vacant. Conduct facility inspection once a new business is in place.
	Determine whether an NPDES permit and SWPPP are required.	Low	SCAP	Ecology	Cancelled	--	Jul 2007	Not required; property is vacant.
	Obtain information pertaining to the storm drain system from Northwest Auto Wrecking to assess potential historic and ongoing sources.	Low	SCAP	Ecology	Complete	--	2005	Business has closed; property is vacant.
	Determine whether the storm drain system connects to the Norfolk CSO/SD.	Medium	SCAP	Northwest Auto Wrecking	Complete	--	2005	Business has closed; property is vacant.
	Once a new business is operating at this site, conduct a facility inspection to assess the potential for sediment recontamination associated with this property.	Low	Follow-On	Ecology, City of Tukwila, KCIW	Planned	TBD		
Affordable Auto Wrecking	Conduct surface water, soil, and groundwater sampling to assess the potential for sediment recontamination.	Medium	SCAP	Affordable Auto Wrecking	Planned	TBD		
	Determine whether the storm drain system connects to the Norfolk CSO/SD.	Medium	SCAP	Affordable Auto Wrecking, SPU, City of Tukwila	Planned	TBD		
	Inspect facility to ensure that recent drainage system modifications are functioning properly and that contaminated runoff does not flow into the municipal storm drain system on MLK Way.	Medium	SCAP	Ecology, SPU, KCIW	Planned	TBD		
	Determine cleanup options for removal of historically-contaminated media, as appropriate.	Medium	SCAP	Ecology, Affordable Auto Wrecking	Planned	TBD		
	Re-evaluate the SWPPP and make necessary changes to address potential ongoing sources.	Low	SCAP	Ecology, Affordable Auto Wrecking	Planned	TBD		
	Oversee and monitor discharges to the combined sewer system.	Medium	SCAP	KCIW	Planned	TBD		
Arco Gas Station	Conduct soil sampling in the area adjacent to the former tank farm under the Voluntary Cleanup Program, to determine if soils are impacted and if remediation is necessary to control this potential contaminant pathway.	Medium	SCAP	Arco	Planned	TBD		
	Conduct additional groundwater monitoring.	Medium	SCAP	Arco	Planned	TBD		
	Based on results of soil and groundwater sampling, determine whether further actions are needed to address potential historical sources.	Medium	SCAP	Ecology	Planned	TBD		
	Determine if a SWPPP is required to address potential ongoing sources.	Low	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Gain a better understanding of the storm drain system and possible historic or present connections to the Norfolk CSO/SD.	Low	SCAP	Ecology	Planned	TBD		
<b>RM 0.0-1.0 West (Spokane Street to Kellogg Island)</b>								
SW Dakota Street SD Outfalls (Outfalls 2148, 2149, 2150, and 2233)	Continue source tracing to identify potential sources of the sediment COCs reported above screening levels in storm drain structures in the SW Dakota Street SD basin.	Medium	SCAP	SPU, Ecology	In Progress	TBD		
SW Idaho Street SD Outfalls (Outfall 2147)	Continue source tracing to identify potential sources of the sediment COCs reported above screening levels in storm drain structures in the SW Idaho Street SD basin.	Medium	SCAP	SPU, Ecology	In Progress	TBD		
Duwamish West CSO/Siphon West CSO	Continue to perform facility inspections within the CSO basin as part of ongoing source control efforts. Document source control actions that are identified as a result of these inspections, if any.	Low	SCAP	KCIW, Ecology	In Progress	TBD		
Outfalls 2140, 2141, 2142, 2153, 2144, 2145, 2146	Conduct an inspection during a storm event to determine if Outfalls 2140 through 2146 are operational or have been abandoned. If discharge from these outfalls is observed, request that the property owners conduct dye testing to determine if storm drain lines are connected to the unresolved outfalls and delineate the associated drainage areas.	Medium	SCAP	SPU, Ecology	Planned	TBD		
Riverside Mill Property	Perform an initial inspection to verify compliance with applicable regulations and source control BMPs.	Medium	SCAP	SPU	Planned	TBD		
BNSF Railroad Right-of-Way	Determine whether the drainage ditch discharges to the LDW and identify if stormwater runoff is conveyed to the drainage ditch from Riverside Mill or other nearby facilities/properties.	Medium	SCAP	SPU, Ecology	Planned	TBD		
Port of Seattle Terminal 103	Perform a facility inspection at General Construction to verify compliance with applicable regulations and source control BMPs.	Low	SCAP	SPU	Planned	TBD		
	Perform a facility inspection at CalPortland to verify compliance with applicable regulations and source control BMPs.	Low	SCAP	SPU	Planned	TBD		
Global Diving & Salvage	Request that Global Diving & Salvage provide information to determine if catch basins at the facility are plumbed to the storm drain system at Terminal 103 or the SW Dakota Street SD system.	Low	SCAP	Ecology	Planned	TBD		
	Perform a facility inspection to verify compliance with applicable regulations and source control BMPs.	Low	SCAP	SPU	Planned	TBD		
Port of Seattle Terminal 105	Determine if the Liquid Disposal Corporation USTs have been removed from Terminal 105 park.	Medium	SCAP	Port of Seattle	Planned	TBD		



**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Request that the Port of Seattle and Ferguson Enterprises provide information to determine if PCB-bearing dredge spoils were removed from parcel 3530 prior to the construction of the warehouse over the disposal area.	Medium	SCAP	Ecology	Planned	TBD		
	Assess the need for an environmental investigation at the Terminal 105 Park to characterize the nature and extent of soil and groundwater contaminated by PCBs, PAHs, and metals in order to determine the potential for sediment recontamination.	Medium	SCAP	Ecology	Planned	TBD		
Encore Oils (former Pacific Rendering)	Assess the need for additional environmental investigations and/or cleanup of contaminated soil.	Medium	SCAP	Ecology	Planned	TBD		
	Perform a follow-up inspection to determine if Encore Oils has implemented the corrective actions identified during the inspections performed in May and July 2012.	Low	SCAP	SPU	Planned	TBD		
	Determine if Encore Oils is required to obtain coverage under the ISGP or is eligible for a CNE certificate.	Low	SCAP	Ecology	Planned	TBD		
Ferguson Enterprises	Request that the Port of Seattle and Ferguson Enterprises provide information to determine if PCB-bearing dredge spoils were removed from parcel 3530 prior to the construction of the warehouse over the disposal area.	Medium	SCAP	Ecology	Planned	TBD		
	Assess the need for additional environmental investigations and/or cleanup of contaminated soil and groundwater.	Medium	SCAP	Ecology	Planned	TBD		
General Recycling of Washington	Request that General Recycling update the facility SWPPP to include the chemical treatment upgrades to the stormwater treatment system. General Recycling will be required to provide the updated SWPPP to Ecology.	Medium	SCAP	Ecology	Planned	TBD		
	Assess the need for additional environmental investigations and/or cleanup of contaminated soil and groundwater.	Medium	SCAP	Ecology	Planned	TBD		
Former Seaboard Lumber Property	Perform a follow-up inspection at Evergreen Trails to verify that corrective actions identified during the May 2008 inspection have been implemented and that the facility is maintaining appropriate source control BMPs.	Medium	SCAP	Ecology	Planned	TBD		
	Request that Evergreen Trails verify which outfall (2140, 2141, or other) the facility uses to discharge stormwater to the intertidal bay at Herring's House Park.	Medium	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Assess the need for additional environmental investigations at Evergreen Trails and Herring's House Park to define the nature and extent of residual soil and groundwater contamination at the properties to determine if LDW sediment near the properties is or has the potential to become contaminated via the groundwater discharge and bank erosion pathways.	Medium	SCAP	Ecology	Planned	TBD		
Port of Seattle Terminal 107	Determine the potential inputs to a pipe located near the ravine in the northern portion of the Terminal 107 Park.	Medium	SCAP	Port of Seattle	Planned	TBD		
	Perform an environmental investigation to determine if soil and groundwater are contaminated due to historical industrial operations and filling activities.	Medium	SCAP	Port of Seattle	Planned	TBD		
Former Fraser Properties	Perform an inspection at Global Diving & Salvage to ensure compliance with applicable regulations and source control BMPs.	Low	SCAP	SPU, Ecology	Planned	TBD		
	Perform an inspection at Rehabitat Northwest to ensure compliance with applicable regulations and source control BMPs.	Low	SCAP	SPU, Ecology	Planned	TBD		
	Assess the need for additional environmental investigations and/or cleanup of suspected soil and groundwater contamination at this property.	Low	SCAP	Ecology	Planned	TBD		
Former Concrete Restoration	Perform business inspections at Gary's Westside Towing to verify compliance with applicable regulations and source control BMPs.	Medium	SCAP	SPU, Ecology	Planned	TBD		
	Perform business inspections at Global Diving & Salvage to verify compliance with applicable regulations and source control BMPs.	Medium	SCAP	SPU, Ecology	Planned	TBD		
	Request additional information from Brys Auto Wrecking regarding the previous environmental investigations at the property to determine if LDW sediment COCs are present in soil and groundwater at concentrations indicating a potential for sediment recontamination.	Low	SCAP	Ecology	Planned	TBD		
	Assess the need for additional investigations and/or cleanup of suspected soil and groundwater contamination at this property.	Low	SCAP	Ecology	Planned	TBD		
West Seattle Estates	Request information regarding cleanup and groundwater monitoring at West Seattle Estates to evaluate the potential for sediment recontamination via the groundwater discharge pathway.	Low	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Assess the need for additional investigations and/or cleanup of soil and groundwater contamination at this property.	Low	SCAP	Ecology	Planned	TBD		
Puget Park	Request information from Seattle Parks to determine if the leachate collection trench was installed down gradient of the Puget Park Lobe.	Low	SCAP	Ecology	Planned	TBD		
	Assess the need for additional investigations and/or cleanup of soil and groundwater contamination at this property.	Low	SCAP	Ecology	Planned	TBD		
<b>RM 1.0-1.3 West (Kellogg Island to Lafarge Cement)</b>								
Lafarge North America Inc. Seattle	Request information from Lafarge regarding the status of Outfall 001/2139 and 004.	Medium	SCAP	Ecology	Planned	TBD		
	Request information from Lafarge regarding the installation of an updated stormwater treatment system within 12 months of the NPDES permit renewal, as described in the SWPPP.	Medium	SCAP	Ecology	Complete	--	Jan 2013	Ecology required treatment to be installed by December 31, 2012. The treatment was installed.
	Review new sediment data from the 2009 Lafarge maintenance dredging and the 2011 surface sediment sampling conducted by Ecology to determine if additional sediment sampling is needed for sediment characterization.	Medium	SCAP	Ecology	Planned	TBD		
	Conduct a follow-up business inspection to verify compliance with the corrective actions required by Ecology as a result of the June 2009 inspection, applicable regulations, and BMPs.	Low	SCAP	Ecology	Planned	TBD		
	Review the response to the CERCLA Section 104(e) Supplemental Information Request sent to Lafarge by EPA.	Medium	SCAP	Ecology	Planned	TBD		
	Request Lafarge to collect environmental data to determine if soil and groundwater are contaminated due to historical drum recycling and reclamation activities at the Lafarge property.	Medium	SCAP	Ecology	Planned	TBD		
	Request Lafarge to collect additional seep samples to better characterize groundwater being discharged into the LDW. Seep samples will be analyzed for sediment COCs, including PCBs.	Medium	SCAP	Ecology	Planned	TBD		
	Request Lafarge to provide additional information about the composition of material behind the bulkhead and whether or not bulkhead repairs were completed during 2006.	Low	SCAP	Ecology	Planned	TBD		
	Request Lafarge to provide additional information about the nature and composition of material behind the bulkhead adjacent to the LDW.	Medium	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
<b>RM 1.3-1.6 West (Glacier Bay)</b>								
SW Kenny SD (Glacier Bay Outfall)	Collect in-line sediment samples to evaluate whether contaminants are currently being transported to Glacier Bay via this pathway.	Medium	SCAP	SPU	Complete	--	Mar 2009	Zinc, PAHs, phthalates, PCBs, and TPH-oil present at elevated concentrations.
	If COCs are present in the storm drain line, conduct source tracing to identify sources of contaminants.	Medium	SCAP	SPU	In Progress	TBD		An in-line solids sample collected in May 2010 contained elevated concentrations of metals, PCBs, PAHs, phthalates, and TPH.
Alaska Marine Lines	Sample groundwater along shoreline to determine whether residual site contaminants are being discharged to Glacier Bay.	Medium	SCAP	Property owner/operator	Planned	TBD		
	Confirm location of former USTs that were removed in 1990.	Low	SCAP	Property owner/operator	Planned	TBD		
	Conduct follow-up inspection to ensure that concerns and recommendations from the January 2006 inspection have been addressed.	Low	SCAP	Ecology	Complete	TBD	Jun 2013	Ecology conducted a compliance inspection with sampling in June 2013. Stormwater treatment was installed in late 2012 and appears to working well.
	Verify that remediation associated with filling of graving dock was completed and all conditions met.	Low	SCAP	Ecology	Planned	TBD		
Duwamish Shipyard	Negotiate an Agreed Order to address soil and groundwater contamination.	High	SCAP	Ecology, Property owner/operator	Complete	--	Sep 2010	Agreed Order No. DE-6735.
	Clean out stormwater catch basins and lines, sample solids, and report results; clean and prepare video documentation of stormwater system.	High	SCAP	Property owner/operator	Complete	--	Jan 2008	
	Evaluate results of test pit and soil stock pile testing.	Low	New	Property owner/operator	Complete	--	Jan 2008	None needed; no exceedances of MTCA cleanup levels.
	Prepare work plans for further site investigations as specified in the Agreed Order.	High	SCAP	Property owner/operator	Complete	--	Aug 2010	Final RI/FS Work Plan submitted to Ecology.
	Conduct site investigations as specified in the Agreed Order Statement of Work.	High	SCAP	Property owner/operator	In Progress	Mar-14		Phase 1 Site Investigations completed. Ecology received an updated Work Plan in March 2013 following dispute resolution.
	Review site investigation results and assess potential for sediment recontamination and need for remedial actions.	High	SCAP	Ecology	In Progress	Sep-14		Phase2 Site investigations expected to be complete by September 2014.
Glacier Northwest	Direct current and/or previous property owners/operators to conduct site characterization investigations.	High	SCAP	Ecology	Complete	--	May 2009	Agreed Order No. DE-6000.
	Under the Agreed Order, require PLPs to prepare a Data Gaps Report.	High	Follow-up	Ecology	Complete	--	Sep 2010	
	Under the Agreed Order, require PLPs to prepare work plans for site investigations as specified by Ecology.	High	SCAP	Property owner/operator	Complete	--	Sep 2013	Ecology issued an RI/FS work plan to the PLPs in August 2012. The PLPs disputed this work plan. Ecology approved the final RI/FS work plan September 2013.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Upon approval of work plans by Ecology, conduct site investigations as specified.	High	SCAP	Property owner/operator	In Progress	Aug-14		Dispute Resolution was invoked and the work plan process was extended another year.
	Review site investigation results and assess potential for sediment recontamination and need for remedial actions.	High	SCAP	Ecology	Planned	Jun-15		PLPs have one year to complete field data collection, then 3 months to validate.
	Conduct a site inspection to evaluate current operations with respect to stormwater and waste management.	Low	SCAP	Ecology, SPU	Complete	--	May 2009	Facility in compliance.
	Verify the storm drainage pathway at the site; if stormwater flow to the LDW is confirmed, assess the need for stormwater characterization.	Medium	SCAP	SPU, Ecology	Complete	--	Nov 2009	Historical stormwater piping investigation completed November 2009. No contaminant migration pathway to LDW.
	Issue CERCLA 104(e) request to the facility and property owners to obtain additional information on current and historical operations.	Low	New	EPA	Complete	--	2008	
	Review CERCLA 104(e) response submitted by Glacier Northwest.	Medium	Follow-up	EPA, Ecology	Complete	--	2008	
	Review CERCLA 104(e) response submitted by Reichhold, Inc.	Medium	New	EPA, Ecology	Complete	--	Jan 2012	
N Terminal 115 (Former MRI Corporation)	Pursue further investigation of the potential for groundwater transport of contaminants to Glacier Bay or to storm drain lines which discharge to Glacier Bay; review results and determine whether remedial action is required.	Medium	SCAP	Ecology	Complete	--	2008	Port of Seattle to conduct a remedial investigation under the VCP.
	Require Port to enter the VCP in lieu of starting negotiations for Agreed Order.	Medium	New	Ecology	Complete	--	May 2009	Ecology decided to pursue an Agreed Order with the Port of Seattle.
	Require Port to prepare Data Gaps Report and Remedial Investigation under VCP, including evaluation of arsenic in groundwater.	Medium	New	Ecology	Complete	--	Jan 2010	Port of Seattle submitted Environmental Investigation Report in January 2010.
	Negotiate an Agreed Order to address soil and groundwater contamination.	Medium	New	Ecology	Complete	--	Mar 2011	The Port of Seattle and Ecology signed Agreed Order DE 8099 on March 2, 2011.
	Conduct Remedial Investigation as specified in Agreed Order No. 8099.	Medium	New	Port of Seattle	In Progress	TBD		Ecology approved a Final Work Plan in August 2013.
	Conduct a site inspection to evaluate current operations with respect to stormwater and waste management.	Medium	SCAP	Ecology, SPU	Complete	--	Jul 2013	Site inspection was conducted in July 2013, the Port was issued a warning letter for violations.
	Verify the storm drainage pathway at the site; if stormwater flow to the LDW is confirmed, assess the need for stormwater characterization.	Medium	SCAP	SPU, Ecology	In Progress	Apr-14		A camera investigation was conducted that confirms the pathway of stormwater from the Port to the LDW, along the 48 inch SPU main line.
Chemithon	Prepare and/or update the SWPPP and processes to ensure that site activities do not result in transport of contaminants to the LDW.	Low	SCAP	Property owner/operator	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
<b>RM 1.6-2.1 West (Terminal 115)</b>								
SW Kenny Street SD/POS SD 6132/Terminal 115 CSO (Outfall 2127)	Identify and evaluate potential sources of the sediment COCs reported above screening values in storm drain structures within the SW Kenny Street SD basin.	Medium	SCAP	SPU, Ecology	In Progress	TBD		One sediment trap sample and one in-line solids sample collected in 2012.
Highland Park Way SW SD/POS 6162 (Outfall 2125)	Identify and evaluate potential sources of the sediment COCs reported above screening values in storm drain structures within the Highland Park Way SW SD basin.	Medium	SCAP	SPU, Ecology	In Progress	TBD		Two sediment trap samples and two in-line solids samples collected in 2012.
	Review data from storm drain solids samples collected up gradient of Outfall 2125 in April and October 2010 and May 2011, and data from sand cover samples collected from the clean sand cover placed on the maintenance dredged area in Berth 1, to evaluate the potential for sediment recontamination.	Medium	SCAP	Ecology, Port of Seattle, SPU	Planned	TBD		
West Michigan CSO (Outfall 2506)	Evaluate the 2009 King County effluent discharge data to assess whether the effluent discharges from the West Michigan CSO represent a potential source of contaminants to the sediments near the Terminal 115 source control area.	Medium	SCAP	Ecology	Planned	TBD		
Terminal 115 - Port of Seattle Storm Drain Outfalls (Outfalls 2122, 2123, 2124, 2220, and POS 6146)	Review data from storm drain solids samples collected up gradient of Outfalls 2123, 2124, and 2220 in April and October 2010 and May 2011; storm drain solids samples collected up gradient of Outfall 2128 in September 2011; and data from sand cover samples collected from the clean sand cover placed on the maintenance dredged area in Berth 1 to evaluate the potential for sediment recontamination.	Medium	SCAP	Ecology, Port of Seattle	Planned	TBD		
	Collect base flow samples from the portions of the Terminal 115 SD system that discharge to Outfalls 2128 and 2220 to determine if contaminants in base flow (i.e., groundwater draining into the storm drain system through French drains and groundwater drainage structures) are present at concentrations exceeding Washington State Water Quality Standards (WAC 173-201A) and/or the draft groundwater-to-sediment screening levels.	Medium	SCAP	Port of Seattle	Planned	TBD		
	Negotiate an Agreed Order with the Port, to include Terminal-wide investigations to characterize the nature and extent of potential COC sources in fill material, soil, groundwater, and stormwater at Terminal 115, including specific areas identified in the Terminal 115 SCAP.	High	SCAP	Ecology, Port of Seattle	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Collect storm drain solids samples from the storm drain lines discharging to Outfalls 2122, 2123, 2124, 2128, 2220, and POS 6146 and provide the data to Ecology to identify potential contaminant sources. Samples were recently collected from the storm drain lines discharging to Outfalls 2123, 2124, 2128, and 2220.	High	SCAP	Port of Seattle	In Progress	TBD		
	Perform a video inspection of storm drain lines to identify areas where groundwater infiltrates the storm drain system.	High	SCAP	Port of Seattle	Planned	TBD		
	Provide information regarding discharges to the deck drains north of Berth 1 to Ecology. Information to be provided will include, at minimum, a description of BMPs employed to prevent pollution of the stormwater runoff that is conveyed to the deck drains.	High	SCAP	Port of Seattle	Planned	TBD		
	Provide additional information to Ecology regarding stormwater drainage to the LDW from the 150 SW Michigan Street area of the Terminal 115 property. Information to be provided will include, at minimum, a map showing the area draining to the two small outfalls and a description of BMPs employed to prevent stormwater pollution.	High	SCAP	Port of Seattle	Planned	TBD		
Icicle Seafoods	Review SPU's 2009 and Ecology's 2010 inspection reports to verify that operations and materials used at the facility do not represent a potential source of sediment COCs, which could commingle with stormwater or be spilled directly to the LDW.	Medium	SCAP	Ecology	Canceled	--	--	This facility has moved to a different location, therefore this action item is no longer relevant.
	Review the responses to CERCLA Section 104(e) Request for Information letters from the companies that provide services to or are affiliated with Icicle Seafoods to identify potential sources of sediment recontamination. These companies include: Cypress Island Seafood, LLC, Murphy Overseas, LLC, and Smoki Foods.	Low	SCAP	Ecology	Planned	TBD		
Gene Summy Lumber and Commercial Fence (N Terminal 115)	Review the response to the CERCLA Section 104(e) Request for Information letter from Strategic Global Mobility (SGM) to identify potential sources of sediment recontamination that may be associated with historical operations.	Low	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Northwest Container Services	Perform a follow-up stormwater inspection at Northwest Container Services to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.	Medium	SCAP	Ecology, SPU	Planned	TBD		Northwest Container Services closed and moved out but then returned. Northland Services expanded their permit to include the Northwest Container Services footprint. A compliance inspection was scheduled for early 2013.
Shultz Distributing	Determine if stormwater from the Shultz Distributing facility is conveyed to the Highland Park Way SW SD system without treatment.	High	SCAP	SPU, Port of Seattle	Planned	TBD		
	Perform a facility inspection to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.	Medium	SCAP	Ecology, SPU, King County	Planned	TBD		
Seafreeze Cold Storage	Review the responses from Seafreeze, Custom Seafoods, and Northwest Seafood Processors to the CERCLA Section 104(e) Request for Information letter to identify potential sources of sediment recontamination (if any) that may be associated with current or historical operations.	Low	SCAP	Ecology	Planned	TBD		
Seattle Engineering Department Penn Yard	Perform a property inspection to determine current use of the property and determine if stormwater and/or spills may be conveyed to the LDW via sheet flow or groundwater discharge.	Medium	SCAP	Ecology	Planned	TBD		
	Request information from the City of Seattle Engineering Department regarding historical operations performed by the department to determine if operations may have resulted in releases of contaminants to soil and/or groundwater.	Medium	SCAP	Ecology	Planned	TBD		
Former Foss Environmental Services	Request additional information regarding the status of the utility-owned pad-mounted electrical transformer from Haslund MP to determine if it remains at the property, and if so, to determine if it contains PCB-bearing fluid.	Medium	SCAP	Ecology	Planned	TBD		
	Request additional information from Haslund MP to determine the locations of storm drain lines on the former Foss Environmental property.	Medium	SCAP	Ecology	Planned	TBD		
	Review responses from McGraw-Hill Companies, Inc. and Ilahie Holdings, Inc. to the CERCLA Section 104(e) Request for Information letters to identify potential sources of sediment recontamination that may be associated with current or historical operations.	Low	SCAP	Ecology	Planned	TBD		



**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Request that Haslund MP perform an environmental investigation to characterize the nature and extent of potential sediment COCs in soil and groundwater beneath the property. Soil and groundwater contamination may be present due to historical operations by Boeing.	High	SCAP	Ecology	Planned	TBD		
Aluminum & Bronze Fabricators	Determine if Aluminum & Bronze can obtain a CNE certificate or is required to obtain coverage under the Industrial Stormwater General Permit.	Medium	SCAP	Ecology	Planned	TBD		
Catholic Printery	Review the April 2010 local source control inspection report to determine if there is a potential for sediment recontamination via the stormwater pathway.	Medium	SCAP	Ecology	Planned	TBD		
<b>RM 2.1 West (1st Avenue S SD)</b>								
1st Avenue S Bridge Drains (Outfalls 2505, 2507, 2510, 2512)	Request additional information from WSDOT regarding the quantity and quality of stormwater and solids discharged to the LDW through the bridge drains.	High	SCAP	Ecology	Planned	TBD		
1st Avenue S Storm Drain System	Request additional information on the configuration of pipes and drainage ditches in this area from WSDOT to support identification of potential contaminant sources to the 1st Avenue SD.	Low	SCAP	Ecology	Planned	TBD		
1st Avenue S Engineered Wetlands	Request information regarding monitoring and maintenance of the engineered wetlands in the 1st Avenue S SD source control area from WSDOT in order to assess the potential for discharge of sediment COCs from the wetlands to LDW sediment.	Medium	SCAP	Ecology	Planned	TBD		
	Design a study to identify/evaluate sediment and water sampling locations at the confluence of the 1st Avenue S wetlands and the LDW, taking tidal fluctuations and accessibility into consideration. If it is determined that sediment COCs are being released, determine what measures may be necessary to mitigate contaminant release to the LDW and re-evaluate the priority of source control actions for the upland properties within the 1st Avenue S SD basin.	Medium	SCAP	Ecology	Planned	TBD		
Burkheimer Family Property	Perform a follow-up inspection at Samson Tug & Barge to verify compliance with Ecology's recommendations, applicable regulations, and BMPs to prevent release of contaminants to the LDW.	Low	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Lion Trucking	Perform a follow-up inspection at Lion Trucking to verify compliance with Ecology's recommendations, applicable regulations, and BMPs to prevent release of contaminants to the LDW.	Low	SCAP	Ecology	In Progress	TBD		SPU conducted initial inspection, 10/11/12. SPU sent 2nd and final letter 1/9/13 requiring spill kits, cleaning onsite, detention vault, and catch basins.
South Recycle & Disposal Station	Perform a follow-up inspection at South Recycle & Disposal Station to verify compliance with Ecology's recommendations, applicable regulations, and BMPs to prevent release of contaminants to the LDW.	Low	SCAP	Ecology	Planned	TBD		
Waste Management Eastmont Transfer Station	Perform a follow-up inspection at Waste Management Eastmont Transfer Station to verify compliance with Ecology's recommendations, applicable regulations, and BMPs to prevent release of contaminants to the LDW.	Low	SCAP	Ecology	Planned	TBD		
North Star Ice Equipment	Review reports from recent inspections to verify compliance with Ecology's recommendations, applicable regulations, and BMPs to prevent the release of contaminants to the LDW.	Low	SCAP	Ecology	Planned	TBD		
	Perform an evaluation to determine if the facility is required to obtain coverage under the ISGP or is eligible for a CNE certificate.	Low	SCAP	Ecology	Planned	TBD		
MAPSCO	Request additional information regarding the locations, materials, and conditions of storm drain system pipes and structures from the property owner.	Low	SCAP	Ecology	Planned	TBD		
South Transfer Station/Former S Kenyon Street Bus Yard	Request additional information regarding the locations, materials, and conditions of storm drain system pipes and structures from the property owner.	Low	SCAP	Ecology	In Progress	TBD		
Non-Ferrous Metals	Perform an evaluation to determine if the facility is required to obtain coverage under the ISGP or is eligible for a CNE certificate.	Low	SCAP	Ecology	Planned	TBD		
Seattle Housing Authority	Perform an evaluation to determine if the facility is required to obtain coverage under the ISGP or is eligible for a CNE certificate.	Low	SCAP	Ecology	Planned	TBD		
Urban Hardwoods	Perform an evaluation to determine if the facility is required to obtain coverage under the ISGP or is eligible for a CNE certificate.	Low	SCAP	Ecology	Planned	TBD		
Vista Pro Automotive	Perform an evaluation to determine if the facility is required to obtain coverage under the ISGP or is eligible for a CNE certificate.	Low	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
<b>RM 2.1-2.2 West (EAA-2: Trotsky Inlet)</b>								
2nd Avenue S SD	Collect storm drain outfall pipe sediment and water samples to evaluate whether contaminants are currently being transported to the EAA-2 inlet via this pathway.	High	SCAP	Ecology	Complete	--	Aug 2007	
	Evaluate results of outfall pipe sediment and water samples.	High	Follow-On	Ecology	Complete	--	May 2009	
	Collect additional in-line sediment samples to evaluate the levels of COCs with respect to sediment recontamination in this drainage.	High	SCAP	SPU	Complete	--	Jun 2009	Continue source tracing to identify sources of phthalates and other COCs.
	Continue source tracing to identify sources of phthalates and other COCs.	High	SCAP	SPU	In Progress	TBD		During 2013, one onsite catch basin sample was collected in this drainage basin at Boyer Towing. BEHP (2.8 mg/kg DW) exceeded the upper screening level.
	Review responses to CERCLA 104(e) letters by Wells Trucking and Leasing, Inc. and Ferguson Enterprises, Inc.	Low	New	Ecology, EPA	Planned	TBD		Responses not yet received from EPA.
Reservoir Overflow	Repair West Seattle Reservoir to remove source of water to the overflow pipe that discharges to the head of the inlet.	Low	New	City of Seattle	Planned	TBD		
Industrial Container Services	Conduct additional site characterization to evaluate concentrations of COCs in groundwater, bank and intertidal sediments, and seeps.	High	SCAP	Ecology	Complete	--	Aug 2007	Identify additional data gaps based on sampling results.
	Issue CERCLA 104(e) letter to facility/site/property owners to obtain additional information on historic contamination sources.	Medium	SCAP	EPA	Complete	--	Oct 2006	Review responses to CERCLA 104(e) letter.
	Review responses to CERCLA 104(e) letter.	Medium	SCAP	EPA/Ecology	Complete	--	Dec 2011	
	Identify PLPs for this site.	Low	New	Ecology	Complete	---	Jan 2008	Negotiate Agreed Order for cleanup.
	Identify additional data gaps based on sampling results, and negotiate Agreed Order to conduct an RI/FS and prepare a Cleanup Action Plan.	Medium	Follow-On	Ecology	Complete	--	May 2010	Agreed Order No. DE-6720 (effective May 18, 2010).
	Conduct RI/FS, implement interim actions (as needed), and prepare draft CAP.	Medium	Follow-On	Industrial Container Services	In Progress	2014		To be conducted in accordance with Agreed Order No. DE-6720. Revised RI/FS Work Plan submitted to Ecology in February 2012.
	Investigate destination of roof drainage from northwest corner of property.	High	SCAP	King County/ Ecology/ SPU/ Industrial Container Services	Complete	--	Aug 2009	These drain to ground and/or sanitary sewer.
Evaluate the need for stormwater characterization (solids and whole water) from this facility if overflow occurs during heavy rainfall events.	Medium	SCAP	Ecology/ KCIW/ SPU	In Progress	2014		To be addressed in accordance with Agreed Order No. DE-6720.	

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Douglas Management Company	Conduct groundwater sampling along southern portion of property (adjacent to EAA-2 inlet) to evaluate potential for groundwater transport of contaminants from this site. Collect bank and seep samples.	High	SCAP	Ecology	Complete	--	Jul 2008	
	Identify additional data gaps based on sampling results, and determine actions needed to fill them.	High	SCAP	Ecology	Complete	--	May 2009	Additional action items identified based on Site Characterization Report and Supplemental Data Gaps Report.
	Conduct cleanup as needed to eliminate sources of contaminants to EAA-2; negotiate Agreed Order.	Medium	SCAP	Property owner/operator, Ecology	In Progress	TBD		To be conducted in accordance with Agreed Order No. DE-8258 (effective May 6, 2011).
	Review responses to EPA CERCLA 104(e) Request for Information letter issued to Swan Bay Holdings/Douglas Management Company.	Medium	SCAP	EPA/Ecology	Complete	--	Dec 2008	Supplemental Data Gaps report prepared; additional action items identified
	Conduct groundwater sampling along the LDW shoreline to assess the potential for sediment recontamination via groundwater transport.	Medium	New	Ecology	Planned	2014		To be addressed in accordance with Agreed Order No. DE-8258.
	Conduct a re-inspection of the site to confirm that operations are in accordance with all applicable stormwater regulations; evaluate the potential for contaminant transport to the Trotsky inlet or LDW via surface runoff.	Low	Follow-On	Ecology	In Progress	TBD		Revised SWPPP was submitted to Ecology in September 2012. In January 2013 SWPPP was updated and resubmitted. Ecology Inspection conducted in March 2013 verified stormwater treatment had been installed. NPDES permit was reissued to AML in May 2013 due to administrative error.
	Verify storm drainage pathway on the southern portion of the property.	Medium	SCAP	Ecology/SPU	In Progress	2014		Review of 104(e) response could not confirm; request property owner to provide current storm drainage map. To be addressed in accordance with Agreed Order No. DE-8258.
	Request property owner to provide a map showing current storm drainage on the entire property, including locations of storm drains, catch basins, oil/water separators, and outfalls.	Medium	New	Ecology	Planned	2014		Action item identified in Supplemental Data Gaps Report. To be addressed in accordance with Agreed Order No. DE-8258.
	If stormwater discharge to EAA-2 (including the Trotsky inlet to the south and the LDW shoreline to the north and east) is confirmed, assess the need for stormwater characterization (solids and whole water). Collect stormwater samples as needed.	Medium	SCAP	Ecology/ SPU/ Property owner/operator	Planned	2014		To be addressed in accordance with Agreed Order No. DE-8258.
Boyer Towing	Review responses to EPA CERCLA 104(e) Request for Information letters issued to Boyer Towing, Boyer Logistics, and members of the Halvorsen family.	Medium	SCAP	EPA/Ecology	Complete	--	Jun 2009	CERCLA 104(e) response was reviewed and a supplemental Data Gaps Report was prepared; additional action items were identified.
	Review responses to EPA CERCLA 104(e) Request for Information letters issued to River View Marina and Mary Catherine Halvorsen, if available.	Medium	New	Ecology	Planned	TBD		Responses from property owner/operator for Parcel D not included in previous review.

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Verify storm drainage pathway on the southern portion of the property.	Medium	SCAP	Ecology/SPU	Complete	--	Jun 2009	Stormwater from Parcels B, C, and E-L drains to 2nd Ave S storm drain, per the Supplemental Data Gaps Report. Assess the need for stormwater characterization sampling.
	Assess the need for stormwater characterization (solids and/or whole water) and conduct review of facility's SWPPP.	Medium	Follow-On	Ecology/ SPU	Complete	--	May 2012	SWPPP review complete. Revised SWPPP (dated May 2012) was submitted to Ecology in September 2012.
	Request Boyer Towing to prepare an updated SWPPP for its operations at Parcels B and C.	Low	Follow-On	Ecology	Complete	--	Sep 2012	Revised SWPPP was submitted September 2012. Inspection conducted in October 2013 verified that treatment had been installed for all discharges to the Duwamish River. The facility was in compliance.
	Review source tracing data collected by SPU for the 2nd Avenue S storm drain basin to identify whether the Boyer Towing owned or leased parcels are a potential source of contaminants to the Trotsky Inlet and the LDW.	Medium	New	Ecology	In Progress	TBD		Preliminary review indicates phthalates and metals may be present at elevated concentrations.
	Determine if additional storm drain samples are needed.	Medium	New	Ecology/SPU	Planned	TBD		
	Request additional data regarding potential soil contamination at Parcels F and G; evaluate the need for additional characterization.	Medium	New	Ecology	Planned	TBD		Action item identified in Supplemental Data Gaps Report.
	Conduct source control inspections at tenant facilities on Boyer-owned property.	Low	SCAP	SPU	Complete	--	Dec 2007	
	Conduct source control inspection of new tenant facility at Parcel J (former Wells Trucking site, 7265 2nd Avenue S).	Low	New	SPU/Ecology	Complete	--	May 2012	Inspections conducted at Bill's Mobile Service, 7265 2nd Avenue S, on April 24 and May 15, 2012. Facility in compliance.
<b>RM 2.2-3.4 West (Riverside Drive)</b>								
7 <sup>th</sup> Avenue S SD Outfall (Outfall 2112)	Continue source tracing to identify potential sources of the sediment COCs reported above screening levels in storm drain structures in the 7 <sup>th</sup> Avenue S SD basin.	Medium	SCAP	SPU, Ecology	In Progress	TBD		
King County Outfall (Outfall 3037)	Conduct source tracing to identify potential sources of sediment COCs reported above screening levels in LDW sediments adjacent to Outfall 3037.	Medium	SCAP	King County	In Progress	TBD		
Private Outfalls (Outfalls 2106, 2108, and 2113)	Conduct an inspection during a storm event to determine if the three unresolved outfalls (Outfalls 2106, 2108, and 2113) are operational or have been abandoned.	Medium	SCAP	SPU	Planned	TBD		
	If discharge from these outfalls is observed, conduct dye testing to determine if storm drain lines are connected to the unresolved outfalls, and delineate the associated drainage areas.	Medium	SCAP	SPU	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Independent Metals Plant 2	Conduct a follow-up stormwater compliance inspection to verify compliance with the corrective actions identified repeatedly by Ecology during inspections performed from 2007 to 2011. Evaluate compliance with corrective actions, and take enforcement action as appropriate.	High	SCAP	Ecology	In Progress	TBD		Ecology WQ conducted NPDES inspections on 4/16/12, 5/30/12 and 11/2/12. In May 2013 Ecology conducted inspection and catch basin solids sampling in May 2013. PCBs were again found in CB solids. The facility is monitoring stormwater discharges for PCBs. Ecology extended permit coverage from Plant 2 to include the Dirt Lot and Plant 1. PCBs were measured in stormwater discharges to storm drain system from the Dirt Lot.
	Review Independent Metals' revised SWPPP, when provided, and verify that the information identified in Ecology's October 21, 2011, corrective action letter is included in the SWPPP.	Low	SCAP	Ecology	Planned	TBD		
	Request drainage information from Independent Metals for Outfalls 2109 and 2111 to determine if the outfalls are operational and to identify the drainage areas associated with the outfalls, if any.	High	SCAP	Ecology	Planned	TBD		
Former Long Painting – 10 <sup>th</sup> Avenue S Facility	Perform a facility inspection at Unity Electric to verify compliance with applicable regulations and BMPs.	Medium	SCAP	King County	Planned	TBD		
American Civil Constructors Barge Removal Ramp	Request American Civil Constructors to provide information about the fill used for a barge removal ramp, to determine if the fill is a potential source of contaminants to adjacent sediments.	High	SCAP	EPA, USACE	Planned	TBD		
Machinists Inc – Main Facility	Evaluate the stormwater treatment system, when completed, to ensure compliance with applicable regulations and BMPs.	Low	SCAP	Ecology	Planned	TBD		Follow-up NPDES inspection was conducted in November 2013 and the facility was found to be in permit compliance.
The Gear Works	Conduct a follow-up inspection to verify that Gear Works has complied with the corrective actions and recommendations identified by Ecology during the June 2010 inspection.	Medium	SCAP	Ecology	Complete	--	Feb 2012	Ecology WQ conducted NPDES inspection on 2/23/12. The Gear Works was in compliance.
West Coast Wire Rope & Rigging	Re-inspect West Coast Wire to determine if the facility is in compliance with corrective actions identified during the May 2007 inspection.	Medium	SCAP	Ecology	Complete	--	Apr 2012	Ecology WQ conducted NPDES inspection on 4/24/12. Several corrective actions were required.
Olympic Steel Door	Request Olympic Steel Door, Redox, and All Metal Arts to obtain coverage under the ISGP or apply for a CNE.	Low	SCAP	Ecology	Planned	TBD		
	Conduct a follow-up business inspection to verify compliance with corrective actions identified by SPU in 2009, applicable regulations, and BMPs, to prevent release of contaminants to the LDW.	Medium	SCAP	SPU	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Marine Lumber Service Inc.	Review the September 2011 inspection report to evaluate Marine Lumber Service's progress with regard to implementing source control BMPs and preventing ACZA leachate from entering the storm drain system.	Medium	SCAP	Ecology	In Progress	TBD		Ecology conducted NPDES inspections on 1/4/12, 1/30/12, and 4/26/12 and an Urban Waters Inspection on 1/15/12.
Rogers Machinery Co Inc.	Request Rogers Machinery to discharge wash water to the sanitary sewer.	Low	SCAP	Ecology	Planned	TBD		
Independent Metals Plant 1	Request Independent Metals to obtain environmental data to determine if soil and groundwater is contaminated by metals recycling operations and if COCs in soil and groundwater may be transported to the LDW.	Medium	SCAP	Ecology	Planned	TBD		
<b>RM 3.4-3.8 West (EAA-5: Terminal 117)</b>								
Terminal 117	Verify placement of institutional controls and write/adopt restrictive covenants to prevent recontamination, check soil cover/barrier, discuss further assessment of subsurface contamination at Malarkey plant.	Medium	SCAP	Port of Seattle, Ecology	Complete	--	Sep 2007	Amendment to the scope of work requires more extensive removal of contamination. The basis for this has changed and is no longer applicable.
	Conduct a time-critical removal action to remove additional PCB-contaminated soil in the upland portion of Terminal 117.	Medium	New	Port of Seattle	Complete	--	2006	
	Check soil cover/barrier across site for industrial use based on suspected residual subsurface contamination.	Medium	SCAP	Port of Seattle, Ecology	Complete	--	Sep 2007	Amendment to the scope of work requires more extensive removal of contamination. The basis for this has changed and is no longer applicable.
	Continue discussions between the Port, the City of Seattle, EPA, and Ecology regarding how to further address the potential presence of subsurface contamination in portions of the site formerly occupied by the Malarkey plant.	High	SCAP	Port of Seattle, Ecology, City of Seattle, EPA	Complete	--	Sep 2008	Conduct soil sampling to determine whether subsurface contamination is present.
	Revise the July 2008 EE/CA to incorporate all relevant upland and right-of-way data, including assessments of portions of the site formerly occupied by the Malarkey plant.	High	New	City of Seattle, Port of Seattle, EPA	Complete	--	Jun 2010	
	Conduct soil sampling at former Malarkey plant location to determine whether contamination is present in subsurface soil.	High	Follow-On	City of Seattle, Port of Seattle	Complete	--	Jun 2010	This work has been incorporated into the EE/CA.
	Complete needed assessments of portions of the site formerly occupied by the Malarkey plant.	High	Follow-On	City of Seattle, Port of Seattle	Complete	--	Jun 2010	This work has been incorporated into the EE/CA.
	Conduct removal action in accordance with EPA Enforcement Order on Consent.	High	Follow-On	City of Seattle, Port of Seattle	In Progress	2014		Sediment removal scheduled Dec 2013-Feb 2014.
	Install and sample additional groundwater monitoring wells.	High	New	City of Seattle, Port of Seattle	Complete	--	2008	Installed six additional wells and sampled all 11 wells quarterly through May 2009.
	Install and sample deeper monitoring well on Dallas Ave. to evaluate presence of NAPL.	Medium	Follow-On	City of Seattle, Port of Seattle	Complete	--	2009	

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Inspect current tenants in coordination with the Port of Seattle to determine if they are potential sources of recontamination.	Low	SCAP	Port of Seattle, Ecology	Complete	--	Sep 2006	The North Building tenant vacated in September 2006.
	Discuss condition and maintenance of onsite septic system with the Port.	Low	SCAP	Port of Seattle, Ecology	Complete	--	Feb 2007	The South Building tenant vacated on February 28, 2007.
	Investigate T-117 property and sediments for the presence of dioxin.	Medium	Follow-On	Port of Seattle, City of Seattle	Complete	--	May 2009	
Adjacent Streets/Dallas Ave.	Conduct Interim Action to clean up PCBs in street soils.	High	SCAP	City of Seattle	Complete	--	Dec 2004	Continue monitoring of stormwater and catch basin sediments.
	Continue monitoring of stormwater and catch basin sediments	High	Follow-On	SPU, Port of Seattle	In Progress	TBD		
	Remove PCB-contaminated soils in residential yards at 8601 and 8609 17th Avenue S., and restore yards	High	SCAP	City of Seattle	Complete	--	Jun 2005	
	Conduct cleanup action to remove PCB-contaminated street soils, install new storm drainage, and restore roads.	Medium	SCAP	City of Seattle	In Progress	2015		Streets and yards will be cleaned after contaminated materials are removed from Terminal 117.
	Install permanent stormwater collection/treatment system per Seattle code.	Medium	Follow-On	City of Seattle	Planned	TBD		
	Investigate nearby streets and yards for the presence of dioxin.	Medium	Follow-On	City of Seattle	Complete	--	May 2009	
South Park Marina	Conduct inspection at South Park Marina, including review of waste management practices and compliance with permit.	Medium	SCAP	Ecology	Complete	--	Jun 2005	Conduct follow-up inspection
	Conduct follow-up inspections until compliance is achieved.	Low	Follow-On	Ecology	In Progress	TBD		The last NPDES compliance inspection occurred in April 2009.
	Investigate sewer connections and discharge locations of storm drains and catch basins.	Low	SCAP	Ecology	Planned	TBD		
	Investigate location and fate of A&B Barrel waste lagoon.	Medium	SCAP	Ecology	Complete	--	Jun 2007	Conduct soil, groundwater, and bank sampling.
	Conduct soil, groundwater, and bank sampling.	Medium	Follow-On	Ecology, SAIC	Complete	--	Jul 2008	
	Sample soils adjacent to fence between Terminal 117 and South Park Marina due to contamination observed in borings at Terminal 117.	Medium	SCAP	Ecology	Complete	--	Jul 2010	EE/CA approved by Ecology. The Port of Seattle will remove this material as part of the remedy.
	Sample catch basins for metals and phthalates	Low	SCAP	Ecology	Planned	TBD		
Basin Oil	Monitor facility demolition and characterize soil and groundwater contamination.	Medium	SCAP	Ecology	Complete	--	Jun 2009	
	Refer for Site Hazard Assessment.	Medium	SCAP	Ecology	Complete	--	Dec 2005	Conduct Site Hazard Assessment
	Conduct Site Hazard Assessment.	Medium	Follow-On	Ecology	Planned	TBD		
	Conduct joint EPA/Ecology compliance inspection.	Medium	SCAP	Ecology, EPA	Complete	--	May 2005	
	Re-inspect as needed to ensure compliance.	Low	Follow-On	Ecology, SPU	Complete	--	Jun 2009	Site is vacant, soils have been excavated, and sampling has been completed; no further inspections are necessary.



**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Boeing South Park	Conduct inspection; review drainage system and stormwater pollution prevention practices, check status of hydraulic oil recovery, and look for other potential sources.	Low	SCAP	Ecology	Complete	--	Apr 2007	NPDES compliance inspection conducted in October 2012. Boeing's request for a no-exposure exemption from permit coverage was denied. In December 2013 Ecology conducted field review of engineering report for stormwater treatment.
<b>RM 3.8-4.2 West (Sea King Industrial Park)</b>								
S 96th Street SD Basin	Perform further environmental investigations and cleanup activities to address sources of contaminants to the LDW.	High	SCAP	Ecology, King County	Planned	TBD		
	Request a current map of the S 96th Street SD basin from King County in order to verify conveyance and drainage features.	Medium	SCAP	Ecology	Planned	TBD		
	Provide Ecology with updated information regarding the proposed drainage basin upgrades to divert the north and middle forks of Hamm Creek around the S 96th Street industrial area in order to discharge directly to the LDW via Hamm Creek.	Medium	SCAP	King County	Planned	TBD		
Sea King Industrial Park	Conduct an inspection during a storm event to determine if the S Director Street Outfall and Outfall 2101 are operational or have been abandoned. If discharge from these outfalls is observed, request that the property owners conduct dye testing to determine if storm drain lines are connected to the unresolved outfalls and delineate the associated drainage areas.	Medium	SCAP	Ecology	Planned	TBD		
	Request clarification from King County regarding the owner and operator status for the S Director Street Outfall and Outfall 2101.	Medium	SCAP	Ecology	Planned	TBD		
	Request information from the property owner regarding stormwater drainage features to evaluate the potential for contaminant transport to the LDW via stormwater discharge. Information should include Parcel 0001600058 (Aerospace Machinists Union) if it is connected to the storm drain system at Sea King Industrial Park.	Medium	SCAP	Ecology	Planned	TBD		
	Perform a follow-up inspection at Diamond Painting to verify compliance recommendations made during the August 2008 inspection.	Low	SCAP	Ecology	Planned	TBD		
	Request information from the property owner regarding historical tenant operations to determine the potential for soil and/or groundwater contamination beneath the property.	Low	SCAP	Ecology	Planned	TBD		
KRS Marine	Perform a source control inspection to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.	Low	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Duwamish Yacht Club	Perform a source control inspection to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW. During the inspection, determine if fueling operations and/or boat maintenance and repair operations are conducted at the facility.	Medium	SCAP	Ecology	Planned	TBD		
	Request that the Desimone Trust (property owner) collect soil and groundwater data in order to determine the potential for sediment recontamination via the groundwater discharge pathway.	Medium	SCAP	Ecology	Planned	TBD		
Delta Marine Industries	Conduct an inspection during a storm event to determine if Outfall 2100(B) and the Delta Marine Outfall are operational or have been abandoned. If discharge from these outfalls is observed, request that the property owners conduct dye testing to determine if storm drain lines are connected to the unresolved outfalls and delineate the associated drainage areas.	Medium	SCAP	Ecology	Planned	TBD		
	Request that the property owner collect soil and groundwater data in order to determine the potential for sediment recontamination via the groundwater discharge pathway.	Medium	SCAP	Ecology	Planned	TBD		
	Request an updated facility map that includes details of the stormwater drainage systems associated with the treatment system, wash pad near the large boat lift, Outfall 2100(B), Delta Marine Outfall, and parcels 0029 and 0062 in order to assess the stormwater pathway at the facility.	Medium	SCAP	Ecology	Planned	TBD		
PSF Mechanical	Perform inspections to monitor compliance with the Administrative Order, which directed the facility to implement all applicable operational and structural source control BMPs and to collect and analyze at least one stormwater discharge sample each quarter from October 1, 2011 through June 30, 2012.	Low	SCAP	Ecology	Planned	TBD		
	Request information from PSF Mechanical regarding the status of the proposed stormwater treatment system.	Low	SCAP	Ecology	Planned	TBD		
Industrial Automation	Review inspection reports from the January 24 and June 6, 2012 inspections to verify continued compliance with source control BMPs and corrective actions.	Low	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Absolute German/Former All City Auto Wrecking	Collect a solids sample from the drainage ditch at the southern boundary of the property. The sample will be analyzed for arsenic and cadmium to assess the potential for sediment recontamination via the groundwater discharge pathway.	Medium	SCAP	Ecology	Planned	TBD		
	Perform a follow-up inspection to verify compliance with corrective actions identified during Ecology's February 2012 stormwater inspection.	Low	SCAP	Ecology	Planned	TBD		
Carey Limousine Service	Request that property owner provide data to define the contaminant plume associated with the property and to verify that contaminants associated with the property are not reaching the LDW.	Medium	SCAP	Ecology	Planned	TBD		
	Perform a follow-up inspection to verify compliance with corrective actions identified during Ecology's August 2011 inspection.	Low	SCAP	Ecology	Planned	TBD		
Former Precision Engineering/Pacific Industrial Supply	Request that the property owner provide data to define the contaminant plume associated with the property and to verify that contaminants associated with the former Precision Engineering property are not reaching the LDW>	Medium	SCAP	Ecology	Planned	TBD		
Gary Merlino Construction Company	Perform a follow-up inspection to verify that Merlino Construction has complied with the corrective actions and recommendations identified by Ecology during the July 2011 inspection.	Low	SCAP	Ecology	Planned	TBD		
Wooldridge Boats	Assess the need for an environmental investigation to determine if soil and groundwater were contaminated by PCBs and methylene chloride due to the disposal of contaminated oil and water in an underground sump in 1992. An investigation may be needed to determine the potential for sediment recontamination via groundwater discharge.	Medium	SCAP	Ecology	Planned	TBD		
ICON Materials	Confirm that ICON Materials has complied with corrective actions to control track out and prepare a source control plan. This action includes performing a follow-up inspection to verify that the source control plan has been implemented at the facility.	Low	SCAP	Ecology	Planned	TBD		
Western Ports Transportation	Perform an inspection to verify that current activities performed at the property are in compliance with applicable source control regulations and BMPs.	Low	SCAP	Ecology	Planned	TBD		
Western United Fish Company	Perform a facility inspection to determine compliance with applicable regulations and BMPs for stormwater and hazardous waste management practices.	Low	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Former Advance Electroplating	Provide to Ecology the environmental data and sample location maps from the 1995 remedial actions and related investigations performed at the property. Ecology will review the information to determine if metals are present in soil and groundwater at concentrations exceeding current MTCA cleanup levels and to determine the potential for sediment recontamination via the groundwater discharge pathway.	High	SCAP	EPA, Ecology	Planned	TBD		
	Perform a facility inspection at Show Quality Metal Finishing to determine compliance with applicable source control regulations and BMPs.	Medium	SCAP	Ecology	Planned	TBD		
Former Penberthy Electromelt/ToxGon	Request that the property owner collect additional solids samples from the drainage ditch and groundwater samples in order to determine the potential for sediment recontamination via the groundwater discharge pathway.	Medium	SCAP	Ecology	Planned	TBD		
Old Dominion Freight Line	Request that the property owner collect additional groundwater samples in order to determine the potential for sediment recontamination via the groundwater discharge pathway.	Medium	SCAP	Ecology	Planned	TBD		
Selland Auto Transport	Perform a follow-up business inspection to verify compliance with Ecology's recommendations, applicable regulations, and BMPs to prevent the release of contaminants to the LDW.	Low	SCAP	Ecology	Planned	TBD		
Ace Galvanizing	Request that the property owner collect additional groundwater samples to assess current concentrations of zinc in groundwater and to evaluate whether additional source control actions are needed to minimize the potential for sediment recontamination via the groundwater discharge pathway.	High	SCAP	Ecology	Planned	TBD		
	Review DMRs from third and fourth quarters of 2012 and the beginning of 2013 to assess the water quality of stormwater being conveyed to the S 96th Street SD system from Ace Galvanizing.	Medium	SCAP	Ecology	Planned	TBD		
	Perform a follow-up inspection to determine if Ace Galvanizing is in compliance with corrective actions identified during the May 2012 inspection.	Low	SCAP	Ecology	Planned	TBD		
RMC	Perform an inspection to determine if RMC has completed corrective actions to reduce copper and zinc concentrations in stormwater discharge.	Low	SCAP	Ecology	Planned	TBD		
Emerald City Machine	Perform initial inspection to verify that the facility is in compliance with applicable source control regulations and BMPs.	Low	SCAP	Ecology, King County, or SPU	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
Mason Dixon Intermodal	Perform initial inspection to verify that the facility is in compliance with applicable source control regulations and BMPs.	Low	SCAP	Ecology, King County, or SPU	Planned	TBD		
McKinstry Co S Barton	Perform initial inspection to verify that the facility is in compliance with applicable source control regulations and BMPs.	Low	SCAP	Ecology, King County, or SPU	Planned	TBD		
Sound Delivery Service	Perform initial inspection to verify that the facility is in compliance with applicable source control regulations and BMPs.	Low	SCAP	Ecology, King County, or SPU	Planned	TBD		
	Contact representatives of Rasmussen Wire Rope (former operator at Sound Delivery Service) to determine if contaminated soil was removed from the property.	Low	SCAP	Ecology	Planned	TBD		
<b>RM 4.2-5.8 West (Restoration Areas)</b>								
Hamm Creek SD Basin	Request additional information from King County and the Cities of Burien and SeaTac to define the boundaries of the Hamm Creek SD basin in order to determine if the area to the east of Des Moines Memorial Drive between S 116th Way and S 124th Street and the area south of S 124th Street should be included in or excluded from the Restoration Areas source control area.	Medium	SCAP	Ecology	Planned	TBD		
Outfall 3842	Request additional information from the City of Tukwila to determine the drainage area associated with Outfall 3842.	Medium	SCAP	Ecology	Planned	TBD		
Seattle City Light Power Substation	Request information from SCL and perform a facility inspection to determine if operations represent a potential source of contaminants to LDW sediments.	Medium	SCAP	Ecology	Planned	TBD		
	Request that SCL perform an environmental assessment to address the potential arsenic, mercury, benzo(a)pyrene, and BEHP contamination in fill material.	Medium	SCAP	Ecology	Planned	TBD		
Boeing Parking Lot Property	Perform a source control inspection to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.	Low	SCAP	Ecology	Planned	TBD		
USPS Seattle Distribution Center	Request a facility map from the Sabey Corporation (property manager) showing the storm drain system on the property.	Medium	SCAP	Ecology	Planned	TBD		
	Request information from the U.S. Postal Service regarding the neutralizing tank and the results from testing of sludge in the tank and waste ink/alcohol.	Low	SCAP	Ecology	Planned	TBD		
	Request that the Sabey Corporation collect groundwater data to assess the current concentrations of metals in groundwater beneath the property.	Low	SCAP	Ecology	Planned	TBD		

**Table 3-2. Source Control Action Items**

Source Control Facility or Outfall	Action Item	Priority	Type	Responsible Party	Status	Estimated Completion Date	Date Completed	Comments/Follow-On Actions
	Review the cleanup records associated with Atlas Demolition to assess the potential for sediment recontamination via the groundwater discharge pathway.	Low	SCAP	Ecology	Planned	TBD		

**Priority:**

	High = High priority action item -- to be completed prior to sediment cleanup
	Medium = Medium priority action item -- to be completed prior to or concurrent with sediment cleanup
	Low = Low priority action -- ongoing actions, or actions to be completed as resources become available
	Completed action item

**Type:**

SCAP	Action item identified in a SCAP
Follow-On	Action item is a follow-on to an action item identified in a SCAP
New	Action item identified after publication of the SCAP

**Table 3-3. Property Assessments Completed  
2003 through 2013**

<b>Source Control Area</b>	<b>No. of Properties Adjacent to LDW or Within a Storm Drain Basin that Discharges to Source Control Area</b>	<b>No. of Properties Within a CSO Basin that Discharges to Source Control Area</b>
EAA-1 (Duwamish/Diagonal)	317	136
EAA-2 (Trotsky Inlet)	27	0
EAA-3 (Slip 4)	13	0
EAA-4 (Boeing Plant 2/Jorgensen Forge)	2	0
EAA-5 (Terminal 117)	4	0
EAA-6 (Boeing Isaacson/Central KCIA)	20	0
EAA-7 (Norfolk CSO/SD)	44	180
RM 0.0-0.1 East (Spokane Street to Ash Grove Cement)	3	0
RM 0.9-1.0 East (Slip 1)	3	0
RM 1.0-1.2 East (KC Lease Parcels)	4	108
RM 1.2-1.7 East (St. Gobain to Glacier Northwest)	3	4
RM 1.7-2.0 East (Slip 2 to Slip 3)	12	129
RM 2.0-2.3 East (Slip 3 to Seattle Boiler Works)	9	0
RM 2.3-2.8 East (Seattle Boiler Works to Slip 4)	16	0
RM 3.9-4.3 East (Slip 6)	4	0
RM 4.3-4.9 East (Boeing Developmental Center)	1	0
RM 0.0-1.0 West (Spokane Street to Kellogg Island)	62	57
RM 1.0-1.3 West (Kellogg Island to Lafarge Cement)	1	0
RM 1.3-1.6 West (Glacier Bay)	11	0
RM 1.6-2.1 West (Terminal 115)	30	2
RM 2.1 West (1st Avenue S SD)	35	0
RM 2.2-3.4 West (Riverside Drive)	75	108
RM 3.8-4.2 West (Sea King Industrial Park)	105	0
RM 4.2-4.8 West (Restoration Areas)	40	0
<b>Total Property Assessments Completed (through December 2013)</b>	<b>841</b>	<b>724</b>

**Note:** Portions of KCIA are included in EAA-3, EAA-6, and EAA-7 source control areas. In this table, all of KCIA is included with EAA-3.

## 4.0 RM 0.0-0.1 East (Spokane Street to Ash Grove Cement)

The RM 0.0-0.1 East (Spokane Street to Ash Grove Cement) source control area is shown in Figure 4-1. There are four Port storm drain outfalls associated with this source control area. Ash Grove Cement discharges stormwater to the East Waterway (downstream of the LDW) under an individual NPDES permit (WA0032221) via the city of Seattle S Hind Street outfall.

<b>Location</b>	RM 0.0-0.1 East
<b>Chemicals of Concern</b>	Metals, PAHs, phthalates, PCBs
<b>Data Gaps Evaluation</b>	December 2008 (E&E 2008c)
<b>SCAP</b>	June 2009 (Ecology 2009i)

Source control action items for the Spokane Street to Ash Grove Cement source control area are listed in Table 3-2. A total of 13 source control action items were identified in the SCAP; as of December 2013, one of these has been completed. Of the remaining action items, six are considered high priority.

### 4.1 Business Inspections

- No business inspections were conducted in this source control area during the current reporting period.

### 4.2 Source Tracing

- No source tracing samples have been collected in this source control area.

### 4.3 Facility-Specific Source Control Actions

#### Ash Grove Cement Company

- Ash Grove Cement obtained an individual stormwater permit in April 2010. In 2013, the company agreed to pay EPA a penalty of \$600,000 for illegally discharging industrial stormwater to the East Waterway without a permit from 1992 to 2010 (USEPA 2013i, USDOJ 2013).

<b>Current Operations</b>	Cement manufacturer; concrete plant; produces Type I, Type II, and Type III Portland cement
<b>Historical Operations</b>	Cement manufacturer since 1928
<b>Address</b>	3801 East Marginal Way S
<b>Facility/Site ID</b>	2142
<b>Chemicals of Concern</b>	PAHs, metals, phthalates, SVOCs, asbestos, PCBs
<b>Media Affected</b>	Soil, groundwater

- In June 2013 the Ash Grove Cement Company agreed to pay EPA a \$2.5 million penalty and invest approximately \$30 million in pollution control technology at their nine cement manufacturing plants (including their plant located in Seattle). To resolve alleged



violations of the Clean Air Act, the settlement requires Ash Grove to meet stringent emission limits and install and continuously operate modern technology to reduce Nitrogen Oxide, Sulfur Dioxide, and particulate matter (USEPA 2013f).

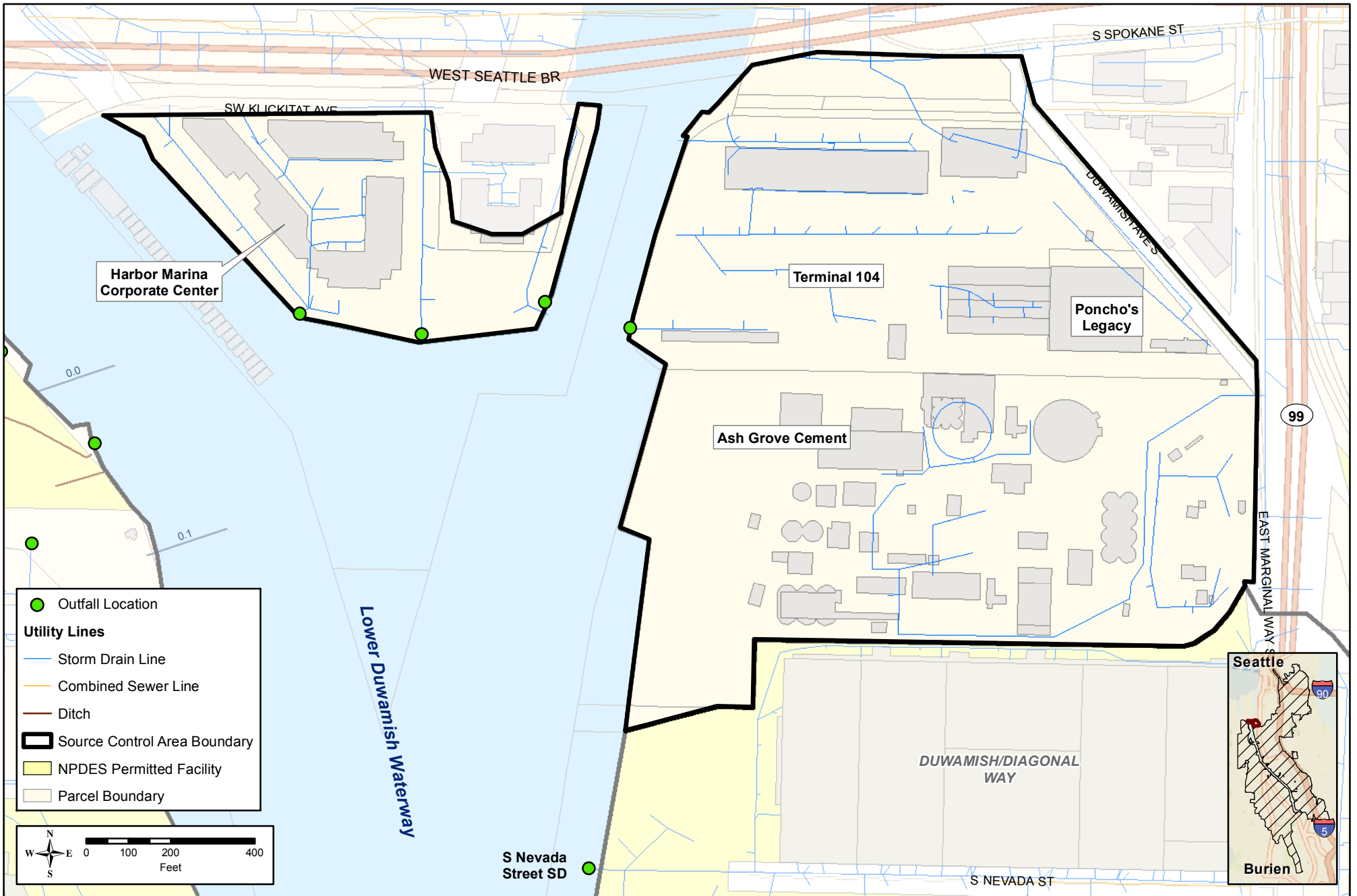


Figure 4-1. RM 0.0-0.1 East  
(Spokane St. to Ash Grove Cement)  
Source Control Area

## 5.0 RM 0.1-0.9 East (EAA-1: Duwamish/Diagonal Way)

The RM 0.1-0.9 East source control area (EAA-1: Duwamish/Diagonal Way) includes the Diagonal Avenue S CSO/SD basin and the S Nevada Street SD basin. An inactive Port outfall is located at Terminal 108. Portions of the source control area that are adjacent to the LDW are shown in Figure 5-1. The Diagonal Avenue S SD basin is shown in Figure 5-2.

<b>Location</b>	RM 0.1-0.9 East
<b>Chemicals of Concern</b>	BEHP, PAHs, lead, zinc, PCBs
<b>Data Gaps Evaluation</b>	Property reviews: June 2003 (SAIC 2003) Data Gaps Report for Duwamish/Diagonal CSO/SD Basin: August 2009 (SAIC 2009c)
<b>SCAP</b>	December 2004 (Ecology 2004b)

Source control action items for the Duwamish/Diagonal Way source control area are listed in Table 3-2. A total of 51 source control action items have been identified for this source control area; as of December 2013, 33 of these have been completed. Of the remaining action items, one is considered high priority.

### 5.1 Business Inspections

- SPU conducted 172 business inspections at 102 facilities in the Diagonal Avenue S SD basin during the current reporting period (January through December 2013); these are listed in Appendix B.
  - SPU conducted 4 screenings, 4 audits, 1 self-certification, 90 initial inspections, and 73 follow-up inspections. Of these, 13 facilities were identified by SPU as not in compliance as of the end of December 2013:
    - All City Fence Co. (36 S Hudson Street)
    - Cordon Selections (4136 1<sup>st</sup> Avenue S)
    - Corner Store & Deli (1720 S Jackson Street)
    - Express Cold Storage (4606 4<sup>th</sup> Avenue S)
    - Gretchen's Shoebox Express (3922 6<sup>th</sup> Avenue S)
    - KT Building Supply (3614 6<sup>th</sup> Avenue S)
    - Lowes Home Improvement Warehouse (2700 Rainier Avenue S)
    - Nikkei Concerns (1601 E Yesler Way)
    - Northwest Concrete Resurfacing (3828 4<sup>th</sup> Avenue S)
    - Northwest Consolidated Investments (3828 4<sup>th</sup> Avenue S)
    - Plymouth Poultry (4500 7<sup>th</sup> Avenue S)
    - Toshios Teriyaki (1706 Rainier Avenue S)
    - Travelers (2524 Beacon Avenue S)
- During a business inspection in October 2013, SPU determined that Pratt Fine Arts Center had an illicit connection to the MS4 inside their metal smith shop. This area of the building is used in smithing steel and iron as well as occasional work with copper,

bronze, and brass. Metal finishing occurs in this area as well. The business also appears to discharge photo emulsion screen printing wash water to a paved surface on the property which flows into an MS4-connected catch basin. SPU is collecting samples in both drains and is working with the business to remove these potential pollution sources. The illicit connection will be re-plumbed or plugged to stop the discharge to the MS4 (Ecology 2013bh).

- Ecology conducted 15 inspections at 13 facilities within this source control area during the current reporting period; these are listed in Appendix C.
  - In June 2013, Ecology collected three storm drain solids samples and one water sample during a NPDES compliance inspection at Union Pacific Railroad (UPRR). Zinc (618-1,250 mg/kg DW), fluoranthene (1.2-2.7 mg/kg DW), BEHP (2.3-67 mg/kg DW), BBP (0.097-12 mg/kg DW), dimethylphthalate (0.04-5.7 mg/kg DW), benzoic acid (0.84 mg/kg DW), benzyl alcohol (0.26 mg/kg DW), N-nitrosodiphenylamine (0.071-0.17 mg/kg DW) exceeded the CSL in one or more samples collected at the facility. Copper (21.9 micrograms per liter [ug/L]), lead (13.3 ug/L), mercury (0.043 ug/L), nickel (14.4 ug/L), and zinc (490 ug/L) exceeded the Washington Marine Water Quality Criteria (WQC) for chronic exposure in the water sample collected at the facility. Ecology issued corrective actions to UPRR to update the facility SWPPP to include sample locations, current permit information, identify mandatory BMPs, and include operation and maintenance information for the stormwater treatment units (Ecology 2013bg).
  - In July 2013, Ecology approved the Stormwater Treatment Engineering Report that UPRR Argo Yard submitted to comply with NPDES permit Level 3 Corrective Action requirements. Ecology granted a Conditional Use Level Designation for Basic, Enhanced, and Phosphorus Treatment (Ecology 2013ao). UPRR implemented a corrective action for turbidity, copper, and zinc. The facility installed Stormwater RX treatment systems in all three drainage basins at the Argo Yard.
  - The Alaska Street Reload facility, owned and operated by Waste Management of Washington, discharged industrial stormwater to the public storm drain system during 2009 to 2011. The facility failed to monitor pollutants in the stormwater discharges, including petroleum and zinc. In 2013 EPA and Ecology conducted a joint investigation at the facility for compliance with the NPDES permit. This company violated the Washington ISGP when it discharged industrial stormwater to storm sewers on multiple days between 2009 and 2011. To settle the discharge violations, EPA and Waste Management of Washington entered into a Consent Agreement. Waste Management agreed to pay a penalty of \$33,750 to settle these violations (USEPA 2013i, USEPA 2013g).
  - In April 2013, Ecology collected one storm drain solids sample during a NPDES compliance inspection at ConGlobal Industries. Zinc (976 mg/kg DW), BEHP (15 mg/kg DW), and N-nitrosodiphenylamine (0.085 mg/kg DW) exceeded the CSL in the storm drain solids sample collected at the facility.

- EPA conducted a compliance inspection at the MacMillan-Piper facility on January 25 and February 11, 2013. EPA noted several violations of the Clean Water Act, including: failure to implement operational source control BMPs, failure to document visual inspections, and total suspended solids effluent limit exceedances. The monitored discharges from this facility have contained zinc, copper and turbidity. In December 2013 EPA issued MacMillan-Piper a penalty of \$37,500 (USEPA 2014a).

## 5.2 Source Tracing

SPU has collected 66 sediment trap samples from six locations in the Diagonal Avenue S SD basin. The most recent sample was collected in October 2011.

In addition, SPU has collected 89 in-line solids samples, 81 onsite catch basin samples, and 97 right-of-way catch basin samples in the Diagonal Avenue S CSO/SD basin.

- During the current reporting period, 16 in-line solids samples, four onsite catch basin samples, and four right-of-way catch basin samples were collected in this drainage basin.
  - Copper, lead, mercury, zinc, PCBs, PAHs, BEHP, butylbenzylphthalate, 2-methylphenol, 4-methylphenol, benzyl alcohol, n-nitrosodiphenylamine, phenol, and oil-range hydrocarbons were detected at concentrations above the upper screening level in at least one sample collected during 2013.

SPU has collected one in-line solids sample in the S Nevada Street SD.

- No samples were collected in this basin during the current reporting period.

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). An “X” indicates that the chemical concentration exceeded the lower screening level (SQS/LAET) during the current reporting period (2013). An “X” surrounded by a box indicates that the chemical concentration exceeded the upper screening level (CSL/2LAET) during 2013. Complete sample results for the current reporting period are presented in Appendix E; sample locations are shown in Figures 3-3 and 5-2. Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	Sediment Traps	In-line Solids	Onsite CB Solids	Right-of-Way CB Solids
Metals	Arsenic				
	Copper			☒	
	Lead		☒		
	Mercury		☒		
	Zinc		☒	☒	
PCBs	Total PCBs		☒	x	x
PAHs	LPAH				
	HPAH		x		

Chemical Class	Chemical	Sediment Traps	In-line Solids	Onsite CB Solids	Right-of-Way CB Solids
	Total cPAH		☒		
Phthalates	BEHP		☒	☒	
	Butylbenzylphthalate		☒	☒	×
	Dimethylphthalate		×		×
	Di-n-butylphthalate				
	Di-n-octylphthalate				
Other SVOCs	1,2-Dichlorobenzene				
	1,4-Dichlorobenzene				
	2-Methylnaphthalene				
	2-Methylphenol		☒		
	4-Methylphenol			☒	
	2,4-Dimethylphenol				
	Benzoic acid				
	Benzyl alcohol			☒	☒
	Dibenzofuran				
	Hexachlorobenzene				
	N-Nitrosodiphenylamine			☒	
	Pentachlorophenol				
	Phenol				☒
TPH	TPH-diesel				
	TPH-oil		☒		

CB = catch basin

LPAH = low molecular weight polycyclic aromatic hydrocarbon

cPAH = carcinogenic polycyclic aromatic hydrocarbon

HPAH = high molecular weight polycyclic aromatic hydrocarbon

SVOC = semi-volatile organic compound

TPH = total petroleum hydrocarbon

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

× = Exceedance of lower screening level was observed during the current reporting period (January through December 2013).

☒ = Exceedance of upper screening level was observed during the current reporting period (January through December 2013).

### 5.3 Facility-Specific Source Control Actions

#### Port of Seattle Terminal 108 / Former Chiyoda Property

The Port is working to manage source control for this site under Ecology's Voluntary Cleanup Program (VCP). In 2008 the Port, in consultation with Ecology, prepared an Environmental Conditions Report for Terminal 108 (Windward 2008b) and developed a Source Control Strategy Work Plan, which outlined an approach for evaluating and developing long-term source control actions at this property (Windward 2008a).

Based on the findings in these reports, the Port decided that different source control options were appropriate for the western (T108W) and eastern (T108E) parcels of the site.

<b>Current Operations</b>	The larger eastern parcel (T108E) is leased to ConGlobal Industries for empty container and truck chassis storage and repair. The smaller western parcel (T108W) is unoccupied.
<b>Historical Operations</b>	City/county wastewater treatment plant, with treatment lagoons (used for one-time PCB-contaminated sediment); dredge sediment filling; bulk cement terminal.
<b>Address</b>	4525 Diagonal Avenue S
<b>Facility/Site ID</b>	2344 (Chevron Seattle Terminal 4097)
<b>Chemicals of Concern</b>	PCBs, PAHs, metals, petroleum hydrocarbons
<b>Media Affected</b>	Groundwater, soil

In October 2009, the Port prepared a Source Control Strategy Plan for T108W (Windward 2009), and in August 2011 they submitted a Source Control Strategy Plan for T108E and the western portion of Terminal 106 (T106W), located just to the north (AECOM 2011). These areas are currently leased to ConGlobal Industries for shipping container and truck chassis storage and repair.

- Beginning in December 2012, the Port collected groundwater, bank soils, and stormwater solids data from T108W, T108E, and T106W (AECOM 2012a). Most of the data were validated in 2013. The sampling efforts are described below. The Port plans to publish a data report of findings and a comparison to screening criteria in Summer 2014.
  - The Port collected a total of 34 groundwater samples during four quarterly sampling rounds. Samples were collected at T106 (MW-S1, MW-S2, MW-S3, and MW-S4) and at T108 (MW-15, PGG-2, PGG-3, PGG-5, and PGG-6). Groundwater samples were analyzed for PCBs, PAHs, selected metals, gasoline, and diesel at both T-108 and T-106; and benzene, toluene, ethylbenzene, and xylenes (BTEX) at T-106.
  - Bank soil samples were at four locations at T-108 (BS-1, BS-2, BS-3, and BS-4) and were analyzed for PCBs, PAHs, select metals, TOC, and total solids (4 samples, 0- to 6-inch depth). A native soil sample was also collected at T-108 (BS-5).
  - Storm drain sediment traps were installed in February 2013 at four manhole locations on T-108 and T-106 (MH-001, MH-002, MH-003, and MH-004) to collect stormwater solids over a 9- to 12-month period. Sediment traps were

inspected approximately monthly to observe trap conditions and volume accumulations at each manhole. Sediment accumulated from stormwater runoff was collected from the traps in November 2013 (nine-month deployment) and prioritized for analysis of PCBs, PAHs, select metals, and TOC depending on accumulated volume.

**ConGlobal Industries (formerly Container Care International)**

ConGlobal Industries leases portions of the Port’s Terminal 106 and 108 properties. The facility has been granted coverage under the ISGP (No. WAR-010569) and is subject to the conditions of the Port’s Phase I municipal stormwater permit. Stormwater from the T106W area is discharged to the LDW via the Diagonal Avenue S CSO/SD and S Nevada Street SD.

<b>Current Operations</b>	Shipping container and truck chassis storage and repair
<b>Historical Operations</b>	Same as current
<b>Address</b>	1 S Idaho Street
<b>Facility/Site ID</b>	54918197
<b>Chemicals of Concern</b>	Copper, zinc
<b>Media Affected</b>	Stormwater

In 2010, Level 3 corrective actions were triggered at ConGlobal Industries, requiring the installation of stormwater treatment by September 30, 2010. During a November 2012 inspection, Ecology determined that adequate stormwater treatment was not properly implemented.

- In March 2013, Ecology issued a \$35,000 penalty to ConGlobal for discharging pollutants into the LDW and for violating the conditions of the ISGP (Ecology 2013l).
- In August 2013, Ecology issued an Administrative Order to ConGlobal Industries for violations of the ISGP (Ecology 2013ax). ConGlobal’s discharge did not meet benchmark values and triggered Level 3 corrective action requirements. The Order requires ConGlobal to install filter inserts in all catch basins, conduct trailer maintenance/repair activities in drainage areas where enhanced media filtration inserts have been installed, and will conduct container repair, maintenance, grinding, sanding, welding, and/or painting either indoors/under cover, on the sanitary sewer wash pad footprint, or in drainage areas where enhanced media filtration inserts have been installed in the catch basins.
- In addition, ConGlobal must submit an Engineering Report for Ecology’s review and approval by September 30, 2014, and must have a stormwater treatment system designed to achieve applicable benchmark values no later than September 30, 2015.
- In December 2013, ConGlobal installed interim treatment in drainage area #3, on the Terminal 108 portion of the facility.



## Rainier Commons / Former Rainier Brewery Property

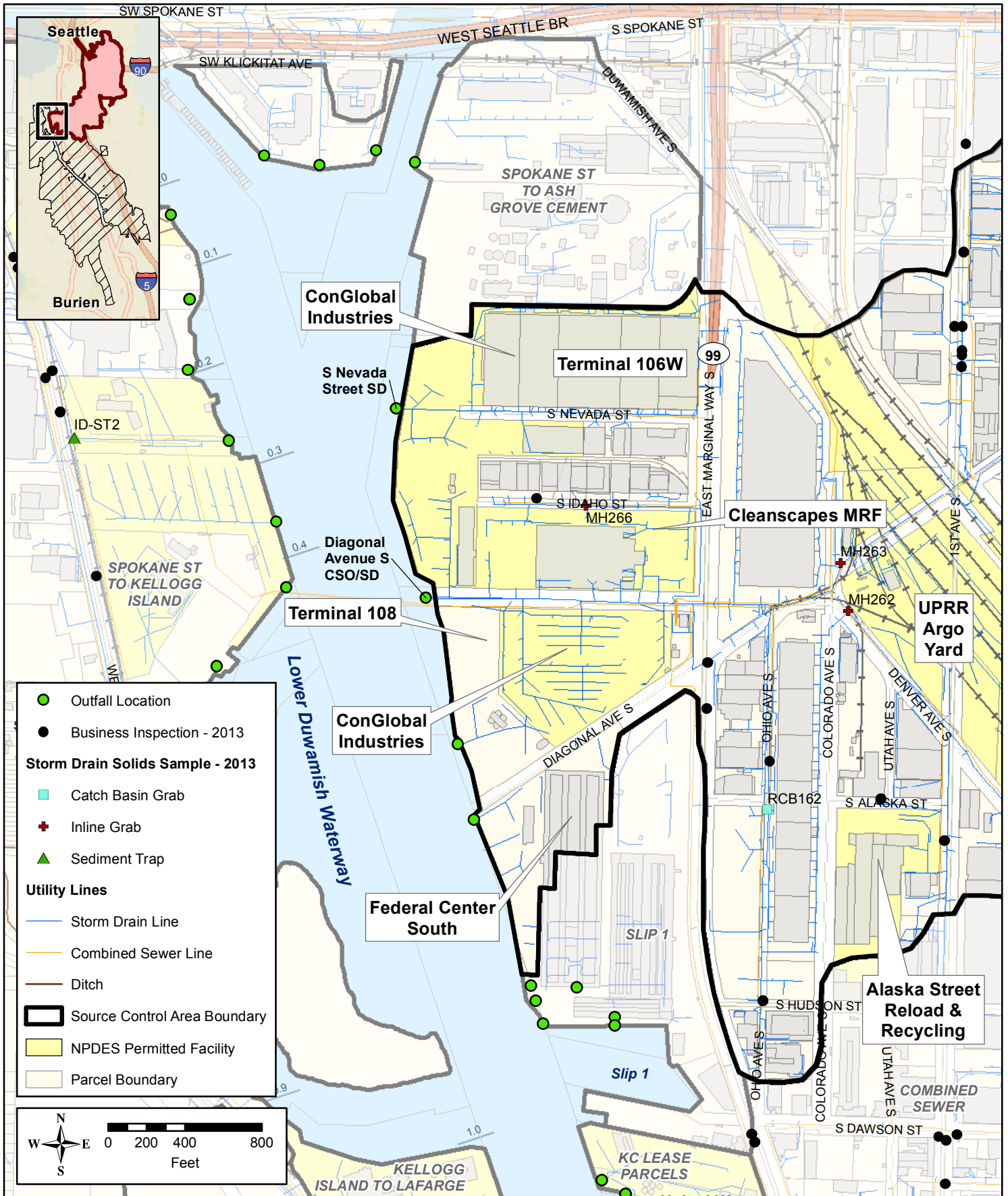
The former Rainier Brewery property is currently known as Rainier Commons. In 2004/2005, SPU discovered elevated concentrations of PCBs in a catch basin on Airport Way S, adjacent to this property. Samples collected from catch basins at the property contained PCB concentrations of

<b>Current Operations</b>	Coffee roasting and storage, artist loft, two restaurants
<b>Historical Operations</b>	Brewery
<b>Address</b>	3100 Airport Way S
<b>Facility/Site ID</b>	9192461
<b>Chemicals of Concern</b>	PCBs
<b>Media Affected</b>	Stormwater

177 to 2,226 mg/kg DW. Stormwater drainage patterns are somewhat complicated at this facility. In general, the northern catch basins drain to the Diagonal Avenue S SD system on Airport Way S, while the southern catch basins drain to a combined sewer on Airport Way S prior to discharging to the King County Hanford Trunk combined sewer pipeline, which is tributary to a CSO outfall that is outside of the LDW (King County Hanford #2 CSO Outfall of the East Waterway).

- In February 2013, Rainier Commons completed cleaning and jetting of the storm drain lines on the property (SPU 2013).
- In 2013, Rainier Commons submitted a general work plan to EPA for removal of all paint from the building exterior surfaces, sampling some substrates, and finish removing paint from the interior stairwell area. EPA approved the work plan in December 2013. The approval stipulates that Rainier Commons will conduct the removal work in phases, submitting an Individual Phase Work Plan to EPA for approval prior to commencing work on any stage. Throughout the removal project, protection of the indoor and outdoor environments, including the air and sewer systems, will remain a top priority. Ongoing monitoring will ensure that the protective measures put in place are effectively preventing PCBs from contaminating the surroundings. Work is expected to begin in the spring of 2014.

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**Figure 5-1. RM 0.1-0.9 East  
(EAA-1: Duwamish/Diagonal Way)  
Source Control Area**





Figure 5-2. RM 0.1-0.9 East  
 (EAA-1: Duwamish/Diagonal Way)  
 Diagonal Avenue S SD Basin



Coordinate System:  
 NAD 1983 StatePlane Washington North FIPS 4601 Feet  
 Prepared By: mlf  
 File: Figure\_05-2\_RM\_0-1-0-9E\_DuwamishDiag.mxd  
 Illustrative purposes only.



## 6.0 RM 0.9-1.0 East (Slip 1)

The RM 0.9-1.0 East (Slip 1) source control area is shown in Figure 6-1. No public storm drain outfalls are located within RM 0.9-1.0 East. There are nine outfalls associated with the Federal Center South property, and one outfall located at the Diagonal Avenue S street end.

<b>Location</b>	RM 0.9-1.9 East
<b>Chemicals of Concern</b>	Metals, PAHs, BEHP, PCBs, dioxins/furans
<b>Data Gaps Evaluation</b>	August 2008 (SAIC 2008c)
<b>SCAP</b>	May 2009 (Ecology 2009c)

Source control action items for the Slip 1 source control area are listed in Table 3-2. A total of 19 source control action items were identified in the SCAP; as of December 2013, three of these have been completed. Of the remaining action items, five are considered high priority.

### 6.1 Business Inspections

- Ecology and King County conducted a joint inspection during the current reporting period, at Manson Construction (5209 East Marginal Way S) (Appendix C). Inspectors determined the facility had improved or installed source control measures.

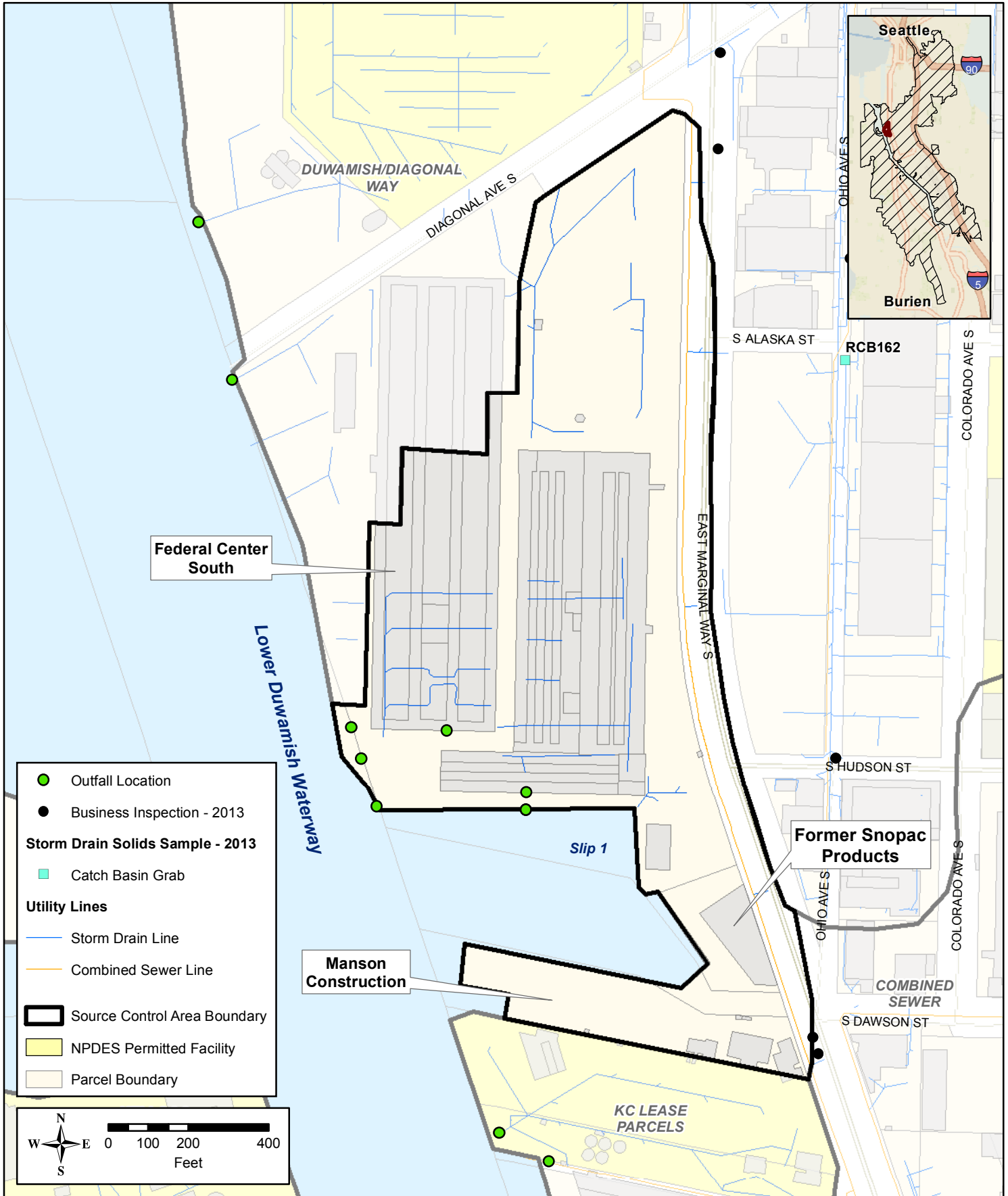
### 6.2 Source Tracing

- No source tracing samples have been collected in this source control area.

### 6.3 Facility-Specific Source Control Actions

- No facility-specific source control actions were conducted in this source control area during the current reporting period.

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**Figure 6-1. RM 0.9-1.0 East  
(Slip 1)  
Source Control Area**

## 7.0 RM 1.0-1.2 East (King County Lease Parcels)

The RM 1.0-1.2 East (King County Lease Parcels) source control area is shown in Figure 7-1. There are three outfalls associated with this source control area, including the Brandon CSO, a county storm drain at the Cadman Seattle facility, and a private storm drain at the J.A. Jack & Sons property.

<b>Location</b>	RM 1.0-1.2 East
<b>Chemicals of Concern</b>	PCBs, PAHs, mercury, BEHP, dioxins/furans, organo-tin compounds
<b>Data Gaps Evaluation</b>	June 2010 (SAIC 2010a)
<b>SCAP</b>	January 2011 (Ecology 2011a)

Source control action items for the King County Lease Parcels source control area are listed in Table 3-2. A total of 24 source control action items were identified in the SCAP; as of December 2013, four of these have been completed. Of the remaining action items, six are considered high priority.

### 7.1 Business Inspections

- Ecology conducted Urban Waters inspections at 66 facilities within the Brandon Street CSO basin during the current reporting period. Source control compliance issues included improper labeling and storage of chemicals, storm drain cleaning and maintenance, and improper hazardous waste disposal.
- Ecology conducted three ISGP compliance inspections at two facilities that discharge directly to the LDW within the King County Lease Parcels source control area (Appendix C).
  - In June 2013, Ecology collected one storm drain solids sample and two water samples during a compliance inspection at Cadman Seattle. Concentrations of BEHP (2.1 mg/kg DW), 2,4-dimethylphenol (0.11 mg/kg DW), and N-nitrosodiphenylamine (0.092 mg/kg DW) in the storm drain solids sample exceeded CSL. Concentrations of total copper (17-57 ug/L) and nickel (2.4-4.9 ug/L) exceeded the WQC for chronic exposure in one or more samples collected at the facility.
  - In January and October 2013, Ecology issued correction actions to Cadman Seattle (5225 East Marginal Way S) to update the facility SWPPP, separate all process water from stormwater at the facility, and prevent-track out onto East Marginal Way S (Ecology 2013aa and Ecology 2013aj).
- In 2013 the King County Wastewater Treatment Division continued funding a stormwater inspector position at Ecology to conduct stormwater inspections of facilities in the separated stormwater systems of the LDW, and to conduct stormwater assessments of facilities that discharge to the combined sewer systems associated with King County CSO outfalls in the LDW. Under the interagency agreement between Ecology and King



County, the work of the stormwater inspector was split evenly between separated stormwater inspections and combined sewer system stormwater assessments.

During 2013, the Ecology stormwater inspector conducted 97 facility assessments in the Brandon CSO Basin. As a result, Ecology sent letters with recommendations for BMPs to 23 facilities (Appendix C). In December 2013, the Ecology stormwater inspector submitted the Brandon Basin Assessment to King County. The assessment included information that was collected from October 2012 through December 2013.

During that time he gathered information from 107 commercial and industrial properties. The results of the assessment are summarized below:

- Hazardous waste was improperly stored at 14 of 47 facilities.
- Evidence of ongoing or past spills was found at six of 107 facilities.
- Catch basins were present at 76 of 107 facilities.
- Catch basins needed to be cleaned out at 40 facilities.
- Process water was discharging to the combined system at 24 facilities. Ecology recommended that these facilities contact KCIW for authorization to discharge process water to the combined system.
- Materials were stored outdoors and exposed to stormwater at 51 of 107 facilities.
- Stormwater source control recommendation letters were issued to 55 of 107 sites. The most common source control recommendation was for catch basin cleaning (40 recommendations), followed by contacting KCIW for discharge authorization (16 recommendations), and providing secondary containment (15 recommendations) (Waldo 2013).

## 7.2 Source Tracing

- In 2013, King County conducted a CSO Basin Inputs study comparing sanitary and stormwater evaluations in the Brandon CSO basin. The purpose of this study was to improve understanding of the relative contributions of wastewater, stormwater, and groundwater to the combined sewer system to help target future source control actions. Three locations in the Brandon CSO basin were sampled in 2011 and 2012. The data analysis was scheduled to occur from October through December 2013. A data report from this sampling is expected in early 2015.
- In 2013, King County collected five sediment trap samples from the Brandon combined sewer system. Validated results were not available at the time this status report was prepared.
- Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). Storm drain screening levels are defined in Section 3.2.

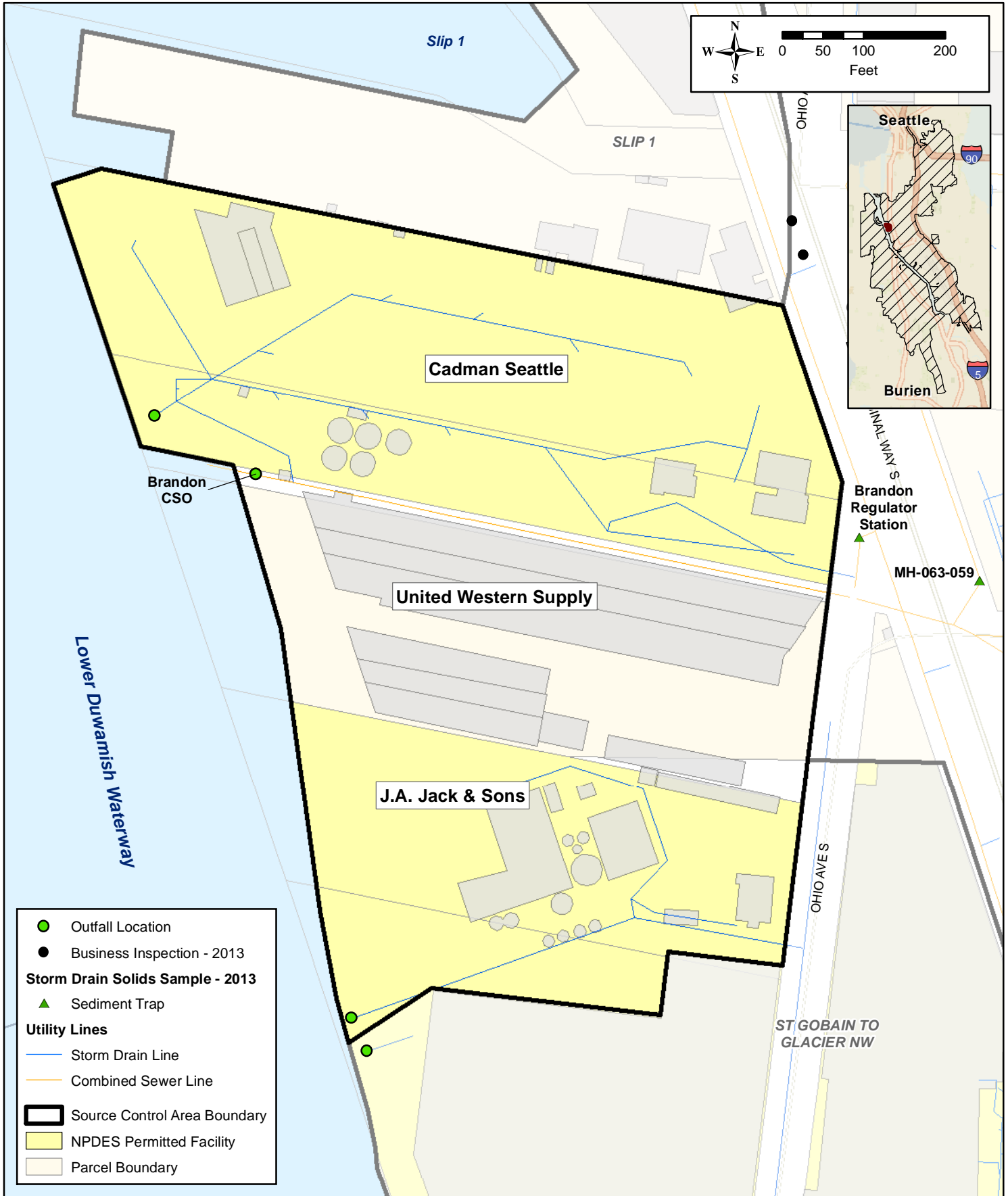
Chemical Class	Chemical	Right-of-Way CB Solids
Metals	Zinc	
PCBs	PCBs, total	
PAHs	HPAH	
Phthalates	BEHP	
	Butylbenzylphthalate	
TPH	TPH-diesel	
	TPH-oil	

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

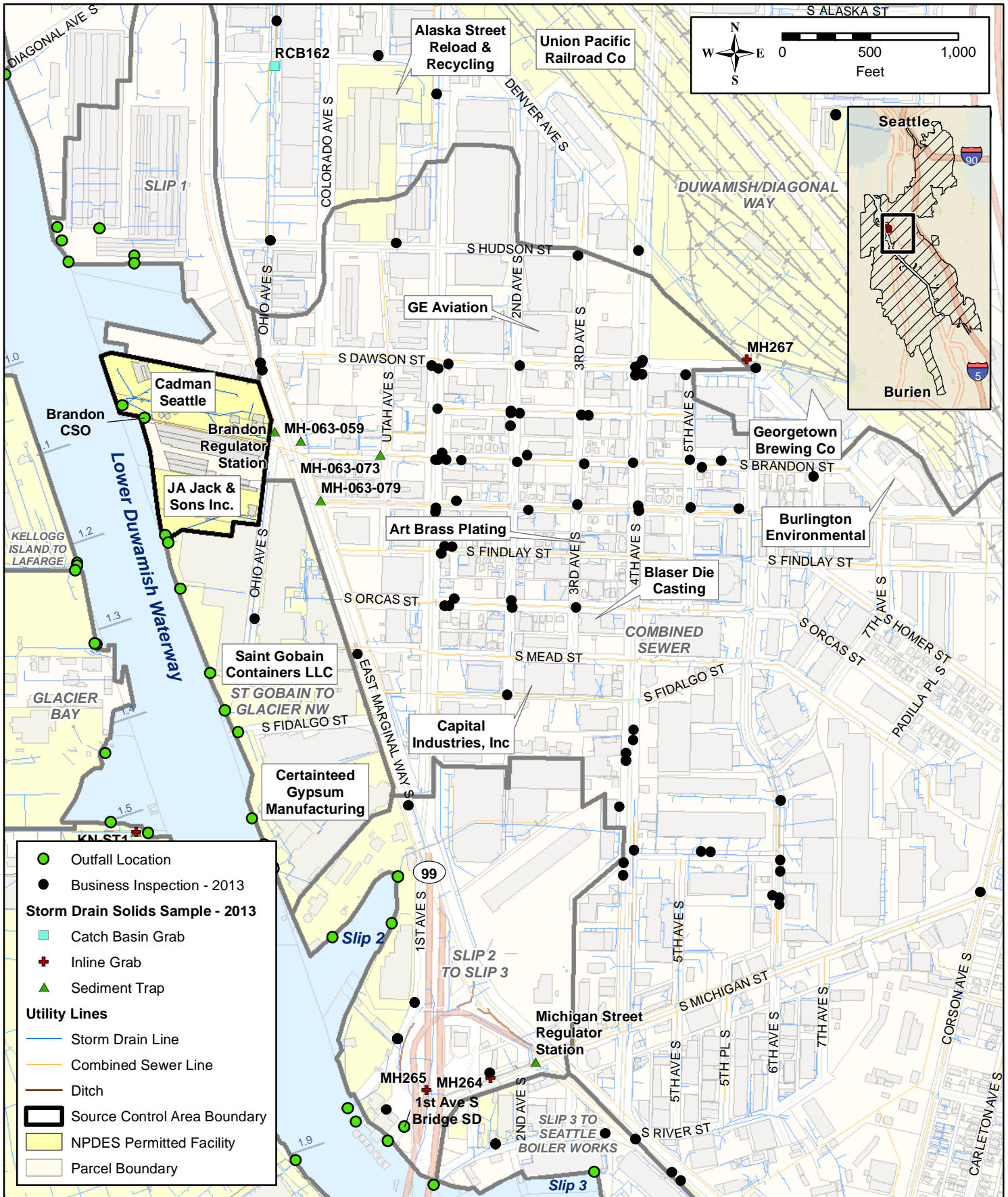
### 7.3 Facility-Specific Source Control Actions

- No facility-specific source control actions were conducted in this source control area during the current reporting period.

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**Figure 7-1. RM 1.0-1.2 East  
(King County Lease Parcels)  
Source Control Area**



**Figure 7-2. RM 1.0-1.2 East  
(King County Lease Parcels)  
Brandon CSO Basin**

## 8.0 RM 1.2-1.7 East (Saint Gobain to Glacier Northwest)

The RM 1.2-1.7 East (Saint Gobain to Glacier Northwest) source control area is shown in Figure 8-1. There are five upland facilities of concern in the Brandon CSO basin (Figure 7-2). Groundwater contamination associated with four of these facilities has migrated off the properties and into the Saint Gobain to Glacier Northwest source control area (this section) and the Slip 2 to Slip 3 source control area to the south (Section 9). Source control activities associated with these facilities are discussed in Section 8.3 below. There are nine active outfalls in this area of the LDW, including four private outfalls at Saint Gobain Containers and five private outfalls at CertainTeed Gypsum. No public storm drain outfalls are located within RM 1.2-1.7 East.

<b>Location</b>	RM 1.2-1.7 East
<b>Chemicals of Concern</b>	Mercury, zinc, PAHs, PCBs, BEHP, benzyl alcohol, phenol
<b>Data Gaps Evaluation</b>	February 2009 (E&E 2009)
<b>SCAP</b>	June 2009 (Ecology 2009h)

Action items for the Saint Gobain to Glacier Northwest source control area are listed in Table 3-2. A total of 22 source control action items have been identified; as of December 2013, 10 of these have been completed. Of the remaining action items, two are considered high priority.

### 8.1 Business Inspections

- Ecology conducted one inspection within this source control area, at E-Cullet (5801 East Marginal Way S), during the current reporting period (Appendix C).

### 8.2 Source Tracing

- No source tracing samples have been collected in this source control area.

### 8.3 Facility-Specific Source Control Actions

The upland facilities of concern in this source control area discharge stormwater to the combined sewer system. Burlington Environmental is in the Michigan CSO basin; the other upland facilities discussed below are in the Brandon CSO basin.

## Burlington Environmental / PSC Environmental Services

Burlington Environmental, a wholly-owned subsidiary of PSC Environmental Services, LLC, operated a hazardous/dangerous waste treatment facility at this location until 2003. Releases from past operations at the facility, including storage of wastes and chemicals in underground storage tanks, contaminated soils and groundwater. Groundwater contamination has been detected beyond the facility property to the west and southwest, and in an area to the east and north owned by the UPRR company (Ecology 2010a). This site is also referred to as PSC Georgetown.

<b>Current Operations</b>	Storage area for corrective actions in progress at the facility
<b>Historical Operations</b>	Hazardous waste treatment and storage
<b>Address</b>	734 S Lucile Street
<b>Facility/Site ID</b>	47779679
<b>Chemicals of Concern</b>	BTEX, chlorinated solvents, 1,4-dioxane, PAHs, phenols, PCBs, and metals
<b>Media Affected</b>	Soils, groundwater

In 2005 this site was administratively divided into two units. The eastern portion of the site, east of 4<sup>th</sup> Avenue S, is discussed below. The area west of 4<sup>th</sup> Avenue S has been additionally investigated by three other potentially liable parties (PLPs) (Art Brass Plating, Blaser Die Casting, and Capital Industries) under separate 2008 RI Orders. All three investigations were completed by the end of 2012.

- In March 2013, Ecology requested that Art Brass Plating, Blaser Die Casting, Capital Industries, and Burlington Environmental (PSC-Georgetown facility) jointly conduct a FS for the West of 4th site. The site area is located between 4<sup>th</sup> Avenue S and the Duwamish Waterway, from S Lucile Street to the north to Slip 2 of the Duwamish to the south. A draft Agreed Order was prepared and provided to the four companies for this purpose.
- In September 2013, Ecology announced that they started negotiating an Agreed Order to continue cleanup-related work at the West of 4th site in south Seattle. Negotiations associated with the draft Agreed Order took place through the remainder of 2013 (Ecology 2013bd, Ecology 2013bf).
- In early 2013, Burlington Environmental submitted draft reports describing the 2012 cleanup effort. A “PSC Area” Implementation Report was submitted on January 31 and conditionally approved by Ecology on April 9, 2013. Ecology received a draft Argo Yard Area Cleanup Implementation Report on February 5, 2013, and a revised Report on July 11, 2013. On September 17, 2013 Ecology conditionally approved the July Report.
- During soil vapor extraction (SVE) operation in March 2013, Burlington Environmental observed light non-aqueous phase liquids (LNAPL) in the condensate collected from the part of the system located in Argo Yard. Later, trace amounts of LNAPL were detected at the water table in a monitoring well corresponding to the same location. The Argo Yard portion of the SVE system was subsequently shut down, and did not operate throughout the rest of 2013. Burlington Environmental evaluated SVE gas treatment options (to granular activated carbon [GAC]) during this period and eventually chose and procured a catalytic oxidation unit.

- On June 7, 2013, Burlington Environmental submitted an evaluation of 1,4-dioxane in groundwater to Ecology. The report reintroduced Burlington’s historical assertions that the primary source of 1,4-dioxane in groundwater at the site was releases associated with a property approximately 1.5 blocks southwest of their 734 Lucile Street facility. Ecology responded on July 25, 2013 by directing Burlington Environmental to propose new actions, such as implementation of the 2010 Cleanup Action Plan’s (CAP’s) contingent remedy, to expeditiously attain 1,4-dioxane groundwater cleanup levels. On August 2, 2013 Burlington Northern contested Ecology’s decision and invoked Dispute Resolution.
- Blaser Die agreed to pay EPA a penalty of \$11,000 for violation TSCA rules related to PCBs in September 2013 (USEPA 2014b).

### Art Brass Plating

Art Brass Plating is required to conduct an RI and implement interim actions under Agreed Order (DE-5296) with Ecology (Ecology 2008a). In 2008 the facility implemented an air sparging and SVE interim action beneath the property, which extends across 3<sup>rd</sup> Avenue S, north of S. Findlay Street (Ecology 2009h).

<b>Current Operations</b>	Metal plating and polishing; manufacturing of wood stoves, office equipment, and store fixtures; recycling of automobile steel bumper and plastic bumper covers for the collision repair industry
<b>Historical Operations</b>	Manufacturing of builders’ hardware; nickel, cadmium, zinc, silver, copper, chromium, brass, and bronze plating
<b>Address</b>	5516 3 <sup>rd</sup> Avenue S
<b>Facility/Site ID</b>	88531932
<b>Chemicals of Concern</b>	Chlorinated solvents, arsenic, cadmium, copper, nickel, zinc
<b>Media Affected</b>	Soil, groundwater, surface water

- Art Brass Plating continued to monitor groundwater using its groundwater monitoring well network and to operate its air sparging/SVE interim action throughout 2013.
- In March 2013 Ecology requested that Art Brass Plating, Blaser Die Casting, Capital Industries, and Burlington Environmental (PSC-Georgetown facility) jointly conduct an FS for the West of 4<sup>th</sup> site. The site area is located between 4<sup>th</sup> Avenue South and the Duwamish Waterway from South Lucile Street to the north to Slip 2 of the Duwamish to the south. A draft Agreed Order was prepared and provided to the four companies for this purpose.
- In September 2013 Ecology announced that they started negotiating an Agreed Order to continue cleanup-related work at the West of Fourth site in south Seattle. Negotiations associated with the draft Agreed Order took place through the remainder of 2013 (Ecology 2013bd, Ecology 2013bf).



## Blaser Die Casting

On March 25, 2008 Ecology issued Enforcement Order No. DE-5479 to complete an RI for chlorinated solvent contamination (primarily trichloroethene [TCE] and its degradation products) in soil and groundwater at the site (Ecology 2008c). Blaser Die Casting is located downgradient of the Burlington Environmental facility and upgradient of the Capital Industries facility.

<b>Current Operations</b>	The building is being leased; die casting operations have ceased.
<b>Historical Operations</b>	Die casting (from 1962 to 2012); residential or unoccupied prior to 1962
<b>Address</b>	5700 3 <sup>rd</sup> Avenue S
<b>Facility/Site ID</b>	7118747
<b>Chemicals of Concern</b>	Chlorinated solvents
<b>Media Affected</b>	Soil, groundwater

- Blaser Die Casting continued to monitor groundwater using its groundwater monitoring well network throughout 2013.
- In March 2013 Ecology requested that Art Brass Plating, Blaser Die Casting, Capital Industries, and Burlington Environmental (PSC-Georgetown facility) jointly conduct an FS for the West of 4<sup>th</sup> site. The site area is located between 4<sup>th</sup> Avenue South and the Duwamish Waterway from South Lucile Street to the north to Slip 2 of the Duwamish to the south. A draft Agreed Order was prepared and provided to the four companies for this purpose.
- In September 2013 Ecology announced that they started negotiating an Agreed Order to continue cleanup-related work at the West of Fourth site in south Seattle. Negotiations associated with the draft Agreed Order took place through the remainder of 2013 (Ecology 2013bd, Ecology 2013bf).

## Capital Industries Inc.

Capital Industries conducted investigations and prepared an RI Report under Agreed Order No. DE-5348, for soil and groundwater contamination (primarily tetrachloroethene [PCE], TCE, and their degradation products) (Ecology 2008b). Capital Industries is located downgradient of the Burlington Environmental facility and the Blaser Die Casting site.

<b>Current Operations</b>	Metal fabrication
<b>Historical Operations</b>	Metal fabrication since 1965; residential before 1965
<b>Address</b>	5801 3 <sup>rd</sup> Avenue S
<b>Facility/Site ID</b>	11598755
<b>Chemicals of Concern</b>	Chlorinated solvents
<b>Media Affected</b>	Groundwater

- Capital Industries continued to monitor groundwater using its groundwater monitoring well network and perform vapor intrusion studies throughout 2013.
- In March 2013, Ecology requested that Art Brass Plating, Blaser Die Casting, Capital Industries, and Burlington Environmental (PSC-Georgetown facility) jointly conduct an FS for the West of 4<sup>th</sup> site. The site area is located between 4<sup>th</sup> Avenue South and the Duwamish Waterway from South Lucile Street to the north to Slip 2 of the Duwamish to

the south. A draft Agreed Order was prepared and provided to the four companies for this purpose.

- In September 2013, Ecology announced that they started negotiating an Agreed Order to continue cleanup-related work at the West of 4th site in south Seattle. Negotiations associated with the draft Agreed Order took place through the remainder of 2013 (Ecology 2013bd, Ecology 2013bf).

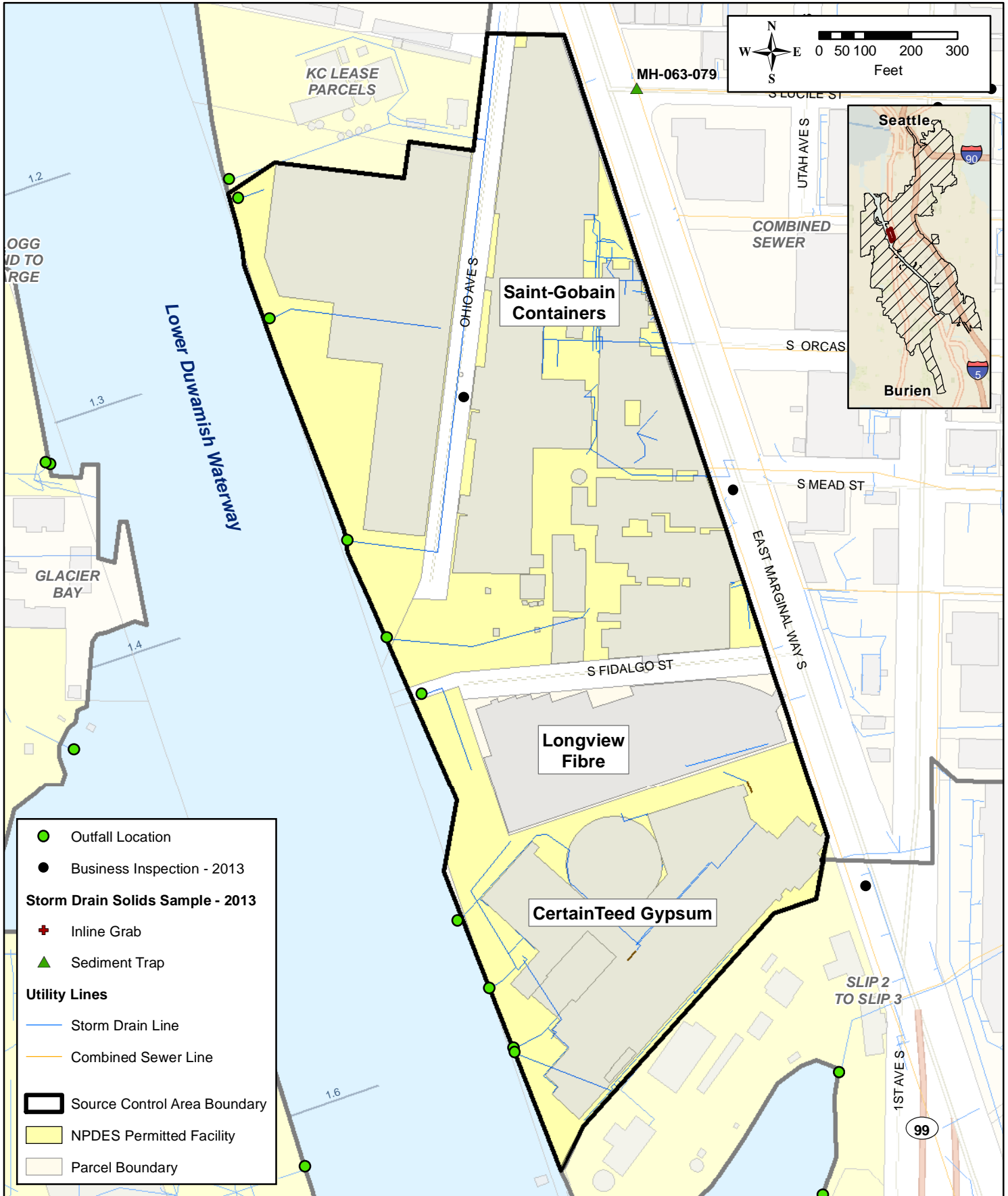
## GE Aviation

Several MTCA Agreed Orders are in place to require groundwater sampling and vapor intrusion mitigation at the former GE Aviation facility.

- Ecology held a public comment period from December 18, 2013 to January 16, 2014 for the proposed consent decree and CAP to implement in situ chemical oxidation with groundwater hydraulic control as the final facility remedy for this site.

<b>Current Operations</b>	Warehouse
<b>Historical Operations</b>	Manufactured and repaired aircraft parts
<b>Address</b>	220 S Dawson Street
<b>Facility/Site ID</b>	2522
<b>Chemicals of Concern</b>	TCE, PCE, 1,1,1-trichloroethane, fuels, and oil
<b>Media Affected</b>	Soil, groundwater

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- Outfall Location
- Business Inspection - 2013
- Storm Drain Solids Sample - 2013**
- + Inline Grab
- ▲ Sediment Trap
- Utility Lines**
- Storm Drain Line
- Combined Sewer Line
- Source Control Area Boundary
- NPDES Permitted Facility
- Parcel Boundary

**Figure 8-1. RM 1.2-1.7 East  
(St. Gobain to Glacier Northwest)  
Source Control Area**



Coordinate System:  
NAD 1983 StatePlane Washington North FIPS 4601 Feet  
Prepared By: mlf  
File: Figure\_08-1\_RM\_1-2-1-7E\_St\_Gobain\_to\_Glacier.mxd  
Illustrative purposes only.

## 9.0 RM 1.7-2.0 East (Slip 2 to Slip 3)

The RM 1.7-2.0 East (Slip 2 to Slip 3) source control area is shown in Figure 9-1. There are eight active outfalls within RM 1.7-2.0 East, including one public storm drain (1<sup>st</sup> Avenue S Bridge SD), the Michigan CSO, and private outfalls associated with Glacier Northwest, Samson Tug & Barge, and Duwamish Metal Fabrication. Potential contaminant sources within the Michigan CSO Basin are shown in Figure 9-2.

<b>Location</b>	RM1.7-2.0 East
<b>Chemicals of Concern</b>	Metals, PCBs, PAHs, pentachlorophenol, TPH, VOCs
<b>Data Gaps Evaluation</b>	February 2009 (SAIC 2009a)
<b>SCAP</b>	June 2009 (Ecology 2009f)

Source control action items for the Slip 2 to Slip 3 source control area are listed in Table 3-2. A total of 39 source control action items were identified in the SCAP; as of December 2013, seven of these have been completed. Of the remaining action items, two are considered high priority.

### 9.1 Business Inspections

- SPU conducted two initial inspections and one follow up inspection at two facilities that discharge directly to the LDW and one follow up inspection at a facility in the 1<sup>st</sup> Avenue S Bridge SD basin (Appendix B). All three facilities were in compliance as of December 2013.
- Ecology conducted 10 inspections at three facilities in the Slip 2 to Slip 3 source control area during the current reporting period (Appendix C).
  - Samson Tug & Barge (6361 1<sup>st</sup> Avenue S) continued to exceed permit benchmarks for copper, zinc, and turbidity during the first quarter 2013. In March 2013, the facility installed a settling tank as a Level 3 Corrective Action but did not submit an engineering report (Ecology 2013x). On April 26, 2013 Ecology issued an Administrative Order for Level 3 corrective Action to Samson Tug & Barge on April 26, 2013 (Ecology 2013p, Ecology 2013x).

Ecology identified corrective actions for storm drain cleanouts and wheel wash maintenance to prevent track out to 1<sup>st</sup> Avenue S during their inspections in 2013. Samson Tug & Barge installed treatment in 2013, but will not become operational until 2014. A wheel wash was installed at the north gate in late 2012, this became fully operational in 2013.

- On January 10, 2013 Ecology observed a large amount of turbid water discharging to the LDW from a sand and gravel barge moored at Glacier Northwest (5975 East Marginal Way S). The facility took immediate actions to stop the discharge to the LDW. Initially Ecology issued a notice of violation (NOV) and a notice of penalty to CalPortland for this incident. On April 24, 2013 Ecology issued an Administrative Order to Glacier Northwest rescinding the

NOV and civil penalty that Ecology issued against CalPortland for this discharge (Ecology 2013w). Ecology then reissued the enforcement documents under to Glacier Northwest. Ecology issued Glacier Northwest a NOV and a civil penalty of \$3,000 for the illicit discharge (Ecology 2013v, Ecology 2013t, Ecology 2013u).

- Ecology also conducted seven Urban Waters inspections at six facilities in the S Michigan Street CSO. Five of the nine facilities were in compliance while the other facilities needed to implement corrective actions such as improve hazardous waste management, reduce cutting dust discharge to the storm drain system, and install a new spill pad.

## 9.2 Source Tracing

- In 2013, King County collected four sediment traps samples from the Michigan combined sewer system. Validated results were not available at the time this status report was prepared.
- As part of King County’s CSO Basin Inputs Study, King County is collecting stormwater runoff from streets, parking lots, roof drains, and other impervious surfaces. The chemical input differences will be used to better understand the general sources of chemicals within the combined sewer system (i.e., stormwater versus wastewater). Both the Brandon and Michigan CSOs are priorities for CSO control within the LDW and were selected for the study. In 2013, sampling started in the Michigan CSO basin at three locations; there were 23 samples collected during this period. Sample collection in the South Michigan Basin is expected to be completed in 2014. King County will summarize the findings of the Michigan study in a draft data report to be completed in 2015.
- SPU has collected two onsite catch basin samples and 10 right-of-way catch basin samples within the Michigan CSO basin. No samples were collected in the Michigan CSO during the current reporting period.
- SPU collected two in-line solids samples in the 1<sup>st</sup> Avenue S Bridge SD basin during the current reporting period.
  - Copper (401 mg/kg) and BEHP (2.6 mg/kg DW) were detected at MH265 above the upper screening level.

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). An “X” indicates that the chemical concentration exceeded the lower screening level (SQS/LAET) during the current reporting period (2013). An “X” surrounded by a box indicates that the chemical concentration exceeded the upper screening level (CSL/2LAET) during 2013. Complete sample results for the current reporting period are presented in Appendix E; sample locations are shown in Figure 9-1. Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	Right-of-Way CB Solids
Metals	Zinc	
	Copper	☒
PCBs	PCBs, total	
PAHs	HPAH	
Phthalates	BEHP	☒
	Butylbenzylphthalate	
	Dimethylphthalate	
Other SVOCs	4-Methylphenol	
	Benzoic acid	
	Benzyl alcohol	
	Phenol	
TPH	TPH-oil	

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

### 9.3 Facility-Specific Source Control Actions

#### Duwamish Marine Center

Investigations performed at this property in 2000 and 2002 showed petroleum hydrocarbons, metals, PCBs, and PAHs above cleanup levels in soil and groundwater. The groundwater also contained solvents. Sediments adjacent to the site contained PCBs and PAHs (Ecology 2011i).

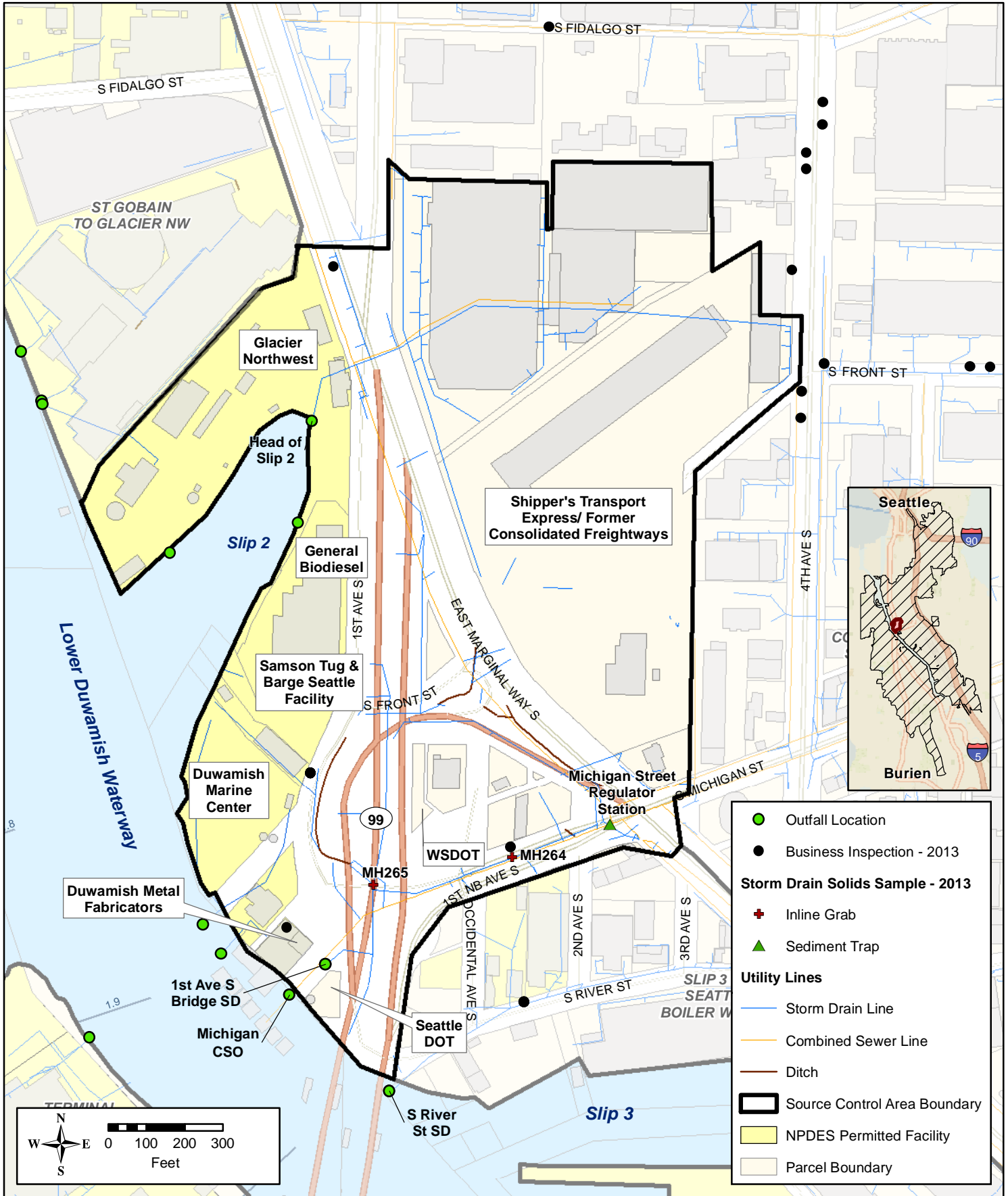
Ecology and the property owner entered into Agreed Order No. DE-8072 on September 2, 2011. The order requires that the property owner/operator conduct an RI/FS to define the nature and extent of contamination in soil, groundwater, surface water, and sediments, and to evaluate cleanup alternatives. In addition, the property owner/operator is required to prepare a draft CAP that identifies the preferred cleanup action and develops a schedule to remediate the contamination (Ecology 2011g).

<b>Current Operations</b>	Repair, storage, and maintenance of construction equipment; container storage; vehicle equipment maintenance
<b>Historical Operations</b>	Barge shipping terminal; cargo container manufacturing; construction material assembly; marine railway; cargo loading and unloading
<b>Address</b>	16 S Michigan Street; 6365 1 <sup>st</sup> Avenue S
<b>Facility/Site ID</b>	21945598 (Duwamish Marine Center) 71371939 (Duwamish Marine Center Inc) 1020256 (Samson Tug and Barge)
<b>Chemicals of Concern</b>	Metals (cadmium, copper, lead, mercury, silver, zinc), PCBs, PAHs, benzene, PCE, petroleum hydrocarbons
<b>Media Affected</b>	Soil, groundwater

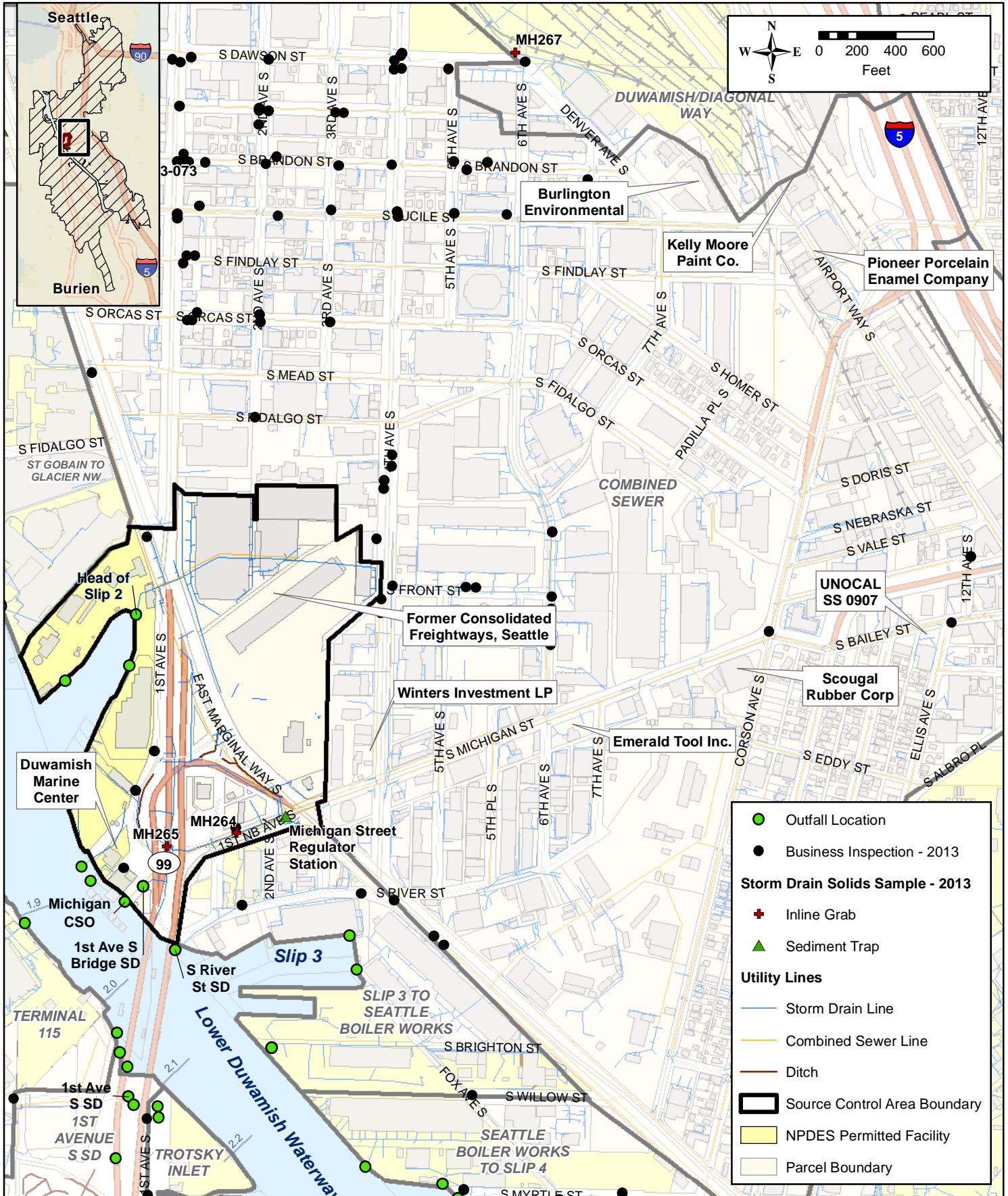
- Ecology approved an RI/FS work plan to begin RI activities. Field work is expected to begin in early 2014.

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**Figure 9-1. RM 1.7-2.0 East  
(Slip 2 to Slip 3)  
Source Control Area**



**Figure 9-2. RM 1.7-2.0 East  
(Slip 2 to Slip 3)  
Michigan Street CSO Basin**

## 10.0 RM 2.0-2.3 East (Slip 3 to Seattle Boiler Works)

The RM 2.0-2.3 East (Slip 3 to Seattle Boiler Works) source control area is shown in Figure 10-1. This source control area includes the S River Street SD and S Brighton Street SD basins. The S Brighton Street CSO formerly discharged at this location; SPU has blocked this CSO and it is no longer in use. There are six active outfalls in this area of the LDW; including the City of Seattle's S River Street and S Brighton Street SDs and several unknown or unidentified private outfalls near the SCS Refrigerated Services and Seattle Distribution Center properties.

<b>Location</b>	RM 2.0-2.3 East
<b>Chemicals of Concern</b>	Metals, PAHs, PCBs, chlorobenzene, benzyl alcohol
<b>Data Gaps Evaluation</b>	June 2008 (E&E 2008b)
<b>SCAP</b>	April 2009 (Ecology 2009b)

Action items for the Slip 3 to Seattle Boiler Works source control area are listed in Table 3-2. A total of 31 source control action items have been identified for this source control area; as of December 2013, seven of these have been completed. Of the remaining action items, six are considered high priority.

### 10.1 Business Inspections

- SPU conducted inspections in the S Brighton Street SD and S River Street SD basins during the current reporting period (Appendix B).
  - SPU conducted three initial inspections at three facilities in the S Brighton Street SD basin. In December 2013 SPU identified three spill prevention and one stormwater corrective action at Pike Brewing Company (6725 East Marginal Way S). The other two facilities were in compliance as of December 2013.
  - SPU conducted two initial inspections at two facilities in the S River Street SD basin. SPU identified eight corrective actions at V. Van Dyke, Inc. (150 S River Street). The other facility, Pile Contractors (150 S River Street), was in compliance as of December 2013.
- Ecology inspected four facilities in the Slip 3 to Seattle Boiler Works source control area during the current reporting period (Appendix C).
  - Inspectors identified corrective actions at Algas-SDI (151 S Michigan Street), including revising the stormwater monitoring program, installing stormwater treatment BMPs, cleaning catch basins, and updating the facility SWPPP (Ecology 2013ak). Algas-SDI's triggered Level 3 corrective action requirements when their stormwater did not meet benchmark values. In July 2013 Ecology issued an administrative order for modification of permit coverage, level 3 corrective action time extension until September 30, 2013 (Ecology 2013ap).
  - In March 2013, Ecology collected two storm drain solids samples and one water sample during a NPDES compliance inspection at Shultz Distributing. Zinc (663-

1,710 mg/kg DW), acenaphthene (2.4 mg/kg DW), anthracene (25 mg/kg DW), benzo(a)anthracene (0.23-17 mg/kg DW), benzo(a)pyrene (6.8 mg/kg DW), benzo(g,h,i)perylene (0.6-2.2 mg/kg DW), chrysene (0.54-33 mg/kg DW), dibenz(a,h)anthracene (0.13-1.1 mg/kg DW), dibenzofuran (5 mg/kg DW), fluoranthene (0.79-120 mg/kg DW), fluorene (16 mg/kg DW), indeno(1,2,3-cd)pyrene (2.5 mg/kg DW), phenanthrene (0.62-110 mg/kg DW), pyrene (0.96-81 mg/kg DW), total benzofluoranthenes (0.94-25 mg/kg DW), total high molecular weight polycyclic aromatic hydrocarbons (HPAHs) (4.2-290 mg/kg DW), total low molecular weight polycyclic aromatic hydrocarbons (LPAHs) (150 mg/kg DW), BEHP (4.7-42 mg/kg DW), BBP (1.3-2 mg/kg DW), dimethylphthalate (0.11-0.27 mg/kg DW), 2,4-dimethylphenol (0.15 mg/kg DW), 2-methylphenol (0.53 mg/kg DW), 4-methylphenol (3.8-7.3 mg/kg DW), phenol (0.5-2.4 mg/kg DW), benzoic acid (6.2 mg/kg DW), and N-nitrosodiphenylamine (0.11-0.14 mg/kg DW) exceeded the CSL in at least one sample collected at the facility. Total cPAHs (0.6-12 mg/kg DW) and dioxin/furans TEQ (18-43 ng/kg DW) exceeded the LDW RALs in at least one sample collected at the facility. Copper (14 ug/L), lead (8.6 ug/L), and zinc (100 ug/L) exceeded the WQC for chronic exposure in the water sample collected at the facility.

## 10.2 Source Tracing

As of December 31, 2013, SPU has collected eight in-line solids samples, two right-of-way catch basin samples, and one onsite catch basin sample in the S River Street SD basin.

- No SPU source tracing samples were collected in this basin during the current reporting period.

As of December 2013, SPU has collected 15 in-line solids samples, one onsite catch basin sample, and six right-of-way catch basin samples in the S Brighton Street SD basin.

- No SPU source tracing samples were collected in this basin during the current reporting period.

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	In-line Solids	Onsite CB Solids	Right-of-Way CB Solids
Metals	Arsenic			
	Copper			
	Lead			
	Mercury			
	Zinc			
PCBs	PCBs, total			

Chemical Class	Chemical	In-line Solids	Onsite CB Solids	Right-of-Way CB Solids
PAHs	LPAH			
	HPAH			
	Total cPAH			
Phthalates	BEHP			
	Butylbenzylphthalate			
	Dimethylphthalate			
Other SVOCs	1,2-Dichlorobenzene			
	1,4-Dichlorobenzene			
	4-Methylphenol			
	Benzoic acid			
	Benzyl alcohol			
	N-Nitrosodiphenylamine			
TPH	TPH-diesel			
	TPH-oil			

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

### 10.3 Facility-Specific Source Control Actions

- No facility-specific source control actions were conducted in this source control area during the current reporting period.

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

The RM 2.8-2.8 East (Seattle Boiler Works to Slip 4) source control area is shown in Figure 11-1. This source control area includes the S Myrtle Street and S Garden Street SD basins, as well as four private storm drains that discharge directly to the LDW from the Dawn Foods, Seattle Boiler Works, and CleanScapes properties.

<b>Location</b>	RM 2.3-2.8 East
<b>Chemicals of Concern</b>	Mercury, PCBs, PAHs, dioxins/furans, organo-tin compounds
<b>Data Gaps Evaluation</b>	May 2008 (SAIC 2008a)
<b>SCAP</b>	June 2009 (Ecology 2009g)

Action items for the Seattle Boiler Works to Slip 4 source control area are listed in Table 3-2. A total of 43 source control action items were identified in the SCAP; as of December 2013, 11 of these have been completed and one has been canceled. Of the remaining action items, 13 are considered high priority.

### 11.1 Business Inspections

- SPU conducted inspections at two facilities that discharge directly to the LDW and at one facility in the S Myrtle Street SD basin during the current reporting period (Appendix B).
  - SPU conducted an initial inspection at Seattle Boiler Works (500 S Myrtle Street) and an initial and follow up inspection at Cleanscapes (7303 8<sup>th</sup> Avenue S). The Cleanscapes facility was in compliance as of December 2013.
  - SPU conducted one follow up inspection, at Seattle Iron & Metals (SIM) Truck Parking (730 S Myrtle Street), within the S Myrtle Street SD basin. SPU determined the facility was in compliance as of December 2013.
- Ecology conducted seven inspections at six facilities within this source control area during the current reporting period (Appendix C).
  - Ecology identified corrective actions at Organic Fuel Processors (7400 8<sup>th</sup> Avenue S), including an update to the facility site map and installing adequate catch basin filter inserts in all catch basins at the facility (Ecology 2013ac).
  - Ecology required Seattle Boiler Works to submit a Level 3 Corrective Action Plan for zinc and estimate a schedule for when the plan will be implemented (Ecology 2013n).

### 11.2 Source Tracing

As of December 2013, SPU has collected one in-line solids sample, three onsite catch basin samples, and seven right-of-way catch basin samples in the S Myrtle Street SD basin.

- No samples were collected in this basin during the current reporting period.



As of December 2013, SPU has collected one in-line solids samples, five onsite catch basin samples, and one right-of-way catch basin sample in the S Garden Street SD basin.

- The entire drainage system was cleaned in 2009–2010. No samples were collected during the current reporting period.

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	In-line Solids	Onsite CB Solids	Right-of-Way CB Solids
Metals	Arsenic			
	Copper			
	Lead			
	Mercury			
	Zinc			
PCBs	PCBs, total			
Dioxins/Furans	Dioxins/Furans, total TEQ			
PAHs	LPAH			
	HPAH			
Phthalates	BEHP			
	Butylbenzylphthalate			
	Diethylphthalate			
	Dimethylphthalate			
	Di-n-butylphthalate			
	Di-n-octylphthalate			
Other SVOCs	2-Methylnaphthalene			
	4-Methylphenol			
	Benzoic acid			
	Benzyl alcohol			
	Phenol			
TPH	TPH-diesel			
	TPH-oil			

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

### 11.3 Facility-Specific Source Control Actions

Source control actions for the Crowley Marine Services / 8<sup>th</sup> Avenue Terminals property (which is located partially within EAA-3 and partially within RM 2.3-2.8 East) are included in Section 12.

## Seattle Iron & Metals

- Ecology reissued the NPDES permit for SIM in September 2013. The new permit requires SIM to treat runoff from the main yard and has a compliance schedule for treatment of runoff from roofs and employees parking lots. Ecology asked SIM to maximize use of treated stormwater and/or tap water for dust suppression to respond to EPA's concerns regarding atmospheric deposition. Dust is becoming a major issue within and outside the SIM permit boundary. In addition, the permit contains a requirement for SIM to submit an engineering report for dust control, employee parking lots and roofs, and prevention of track out.
- SIM was issued coverage under the ISGP in June 2011 for their annex operation across the street from the main plant. In January and March of 2012, Ecology conducted compliance inspections. Ecology issued a NOV and a \$15,000 penalty to SIM for permit and water quality violations. As part of a settlement agreement of the penalty appeal, SIM agreed to implement improved source control measures and submit an engineering report. In October 2013 SIM submitted an engineering report for temporary lined sediment traps to collect and store stormwater solids (KPF 2013). Ecology conditionally approved the engineering report in November 2013. SIM needs to submit the final engineering report and analysis to Ecology by May 1, 2015 (Ecology 2013bm).
- In December 2013 Ecology sent SIM a warning letter because their September 2013 discharge monitoring reports indicate that the facility was out of compliance with the conditions of their NPDES permit (Ecology 2013bq).

<b>Current Operations</b>	Metals recycling
<b>Historical Operations</b>	Dangerous waste transport, construction, machine shop
<b>Address</b>	601 S Myrtle Street
<b>Facility/Site ID</b>	94727791 (Seattle Iron Metals Corp)
<b>Chemicals of Concern</b>	Metals (copper, lead, mercury, zinc), petroleum hydrocarbons, and PCBs
<b>Media Affected</b>	Stormwater

## Fox Avenue Building

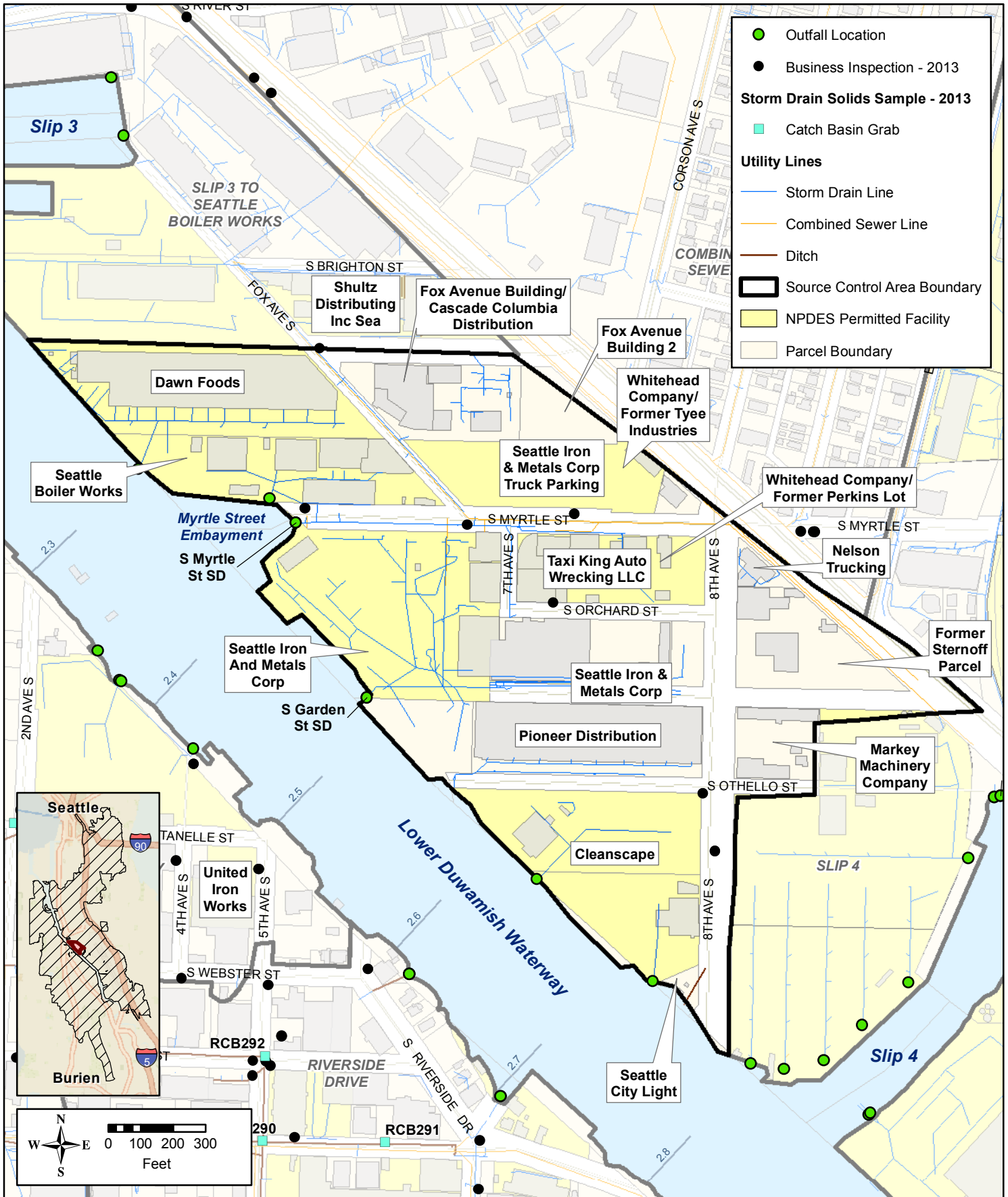
In 2009, Fox Avenue Building, LLC investigated contamination under Agreed Order DE-6486 (Ecology 2009d). On June 18, 2012 Ecology and the PLP signed Agreed Order DE-8985. According to this Agreed Order, the PLP is required to conduct the cleanup actions described in the CAP (Ecology 2012d).

<b>Current Operations</b>	Chemical distribution facility
<b>Historical Operations</b>	Chemical and petroleum distribution
<b>Address</b>	6900 Fox Avenue
<b>Facility/Site ID</b>	2282
<b>Chemicals of Concern</b>	Solvents, petroleum hydrocarbons, pentachlorophenol
<b>Media Affected</b>	soil, groundwater, stormwater

In 2012, Ecology and Fox Avenue Building negotiated a second Agreed Order. The draft Agreed Order, draft RI/FS, and draft CAP were available for public review and comment from March 1 through March 30, 2012 (Ecology 2012a). After the public comment period, the draft CAP and

Agreed Order were revised to address some of the comments submitted by Seattle Boiler Works. Ecology also prepared a responsiveness summary to address these comments (Ecology 2012b).

- Ecology issued the final CAP in June 2012 (Ecology 2012c).
- In August 2012, Fox Avenue Building submitted an Engineering Design Report to Ecology (FloydSnider 2012).
- Groundwater remediation started on January 8, 2013 at this site. The treated groundwater was discharged to the sanitary sewer under Major Discharge Authorization No. 4237 issued by KCIW (effective date November 7, 2012) (Tiffany 2013).
- Ecology held a public comment period from March 25 through April 26, 2013 for an amendment to the 2012 Fox Avenue Building site Agreed Order. EPA updated information about the toxicity of three contaminants found at the Fox Avenue Building site: TCE, PCE, and vinyl chloride. Ecology uses this information to calculate cleanup levels for contaminants. As a result of EPA's rule change, the state adjusted the cleanup levels for PCE, TCE and vinyl chloride. The amendment to the Agreed Order reflects these changes (Ecology 2013j).
- Fox Avenue continue to use Enhanced Reductive Dechlorination (ERD) to treat solvent in the down gradient groundwater plume in 2013.
- The solvent plume discharges into LDW through seeps. The most recent seep samples, taken in July 2013, show one seep sample with a vinyl chloride concentration of 52 ppb, reduced from 1400ppb in June 2009.
- In September 2013 Fox Avenue completed their thermal treatment to reduce source area solvent concentrations in soil (FloydSnider 2013). They achieved the soil remediation level of 10 ppm for average PCE+TCE.



**Figure 11-1. RM 2.3-2.8 East  
(Seattle Boiler Works to Slip 4)  
Source Control Area**

## 12.0 RM 2.8 East (EAA-3: Slip 4)

The RM 2.8 East (EAA-3; Slip 4) source control area is shown in Figure 12-1. This source control area includes the NBF/GTSP site, the northern portion of KCIA, and the I-5 SD, KCIA SD#3/PS44 EOF, and Georgetown Flume drainage basins. In addition six private outfalls associated with the Crowley Marine property, one private outfall associated with Emerald Services, and two private outfalls associated with Boeing Plant 2 discharge to the LDW within this source control area.

<b>Location</b>	RM 2.8 East
<b>Chemicals of Concern</b>	PCBs, phthalates, PAHs, metals
<b>Data Gaps Evaluations</b>	Slip 4: January 15, 2004 (SEA 2004) Crowley and First South Properties: October 2006 (SAIC 2006c) Upland property reviews: October 2006 through February 2007 (SAIC 2006a, SAIC 2006b, SAIC 2006d, SAIC 2006e, SAIC 2007a, SAIC 2007e) NBF-GTSP: February 2007 (SAIC 2007c, SAIC 2009d)
<b>SCAP</b>	July 2006 (Ecology 2006); Slip 4 Status Report – February 2007 (SAIC 2007d); Slip 4 Interim Source Control Status Report – March 2011 (Ecology 2011c)

Source control action items for the Slip 4 source control area are listed in Table 3-2. A total of 56 source control action items have been identified for this source control area; as of December 2013, 43 of these have been completed and four have been canceled. Of the remaining action items, four are considered high priority.

The City of Seattle completed a non-time critical removal action to address contaminated sediment at the Slip 4 EAA and submitted a Removal Action Completion Report for the Slip 4 EAA on July 26, 2012 (Integral 2012a). The Slip 4 removal action construction occurred between October 3, 2011, and February 7, 2012.

The primary objective of the removal action was to reduce the concentrations of contaminants in post-cleanup surface sediments to below the SQS for PCBs and other chemicals. The selected removal included dredging and excavation to target elevations designed to remove the most highly contaminated sediments, create stable slopes, and improve and expand habitat. The entire EAA was then covered with an engineered sediment cap to protect human health and the environment from residual contaminants that may be left behind.

The removal action included: dredging and excavation of 10,256 cubic yards of sediment and soil, disposal of 17,334 tons of soil, sediment, and debris in a Subtitle D landfill; demolition of 20,019 square feet of concrete pier structure; recycling of 3,278 tons of concrete and 79 tons of steel; importing and placing 53,006 tons of clean material to construct sediment caps and slope caps over 3.43 acres; and construction of engineered soil covers with habitat enhancements over 0.15 acre in former upland areas (Integral 2012a).

Post-construction sediment sampling in an area along the boundary of the cleanup found levels of PCBs in surface sediments that were elevated relative to pre-construction concentrations. A nominal 9-inch layer of waterway cap material was placed over the boundary area in February

2012, and additional samples were collected following placement of this cover (Integral 2012b). In May 2012, 8<sup>th</sup> Avenue Terminals (Crowley Marine Services) requested that the City of Seattle collect additional data to determine whether remediation activities may have influenced PCB concentrations in surface sediments within their property. The City collected samples in October 2012. The results of this sampling at 8<sup>th</sup> Avenue were presented in a memorandum dated January 31, 2013. Two of the five samples analyzed for PCBs in October 2012 exceeded the SQS. These two samples were closest to the Slip 4 EAA (Integral 2013a).

In March 2013 the City of Seattle submitted a long-term monitoring and reporting plan for Slip 4 to the EPA. This plan describes program details for monitoring the long-term effectiveness of the Slip 4 EAA cleanup (Integral 2013b).

The first post-cleanup sediment monitoring effort was completed in July 2013. In August 2013 signs were posted in Slip 4 to notify mariners of the presence of a sediment cap (USEPA 2013l).

On November 27, 2013, the City of Seattle submitted an Institutional Controls Implementation Report to EPA. Institutional controls are part of the overall remedy for the Slip 4 EAA. The purposes of the institutional controls implemented for this project are to support and maintain the integrity and containment function of the capped areas in perpetuity (Integral 2013c).

In November 2013 the City of Seattle submitted the Long-Term Monitoring Data Report for Year 1 (2013) to EPA. Long-term monitoring is being performed to verify that the remedy at Slip 4 remains protective of human health and the environment. The long-term success of the sediment removal will be verified by monitoring endpoints that directly relate to the remedial action objectives (RAOs) for the LDW cleanup (Integral 2013d).

## **12.1 Business Inspections**

- SPU conducted a total of 10 business inspections at nine facilities in the Slip 4 basin during the current reporting period, including one screening, eight initial inspections and one follow-up inspection (Appendix B). One facility was not in compliance as of December 2013.
  - SPU issued three corrective actions to Jensen Family LTD Partners (1001 S Myrtle Street) pertaining to stormwater related source control measures.
- Ecology conducted five inspections at four facilities in the Slip 4 source control area during the current reporting period. Ecology also conducted an inspection for a complaint regarding a barge in Slip 4 (Appendix C).
  - Ecology conducted an NPDES compliance inspection at Emerald Services (7343 East Marginal Way S) in April 2013. The inspector directed the facility operator to revise the site map and include the Operations and Maintenance manual in the facility SWPPP (Ecology 2013am). During the compliance inspection, Ecology collected one storm drain solids sample and one water sample at the facility. Concentrations of zinc (984 mg/kg DW), benzo(g,h,i)perylene (0.78 mg/kg DW), BEHP (130 mg/kg DW), BBP (2 mg/kg DW), dimethyl phthalate (1.5 mg/kg DW), 4-methylphenol (15 mg/kg DW), phenol (2.4 mg/kg DW), benzyl alcohol (0.76 mg/kg DW), N-nitrosodiphenylamine (0.45 mg/kg DW) in the storm drain

solids sample exceeded CSL. Concentrations of dioxin/furan TEQ (29 ng/kg DW) exceeded the RAL (25 mg/kg DW). Concentrations of total copper (4.2 ug/L) exceeded the WQC for chronic exposure in the water sample collected at the facility.

## 12.2 Source Tracing

Boeing, SPU, and KCIA have been sampling sediment traps in the Slip 4 storm drains since 2005.<sup>4</sup> Boeing has collected 97 sediment trap samples from seven sediment traps located on Boeing-leased property at NBF and adjacent KCIA; SPU and KCIA have collected a total of 23 samples from two sediment traps located on the northern portion of KCIA; and SPU has collected 15 samples from one sediment trap in the I-5 SD.

- During the current reporting period, Boeing and KCIA collected sediment trap samples in May 2013. SPU collected one sediment trap sample in May 2013.

While generally decreasing over time, PCB concentrations in all sediment traps except T2A and T3A (with elevated detection limits) remain at concentrations above the LAET for impacts to sediment (0.13 mg/kg DW). The concentration of PCBs at T1 and T5 were above the 2LAET (1.0 mg/kg DW) in May 2013.

Sediment Trap Location	Range of All PCB Conc'ns (mg/kg DW)	Most Recent PCB Conc'n (mg/kg DW)
Sample Dates	2005–2012	May 2013
T1 (Downstream end of north and north-central lateral SD)	0.62 – 420	1.03
T2 (Downstream end of south lateral SD)	0.010 – 1.46	0.44
T2A (Upstream of NBF on the south lateral SD)	<0.02 – 0.45	<0.48
T3 (Downstream end of south-central lateral SD)	0.026 – 1.81	0.32
T3A (Upstream of NBF on the south-central lateral SD)	<0.02 – 0.73	<0.46
T4 (Downstream end of north-central lateral SD)	0.24 – 2.75	0.81
T4A (Upstream of NBF on the north-central lateral SD)	<0.011 – 5.60	0.16
T5 (Downstream end of north lateral SD)	2.1 – 800	8.04
T5A, T5A(2) (Upstream of NBF on the north lateral SD, now shifted to King County bypass line*)	0.086 – 0.67	0.39*

<sup>4</sup> Sediment traps have been installed at the following locations:

- T1 – Downstream end of the north lateral, north central lateral, and Building 3-380 storm drain lines, upstream of the King County Lift Station that pumps stormwater to King County Airport SD#3/PS44 EOF.
- T2 and T2A – Downstream and upstream, respectively, of the Boeing-leased property along the south lateral storm drain line.
- T3 and T3A – Downstream and upstream, respectively, of the Boeing-leased property along the south-central lateral storm drain line.
- T4 and T4A – Downstream and upstream, respectively, of the Boeing-leased property along the north-central lateral storm drain line.
- T5 and T5A – Downstream and upstream, respectively, of the Boeing-leased property along the north lateral storm drain line.
- T6 – Intersection of S Hardy Street and Airport Way S, along the I-5 Storm Drain.

Sediment Trap Location	Range of All PCB Conc'ns (mg/kg DW)	Most Recent PCB Conc'n (mg/kg DW)
T6 (I-5 SD)	<0.019 – 7.8	0.20

\* During 2012, offsite drainage to the north lateral storm drain line was rerouted around the NBF site. The sediment trap at T5A was removed, and a grab solids sample was collected at the wet well (location T5A[2]) in this new King County storm drain bypass line in lieu of the T5A sediment trap sample.

As of December 31, 2013, SPU has collected seven in-line solids samples and one onsite catch basin sample in the NBF/northern KCIA storm drain basin that discharges at KCIA SD#3/PS44 EOF.

- SPU did not collect any source tracing samples in this drainage basin during the current reporting period, and beginning in 2013 KCIA has taken responsibility for sampling T2A and T3A.

As of December 31, 2013, SPU has collected four in-line solids samples, three onsite catch basin samples, and three right-of-way catch basin samples in the I-5 SD.

- Two in-line solids samples were collected during the current reporting period.

SPU has collected six onsite catch basin samples in areas of the EAA-3 source control area that discharge to Slip 4 via private storm drains. SPU has also collected eight right-of-way catch basin samples and one catch basin sample from structures plumbed to the combined sewer system within EAA-3.

As of December 31, 2013, SPU has collected 13 in-line solids samples, two onsite catch basin samples, and seven right-of-way catch basin samples in the Georgetown Flume. In 2010, the Flume was removed and replaced with a new storm drain system that collects roof runoff from the GTSP, as well as runoff from S Myrtle Street and other areas west of the flume corridor, outside of KCIA boundaries. No source tracing samples have been collected from the new GTSP storm drain. SPU attempted to sample this system in 2012, but no sediment had accumulated in the lines or the catch basins.

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). An “X” indicates that the chemical concentration exceeded the lower screening level (SQS/LAET) during the current reporting period (2013). An “X” surrounded by a box indicates that the chemical concentration exceeded the upper screening level (CSL/2LAET) during 2013. Complete sample results for the current reporting period are presented in Appendix E; sample locations are shown in Figure 3-2. Storm drain screening levels are defined in Section 3.2.



Chemical Class	Chemical	Sediment Traps (SPU/KCIA and Boeing)	In-line Solids (SPU)	Onsite CB Solids (SPU)	Right-of-Way CB Solids (SPU)
Metals	Arsenic				
	Copper				
	Lead				
	Mercury				
	Zinc	☒	×		
PCBs	PCBs, total	☒			
PAHs	LPAH	×			
	HPAH	☒			
Phthalates	BEHP	☒	☒		
	Butylbenzylphthalate	☒	×		
	Dimethylphthalate	×			
	Di-n-butylphthalate				
	Di-n-octylphthalate	×			
Other SVOCs	1,4-Dichlorobenzene				
	2,4-Dimethylphenol				
	2-Methylnaphthalene	×			
	2-Methylphenol				
	4-Methylphenol	☒			
	Benzoic acid				
	Benzyl alcohol				
	Dibenzofuran				
	Pentachlorophenol				
	Phenol	×			
TPH	TPH-diesel				
	TPH-oil				

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013). Table includes only SPU samples and SPU/Boeing sediment trap samples; it does not include other storm drain solids samples collected as part of ongoing investigations at the NBF-GTSP site.

× = Exceedance of lower screening level was observed during the current reporting period (January through December 2013).

☒ = Exceedance of upper screening level was observed during the current reporting period (January through December 2013).

## 12.3 Facility-Specific Source Control Actions

### Crowley Marine Services / 8<sup>th</sup> Avenue Terminals

Ecology and 8<sup>th</sup> Avenue Terminals negotiated Agreed Order DE-6721 to conduct an RI/FS, implement interim actions if needed, and prepare a draft CAP. The Agreed Order became effective on October 12, 2009 (Ecology 2009I).

In July and August 2012, 8<sup>th</sup> Avenue Terminals installed a new stormwater system to replace a collapsed line that formerly drained the northern portion of the property. The new stormwater system is connected to an existing outfall to Slip 4.

- In October 2012, 8<sup>th</sup> Avenue Terminals submitted a report to Ecology with results of the environmental investigation activities associated with replacement of the storm water drainage system on Parcel F. The purpose of this investigation was to assess potential soil and groundwater impacts from the previous storm water drainage system, and to further evaluate potential current and historic contaminant sources on Parcel F (SLR 2012).
- In October 2012 Crowley Marine submitted an RI/FS Work Plan to Ecology (Crowley 2012).
- Crowley Marine Services completed field work for a Phase 1 RI in November 2013. They will prepare a data summary report. The Phase 2 Work Plan may be revised based on the data they collect. Field work for Phase 2 is expected to begin in summer 2014.

<b>Current Operations</b>	Cargo container storage, berthing facility, railroad operations
<b>Historical Operations</b>	Hydraulic parts manufacturing, lumber mill, pole-dipping, excelsior (wood packing material) manufacturing
<b>Address</b>	7400 8 <sup>th</sup> Avenue S, Seattle 98108
<b>Facility/Site ID</b>	1940187 (Crowley Marine Services Inc. 8 <sup>th</sup> Avenue S) 63123962 (Alaska Logistics LLC)
<b>Chemicals of Concern</b>	Arsenic, copper, PAHs, PCBs, phthalates, petroleum hydrocarbons
<b>Media Affected</b>	Sediment, soil, groundwater

### King County International Airport (North Area)

Portions of KCIA are located in four separate source control areas. The north area of KCIA is discussed below. The central portion of KCIA is discussed in Section 14.3.

Agreed Order (DE-5685) for the NBF-GTSP Site was signed by the PLPs (Boeing, City of Seattle, and King County) and Ecology, effective August 14, 2008 (Ecology 2008e). Under the terms of the Agreed Order Ecology will complete an RI/FS and conduct one or more interim actions, if appropriate, at the NBF-GTSP site. The PLPs will be

<b>Current Operations</b>	General aviation airport and related activities
<b>Historical Operations</b>	Military airport operations; general aviation
<b>Address</b>	7277 Perimeter Road S (main terminal); various tenant addresses
<b>Facility/Site ID</b>	2051 (King County Int. Airport Maintenance Shop)
<b>Chemicals of Concern</b>	PAHs, phthalates, copper, zinc, petroleum hydrocarbons, PCBs
<b>Media Affected</b>	Stormwater, groundwater

given first opportunity to perform any interim actions that may be required under the Agreed Order. The PLPs will pay remedial action costs for Ecology-conducted remedial actions at the site.

- In 2013 KCIA monitored stormwater in each of the airport's three major drainage basins in accordance with the ISGP. The three basins sampled included the north area (Slip 4 basin), central area (Former Slip 5 basin), and the south-central area (Slip 6 basin). Sample parameters include turbidity, pH, zinc, copper, and petroleum sheen (KCIA 2013).
- The Slip 4 basin/north area of KCIA is monitored at two ISGP sampling points. SP1 sampling point represents the east areas and SPM represents the north (Airport Maintenance Shop) and the northeast areas of the airport. Based on 2013 ISGP data for SP1 and SPM, KCIA remained below benchmarks for turbidity, zinc and copper (KCIA 2013). Source control activities included tenant inspections to assess pollutant sources and BMPs, performing daily sweeping, weekly OWS inspections, spill/SWPPP training, and monthly airport-wide inspections.

KCIA implemented airport-wide BMPs in accordance with its ISGP and King County's Municipal Stormwater General Permit (MSGP) requirements. KCIA implementation of BMPs is described in its SWPPP, King County's Stormwater Management Plan and Stormwater Pollution Prevention Manual. Treatment BMPs such as OWSs, water quality vaults, and StormFilter systems have been installed and are periodically being maintained. KCIA performs daily mechanical sweeping of paved areas, annual inspections of stormwater facilities, and weekly maintenance of OWSs.

KCIA inspects all tenant and airport common areas monthly to ensure that BMPs are being maintained. In 2013, KCIA performed illicit discharges and connection inspections; no suspected illicit connections were identified (Dumaliang 2014).

- In May 2013, KCIA sampled in-line sediment traps and solids at locations up-gradient of the NBF site. Annual in-line sediment trap and grab sampling will continue for several years to monitor potential changes in airport activities and to evaluate the ongoing effectiveness of source control activities (Pace Analytical 2013).
- KCIA plans to sample stormwater solids in Spring/Summer 2014 at up-gradient airport areas to provide additional data for the RI/FS (Dumaliang 2014).

## North Boeing Field / Georgetown Steam Plant Site

An Agreed Order (DE-5685) for the NBF-GTSP Site was signed by the PLPs (Boeing, City of Seattle, and King County) and Ecology, effective August 14, 2008 (Ecology 2008e). Under the terms of the Agreed Order, Ecology will complete an RI/FS and conduct one or more interim actions, if appropriate, at the NBF-GTSP site. The PLPs will be given first opportunity to perform any interim actions that may be required under the Agreed Order. The PLPs will pay remedial action costs for Ecology-conducted remedial actions at the site.

<b>Current Operations</b>	GTSP: Museum (currently closed) NBF: Aircraft finishing and testing; aircraft research and development
<b>Historical Operations</b>	GTSP: Power plant, cooling water discharge NBF: Same as current
<b>Address</b>	GTSP: 6700 13 <sup>th</sup> Avenue S, Seattle 98108 NBF: 7500 East Marginal Way S, Seattle 98108
<b>Facility/Site ID</b>	2050 (NBF-GTSP)
<b>Chemicals of Concern</b>	PCBs, PAHs, metals, phthalates, VOCs, petroleum hydrocarbons
<b>Media Affected</b>	Soil, groundwater, stormwater, soil vapor

Source control activities conducted at the NBF-GTSP site during the current reporting period are presented below.

<b>Dates</b>	<b>Activity</b>	<b>Description</b>
January 30, 2013	NBF Paint Abatement and Storm Drain Cleaning Activities	Boeing completed a technical memorandum documenting paint abatement and storm drain cleaning activities that were conducted in 2012. Paint abatement activities were conducted on bollards and pressure indicating valves near the 3-818 and 3-390 buildings and on painted concrete foundations at the bases of the 3-374 and 3-318 buildings. Boeing contractors cleaned all accessible catch basins, manholes, and oil/water separators on the NBF property except for retention vault OWS-640. Approximately 1,190 linear feet of storm drain line were cleaned in the north lateral drainage in the general vicinity of the 2011 fence line interim action excavation (Landau 2013a).
March 28, 2013	Annual Performance Evaluation Report Long-Term Stormwater Treatment 2011-2012	Boeing completed an evaluation of the Long-Term Stormwater Treatment (LTST) system at NBF for the 2011-2012 reporting period. The LTST system treated approximately 176 million gallons of stormwater during the time period (November 2011 through October 2012) or about 68 percent of stormwater volume discharged from the lift station to Slip 4. All whole water analyses for PCBs at the lift station discharge point were below the marine water quality criterion interim goal of 0.03 ug/L (Landau 2013b).

Dates	Activity	Description
May 14, 2013	Groundwater Sampling at GTSP	The City of Seattle prepared a memorandum regarding groundwater monitoring in two new wells at GTSP. Wells GTSP-7 and GTSP-8 were installed on February 12, 2013, following the fence line interim action. Groundwater samples were collected from both wells on February 15. There were no PCBs in GTSP-7 above the laboratory practical quantitation limit of 0.01 ug/L. Diesel was detected in GTSP-8 at a concentration of 110 ug/L which is below the Method A cleanup level of 500 ug/L (SCL 2013).
September 27, 2013	NBF/GTSP RI/FS Final 2011-2012 Stormwater Sampling Data Report	Ecology's contractor, SAIC, completed a data report on stormwater sampling conducted during the 2011-2012 wet season. Filtered solids, whole water, and storm drain solids grab samples were collected and analyzed during this period. In the north storm drain lateral, solids concentrations of metals, PCBs, total dioxins/furans, phthalates, phenols, and n-nitrosodiphenylamine exceeded screening levels. The highest exceedance was for 54 mg/kg for PCBs in storm drain solids at MH181A. In the north central storm drain lateral, concentrations of PCBs, metals, PAHs and dioxin furans exceeded screening levels in filtered solids and PAHs exceeded screening levels in whole water. The greatest exceedance was 300 mg/kg for total HPAHs in solids at the upstream monitoring station. In the south central storm drain lateral, solids concentrations of cadmium and whole water concentrations of total copper and total cPAHs exceeded screening levels. The greatest exceedance was 10 mg/kg for cadmium in solids at the downstream monitoring station. In the south storm drain lateral, solids concentrations of metals, PAHs and total dioxins/furans and whole water concentrations of metals and total cPAHs. The highest exceedances were for mercury (6.1 mg/kg) and total HPAHs (230 mg./kg) at the upstream stations and for chromium (3,140 mg/kg) at the downstream monitoring station (SAIC 2013c).
November 11, 2013	NBF/GTSP RI/FS Final Work Plan	Ecology's contractor, Leidos (formerly SAIC) completed the final RI/FS work plan for the site after completion of negotiations between Ecology and the PLPs. The first phase of RI work will include installation of approximately 90 soil borings. Groundwater monitoring wells will be installed in 25 of the borings, and vapor points will be installed in 10 of the borings. Work will also include sampling of solids in 53 storm drain structures and surface debris at 91 locations. RI work is scheduled to begin in spring 2014 (Leidos 2013a).

Dates	Activity	Description
November 20, 2013	Spill Investigation Cleanup Report Main Fuel Farm NBF	On September 5, 2013 there was a jet fuel spill at the main fuel farm area of NBF (Ecology 2013bc). Boeing prepared a report on investigation and cleanup of the jet fuel spill. Some of the spill entered the soil because utility upgrade construction was underway in the spill area. Cleanup activities began on September 20, 2013 and were completed on October 20, 2013. Approximately 390 cubic yards of contaminated soil were removed from the main fuel farm area. Confirmation sampling indicated that TPH-gasoline concentrations in remaining soils were below the MTCA Method A cleanup level (100 mg/kg) (Landau 2013d).

### Former Boeing Electronics Manufacturing Facility

This facility is located within the EAA-3; Slip 4 source control area boundary (Figure 12-1). In previous versions of the status report, updates for this facility have been listed in the EAA-4 source control area, since the groundwater plume travels through EAA-4. However, we will include the updates for this facility in Section 12, since it is physically located within this source control area.

<b>Current Operations</b>	Property leased to UPS
<b>Historical Operations</b>	Prototype aircraft testing from 1940-1960s. Electronic circuit board manufacturing conducted during 1960s to 1982.
<b>Address</b>	7355 Airport Way S or 7355 Perimeter Rd S
<b>Facility/Site ID</b>	73142589
<b>Chemicals of Concern</b>	TCE, 1,2-dichloroethane (cis and trans isomers) and vinyl chloride
<b>Media Affected</b>	Soil contamination, groundwater

Under a Removal Action Settlement Agreement and Order on Consent between Boeing and EPA (2007), Boeing will characterize the EMF and groundwater plume, and develop an Engineering Evaluation/Cost Analysis for this site.

- Boeing continued to use ERD injections at EMF.
- In August 2013, Boeing submitted the analytical results for the August EMF groundwater monitoring event. Data from the August 2013 biannual sampling event showed high levels of toluene in some of the ERD injection wells, but not in the monitoring wells. Elevated toluene was present in injection wells at Area 1 and in the center of the injection transect at Area 4. Boeing suggested that toluene was generated as a result of biological processes from the substrate injections and not as a result of a toluene release. The EPA site manager noted that this is un-validated data and she expressed concern that this was the highest concentrations they have found in two of the wells (IW-5 and IW-6) (Castrilli 2013). EPA requested further information from Boeing.

On October 2, 2013 Boeing submitted a Biosynthesis of Toluene as Part of ERD Treatment within the EMF Plume Technical Memorandum to EPA. EPA instructed Boeing to sample and analyze each batch of substrate for the compounds that could be

precursors to in situ toluene biogenesis, prior to any further ERD injections. EPA also advised that Boeing may wish to analyze the substrate for toluene.

- On December 13, 2013 EPA requested that Boeing prepare a work plan for additional source area investigation for Boeing EMF. EPA provided comments on the draft EE/CA in 2013, but has not set a deadline for a revision, pending results of the requested source area investigation.

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## 13.0 RM 2.8-3.7 East (EAA-4: Boeing Plant 2 to Jorgensen Forge)

The RM 2.8-3.7 East (EAA-4; Boeing Plant 2 to Jorgensen Forge) source control area is shown in Figure 13-1. This source control area includes stormwater that discharges to the LDW from private outfalls at Boeing Plant 2 and Jorgensen Forge, and from the City of Tukwila's 16<sup>th</sup> Avenue S SD. Portions of central KCIA and the City of Tukwila right-of-way drainage on East Marginal Way S formerly discharged to the LDW in this area, through the KCIA-Jorgensen SD. This drainage was rerouted in December 2009 (Ecology 2011f). Stormwater in this area currently discharges to KCIA SD#2 (EAA-6).

<b>Location</b>	RM 2.8-3.7 East
<b>Chemicals of Concern</b>	PCBs, phthalates, PAHs, metals
<b>Data Gaps Evaluation</b>	June 2007 (E&E 2007a)
<b>SCAP</b>	December 2007 (Ecology 2007f)

Source control action items for the Boeing Plant 2 to Jorgensen Forge source control area are listed in Table 3-2. A total of 34 source control action items have been identified for this source control area; as of December 2013, 17 of these have been completed. Of the remaining action items, 11 are considered high priority.

### 13.1 Business Inspections

- Ecology conducted an inspection, at Boeing Plant 2 (7755 East Marginal Way S) and Jorgensen Forge (8531 East Marginal Way S) during the current reporting period (Appendix C).
  - In January 2013, Jorgensen Forge began installing a stormwater treatment system.
  - In February 2013, Ecology amended the Administrative Order with Boeing Plant 2, extending the deadline for the installation of treatment from September 30, 2013 to September 30, 2014 (Ecology 2013h).

### 13.2 Source Tracing

SPU collected three sediment trap samples and two in-line solids sample in the King County-Jorgensen storm drain line before it was rerouted in 2009. The sediment trap was moved at that time to an upstream manhole location in the KCIA SD#2 basin.

SPU has collected five in-line solids samples, two onsite catch basin samples, and one right-of-way catch basin samples in the 16<sup>th</sup> Avenue S SD basin.

- No samples were collected during the current reporting period.

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	Sediment Traps	In-line Solids	Right-of-Way CB Solids
Metals	Mercury			
	Zinc			
PCBs	PCBs, total			
Phthalates	BEHP			
	Butylbenzylphthalate			
	Dimethylphthalate			
Other SVOCs	2-Methylphenol			
	Benzoic acid			
	Benzyl alcohol			
	Phenol			
TPH	TPH-oil			

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

### 13.3 Facility-Specific Source Control Actions

#### Boeing Plant 2

Boeing is conducting RCRA Corrective Actions at Boeing Plant 2 under an Administrative Order on Consent, issued to Boeing in 1994 by EPA. This includes corrective actions for both the upland area and the sediment/bank areas.

In August 2011, EPA issued its Final Decision and Response to Comments for Plant 2 Sediments, containing the final remedy for the Duwamish Sediment Other Area and Southwest Bank and other Plant 2 sediment areas. The remedy is documented in the *Final Decisions and Response to Comments for Boeing Plant 2 Sediments* (USEPA 2011c).

<b>Current Operations</b>	Airplane parts manufacturing
<b>Historical Operations</b>	Same
<b>Address</b>	7755 East Marginal Way S
<b>Facility/Site ID</b>	2100 (Boeing Plant 2)
<b>Chemicals of Concern</b>	VOCs, PCBs, PAHs, metals, petroleum hydrocarbons
<b>Media Affected</b>	Groundwater, stormwater, soil, air, sediment

- The first sediment dredging season at Boeing Plant 2 was conducted from January 4 through March 7, 2013. The second season will begin January 2, 2014 and will continue through March 7, 2014. A third dredging season is expected to be conducted from August 1, 2014 through February 15, 2015, or when dredging is complete. It is possible that Boeing will need to place some final backfill in August 2015 (Arrigoni 2013).

- In February 2013, EPA received a request from Boeing for revisions to the Target Media Cleanup Levels (TMCLs) for Boeing Plant 2. In March 2013, EPA sent Boeing a letter confirming a verbal agreement between EPA and Boeing that any proposed TMCL revisions will be described in the Corrective Measures Study (USEPA 2013c).
- In May 2013, USEPA granted Boeing approval for risk-based disposal of sediments from the Duwamish Sediment Other Area and Southwest Bank Corrective Measure and Habitat Project for the South Shoreline work elements under the TSCA. This approval authorized Boeing to clean up approximately 35,000 cubic yards of sediments, soils, structures and debris from the shoreline and adjacent sediments in front of Plant 2, and to perform verification sampling, backfilling, and post-backfilling monitoring following removal of contaminated material. The approval and EPA's evaluation of the project under TSCA is contingent upon EPA's written approval of all phases and aspects of the project under the RCRA corrective action (USEPA 2013e).
- In June 2013, Boeing submitted the 2012-2013 Construction Season Completion Report for the Duwamish Sediment Other Area and Southwestern Bank Corrective Measure and Habitat Project to EPA. During this construction season, Boeing conducted the following: shoreline excavation, sediment dredging and backfilling, transloading of dredged sediments, dredge return water processing, water quality monitoring, pre- and post-construction perimeter sediment monitoring, post-construction core sampling, and archaeological monitoring (AMEC 2013).
- In September 2013, EPA sent a response to Boeing's request to modify final media cleanup levels for the Boeing Plant 2 Uplands Area. Boeing asked EPA to significantly reduce the number of constituents of concern with regard to the pathway that leads to Tribal fish consumption. In their letter to Boeing, EPA stated that they cannot concur with the proposal. EPA explained that they would not concur with any significant changes without receiving proper vetting from Ecology, Tribes, and the LDW stakeholder community (USEPA 2013k).
- In 2012, Boeing submitted plans to the City of Seattle Department of Planning and Development to convert the Airgas site into a parking lot (Schmoyer 2013a). This work was part of a Boeing project to fill a sunken parking lot to match the grade of the surrounding parking lot. This project was completed in late 2013. The new parking layout increases the impervious surface from 9,117 square feet to 12,555 square feet (Rupert Engineering 2012).

## Jorgensen Forge

The Jorgensen Forge site is divided into an upland portion and a sediment portion. Ecology is the lead for the upland cleanup and EPA is the lead for the sediment cleanup.

For the upland cleanup, Ecology and Jorgensen Forge Corporation negotiated an Agreed Order (DE-4127), effective July 12, 2007. The order requires Jorgensen Forge to evaluate existing data, identify potential ongoing sources of contaminants to sediment, and conduct additional investigations to fill identified data gaps (Ecology 2007c). Activities required under Agreed Order DE-4127 were completed in 2012.

<b>Current Operations</b>	Manufacture of steel forgings and rolled aluminum rings; processing of nickel, titanium, and specialized alloys
<b>Historical Operations</b>	Manufacture of structural steel, tractors, and road equipment; prefabricated steel cutting and distribution
<b>Address</b>	8531 East Marginal Way S
<b>Facility/Site ID</b>	2382 (Jorgensen Forge Corp) 36575469 (Jorgensen Forge Area 3 Gasoline)
<b>Chemicals of Concern</b>	Metals, PCBs, petroleum hydrocarbons, non-halogenated solvents
<b>Media Affected</b>	Soil, groundwater

- In 2013, Jorgensen Forge and Ecology negotiated the First Amendment to the 2007 Agreed Order (DE-4127). This amendment (effective July 8, 2013) requires Jorgensen Forge to perform an interim action to excavate and remove soils impacted by PCBs within the access road area of the site. Soils in the access road area must be removed to provide construction equipment access to portions of the river bank that will be reconfigured as part of the Jorgensen Forge EAA, which is overseen by the EPA. The removal of PCB-impacted soil in this area will prevent the potential migration of contaminated soils at the site and remove near-surface PCB-impacted soils that could otherwise migrate to the LDW (Ecology 2013al).

### Water Quality

In August 2011 Ecology's Water Quality Program issued Administrative Order No. 8682, requiring treatment to address benchmark exceedances.

- A treatment system and stormwater conveyance system was installed in late 2012 and went on-line in the middle of January 2013 (Wright 2013).

### Pipe Outfall Cleanup

- In the summer of 2013, EPA signed an Administrative Order on Consent with Jorgensen Forge and Boeing (CERCLA Order No. 10-2011-0017) for a modification of the Time Critical Removal Action for the Jorgensen Forge Outfall site. This included the collection of additional Geoprobe data in the bank for PCBs, and the construction of a retaining wall to facilitate the removal of these sediments (Chu 2014). The contamination will be further characterized by collecting additional geo-probe data prior to the installation of the retaining wall (USEPA 2013i).

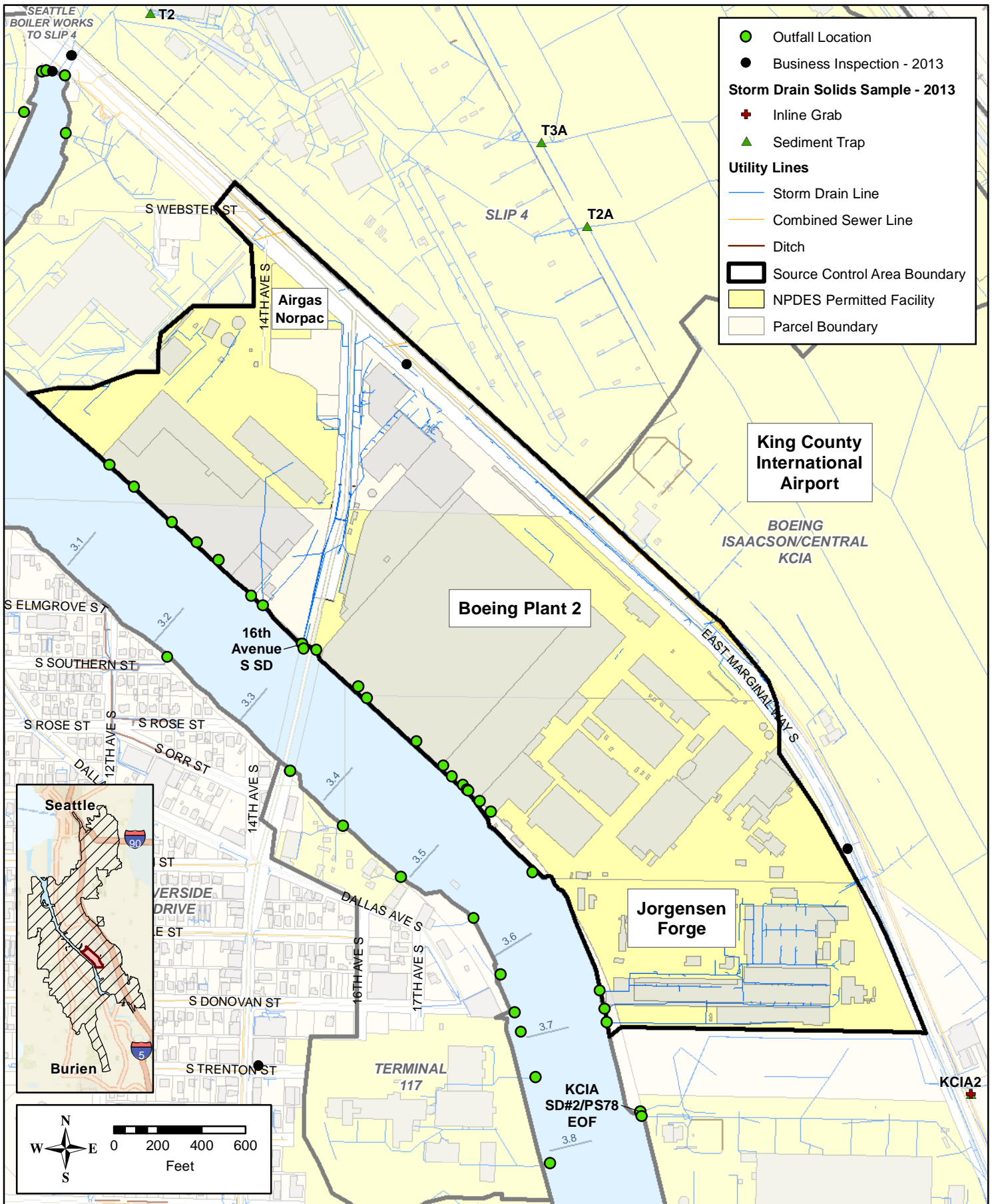
- The sampling conducted at the end of the Boeing/Jorgensen 24-inch boundary pipe (former King County-Jorgensen discharge) in October 2013 indicated that high levels of PCBs (above 50 ppm DW) are present in banks and sediments and require removal. EPA continues to be the lead agency for the pipe outfall cleanup, which is expected to occur in 2015, subsequent to the sediment and bank cleanup currently scheduled for fall 2014 (Chu 2014i).
- Jorgensen Forge and Boeing's consultants prepared a third party data validation report for the Jorgensen Forge Outfall Site Phase 4A soil and bank material sampling. They submitted this report to EPA in December 2013. This report validated data from soil and water samples data collected in October 2013 (Pyron Environmental 2013).

#### Contaminated Sediments and Bank Soils

- From 2003 through 2013, sediment contamination at this site was addressed under EPA CERCLA Order No.10-2003-0001. In 2012 EPA and Earle M. Jorgensen negotiated a new Administrative Settlement Agreement, Order on Consent, and Statement of Work (USEPA 2012). CERCLA Order No. 10-2013-0032 is expected to be implemented in 2014. The order required Earle M. Jorgensen to develop a Removal Design and Removal Action Work Plan for the sediment and banks of the Jorgensen Forge facility and then implement the Removal Action. In August 2013 EPA approved the Removal Design. The removal action is scheduled to start in June 2014 (Chu 2014).
- On August 13, 2013 Jorgensen Forge submitted revisions to the Final Basis of Design Report, Water Quality monitoring plan, and QAPP to EPA. This report was for the removal action of contaminated sediments and associated bank soils within the removal action boundary (Anchor QEA 2013b). EPA approved the Basis of Design report on August 16, 2013 (Anchor QEA 2013a, USEPA 2013h).
- EPA scheduled the removal work to begin in September 2013. They planned to start with the bank work and then start in-water dredging in October 2013 (USEPA 2013i).

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**Figure 13-1. RM 2.8-3.7 East  
(EAA-4: Boeing Plant 2 to Jorgensen Forge)  
Source Control Area**



## 14.0 RM 3.7-3.9 East (EAA-6: Boeing Isaacson/Central KCIA)

The RM 3.7-3.9 East (EAA-6; Boeing Isaacson/Central KCIA) source control area includes the Boeing Thompson and Isaacson properties adjacent to the LDW (shown in Figure 14-1) and the portions of central KCIA that are within the drainage basin for KCIA SD#2/PS45 EOF (Figure 14-2). Three active outfalls are located within this source control area. In addition to the county's KCIA SD#2 outfall, two private outfalls are associated with stormwater discharges from the Boeing Thompson facility.

<b>Location</b>	RM 3.7-3.9 East
<b>Chemicals of Concern</b>	Arsenic, PAHs, phthalates, PCBs, benzoic acid, benzyl alcohol, dibenzofuran, other metals
<b>Data Gaps Evaluation</b>	May 2008 (SAIC 2008b)
<b>SCAP</b>	May 2009 (Ecology 2009a)

Action items for the Boeing Isaacson/Central KCIA source control area are listed in Table 3-2. A total of 28 source control action items have been identified for this source control area; as of December 2013, ten of these have been completed and one has been canceled. Of the remaining action items, three are considered high priority.

### 14.1 Business Inspections

- Ecology conducted two inspections at KCIA (7277 Perimeter Road S), during the current reporting period (Appendix C). During the inspection in May 2013, Ecology collected four storm drain solids samples and one water sample at KCIA. Cadmium (0.2-18 mg/kg DW), mercury (0.08-2.8 mg/kg DW), benzo(g,h,i)perylene (0.012-0.99 mg/kg DW), fluoranthene (0.03-2.6 mg/kg DW), indeno(1,2,3-cd)pyrene (0.012-0.97 mg/kg DW), BEHP (0.034-3.4 mg/kg DW), benzoic acid (0.12-0.68 mg/kg DW), and PCBs (0.016-150 mg/kg DW) exceeded the CSL in one or more storm drain solids sample. Total PCBs also exceeded the LDW RALs in two samples. Copper (27.8 ug/L) exceeded the WQC for chronic exposure in the water sample collected at the facility.

### 14.2 Source Tracing

SPU has collected five in-line solids samples, three onsite catch basin samples, four sediment trap samples, and one right-of-way catch basin sample in the KCIA SD#2/PS45 EOF basin. KCIA has taken over sampling of the KCIA2 sediment trap from SPU.

On May 10, 2013 KCIA sampled stormwater solids (grab sample) at the KCIA2 location. 2009-2013 data from in-line trap and grab samples at the KCIA2 show average total LPAH, HPAH, phthalate and PCBs concentrations below the SQS/LAET. Average zinc and arsenic concentrations were above the SQS (Dumaliang 2014). Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical

concentration exceeded a screening level sometime in the past (including the current reporting period). Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	Sediment Traps	In-line Solids	Onsite CB Solids	Right-of-Way CB Solids
Metals	Arsenic				
	Lead				
	Mercury				
	Zinc				
PCBs	PCBs, total				
PAHs	LPAH				
	HPAH				
	cPAH				
Phthalates	BEHP				
	Butylbenzylphthalate				
	Dimethylphthalate				
Other SVOCs	2,4-Dimethylphenol				
	Dibenzofuran				
	Hexachlorobutadiene				
TPH	TPH-oil				

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

## 14.3 Facility-Specific Source Control Actions

### Boeing Isaacson/Thompson

On April 23, 2010 Boeing and Ecology entered into Agreed Order No. DE-7088 to conduct an RI/FS and prepare a draft CAP (Ecology 2010c). Ecology approved an RI/FS work plan for this site in September 2011 (Landau 2011).

- Boeing submitted a Draft RI report to Ecology on February 20, 2013. Ecology indicated that the investigation is sufficient to complete the RI report, but that there are some

action items that Boeing must still address and revise for the Final RI Report (Ecology 2013ai). Ecology expects the final RI Report in spring 2014.

<b>Current Operations</b>	Vacant (Boeing Isaacson); office space/storage (Boeing Thompson)
<b>Historical Operations</b>	Steel forging and fabrication, sawmill, wood preserving, aircraft manufacturing/assembly
<b>Address</b>	8541 to 8811 East Marginal Way S
<b>Facility/Site ID</b>	2218 (Boeing Isaacson Thompson) 1138721 (Boeing Isaacson Property) 83767996 (Boeing Thompson) 4274402 (Boeing Thompson Site)
<b>Chemicals of Concern</b>	Arsenic, lead, silver, zinc, PCBs
<b>Media Affected</b>	Soil, groundwater, stormwater, sediment

## King County International Airport (Central Area)

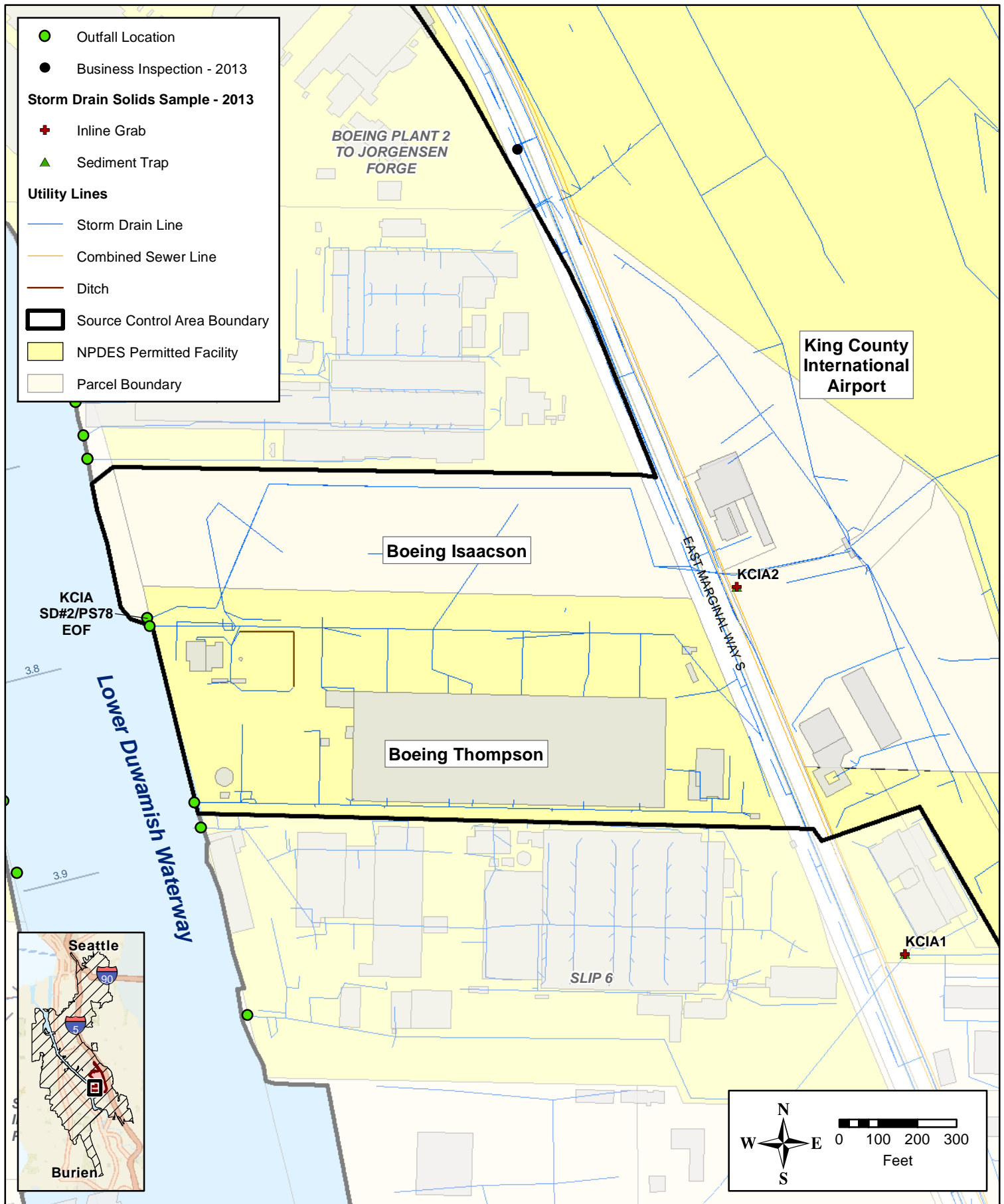
Portions of KCIA are located in four separate source control areas. The central area of KCIA is discussed below. The northern portion of KCIA is discussed in Section 12.3, the southern portion is discussed in Section 15.3.

<b>Current Operations</b>	General aviation airport and related activities
<b>Historical Operations</b>	Military airport operations; general aviation
<b>Address</b>	7277 Perimeter Road S (main terminal); various tenant addresses
<b>Facility/Site ID</b>	None
<b>Chemicals of Concern</b>	PAHs, phthalates, copper, zinc, petroleum hydrocarbons, PCBs
<b>Media Affected</b>	Stormwater, groundwater

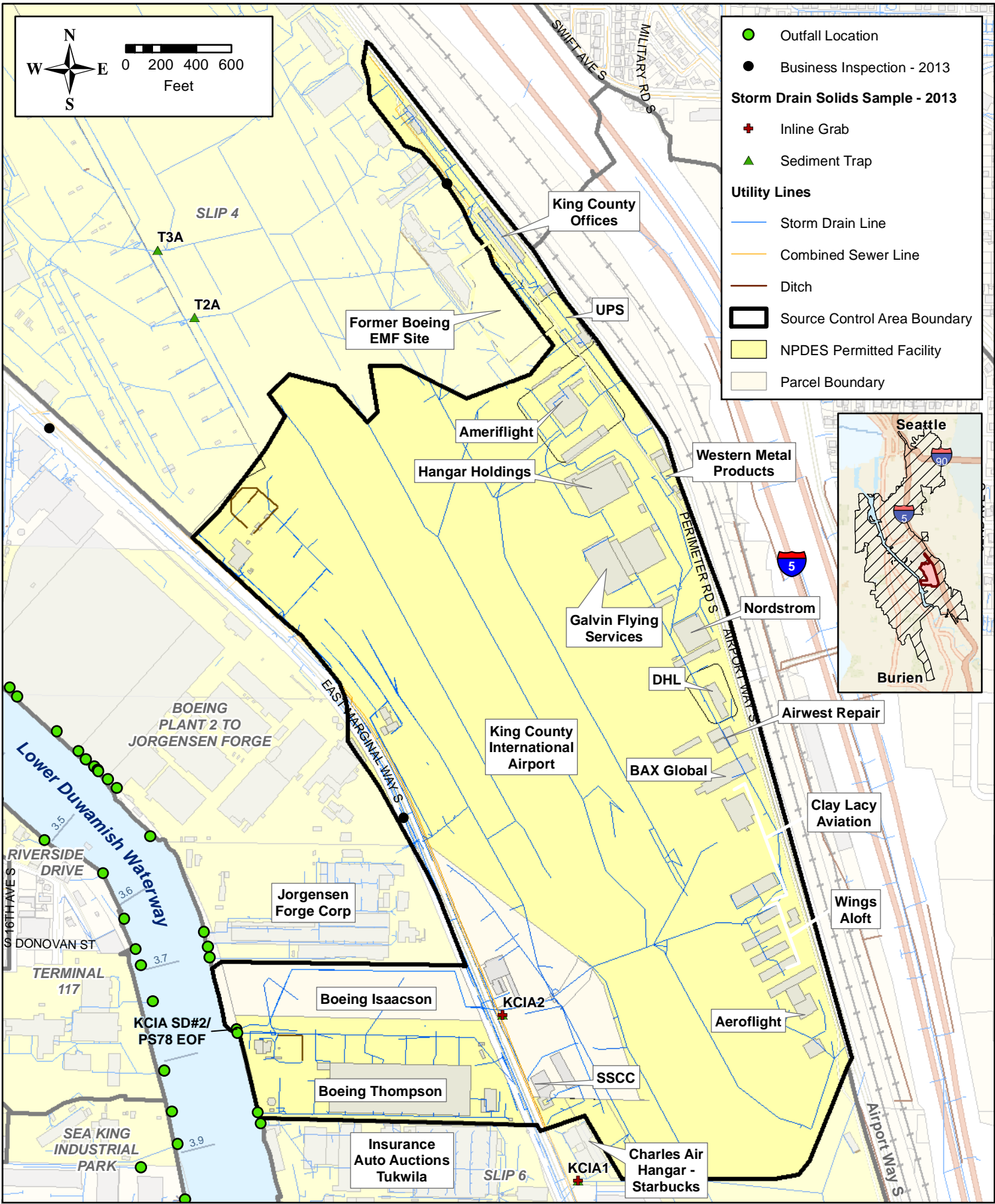
- In 2013, KCIA monitored stormwater in each of the airport's three major drainage basins in accordance with the ISGP. The three basins sampled included the north area (Slip 4 basin), central area (Former Slip 5 basin), and the south-central area (Slip 6 basin). Ecology approved the discontinuation of sampling at the south area (Norfolk SD/CSO basin) since no industrial activity is performed in that basin. Sample parameters include turbidity, pH, zinc, copper, and petroleum sheen (KCIA 2013).
- Based on 2013 ISGP stormwater data for the central area sampling point (SP2), average quarterly turbidity was 24.9 ntu (KCIA 2013). KCIA has been rehabilitating the stormwater system as part of the Taxiway Alpha Rehabilitation project since 2012. This project reduced the amount of groundwater infiltration into stormwater pipes. KCIA installed a large water quality vault and repaired the stormwater conveyance system at the three basins to reduced turbidity. As part of this project stormwater pipes and structures were also cleaned of solids in 2013 for stormwater pipe re-lining work. This work will continue in summer of 2014 (Dumaliang 2014).
- KCIA implemented airport-wide BMPs in accordance with its ISGP and King County's MSGP requirements. Implementation of BMPs is described in KCIA's SWPPP, King County's Stormwater Management Plan, and the Stormwater Pollution Prevention Manual. KCIA implemented and maintains treatment BMPs such as OWSs, water quality vaults, and StormFilter systems. KCIA performs daily mechanical sweeping of paved areas, annual inspections of stormwater facilities, and weekly maintenance of OWSs. KCIA inspects all tenant and airport common areas monthly to ensure that BMPs are in good working condition. In 2013, KCIA performed inspections for illicit discharges and connections. No suspected illicit connections were found (Dumaliang 2014).
- At the Former Slip 5/central area basin, 2009-2013 data from in-line trap and grab samples at the KCIA SD#2 sampling point show average total LPAH, HPAH, phthalate and PCBs concentrations below the SQS/LAET. Annual in-line sediment trap and grab sampling will continue for several years to monitor potential changes in airport activities and to evaluate the ongoing effectiveness of source control activities (Dumaliang 2014).
- At KCIA SD#2, average zinc and arsenic concentrations were above the SQS. These exceedances may be attributable to down-gradient offsite sources during tidal backflow conditions. In-line sediment trap and KCIA stormwater pipes are susceptible to backflow

conditions since there is no backflow prevention from down-gradient offsite sources (LDW and East Marginal Way drainage). The KCIA South Pump Station is not affected by these sources and more accurately represents the airport's pollutant contribution to the LDW. Zinc and arsenic concentrations collected at the South Pump Station in 2012-2013 show concentrations below the SQS/LAET indicating that KCIA is not the source of these pollutants (Dumaliang 2014).

- In 2013, KCIA performed an independent remedial action at a former Standard Gas facility for soil and groundwater contamination of petroleum hydrocarbons. Remedial action was compliant with substantive MTCA requirements. KCIA provided Ecology with notifications and investigation reports. A final cleanup report will be submitted to Ecology in early 2014. Quarterly performance groundwater monitoring is also scheduled to begin in 2014 (Dumaliang 2014).



**Figure 14-1. RM 3.7-3.9 East  
(EAA-6: Boeing Isaacson/Central KCIA)  
Boeing Thompson and Isaacson Properties**



**Figure 14-2. RM 3.7-3.9 East  
(EAA-6: Boeing Isaacson/Central KCIA)  
Central KCIA**



Coordinate System:  
NAD 1983 StatePlane Washington North FIPS 4601 Feet  
Prepared By: mlf  
File: Figure\_14-2\_RM\_3-7\_to\_3-9E\_KCIA.mxd  
Illustrative purposes only.

## 15.0 RM 3.9-4.3 East (Slip 6)

The RM 3.9-4.3 East (Slip 6) source control area is shown in Figure 15-1. It includes stormwater drainage from the south-central portion of KCIA, which discharges to the LDW through KCIA SD#1. It also includes the northern portion of the Boeing Developmental Center (BDC). There are five active outfalls in this area of the LDW; these include the county's KCIA SD#1, two private outfalls associated with the Insurance Auto Auctions facility, and two private outfalls associated with the northern portion of the BDC.

<b>Location</b>	RM 3.9-4.4 East
<b>Chemicals of Concern</b>	Metals, PCBs, PAHs, phthalates, other SVOCs, petroleum hydrocarbons
<b>Data Gaps Evaluation</b>	February 2008 (E&E 2008a)
<b>SCAP</b>	September 2008 (Ecology 2008f)

Action items for the Slip 6 source control area are listed in Table 3-2. A total of 23 source control action items were identified in the SCAP; as of December 2013, four of these have been completed. Of the remaining action items, 13 are considered high priority.

### 15.1 Business Inspections

- No business inspections were conducted in this source control area during the current reporting period.

### 15.2 Source Tracing

As of December 2013, SPU has collected four sediment trap samples, three in-line solids samples, one right-of-way catch basin samples, and six onsite catch basin sample in the KCIA SD#1 basin. KCIA took over sampling of KCIA1 sediment trap from SPU.

- In May 2013 the previous KCIA1 sample location was relocated to an up-gradient location at the airport. On May 10, 2013 KCIA sampled stormwater solids (in-line and grab samples) at the new KCIA1 location. Total metals, total PCBs, total LPAH, total HPAH, and phthalates concentrations were below SQS/LAET. Phenanthrene and BEHP were not detected. In May 2013 Ecology sampled stormwater solids from this location, which showed very similar results (Dumaliang 2014).

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	Sediment Trap	In-line Solids	Onsite CB Solids
Metals	Copper			
	Zinc			
PAHs	LPAH			
	HPAH			
	Total cPAH			
Phthalates	BEHP			
	Butylbenzylphthalate			
Other SVOCs	2,4-Dimethylphenol			
	4-Methylphenol			
	Benzyl alcohol			
	Hexachlorobutadiene			
TPH	TPH-diesel			
	TPH-oil			

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

### 15.3 Facility-Specific Source Control Actions

#### 8801 Site (Former Kenworth Truck/PACCAR)

Ecology, PACCAR, and Merrill Creek Holdings (the current property owner) signed Agreed Order No. DE-6069 in November 2008 for upland cleanup, which includes completion of an RI/FS and Interim Action Work Plan; the Order became effective on November 14, 2008 (Ecology 2008g).

- On May 30, 2013, PACCAR submitted a review draft of the final focused FS for the upland portion of this site. Based on Ecology's review, the draft FS contains enough information to proceed with writing a draft Interim Action Work Plan. The FS will go out for public review when the draft final Interim Action Work Plan is complete.
- PACCAR submitted a draft Interim Action Work Plan to Ecology on July 31, 2013. Ecology provided comments to Paccar. Paccar is preparing a revised draft final Interim Action Work Plan that is expected to be ready for public comment by summer 2014.

<b>Current Operations</b>	Damaged vehicle storage
<b>Historical Operations</b>	Truck manufacturing; airplane assembly
<b>Address</b>	8801 East Marginal Way S
<b>Facility/Site ID</b>	2072 (Kenworth Truck Co)
<b>Chemicals of Concern</b>	Petroleum hydrocarbons, PAHs, VOCs, PCBs, metals (arsenic, lead, copper), SVOCs
<b>Media Affected</b>	Soil, groundwater, stormwater, sediment



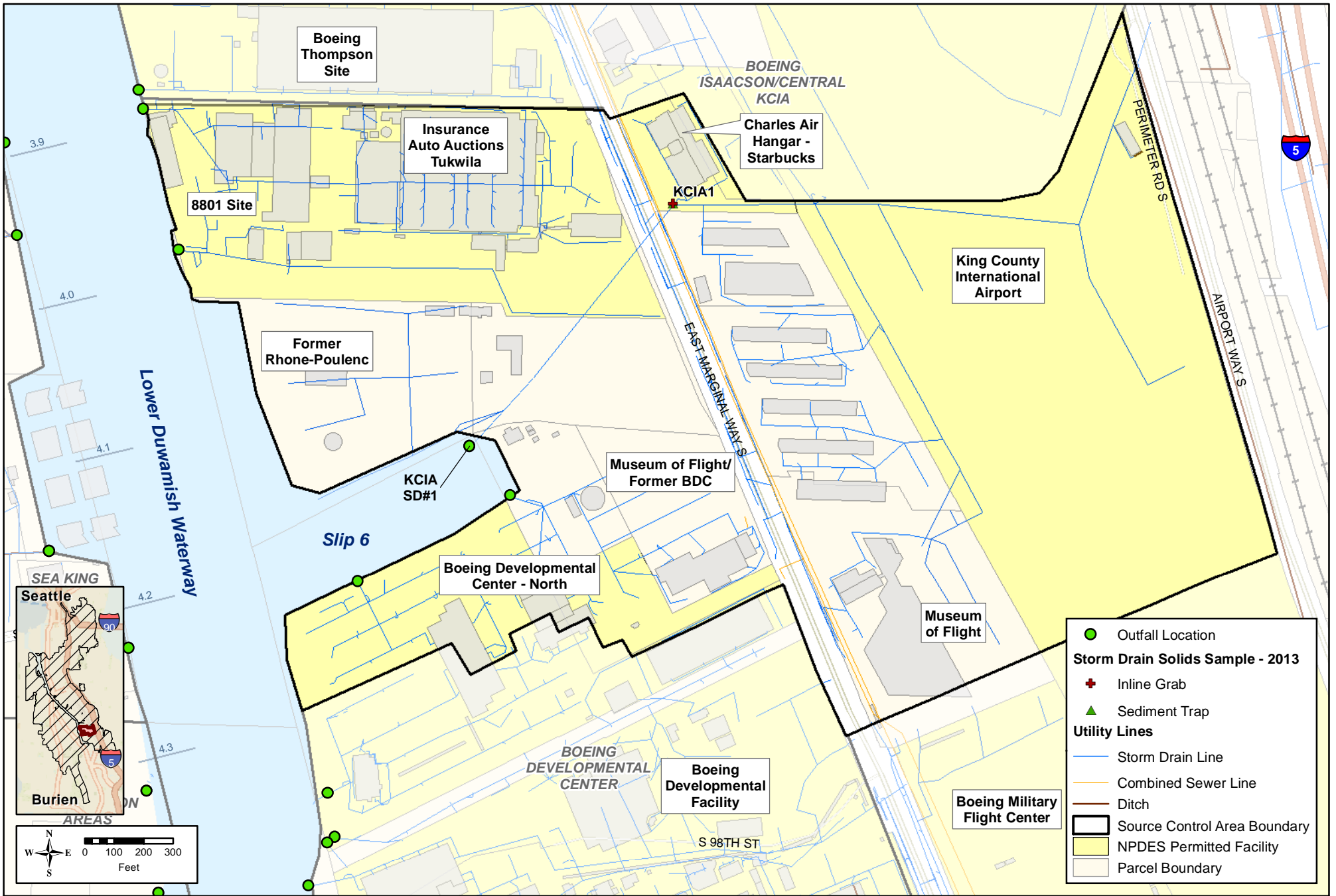
### King County International Airport (South Area)

Portions of KCIA are located in four separate source control areas. The south area of KCIA is discussed below. The northern portion of KCIA is discussed in Section 12.3, the central portion is discussed in Section 14.3.

<b>Current Operations</b>	General aviation airport and related activities
<b>Historical Operations</b>	Military airport operations; general aviation
<b>Address</b>	7277 Perimeter Road S (main terminal); various tenant addresses
<b>Facility/Site ID</b>	None
<b>Chemicals of Concern</b>	PAHs, phthalates, copper, zinc, petroleum hydrocarbons, PCBs
<b>Media Affected</b>	Stormwater, groundwater

- In 2013, KCIA monitored stormwater in each of the airport’s three major drainage basins in accordance with the ISGP. The three basins sampled included the north area (Slip 4 basin), central area (Former Slip 5 basin), and the south-central area (Slip 6 basin). Ecology approved the discontinuation of sampling at the south area (Norfolk SD/CSO basin) since no industrial activity is performed in that basin. Sample parameters include turbidity, pH, zinc, copper, and petroleum sheen (KCIA 2013).
- On May 10, 2013 KCIA sampled stormwater solids (in-line and grab samples) at the new KCIA1 location. Total metals, total PCBs, total LPAH, total HPAH, and phthalates concentrations were below SQS/LAET. Phenanthrene and BEHP were not detected. In May 2013 Ecology sampled stormwater solids from this location, which showed very similar results. In-line sediment trap data collected at KCIA1 from March 2009, December 2010, April 2012, and May 2013 have shown total PCBs below the SQS/LAET (Dumaliang 2014).

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**Figure 15-1. RM 3.9-4.3 East  
(Slip 6)  
Source Control Area**

## 16.0 RM 4.3-4.9 East (Boeing Developmental Center)

The RM 4.3-4.9 East (BDC) source control area is shown in Figure 16-1. The central portion of the BDC is located in this source control area. The northern portion of the BDC is discussed in Section 15 (Slip 6); the southern portion of the BDC is discussed in Section 17 (EAA-7: Norfolk CSO/SD).

This source control area includes stormwater drainage from 10 active private outfalls located in the central portion of the BDC. There are no public storm drain outfalls located within RM 4.3-4.9 East.

<b>Location</b>	RM 4.3-4.9 East
<b>Chemicals of Concern</b>	PCBs, lead, acenaphthene, benzo(g,h,i)perylene, dibenz(a,h)anthracene, fluoranthene, and indeno(1,2,3-cd)pyrene)
<b>Data Gaps Evaluation</b>	September 2010 (SAIC 2010b)
<b>SCAP</b>	December 2010 (Ecology 2010f)

Eight additional private outfalls are located in the northern and southern portions of the BDC property. These discharge to the Slip 6 source control area (Section 15) or the EAA-7 (Norfolk CSO/SD) source control area (Section 17).

Action items for the BDC source control area are listed in Table 3-2. A total of nine source control action items were identified in the SCAP. Two of these action items are considered high priority.

In 2011, Ecology conducted a stormwater lateral loading study at four significant stormwater outfalls within the LDW area, including one sampling location at BDC. Samples were collected in the storm drain line to Outfall 2088, which is located north of BDC Building 9-99 and south of Building 9-12 (SAIC and NewFields 2011). In whole-water samples, PCB concentrations were less than the Washington State acute and chronic water quality criteria. In filtered solids samples, all samples had PCB concentrations less than the 2LAET. The results of the lateral loading study are also summarized in Section 3.2.8 of the 2010-2011 edition of the Source Control Status Report (Ecology 2012e).

In 2011, Ecology conducted an outfall sediment sampling study to collect LDW surface sediment data near stormwater outfalls and CSOs in locations where data had not previously been collected. This included the collection of 21 surface sediment samples near 14 storm drain outfalls from the BDC (SAIC 2011c). Benzyl alcohol was the only chemical that exceeded screening levels. The results of the outfall sediment sampling study are discussed in the 2010-2011 Source Control Status Report, Section 3.2.1 (Ecology 2012e).

## **16.1 Business Inspections**

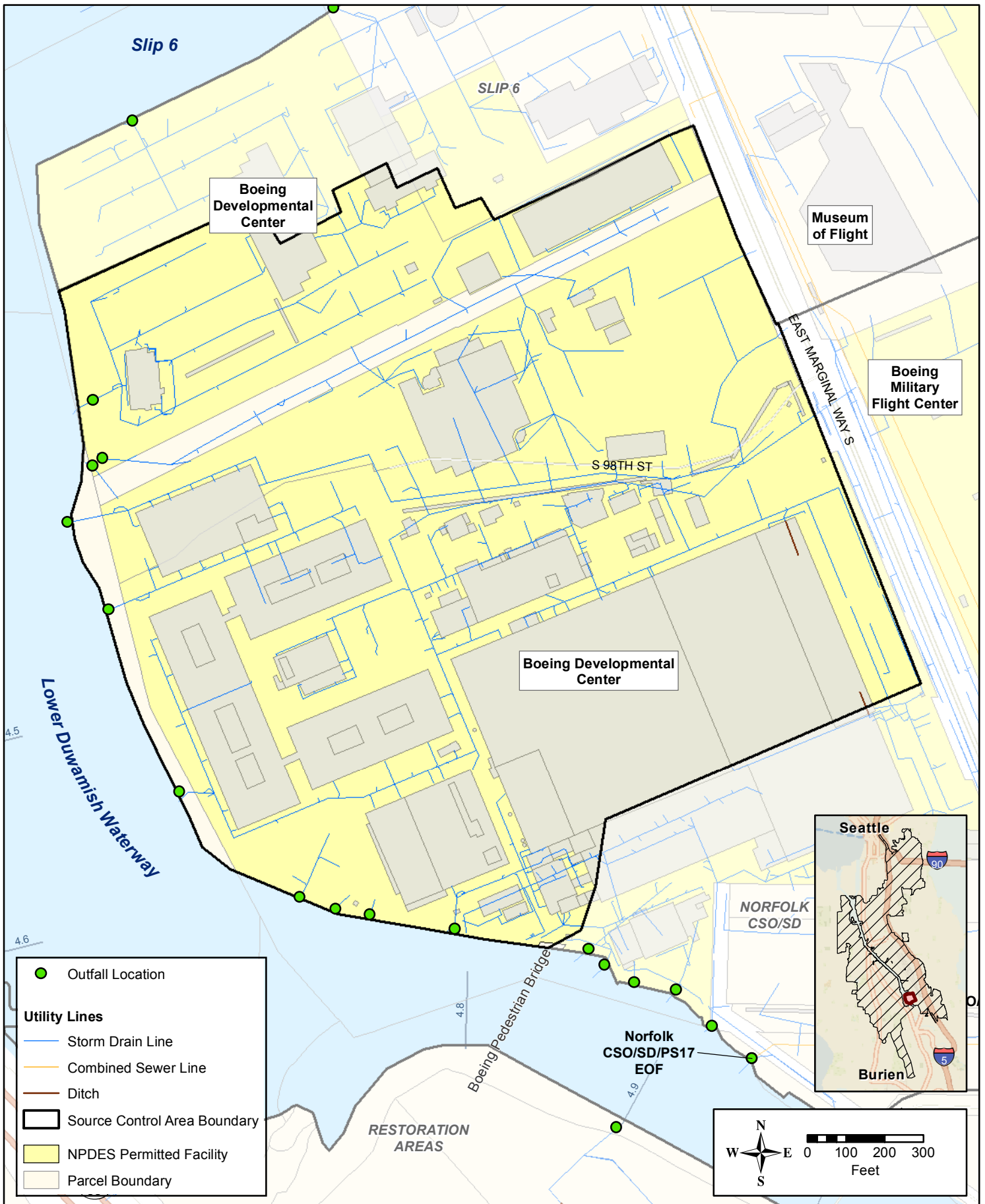
- No business inspections were conducted in this source control area during the current reporting period. BDC is the only facility within the RM 4.3-4.9 East source control area.

## **16.2 Source Tracing**

- This source control area consists of the central portion of a single facility (BDC). PCBs have been detected in oil/water separator sludge/sediment and water samples collected by Boeing in this area (SAIC 2010b).

## **16.3 Facility-Specific Source Control Actions**

- No facility-specific source control actions were conducted during the current reporting period.



**Figure 16-1. RM 4.3-4.9 East  
(Boeing Developmental Center)  
Source Control Area**

## 17.0 RM 4.9 East (EAA-7: Norfolk CSO/SD)

The portion of the RM 4.9 East (EAA-7; Norfolk CSO/SD) source control area that is adjacent to the LDW is shown in Figure 17-1; the Norfolk SD basin is shown in Figure 17-2. There are 12 active outfalls in this source control area; these include five private outfalls associated with BDC, the Norfolk CSO/SD/EOF, five unknown outfalls upstream of RM 4.9 East, and the I-5 storm drain at S Ryan Way. The Norfolk CSO is controlled to no more than one untreated discharge event on average per year (per state law). The Norfolk CSO has not had any untreated discharges and has 4 treated discharges in the past 5 years.

<b>Location</b>	RM 4.9 East
<b>Chemicals of Concern</b>	PCBs, PAHs, phthalates, hexachlorobenzene, metals
<b>Data Gaps Evaluation</b>	September 2007 (E&E 2007b)
<b>SCAP</b>	September 2007 (Ecology 2007d)

Source control action items for the Norfolk CSO/SD source control area are listed in Table 3-2. A total of 42 source control action items were identified for this source control area; as of December 2013, 11 of these have been completed and one has been canceled. Of the remaining action items, two are considered high priority.

In 2007 when the data gaps report and SCAP for EAA-7 were prepared, four properties listed on the CSCSL and located within the Norfolk SD basin were reviewed to determine the potential for sediment recontamination associated with each property. Ohno Construction, which is also located in the Norfolk SD, was added to the CSCSL shortly after the publication of the EAA-7 SCAP. In preparation for this status report, Leidos reviewed relevant information from Ecology's files to determine the potential for sediment recontamination associated with Ohno Construction. In addition, Leidos reviewed and summarized information regarding over 200 sites within the Norfolk CSO/SD basin to address knowledge gaps specific to this source control area. The summary is included as Appendix G.

### 17.1 Business Inspections

- SPU conducted a total of 16 inspections at 12 facilities in the Norfolk CSO/SD/EOF basin during the current reporting period, including one screening, 10 initial inspections and 5 follow-up inspections (Appendix B). SPU did not identify any facilities that were out of compliance as of December 2013.
- Ecology conducted four inspections at three facilities during the current reporting period (Appendix C).
  - Ecology identified several corrective actions at Nelson Trucking (9777 Martin Luther King Jr. Way S). Ecology required Nelson Trucking to update the monitoring plan, site map, and include refueling procedures in the facility SWPPP, in order to comply with the facility's NPDES permit (Ecology 2013ag).

- Ecology and EPA conducted a joint inspection at the Boeing Military Flight Center (MFC) on November 11, 2013. At that inspection, Ecology found that there were high levels of PCBs in the storm drain sediment. Ecology and EPA also discovered that Boeing was not sampling their stormwater for PCBs, as required by a previously issued warning letter and compliance inspection report. On December 3, 2013, Ecology's Water Quality program recommended an enforcement action against the Boeing MFC for unlawful discharge to the LDW and failure to update their stormwater monitoring plan to include four representative discharge sampling locations and to add PCB monitoring to each (Ecology 2013bn).

## 17.2 Source Tracing

As of December 2013, SPU has collected 39 sediment trap samples, 43 in-line solids samples, nine onsite catch basin samples, and 12 right-of-way catch basin samples from the Norfolk storm drain basin.

- During the current reporting period, five sediment trap samples and four in-line solids samples were collected in this drainage basin (Appendix E).
  - Zinc, 2-methylnaphthalene, benzo(g,h,i)perylene, indeno(1,2,3-cd)pyrene, total cPAH, BEHP, butylbenzylphthalate, dimethyl phthalate, di-n-octyl phthalate, 4-methylphenol, benzoic acid, benzyl alcohol, phenol, and motor oil-range hydrocarbons exceeded the upper screening level in at least one sample collected in 2013.
  - Sediment trap sample NST3 contained 4-methylphenol at 29 mg/kg DW (more than 40 times the upper screening level of 0.67 mg/kg DW), benzoic acid at 31 mg/kg DW (more than 40 times the upper screening level of 0.65 mg/kg DW), and benzyl alcohol at 1.7 mg/kg DW (more than 20 times the upper screening level of 0.073 mg/kg DW). In addition, this sample contained BEHP, phenol, and oil-range hydrocarbons at a concentration above the upper screening level. NST3 is located in a ditch at Martin Luther King Jr Way S and Boeing Access Road (Figure 17-2).
  - Sediment trap sample NST1 contained benzyl alcohol at 0.60 mg/kg DW, more than 10 times the upper screening level of 0.057 mg/kg DW. This sample also contained PAHs, BEHP, benzoic acid, and oil-range hydrocarbons above the upper screening level. Sediment trap NST1 is located in a 60-inch storm drain line west of Martin Luther King Jr Way S (Figure 17-2).

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). An "X" indicates that the chemical concentration exceeded the lower screening level (SQS/LAET) during the current reporting period (2013). An "X" surrounded by a box indicates that the chemical concentration exceeded the upper screening level (CSL/2LAET) during 2013. Complete sample results for the current reporting period are presented in Appendix E; sample locations are shown in Figures 17-1 and 17-2. Storm drain screening levels are defined in Section 3.2



Chemical Class	Chemical	Sediment Traps	In-line Solids	Onsite CB Solids	Right-of-Way CB Solids
Metals	Arsenic				
	Copper				
	Lead				
	Mercury				
	Zinc	☒	☒		
PCBs	PCBs, total	×	×		
PAHs	LPAH				
	HPAH	×			
	Total cPAH	☒	☒		
Phthalates	BEHP	☒	☒		
	Butylbenzylphthalate	×	×		
	Dibutylphthalate				
	Diethylphthalate				
	Dimethylphthalate	☒			
	Di-n-butylphthalate				
	Di-n-octylphthalate	×			
Other SVOCs	1,2-Dichlorobenzene				
	1,2,4-Trichlorobenzene				
	2,4-Dimethylphenol				
	2-Methylnaphthalene	☒			
	4-Methylphenol	☒			
	Benzoic acid	☒	☒		
	Benzyl alcohol	☒	☒		
	Dibenzofuran				
	Hexachlorobenzene				
	Hexachlorobutadiene				
	N-Nitrosodiphenylamine				
	Pentachlorophenol				
	Phenol	☒			
	TPH	TPH-diesel			
TPH-oil		☒	☒		

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

× = Exceedance of lower screening level was observed during the current reporting period (January through December 2013).

☒ = Exceedance of upper screening level was observed during the current reporting period (January through December 2013).

## 17.3 Facility-Specific Source Control Actions

### Boeing Developmental Center (South Portion)

Portions of BDC are located in three source control areas. The southern portion of the BDC is located in the RM 4.9 East source control area. The central portion of the BDC is discussed in Section 16 (BDC source control area); the northern portion of the BDC is discussed in Section 15 (Slip 6 source control area).

In 2003, Boeing performed a removal action in the LDW

immediately offshore of the BDC south storm drain outfall under Ecology's VCP. Post-removal monitoring is being conducted to evaluate the effectiveness of source control measures that have been implemented in the south storm drain system. Since the 2003 removal action, Boeing has conducted post-removal monitoring consisting of annual sampling of backfill material installed during the 2003 sediment removal work near the south storm drain outfall. The purpose of this sampling is to evaluate the source control measures within the south storm drain system by monitoring PCB concentrations in the backfill material over time (Bet 2014).

<b>Current Operations</b>	Research and development
<b>Historical Operations</b>	Aircraft manufacturing
<b>Address</b>	9725 East Marginal Way S
<b>Facility/Site ID</b>	4581384 (Boeing Development Center Norfolk) 2101 (Boeing A&M Developmental Center)
<b>Chemicals of Concern</b>	PCBs, metals, solvents, petroleum hydrocarbons, SVOCs
<b>Media Affected</b>	Soil, groundwater, stormwater, sediment

- In April 2013, Boeing completed the 2012 Annual Sampling Report for post-removal monitoring associated with the south storm drain system at BDC. The results of this sampling showed that concentrations in all four sediment samples were below the SQS (from three stations and a duplicate) (Calibre 2013, Bet 2014).
- This annual sampling also included solids from the Vortechincs 9000 sediment trap installed in the south storm drain line and solids from selected manholes. The results of this sampling will be summarized in an Annual Sampling Report to be completed in 2014 (Bet 2014).
- The next round of storm drain system sampling is scheduled for fall 2014. The Vortechincs 9000 sediment trap unit is scheduled to be serviced at the same time, during late summer or fall of 2014 (Bet 2014).

## Boeing Military Flight Center

- In May 2013, Boeing sent a letter to Ecology's Water Quality program, in response to Ecology's recommendation for enforcement action. In the letter, Boeing stated that they plan to monitor PCBs in stormwater as part of their remediation efforts, but that they do not plan to revise the SWPPP to address PCBs in stormwater. Boeing stated that they believe those issues are more appropriately addressed through MTCA, rather than the ISGP. Boeing included a work plan for the evaluation of potential PCBs sources for the MFC (Landau 2013c).
- In December 2013, Boeing completed a PCB source evaluation investigation at the MFC. The purpose of the investigation was to determine the extent of PCBs in storm drain solids associated with the MFC facility storm drain system, and to identify potential sources of PCBs. This investigation involved the collection of storm drain solids samples, surface debris samples, soil samples, paint chip samples, caulk samples, and wipe samples. Results are described in the PCB Source Evaluation report and are summarized below (Landau 2013e).

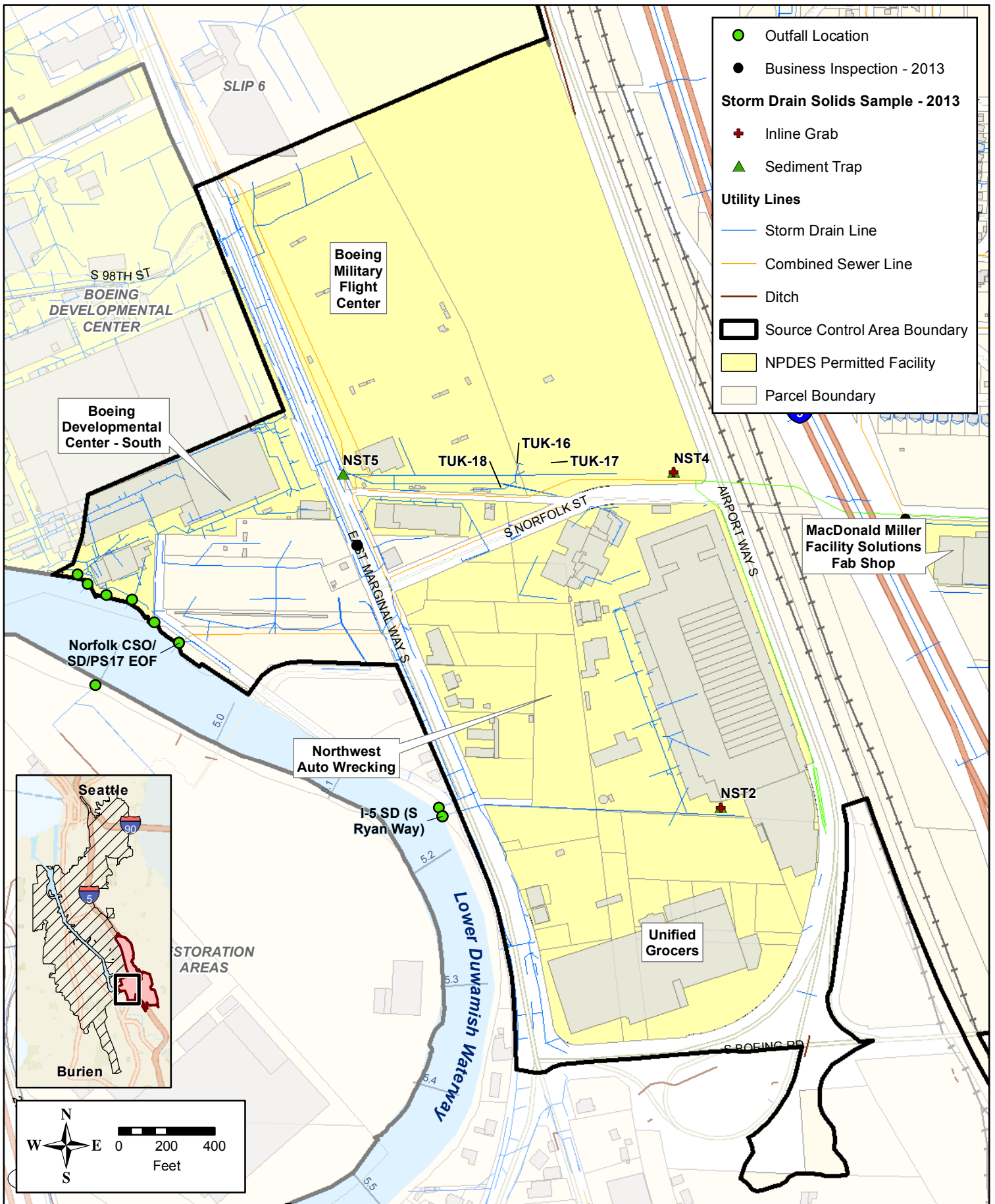
  - The investigation included the collection of 31 storm drain solids samples, 52 surface debris and soil samples, 17 paint chip samples, two caulk samples, and seven wipe samples.
  - Total PCBs in storm drain solids samples were detected at concentrations above the detection limit to concentrations less than 50 mg/kg DW at 30 of the 31 sample locations. Total PCBs were detected at a concentration of 289 mg/kg DW at one sample location (CB-3.8C).
  - Total PCBs in surface debris and soil samples were detected at concentrations above the detection limit to concentrations less than 50 mg/kg DW at 48 of the 52 sample locations. Total PCBs were detected at concentrations greater than or equal to 50 mg/kg DW at four of the 52 sample locations (two concrete basin samples from a drainage swale on the southeast side of the site at 280 mg/kg DW and 330 mg/kg DW, and two surface debris samples at 57 mg/kg DW and 520 mg/kg DW).
  - PCBs in paint chip samples were not detected at one of the 17 sample locations. Total PCBs were detected at concentrations above the detection limit to concentrations less than 50 mg/kg DW at 12 of the 17 sample locations. Total PCBs were detected at a concentration greater than or equal to 50 mg/kg at four of the 17 sample locations, with a maximum detected value of 5,900 mg/kg DW.

<b>Current Operations</b>	Flight line support, including aircraft storage, preparation for flight, general servicing, maintenance, and repair
<b>Historical Operations</b>	Unknown
<b>Address</b>	10002 East Marginal Way S
<b>Facility/Site ID</b>	7711519
<b>Chemicals of Concern</b>	PCBs
<b>Media Affected</b>	Stormwater

- Total PCBs in caulk were detected at concentrations greater than or equal to 50 mg/kg DW at both of the two caulk sample locations, with a maximum detection of 170,000 mg/kg DW.
- PCBs in wipe samples were not detected at three of the seven sample locations. PCBs were detected in concentrations from 0.19 µg to 2.37 µg at the remaining four sample locations (Landau 2013e, Bet 2014).
- Boeing began PCB cleanup in 2013, after the 2013 sampling activities. This included surface cleaning, storm drain system cleaning, and soil excavation on the KCIA property.
  - Approximately 55 storm drain structures (catch basins, manholes, and oil/water separator) were cleaned out and accessible storm drain piping between catch basins and manholes were jet-cleaned. Boeing completed a comprehensive surface cleaning of areas around the 13-01, 13-02, 13-03, flight line, and parking lot areas of the MFC site. The purpose of the cleaning program was to remove particulates that had accumulated in areas that were not accessible to street sweepers such as areas immediately adjacent to buildings, areas around equipment and structures, and areas underneath blast fences bordering the flight line.
  - Quarry spalls in the southeastern drainage swale were removed and replaced, and cleaning of the drainage ditch along the east side of the MFC site was completed. New quarry spalls and washed gravel were installed in the overflow swale.
  - In an effort to prevent potential source material from entering the storm drain system, Boeing installed 14 storm drain inlet filters were installed at catch basins where total PCBs were found at concentrations above 1 mg/kg.
  - Boeing collected additional soil samples from the King County property adjacent to the MFC site. The samples will be used to delineate expanded soil excavation work planned for 2014. During September and October 2013, over 100 soil samples were collected from the grass areas on the east side of the MFC blast fences to delineate further areas for cleanup. PCBs were found at concentrations between non-detect and 469 mg/kg DW. A work plan is currently in preparation to specify additional cleanup actions.
  - Boeing plans to submit a report describing soil excavation, storm drain cleaning, and surface cleaning activities conducted during 2013 to Ecology in early 2014 (Bet 2014).
- Boeing plans to collect additional concrete joint compound samples for the northern portion of the flight line in 2014. PCBs exceeding cleanup standards have been identified in a grass strip on the adjacent King County property indicating a potential remaining source of PCBs in concrete joint materials.
- In 2014, Boeing plans to collect storm drain solid samples from storm drain structures throughout the site, including solids collected within the new catch basin filters. This sampling will provide additional information for ongoing source control work. Catch basin filters will be replaced after sampling. Annual storm drain structure cleaning will be performed after solids sampling is completed.

- Boeing will prepare a work plan to specify additional soil excavation work that will be performed during the summer of 2014. Soil excavation areas will be based on sample results collected during September and October 2013. The work plan will be submitted to EPA, Ecology, and King County as a supplemental work plan to the TSCA self-implementing PCB cleanup work that began in 2013. A detailed work plan will be submitted by April 2014 with soil excavation to occur during the summer of 2014.
- Plans for installation of a media-bed underflow stormwater treatment system are currently in-progress for the southeast drainage swale area.
- Boeing plans to conduct additional source control measures in the summer of 2014, based on potential source locations identified in the PCB Source Evaluation report (Bet 2014).

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**Figure 17-1. RM 4.9 East  
(EEA-7: Norfolk CSO/SD)  
Source Control Area**







## 18.0 RM 0.0-1.0 West (Spokane Street to Kellogg Island)

The RM 0.0-1.0 West (Spokane Street to Kellogg Island) source control area is shown in Figure 18-1. This source control area includes the SW Dakota Street and SW Idaho Street SD basins. There are 14 active outfalls to the LDW within this source control area. These include six Port outfalls, a ditch at Glacier Northwest Aggregates, City of Seattle storm drains at SW Dakota Street and SW Idaho Street, the County's Duwamish West CSO/EOF, a creek at Herring's House Park, and an outfall associated with the Evergreen Trails property.

Ecology completed a SCAP for this source control area during the current reporting period (Ecology 2013f).

<b>Location</b>	RM 0.0-1.0 west
<b>Chemicals of Concern</b>	Lead, mercury, zinc, PAHs, phthalates, phenols, VOCs, and PCBs
<b>Data Gaps Evaluation</b>	September 2012 (SAIC 2012b)
<b>SCAP</b>	February 2013 (Ecology 2013f)

Action items for the Spokane Street to Kellogg Island source control area are listed in Table 3-2. A total of 36 source control action items were identified in the SCAP; none of these are considered high priority.

### 18.1 Business Inspections

- During the current reporting period, SPU conducted a total of seven inspections at four facilities that discharge directly to the LDW from the Spokane Street to Kellogg Island source control area, including four initial inspections and three follow-up inspections (Appendix B). All facilities were in compliance as of the end of December 2013. Additionally, SPU inspected one facility in the SW Dakota Street SD basin and one Facility in the SW Idaho Street SD basin. Both facilities were in compliance as of December 2013.
- Ecology conducted three inspections at two facilities during the current reporting period (Appendix C).
  - Ecology noted several violations at General Recycling of Washington (5400 West Marginal Way SW) and identified corrective actions that included updating the SWPPP with mandatory BMPs, a revised site map, and an operation and maintenance manual for the stormwater treatment system (Ecology 2013ah).
  - During the compliance inspection in April 2013, Ecology collected three storm drain solids samples and one water sample at General Recycling. Concentrations of cadmium (14-36 mg/kg DW), copper (814-1,700 mg/kg DW), lead (938-1,820 mg/kg DW), mercury (3.4-7.3 mg/kg DW), and zinc (5,800-15,700 mg/kg DW) in all three storm drain solids samples exceeded CSL. Concentrations of

benzo(g,h,i)perylene (0.59-1.2 mg/kg DW), fluoranthene (3-4.4 mg/kg DW), indeno(1,2,3-cd)pyrene (0.51-0.85 mg/kg DW), pyrene (3-4.2 mg/kg DW), and total HPAHs (14-19 mg/kg DW) in one or more of the storm drain solids samples exceeded CSL. Total cPAHs (1.5-2 mg/kg DW) and PCBs (7.3-33 mg/kg DW) in all three samples and dioxins/furans TEQ (126 ng/kg DW) in one sample exceeded the LDW RALs. Chemical concentrations in the water sample collected at General Recycling were either not detected or detected below regulatory criteria.

## 18.2 Source Tracing

As of December 2013, SPU has collected 12 sediment trap samples, 11 in-line solids samples, and five right-of-way catch basin samples in the SW Idaho Street SD basin.

- Three sediment trap samples and one in-line solids samples were collected during the current reporting period (Appendix E).
  - Benzo(g,h,i)perylene, indeno(1,2,3-cd)pyrene, total cPAH, BEHP, butylbenzylphthalate, 4-methylphenol, benzoic acid, and benzyl alcohol exceeded the upper screening level in at least one sample collected during 2013.
  - Sediment trap sample ID-ST1 contained benzyl alcohol at 2.2 mg/kg DW, 30 times the upper screening level of 0.073 mg/kg DW. This sample also contained PAHs, BEHP, butylbenzylphthalate, 4-methylphenol, and benzoic acid above the upper screening level. This sediment trap is located at 18th Avenue SW and S Hudson Street (Figure 18-1).
- SPU was scheduled to clean approximately 3,600 feet of the SW Idaho Street storm drain line at the downstream end of the system in 2013. No information on whether this was completed was available at the time this Source Control Status Report was prepared.

As of December 2013, SPU has collected one in-line solids sample, five onsite catch basin samples and two right-of-way catch basin samples in the SW Dakota Street SD basin.

- No samples were collected in this SD basin during the current reporting period.

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). An “X” indicates that the chemical concentration exceeded the lower screening level (SQS/LAET) during the current reporting period (2013). An “X” surrounded by a box indicates that the chemical concentration exceeded the upper screening level (CSL/2LAET) during 2013. Complete sample results for the current reporting period are presented in Appendix E; sample locations are shown in Figures 3-2 and 18-1. Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	Sediment Traps	In-line Solids	Onsite CB Solids	Right-of-Way CB Solids
Metals	Zinc	×			
PCBs	PCBs, total	×			
PAHs	LPAH				
	HPAH				
	cPAH	☒			
Phthalates	BEHP	☒	☒		
	Butylbenzylphthalate	☒	×		
	Diethylphthalate				
	Dimethylphthalate				
	Di-n-butylphthalate				
Other SVOCs	4-Methylphenol	☒			
	Benzoic acid	☒			
	Benzyl alcohol	☒	☒		
	Hexachlorobenzene				
	Phenol	×			
TPH	TPH-oil				

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

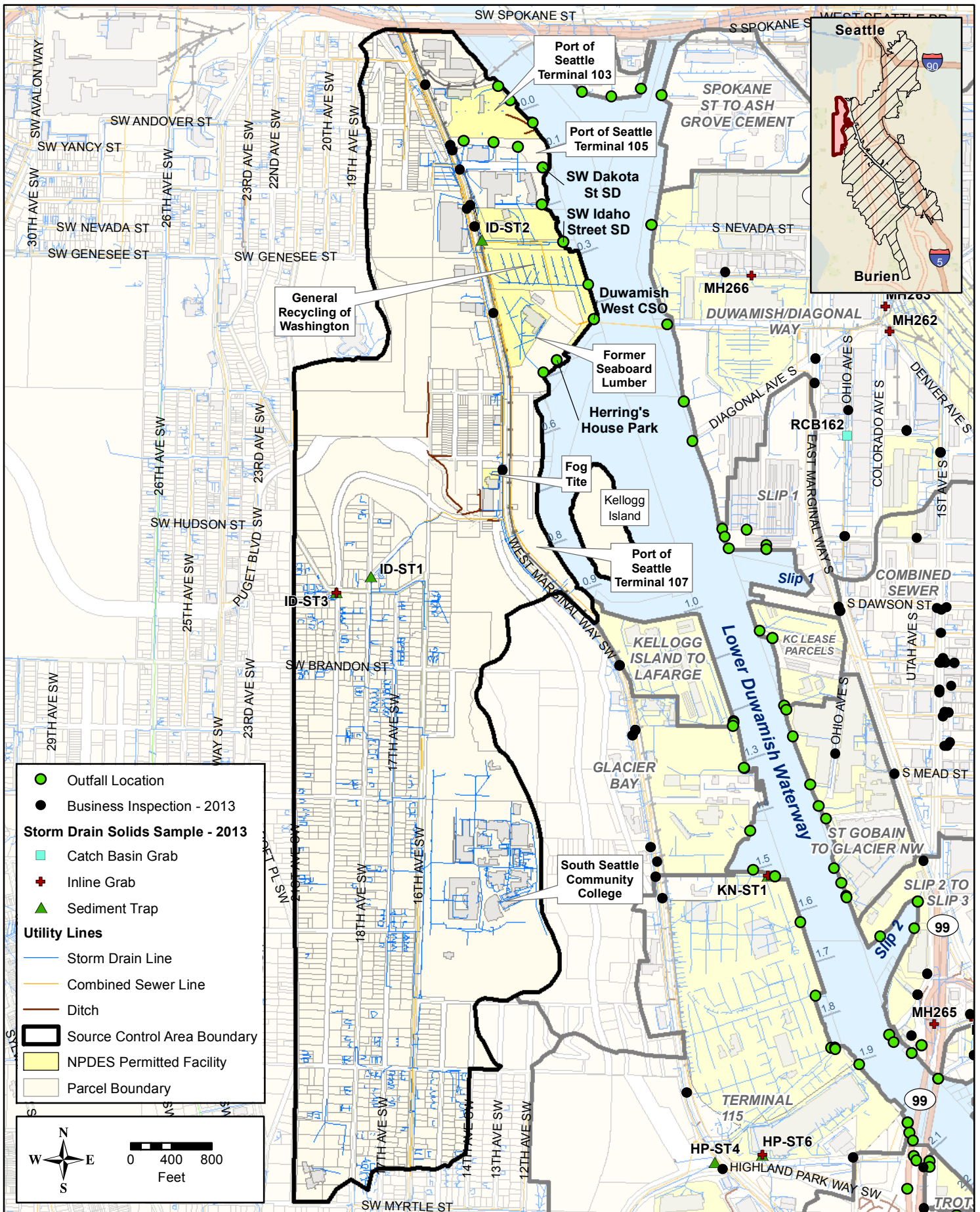
× = Exceedance of lower screening level was observed during the current reporting period (January through December 2013).

☒ = Exceedance of upper screening level was observed during the current reporting period (January through December 2013).

### 18.3 Facility-Specific Source Control Actions

- No facility-specific source control actions were conducted in this source control area during the current reporting period.

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**Figure 18-1. RM 0.0-1.0 West  
(Spokane Street to Kellogg Island)  
Source Control Area**



Coordinate System:  
NAD 1983 StatePlane Washington North FIPS 4601 Feet  
Prepared By: mlf  
File: Figure\_18-1\_RM\_0-0\_1-0W\_Spokane-to-Kellogg.mxd  
Illustrative purposes only.

## 19.0 RM 1.0-1.3 West (Kellogg Island to Lafarge Cement)

The RM 1.0-1.3 West (Kellogg Island to Lafarge Cement) source control area is shown in Figure 19-1. There are no public storm drains that discharge to the LDW within this source control area, which contains only a single property. There are two active private outfalls in this area; one is the current stormwater discharge point for the Lafarge Cement facility, and the other discharges stormwater from the Chemithon property (included in the RM 1.3-1.6 West source control area).

<b>Location</b>	RM 1.0-1.3 West
<b>Chemicals of Concern</b>	Metals (arsenic, mercury, zinc), PAHs, PCBs, BEHP, dioxins/furans
<b>Data Gaps Evaluation</b>	April 2011 (SAIC 2011a)
<b>SCAP</b>	June 2011 (Ecology 2011e)

Action items for the Kellogg Island to Lafarge Cement source control area are listed in Table 3-2. A total of nine source control action items were identified in the SCAP; as of December 2013, one of these has been completed and none of the remaining action items are considered high priority.

### 19.1 Business Inspections

- SPU conducted an initial inspection at Lafarge Cement (5400 W Marginal Way SW) in April 2013. SPU identified 17 corrective actions during the initial inspection (Appendix B). During a follow up inspection on May 23, 2013, SPU determined that the facility was in compliance.
- Ecology conducted an NPDES compliance inspection at Lafarge Cement on June 19, 2013 (Appendix C). Ecology collected two storm drain solids samples and two water samples during the compliance inspection. Chemical concentrations were not detected or detected below the CSL in both samples, with the exception of 2,4-dimethylphenol (0.03 mg/kg DW) in the sample collected from a lift station at the facility. Copper (4.9-5 ug/L) exceeded the WQC for chronic exposure in both water samples collected at the facility.
- In October 2013, Lafarge requested a modification to their NPDES permit (WA0002232) from Ecology. The modification was requested to formally address activities relating to the handling of non-hazardous products and waste streams. Lafarge plans to use the facility for material transloading, short-term storage and treatment of non-hazardous products and waste (Lafarge 2013). In December 2013, Ecology granted Lafarge's request and issued a third modification to Lafarge's NPDES permit. This modification required Lafarge to update their SWPPP to include general and specific BMPs as needed for storage, handling, and transloading of contaminated materials from cleanup sites in other areas of their facility (Ecology 2013bo, Ecology 2013br).

## 19.2 Source Tracing

SPU has collected four onsite catch basin samples at the Lafarge Cement property.

- No samples were collected in this storm drain basin during the current reporting period.

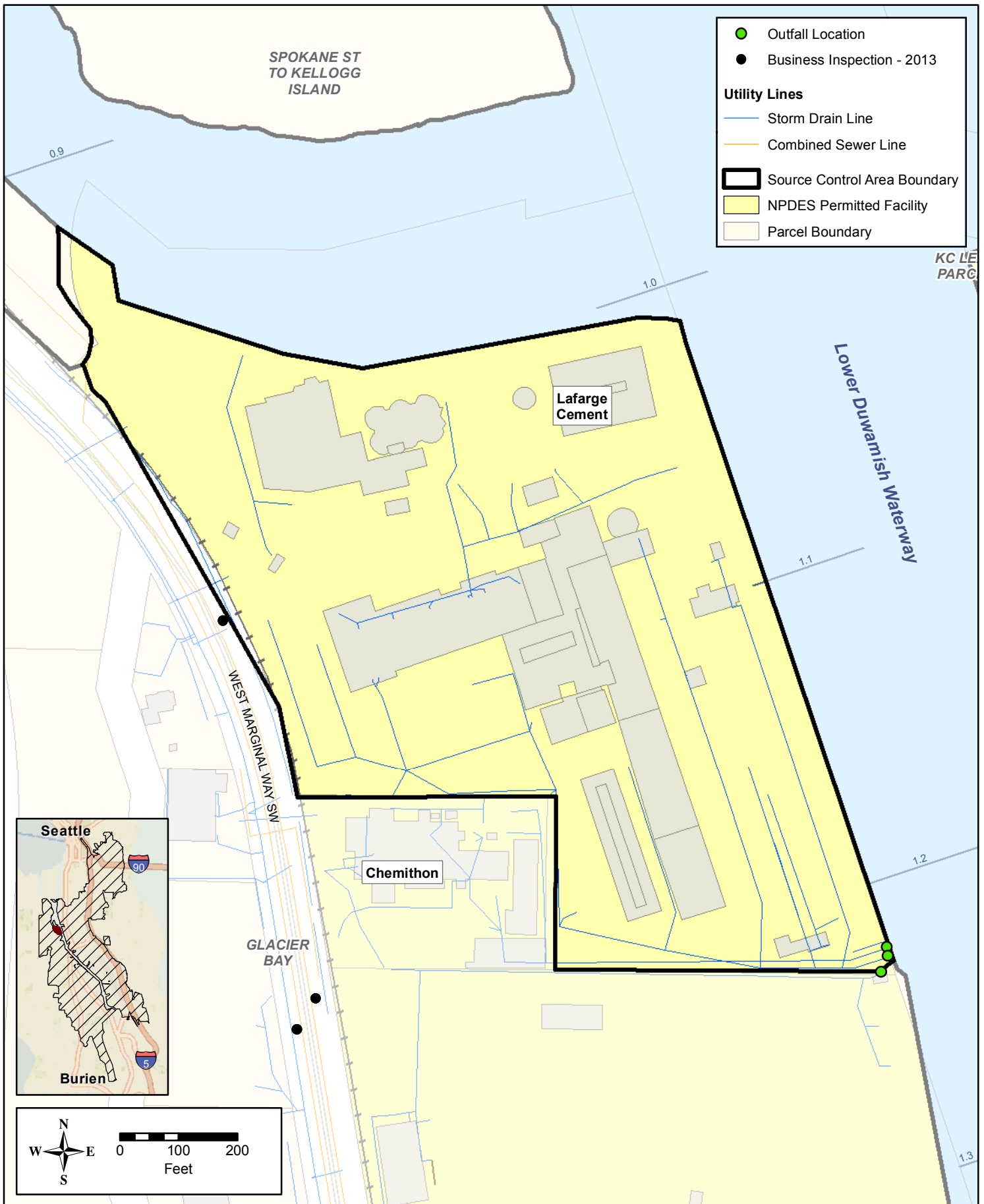
Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	Onsite CB Solids
Metals	Copper	
	Zinc	
PCBs	PCBs, total	
PAHs	LPAH	
	HPAH	
Phthalates	BEHP	
	Butylbenzylphthalate	
	Dimethylphthalate	
Other SVOCs	Benzyl alcohol	
	Phenol	
TPH	TPH-oil	

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

## 19.3 Facility-Specific Source Control Actions

- No facility-specific source control actions were conducted during the current reporting period.



**Figure 19-1. RM 1.0-1.3 West  
(Kellogg Island to Lafarge Cement)  
Source Control Area**



Coordinate System:  
NAD 1983 StatePlane Washington North FIPS 4601 Feet  
Prepared By: mlf  
File: Figure\_19-1\_RM\_1-0-1-3W\_Kellogg-to-Lafarge.mxd  
Illustrative purposes only.



## 20.0 RM 1.3-1.6 West (Glacier Bay)

The RM 1.3-1.6 West (Glacier Bay) source control area is shown in Figure 20-1. In addition to properties adjacent to the LDW, this source control area includes portions of the SW Kenny Street SD basin. Information related to the SW Kenny Street SD basin is provided with the Terminal 115 source control area in Section 21. There are five active outfalls in this area of the LDW; four are associated with the Alaska Marine Lines property, and one discharges stormwater from the Glacier Northwest facility on West Marginal Way.

<b>Location</b>	RM 1.3-1.6 West
<b>Chemicals of Concern</b>	Metals (arsenic, mercury, zinc, copper, lead, antimony, tin), dioxins/furans, PCBs, phthalates, PAHs, pentachlorophenol, other SVOCs, tributyltin
<b>Data Gaps Evaluation</b>	June 2007 (SAIC 2007f)
<b>SCAP</b>	December 2007 (Ecology 2007e)

Action items for the Glacier Bay source control area are listed in Table 3-2. A total of 30 source control action items have been identified; as of December 2013, 19 have been completed. Of the remaining 11 action items, four are considered high priority.

### 20.1 Business Inspections

- SPU conducted an initial inspection at Alaska Marine Lines (5600-5615 W Marginal Way SW) in August 2013. SPU identified 19 corrective actions during the initial inspection. During a follow up inspection on September 26, 2013, SPU determined the facility was in compliance (Appendix B).
- Ecology conducted an NPDES compliance inspection at Alaska Marine Lines in April, June, and November 2013. During the June 12, 2013 inspection, Ecology noted several violations and identified corrective actions including preventing discharge of leachate to storm drains, improving source control measures in drainage Zone D, and updating the facility map to accurately depict all storm drain lines, structures, and connections (Ecology 2013aw) (Appendix C).
- Ecology collected three storm drain solids samples at the facility during the June 2013 inspection. Zinc (564-3,010 mg/kg DW), benzo(g,h,i)perylene (0.33-1 mg/kg DW), fluoranthene (0.84-6.3 mg/kg DW), pyrene (0.92-5.8 mg/kg DW), total HPAHs (3.9-20 mg/kg DW), BEHP (5.1-12 mg/kg DW), BBP (0.34-1.3 mg/kg DW), 2,4-dimethylphenol (0.012-0.11 mg/kg DW), 2-methylphenol (0.13 mg/kg DW), benzyl alcohol (0.056-0.13 mg/kg DW), and N-nitrosodiphenylamine (0.13-0.22 mg/kg DW) exceeded the CSL in one or more samples collected at the facility. Total cPAHs (0.28-1.2 mg/kg DW) exceeded the LDW RALs in two samples collected at the facility.

## 20.2 Source Tracing

Sediment trap, in-line solids, and right-of-way solids samples collected by SPU in the SW Kenny Street SD basin are discussed with the Terminal 115 source control area in Section 23. SPU has collected 11 onsite catch basin samples within the Glacier Bay source control area.

- No samples were collected in this SD basin during the current reporting period.

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	Onsite CB Solids
Metals	Arsenic	
	Copper	
	Lead	
	Mercury	
	Zinc	
PCBs	PCBs, total	
PAHs	LPAH	
	HPAH	
	cPAH	
Phthalates	BEHP	
	Butylbenzylphthalate	
	Dimethylphthalate	
Other SVOCs	2,4-Dimethylphenol	
	2-Methylnaphthalene	
	4-Methylphenol	
	Benzoic acid	
	Benzyl alcohol	
	Phenol	
TPH	TPH-diesel	
	TPH-oil	

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

## 20.3 Facility-Specific Source Control Actions

### Duwamish Shipyard

Duwamish Shipyard, Inc. (DSI) entered into an Agreed Order with Ecology on September 13, 2010. Under Agreed Order DE-6735, DSI will conduct an RI/FS at the site (Ecology 2010e).

- On March 15, 2013, Ecology received a Supplemental RI Work Plan for Duwamish Shipyard. On May 29, 2013, Ecology received an addendum to the Supplemental RI Work Plan from Duwamish Shipyard. On May 30, 2013, Ecology issued a Letter of Approval of the Supplemental RI Work Plan and included changes agreed to in the May 29, 2013 addendum.
- In July 2013, Duwamish Shipyard conducted shoreline seep sampling and marine railway sediment sampling and analysis. In November 2013, Duwamish Shipyard provided Ecology with validated data tables noting results from the July 2013 shoreline seep and railway sediment sampling.
- In October 2013, Duwamish Shipyard performed test pit excavation in the area of the old U.S. Army and Reichhold, Inc. septic tank in the south end of the property, and in the northern area for an old underground storage tank. Both tanks were located and adjacent soil samples were collected and sent for analysis. Catch basin solids were also collected and analyzed.
- In November and December 2013, Duwamish Shipyard performed soil boring, soil sampling and well installation activities. Groundwater monitoring was also conducted in December 2013.

<b>Current Operations</b>	Equipment and container storage
<b>Historical Operations</b>	Repair and maintenance of floating vessels and equipment
<b>Address</b>	5658 West Marginal Way SW
<b>Facility/Site ID</b>	2071 (DSI)
<b>Chemicals of Concern</b>	Metals (arsenic, lead, mercury, tributyltin, cadmium, copper, zinc), PAHs, VOCs, petroleum hydrocarbons, phthalates, PCBs
<b>Media Affected</b>	Soil, groundwater, stormwater, sediment

## Glacier Northwest, Inc. / Former Reichhold Site

Glacier Northwest, Inc. and Reichhold, Inc. entered into an Agreed Order with Ecology on July 28, 2009. Under Agreed Order DE-6000, Glacier and Reichhold will conduct an RI/FS at the site (Ecology 2009e, 2009j).

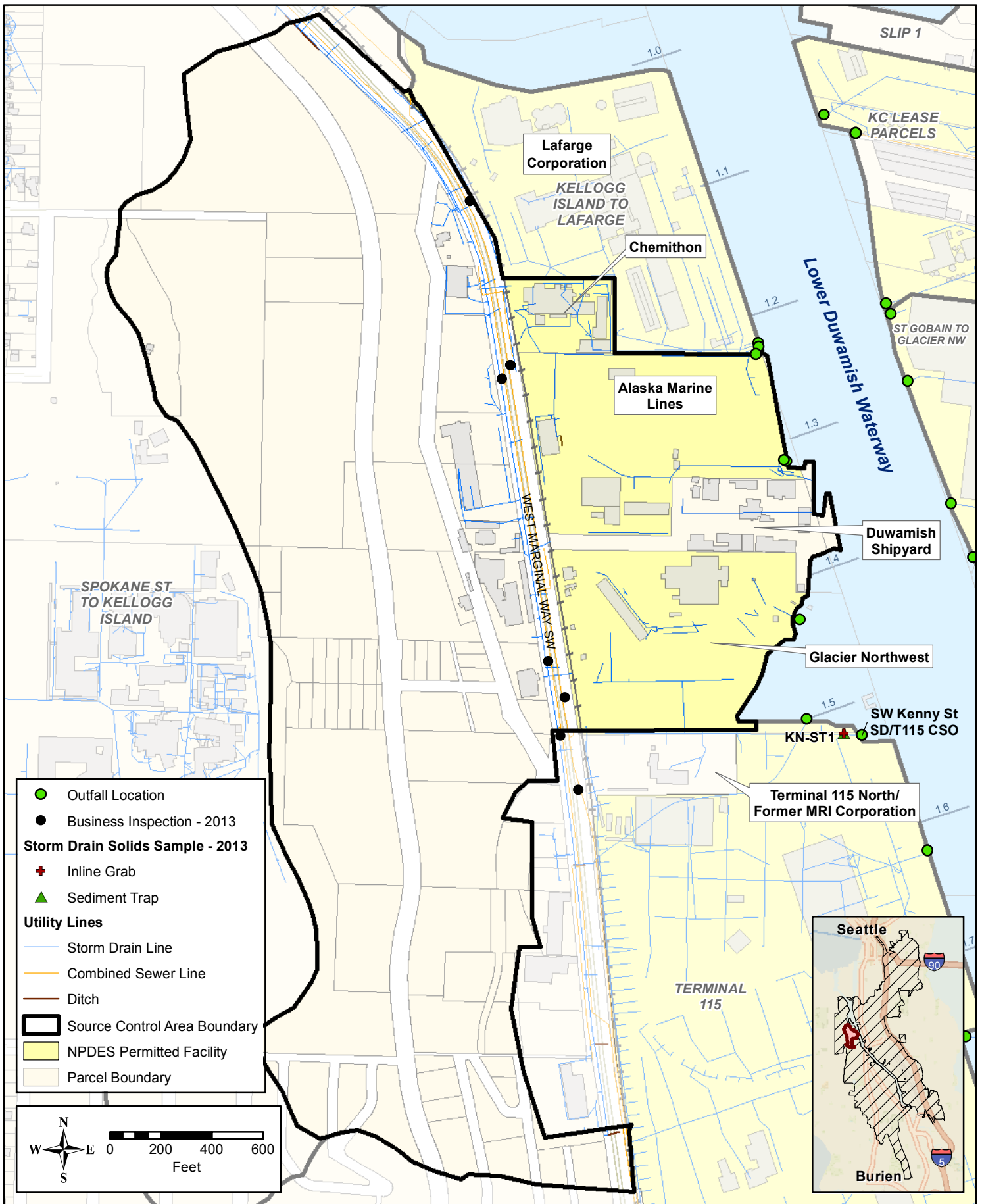
The RI/FS has been delayed a number of times due to disagreements and negotiations between Ecology and the PLPs. Ecology issued the Final Work Plan to the PLPs on August 31, 2012. In September 2012, the PLPs invoked Dispute Resolution, contesting Ecology's claim that the PLPs had made insufficient progress toward completion of the RI/FS work plan under the Agreed Order.

<b>Current Operations</b>	Cement terminal
<b>Historical Operations</b>	Lumber mill, chemical manufacturing, cement production
<b>Address</b>	5900-5902 West Marginal Way SW
<b>Facility/Site ID</b>	23881883 (Glacier Northwest Seattle Terminal) 67234947 (Glacier Northwest Marginal Way Truck Shop) 89139472 (Glacier NW Reichhold MTCA)
<b>Chemicals of Concern</b>	Metals (arsenic, lead, mercury, copper, zinc), PCBs, dioxins/furans, chlorophenols, TPH, VOCs, SVOCs
<b>Media Affected</b>	Soil, groundwater, surface water, sediment

- On January 10, 2013, Ecology received a letter from the PLPs withdrawing from the dispute resolution process they initiated in September 2012. On September 26, 2013, Ecology sent the Final Addendum to the Final RI/FS Work Plan issued August 2012. This included an approval letter directing the PLPs to move forward with the RI. The PLPs are scheduled to complete the sample collection and analysis for activities included in the Addendum to the Final Work Plan by early October 2014.
- On January 31, 2013, Ecology received data from the spring 2012 groundwater sampling event. Exceedances of screening criteria were identified for metals, SVOCs, and dioxin/furans.
- On February 15, 2013, Ecology received results for the groundwater sampling events which occurred during summer/fall of 2012. Exceedances of screening criteria in groundwater were identified for the following constituents: arsenic (7.3 to 6,130 ug/L), copper (4.8 to 75 ug/L), pentachlorophenol (1.5 to 340 ug/L), and TPH-Diesel (500 to 3,200 ug/L).
- On April 19, 2013, Ecology received the stormwater analytical results for sampling events conducted by the PLPs in October 2012. The results showed stormwater exceedances for copper (2.4 to 28.8 ug/L) and BEHP (1.2 to 2.2 ug/L).
- On June 12, 2013, Ecology received a Final Sediment Results Memorandum from the PLPs. This presented and discussed the analytical results for sediment samples collected in the spring of 2012. A total of 20 surface sediment samples and 17 sediment cores were collected within the embayment and the maintained berthing area during the May/June 2012 sediment sampling event (ERM 2013). Sediment results showed exceedances in several chemical categories including:
  - Dioxin/Furan TEQ ranging from 12.1 to 2,910 pg/g
  - Arsenic ranging from 7.9 to 269 mg/kg

- Copper at 405 mg/kg
  - Lead from 105 to 1,070 mg/kg
  - Zinc from 611 to 1,680 mg/kg
  - Total PCBs from 0.031 to 2.2 mg/kg DW
  - Total HPAHs from 960 to 1,191 mg/kg-OC
  - Pentachlorophenol from 0.03 to 20 mg/kg DW
  - Benzyl Alcohol from 0.057 to 0.33 mg/kg DW
  - Benzo(g,h,i)perylene from 0.091 to 40 mg/kg-OC
- Groundwater sampling, initially scheduled for October 2013, has been delayed to begin in March 2014 because the PLPs had concerns related to early rains in September.
  - The PLPs did not follow the City of Seattle's process for substantive requirements for vegetation removal. As a result, the top-of-bank soil boring and sampling was delayed several months.
  - In November 2013, Ecology received soil analytical results for sampling which occurred in October 2012. Pentachlorophenol was noted at 1.5 mg/kg DW at depths ranging from 3 to 13.6 feet. Arsenic was noted from 20 to 667 mg/kg, copper was noted up to 3,500 mg/kg, zinc was noted up to 1,340 mg/kg, diesel-range hydrocarbons were noted at 4,900 mg/kg, and motor oil at 12,000 mg/kg. Dioxin/furan concentrations ranged from 1.43 to 1,260 pg/g TEQ. Hexavalent chromium was noted at 173 mg/kg in the southeast corner of the site.
  - On December 30, 2013, Ecology received the Archive Sample Analysis Plan from the PLPs with their proposal to further define the nature and extent of contamination by analyzing samples located vertically and horizontally adjacent to original sample collections which exceeded the screening criteria.

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**Figure 20-1. RM 1.3-1.6 West  
(Glacier Bay)  
Source Control Area**



Coordinate System:  
NAD 1983 StatePlane Washington North FIPS 4601 Feet  
Prepared By: mlf  
File: Figure\_20-1\_RM\_1-3\_1-6W\_Glacier-Bay.mxd  
Illustrative purposes only.

## 21.0 RM 1.6-2.1 West (Terminal 115)

The RM 1.6-2.1 West (Terminal 115) source control area is shown in Figures 21-1 and 21-2. This area includes the Highland Park Way SW SD basin, the Terminal 115 CSO basin, and portions of the SW Kenny Street SD basin. There are nine active outfalls to the LDW within this source control area, including six Port outfalls, the City's Highland Park Way SW SD outfall, and the West Michigan CSO. In addition, the SW Kenny Street SD and the Terminal 115 CSO share an outfall within the RM 1.6-2.1 West source control area; consequently, this outfall is referred to as the SW Kenny Street SD/T115 CSO.

<b>Location</b>	RM 1.6-2.1 West
<b>Chemicals of Concern</b>	PCBs, PAHs, phthalates, other SVOCs, PCBs, tributyltin
<b>Data Gaps Evaluation</b>	June 2011 (SAIC 2011b)
<b>SCAP</b>	October 2011 (Ecology 2011h)

Action items for the Terminal 115 source control area are listed in Table 3-2. A total of 26 source control action items were identified in the SCAP. One of these action items has been canceled (the facility moved to a different location); of the 25 remaining action items, seven are considered high priority.

### 21.1 Business Inspections

- SPU conducted four inspections at three facilities in the SW Kenny Street SD basin during the current reporting period. One facility, Emswiler Construction (6045 West Marginal Way SW), was identified by SPU as not in compliance as of the end of December 2013. SPU did not conduct facility inspections in the Highland Park Way SW SD basin during the current reporting period (Appendix B).
- Ecology conducted five inspections at three facilities during the current reporting period (Appendix C).
  - At Northland Services (6700 W Marginal Way S), Ecology directed the facility to revise the monitoring plan, spill plan, and site map to be in compliance with the facility's NPDES permit. Northland Services also needed to provide a status report regarding implementation of source control measures to reduce total suspended solids at Northwest Container Services. Northwest Container Services leases the southern portion of the facility (Ecology 2013at).
  - In April 2013, Ecology collected five storm drain solids samples and four water samples during an NPDES compliance inspection at Northland Services. Zinc (611-1,860 mg/kg DW), BBP (1.7-2.5 mg/kg DW), BEHP (0.34-1.2 mg/kg DW), di-n-butylphthalate (0.035-6.2 mg/kg DW), 2,4-dimethylphenol (0.011-0.062 mg/kg DW), 2-methylphenol (0.014-0.26 mg/kg DW), and N-nitrosodiphenylamine (0.011-0.045 mg/kg DW) exceeded the CSL in one or more storm drain solids samples collected at the facility. Copper (7.1-35 ug/L), lead



(5.9-51 ug/L), mercury (0.023-0.14 ug/L), nickel (1.7-15 ug/L), and zinc (125-650 ug/L) exceeded the WQC for chronic exposure in one or more of the water samples collected at the facility.

## 21.2 Source Tracing

SPU has collected eight sediment trap samples, seven in-line solids samples, and two right-of-way catch basin samples in the Highland Park Way SW basin.

- Two sediment trap samples and one in-line solids sample were collected during the current reporting period. The following contaminants exceeded the CSL/2LAET or RAL criteria:
  - Copper, 2-methylnaphthalene, BEHP, benzoic acid, and benzyl alcohol were detected at concentrations above the upper screening level in at least one sample collected during 2013.

In addition, SPU has collected four sediment trap sample, six in-line solids samples, and four right-of-way catch basin samples in the SW Kenny Street SD.

- During the current reporting period, one sediment trap sample and one in-line solids sample were collected in the SW Kenny Street drainage basin.
  - BEHP, benzyl alcohol, and motor-oil range hydrocarbons were detected at concentrations above the upper screening level in at least one sample collected during 2013.

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). An “X” indicates that the chemical concentration exceeded the lower screening level (SQS/LAET) during the current reporting period (2013). An “X” surrounded by a box indicates that the chemical concentration exceeded the upper screening level (CSL/2LAET) during 2013. Complete sample results for the current reporting period are presented in Appendix E; sample locations are shown in Figures 3-2, 21-1, and 21-2. Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	Sediment Traps	In-line Solids	Onsite CB Solids	Right-of-Way CB Solids
Metals	Arsenic		x		
	Copper	☒			
	Lead		x		
	Mercury				
	Zinc	x	x		
PCBs	PCBs, total		x		
PAHs	LPAH				
	HPAH				
Phthalates	BEHP	☒	☒		
	Butylbenzylphthalate	x	x		

Chemical Class	Chemical	Sediment Traps	In-line Solids	Onsite CB Solids	Right-of-Way CB Solids
	Dimethylphthalate	×			
	Di-n-octylphthalate				
Other SVOCs	2-Methylnaphthalene	☒			
	4-Methylphenol				
	Benzoic acid		☒		
	Benzyl alcohol	☒	☒		
	Dibenzofuran				
	N-Nitrosodiphenylamine				
	Phenol				
TPH	TPH-oil		☒		
	TPH-diesel				

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

× = Exceedance of lower screening level was observed during the current reporting period (January through December 2013).

☒ = Exceedance of upper screening level was observed during the current reporting period (January through December 2013).

## 21.3 Facility-Specific Source Control Actions

### N Terminal 115 (Former MRI Corporation)

Ecology and the Port entered into an Agreed Order on March 2, 2011. Under Agreed Order DE-8099, the Port will conduct an RI/FS and prepare a draft CAP at the site (Ecology 2011b).

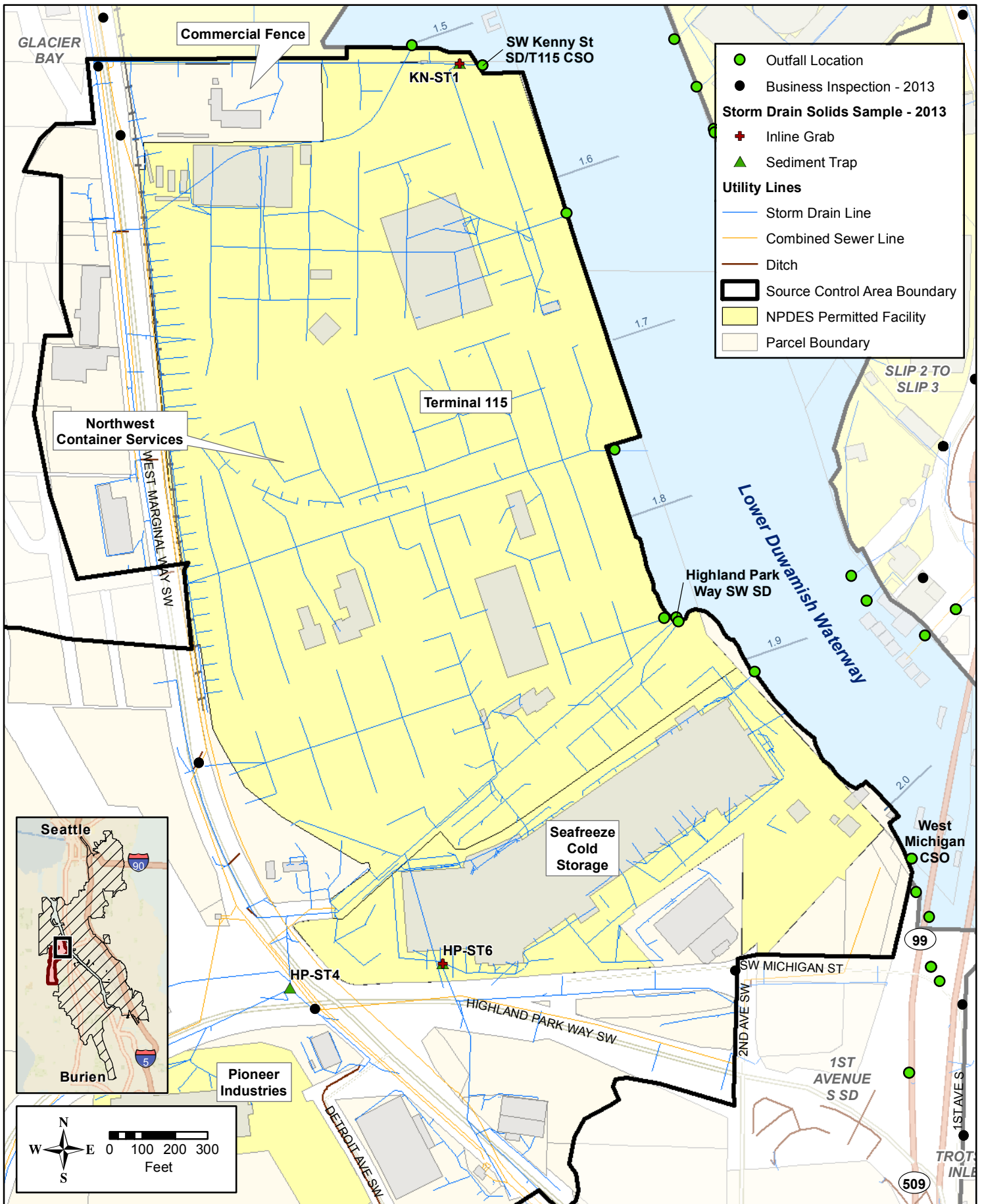
- Ecology reviewed the Port's draft RI/FS Work Plan. In February 2013, Ecology sent the Port a comment letter that

described the activities the Port needed to include in the RI/FS Work Plan. On March 4, 2013 the Port submitted the RI/FS Work Plan to Ecology that contained the updated figures and tables Ecology requested in their comments.

- In May 2013, the Port submitted a revised version of the Work Plan along with follow-up documents that included design plans for the 48-inch storm drain to Ecology. The Port included a letter with the Work Plan noting that the Port disagrees with the need to include stormwater and sediment sampling activities in the Work Plan. On May 21, 2013, the Port sent Ecology a rationale for not including stormwater and sediment sampling in the Work Plan. On August 6, 2013, Ecology approved the May 9, 2013 Work Plan as a Phase 1 Work Plan, and added language to the approval letter requiring further investigation of stormwater pathways (Ecology 2013au).

<b>Current Operations</b>	Leased to Gene Summy Lumber (lumber distribution)
<b>Historical Operations</b>	Tin reclamation; construction material supply; industrial lumber sales
<b>Address</b>	6000 West Marginal Way SW
<b>Facility/Site ID</b>	2177
<b>Chemicals of Concern</b>	Metals (arsenic, zinc, lead)
<b>Media Affected</b>	Soil, groundwater

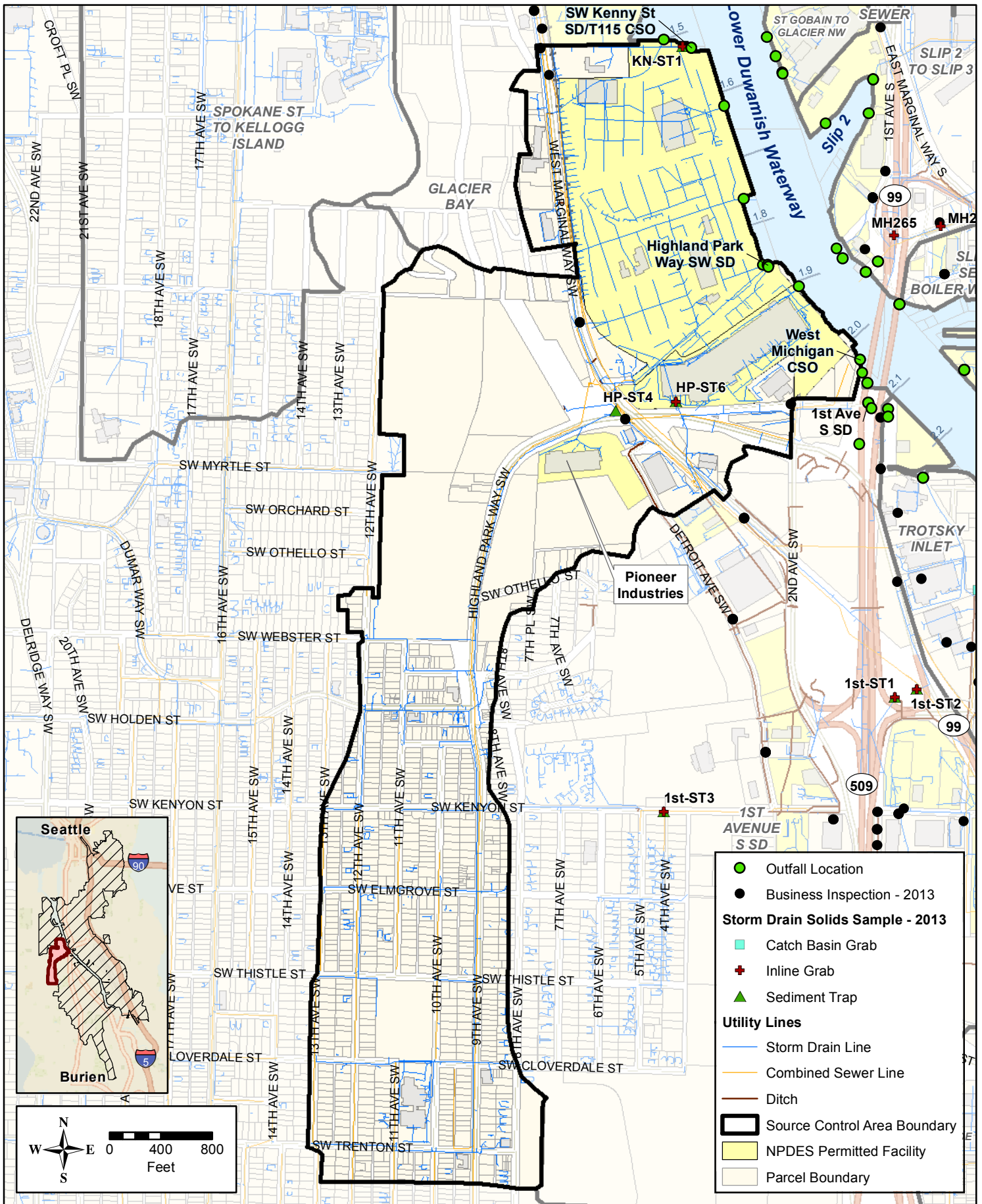
- The Port completed test pit excavation and sampling, soil boring soil sampling, and well installation in December, 2013.
- Groundwater sampling has been delayed due to ongoing negotiations with Glacier Northwest regarding access to groundwater wells along the property boundary.



**Figure 21-1. RM 1.6-2.1 West  
(Terminal 115)  
Source Control Area**



Coordinate System:  
NAD 1983 StatePlane Washington North FIPS 4601 Feet  
Prepared By: mlf  
File: Figure\_21-1\_RM\_1-6\_2-1W\_T115.mxd  
Illustrative purposes only.



**Figure 21-2. RM 1.6-2.1 West  
(Terminal 115) Source Control Area  
Highland Park Way SW Storm Drain Basin**



Coordinate System:  
NAD 1983 StatePlane Washington North FIPS 4601 Feet  
Prepared By: mlf  
File: Figure\_21-2\_RM\_1.6\_2-1W\_T115Vicinity.mxd  
Illustrative purposes only.

## 22.0 RM 2.1 West (1<sup>st</sup> Avenue S SD)

The RM 2.1 West (1<sup>st</sup> Avenue S SD) source control area, shown in Figure 22-1, includes the 1<sup>st</sup> Avenue S SD basin. Four WSDOT bridge drains and the 1<sup>st</sup> Avenue S SD outfall, which discharges to the LDW under the 1st Avenue S bridge via a series of WSDOT engineered wetlands, are located within this source control area.

Ecology completed a SCAP for this source control area during the current reporting period (Ecology 2013k). A total of 35 currently active industrial properties were identified in the 1<sup>st</sup> Avenue S SD basin.

<b>Location</b>	RM 2.1 West
<b>Chemicals of Concern</b>	Mercury, PCBs, PAHs, phthalates, and other SVOCs
<b>Data Gaps Evaluation</b>	September 2012 (SAIC 2012c)
<b>SCAP</b>	March 2013 (Ecology 2013k)

The Data Gaps report for this source control area was finalized in September 2012 (SAIC 2012c). In March 2013 the SCAP was completed for this source control area (Ecology 2013k).

Action items for the 1<sup>st</sup> Avenue S SD source control area are listed in Table 3-2. A total of 16 source control action items were identified in the SCAP. One of these is considered high priority.

### 22.1 Business Inspections

- SPU conducted a total of 23 inspections at 12 facilities in the 1<sup>st</sup> Avenue S SD basin during the current reporting period, including one self-certification, 11 initial inspections and 11 follow-up inspections. One facility, Seaport Petroleum (7800 Detroit Avenue SW), was identified by SPU as not in compliance as of the end of December 2013 (Appendix B).
- Ecology conducted inspections at seven facilities within this source control area during the current reporting period (Appendix C).
  - Ecology identified corrective actions at First Student-Maintenance Base (7339 1<sup>st</sup> Avenue S), including the need to update the sampling plan and storm drain structures in the facility SWPPP and to prevent wash water from flowing into the storm drain system (Ecology 2013at).
  - Ecology determined that Standard Steel Fabricating Co. met Consistent Attainment for all parameters in the 4<sup>th</sup> quarter 2011 and no additional discharge monitoring is necessary (Ecology 2013ab).

### 22.2 Source Tracing

SPU has collected 18 sediment trap samples, 19 in-line solids samples, and three onsite catch basin samples in the 1<sup>st</sup> Avenue S SD basin.

- During the current reporting period, four sediment trap samples and three in-line solids samples were collected in this drainage basin (Figure 22-1).
  - Zinc, PCBs, benzo(g,h,i)perylene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, pyrene, total HPAH, total cPAH, BEHP, dimethyl phthalate, 4-methylphenol, benzoic acid, benzyl alcohol, n-nitrosodiphenylamine, and motor oil-range hydrocarbons exceeded the upper screening level in at least one source tracing sample collected during 2013.
  - The sediment trap sample collected at location 1st-ST7, near Olson Place SW in the southern portion of the storm drain basin, contained dimethyl phthalate at 4.2 mg/kg DW, more than 25 times the upper screening level of 0.16 mg/kg DW. In addition, this sample contained BEHP at 11 mg/kg DW, total HPAH at 21 mg/kg DW, total cPAH at 2.5 mg/kg DW, and total PCBs at 1.9 mg/kg DW, all above the upper screening levels. This sample is located near a public storage warehouse and the Arrowhead Senior Housing Development.

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). An “X” indicates that the chemical concentration exceeded the lower screening level (SQS/LAET) during the current reporting period (2013). An “X” surrounded by a box indicates that the chemical concentration exceeded the upper screening level (CSL/2LAET) during 2013. Complete sample results for the current reporting period are presented in Appendix E; sample locations are shown in Figures 3-2 and 22-1. Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	Sediment Traps	In-line Solids	Onsite CB Solids
Metals	Mercury			
	Zinc	☒	×	
PCBs	PCBs, total	☒		
PAHs	LPAH			
	HPAH	☒		
	Total cPAH	☒		
Phthalates	BEHP	☒	☒	
	Butylbenzylphthalate	×	×	
	Dimethylphthalate	☒	☒	
	Di-n-butylphthalate			
Other SVOCs	2-Methylnaphthalene	×		
	2-Methylphenol			
	4-Methylphenol	☒		
	Benzoic acid	☒	☒	
	Benzyl alcohol	☒	☒	
	N-Nitrosodiphenylamine	☒	☒	
	Phenol			

Chemical Class	Chemical	Sediment Traps	In-line Solids	Onsite CB Solids
TPH	TPH-diesel			
	TPH-oil	☒	☒	

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

× = Exceedance of lower screening level was observed during the current reporting period (January through December 2013).

☒ = Exceedance of upper screening level was observed during the current reporting period (January through December 2013).

## 22.3 Facility-Specific Source Control Actions

### Former South Park Landfill

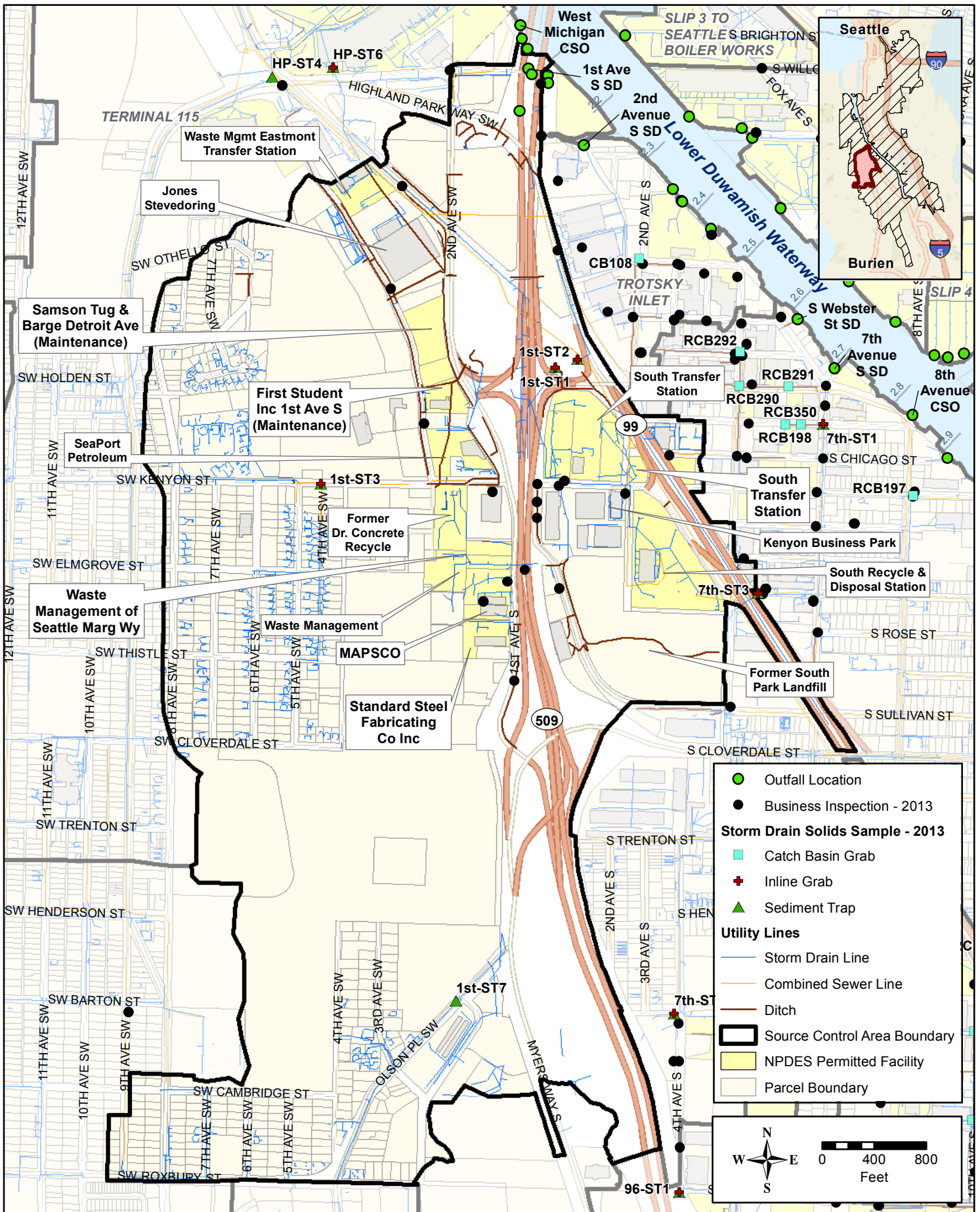
In May 2009, Ecology, the City of Seattle, and South Park Property Development entered into Agreed Order DE-6706 to conduct an RI/FS at the former South Park Landfill property, and to prepare a draft CAP. A draft RI/FS Work Plan was completed in September 2009.

<b>Current Operations</b>	Recycling and disposal station, Business Park
<b>Historical Operations</b>	Landfill, auto wrecking yard
<b>Address</b>	8200 2 <sup>nd</sup> Ave S
<b>Facility/Site ID</b>	2180
<b>Chemicals of Concern</b>	Metals, TPH, VOCs, SVOCs, PCBs
<b>Media Affected</b>	Soil, groundwater

- In April 2013, Ecology, the City of Seattle, and South Park Property Development proposed an interim cleanup of the South Park Landfill site to address contamination on a portion of the site. The interim action will include constructing an impervious landfill cap; installing landfill gas and surface water control systems; restricting future land use activities; and establishing landfill gas monitoring. As part of this process an Environmental SEPA checklist and determination of non-significance were prepared (SPPD 2013, Ecology 2013r).
- In May 2013, Ecology responded to a concerned stakeholder about the presence of vinyl chloride in monitoring wells at the site. Low concentrations of vinyl chloride were detected in monitoring wells on the northeast and eastern edges of the landfill. Ecology will continue to discuss and negotiate the work necessary to understand the nature and extent of this contamination through the MTCA process (Cruz 2013).
- Ecology prepared an amendment to Agreed Order DE-6706 to add a requirement to conduct an interim action as described above. The amendment became effective on June 6, 2013 (Ecology 2013af).



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**Figure 22-1. RM 2.1 West  
(1st Avenue S SD)  
Source Control Area**

## 23.0 RM 2.1-2.2 West (EAA-2: Trotsky Inlet)

The RM 2.1-2.2 West (EAA-2; Trotsky Inlet) source control area is shown in Figure 23-1. There are 11 active outfalls in this area of the LDW, including private outfalls associated with Alaska Marine Lines/Douglas Management Company and Boyer Logistics properties, the 2nd Avenue S storm drain outfall located on the Industrial Container Services property, a WSDOT bridge drain, and a ditch located at 5<sup>th</sup> Avenue S.

<b>Location</b>	RM 2.1-2.2 West
<b>Chemicals of Concern</b>	PCBs, phthalates, mercury, lead, zinc, dichloro-diphenyl-trichloroethane (DDT), dieldrin
<b>Data Gaps Evaluation</b>	February 2007 (SAIC 2007b); December 2008 – Douglas Management Company property (SAIC 2008d); June 2009 – Boyer Towing property (SAIC 2009b)
<b>SCAP</b>	June 29, 2007 (Ecology 2007a)

Source control action items for the Trotsky Inlet source control area are listed in Table 3-2. A total of 33 source control action items have been identified for this source control area; as of December 2013, 18 of these have been completed. Of the remaining action items, one is considered high priority.

### 23.1 Business Inspections

- SPU conducted a total of two business inspections at two initial inspections at facilities in the Trotsky Inlet basin during the current reporting period (Appendix B). Both facilities were in compliance as of the end of December 2013.
- Ecology conducted 18 inspections at 15 facilities within this source control area during the current reporting period (Appendix C).
  - During a stormwater compliance inspection in October 2013, Ecology issued correction actions to Boyer Logistics (7318 4<sup>th</sup> Avenue S) to update the facility SWPPP, implement appropriate BMPs, and use adaptive management to prevent pollutants from discharging to the LDW (Ecology 2013bk). Ecology subsequently determined that the facility was in compliance with corrective actions.

### 23.2 Source Tracing

SPU has collected two in-line solids samples, six onsite catch basin samples, and 16 right-of-way catch basin samples in the 2<sup>nd</sup> Avenue S SD basin.

- During the current reporting period, one onsite catch basin sample was collected at 7265 2nd Avenue S in this drainage basin (Figure 23-1).
  - Catch basin CB108 contained BEHP at a concentration above the upper screening level.

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). An “X” indicates that the chemical concentration exceeded the lower screening level (SQS/LAET) during the current reporting period (2013). An “X” surrounded by a box indicates that the chemical concentration exceeded the upper screening level (CSL/2LAET) during 2013. Complete sample results for the current reporting period are presented in Appendix E; sample locations are shown in Figure 23-1. Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	In-line Solids	Onsite CB Solids	Right-of-Way CB Solids
Metals	Copper			
	Lead			
	Mercury			
	Zinc			
PCBs	PCBs, total			
PAHs	LPAH			
	HPAH			
	Total cPAH			
Phthalates	BEHP		☒	
	Butylbenzylphthalate		×	
	Dimethylphthalate		×	
	Di-n-butylphthalate			
	Di-n-octylphthalate			
Other SVOCs	2-Methylnaphthalene		×	
	2-Methylphenol			
	4-Methylphenol			
	Benzoic acid			
	Benzyl alcohol			
	N-Nitrosodiphenylamine			
	Pentachlorophenol			
	Phenol			
TPH	TPH-diesel			
	TPH-oil			

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

× = Exceedance of lower screening level was observed during the current reporting period (January through December 2013).

☒ = Exceedance of upper screening level was observed during the current reporting period (January through December 2013).

## 23.3 Facility-Specific Source Control Actions

### Industrial Container Services / Trotsky Property / Former Northwest Cooperage

On May 18, 2010, Ecology entered into an Agreed Order (DE-6720) with Herman and Jacqueline Trotsky (owners) and Industrial Container Services – WA, LLC (operator) (Ecology 2010d). The Agreed Order requires that the property owners conduct an RI/FS to define the nature and extent of contamination in soil, groundwater, surface water, and sediments, and to evaluate cleanup alternatives. In addition, the property owners are required to prepare a draft CAP that identifies the preferred cleanup action and develops a schedule to remediate the contamination (Ecology 2010b).

<b>Current Operations</b>	Steel drum reconditioning
<b>Historical Operations</b>	Same as above
<b>Address</b>	7152 1 <sup>st</sup> Avenue S
<b>Facility/Site ID</b>	2154 (Industrial Container Services WA LLC)
<b>Chemicals of Concern</b>	PCBs, metals (arsenic, chromium, copper, lead, mercury, zinc), PAHs, phthalates, chlorinated benzenes, phenols, petroleum hydrocarbons, pesticides
<b>Media Affected</b>	Soil, groundwater, sediment

- In 2013, the PLPs completed field data collection for the investigation described in the RI/FS Work Plan. Ecology and the PLPs are negotiating the activities and requirements for an additional phase of the RI. Field work for the additional phase of the RI is scheduled to begin in summer of 2014.
- In September 2013, the PLPs conducted a geophysical survey and video survey of the stormwater pipe in the area of the former waste lagoon as part of the RI activities. They submitted a report to Ecology in October 2013 (Dalton, Olmsted & Fuglevand 2013).

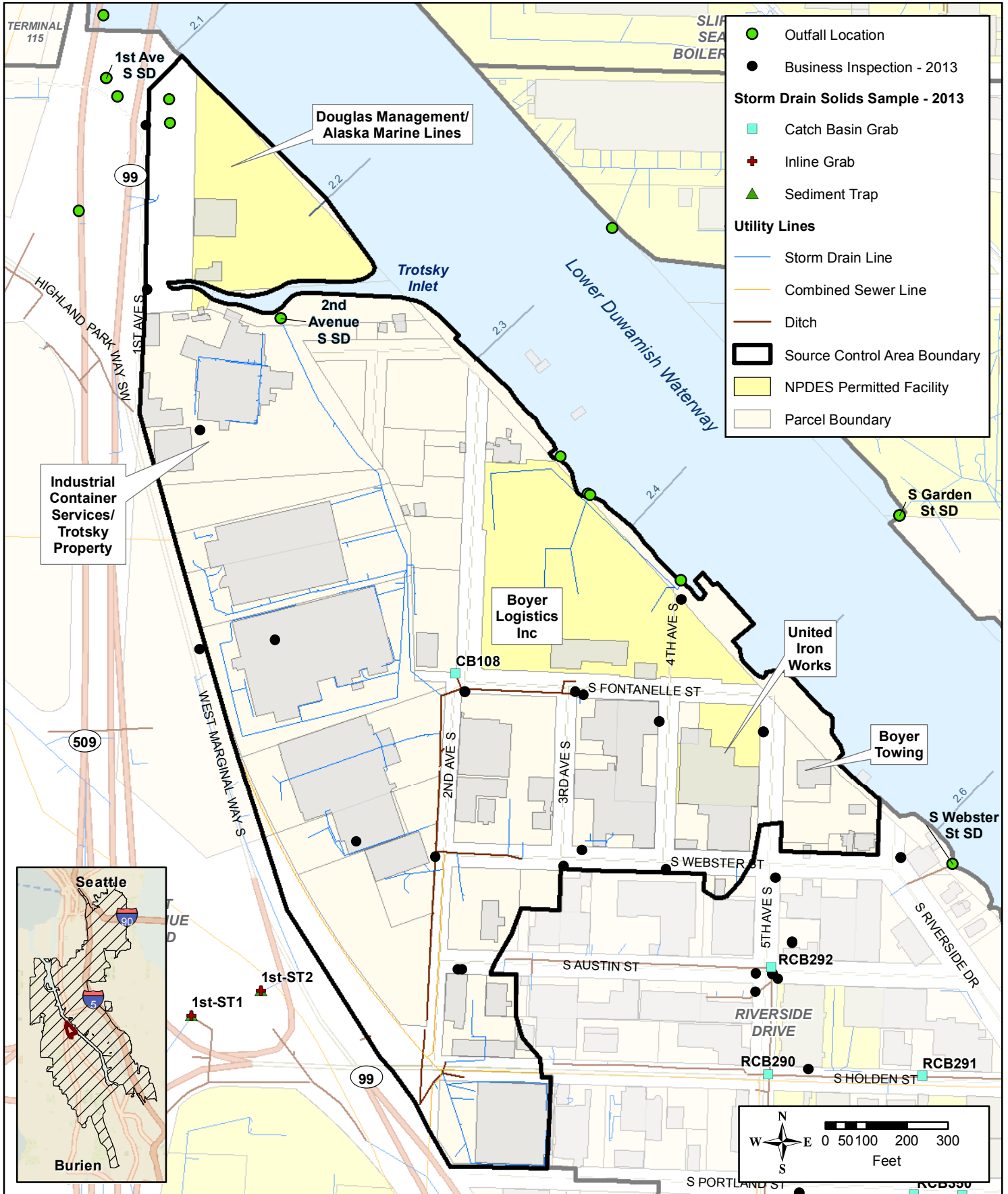
### Douglas Management Company / Alaska Marine Lines

On May 6, 2011, Ecology entered into an Agreed Order (DE-8258) with 7100 1<sup>st</sup> Avenue S, Seattle, LLC (owner). The Agreed Order requires that the owners conduct an RI/FS to define the nature and extent of contamination in soil, groundwater, surface water, and sediments, and to evaluate cleanup alternatives. In addition, the operator is required to prepare a draft CAP that identifies the preferred cleanup action and develops a schedule to remediate the contamination (Ecology 2011d).

<b>Current Operations</b>	Shipping container storage
<b>Historical Operations</b>	Shipbuilding, metal and salvage, sand and gravel batch plant, marine cargo handling
<b>Address</b>	7100 1 <sup>st</sup> Avenue S
<b>Facility/Site ID</b>	97573251 (Douglas Management Dock)
<b>Chemicals of Concern</b>	Petroleum hydrocarbons, PCBs, metals (arsenic, chromium, copper, mercury, and zinc), volatile organic compounds (VOCs), SVOCs
<b>Media Affected</b>	Soil, groundwater

- In February 2013 the PLP submitted a final RI/FS Work Plan to Ecology (GeoEngineers 2013).

- By the end of 2013 the PLP was almost finished with the field work for the RI. This field work included:
  - characterizing the nature and extent of soil and groundwater contamination;
  - assessing stormwater discharges and catch basin solids to evaluate whether the stormwater system is a potential transport mechanism for contaminants in soil and groundwater to the LDW;
  - evaluating existing soil, groundwater, and stormwater solids data; and
  - identifying data gaps.



**Figure 23-1. RM 2.1-2.2 West  
(EAA-2: Trotsky Inlet)  
Source Control Area**

## 24.0 RM 2.2-3.4 West (Riverside Drive)

The RM 2.2-3.4 West (Riverside Drive) source control area, shown in Figure 24-1, includes the 7<sup>th</sup> Avenue S SD basin and most of the 8<sup>th</sup> Avenue combined sewer basin. There are eight active outfalls in this area of the LDW, including the city of Seattle outfalls at S Webster Street and 7<sup>th</sup> Avenue S; the county's 8<sup>th</sup> Avenue S CSO; private outfalls associated with the Independent Metals Plant 2 facility; and several unidentified outfalls on Port property, near the end of S Portland Street and S Southern Street. The 8<sup>th</sup> Avenue CSO is controlled to no more than one untreated discharge event on average per year (per state law). There were no CSO discharges in 2013 from 8<sup>th</sup> Ave S CSO. In the past five year there has been one discharge event, which occurred on October 24, 2010 and involved 18 gallons of wastewater.

<b>Location</b>	RM 2.2-3.4 West
<b>Chemicals of Concern</b>	Mercury, PCBs, PAHs, phthalates, 1,4-dichlorobenzene, 2,4-dimethylphenol, benzoic acid, benzyl alcohol, phenol, hexachlorobenzene
<b>Data Gaps Evaluation</b>	April 2012 (SAIC 2012a)
<b>SCAP</b>	August 2012 (Ecology 2012j)

Action items for the Riverside Drive source control area are listed in Table 3-2. A total of 17 source control action items were identified in the SCAP. As of December 2013, two of these action items have been completed; of the 15 remaining action items, three are considered high priority.

### 24.1 Business Inspections

- SPU conducted inspections at facilities in the 7<sup>th</sup> Avenue S SD and one direct discharge facility during the current reporting period (Appendix B).
  - SPU conducted a total of 22 inspections at 13 facilities in the 7<sup>th</sup> Avenue S SD basin, including 13 initial inspections and nine follow-up inspections. One facility, Redox Inc. (7800 7<sup>th</sup> Avenue S), was not in compliance as of December 2013.
  - SPU conducted one inspection at a facility with drainage directly to the LDW. The facility, Pacific Pile and Marine (700 S Riverside Drive), was in compliance as of December 2013.
- King County conducted two inspections at two facilities in this source control area, (Appendix D).
- Ecology conducted 20 inspections at 17 facilities in this source control area during the current reporting period (Appendix C).
  - In January 2013, Ecology determined that Marine Lumber Service did not meet CNE eligibility requirements due to the use of industrial machinery or equipment that is exposed to rain or snow (Ecology 2013i).



- Ecology identified corrective actions at Machinists, Inc. (7600 5<sup>th</sup> Avenue S), and directed the facility to include its operations and maintenance manual in the facility SWPPP, and to prevent spills and leaks from discharging to the LDW (Ecology 2013bj).
- In April 2013, Ecology collected two storm drain solids samples and two water samples during a NPDES compliance inspection at Independent Metals Plant 2. Concentrations of cadmium (20 mg/kg DW), copper (833 mg/kg DW), lead (2,000 mg/kg DW), mercury (2.6 mg/kg DW), zinc (7,340 mg/kg DW), 2-methylnaphthalene (12 mg/kg DW), acenaphthene (0.74 mg/kg DW), benzo(a)anthracene (2.5 mg/kg DW), benzo(g,h,i)perylene (1.5 mg/kg DW), chrysene (3.6 mg/kg DW), dibenz(a,h)anthracene (0.66 mg/kg DW), dibenzofuran (1.5 mg/kg DW), fluoranthene (8.7 mg/kg DW), fluorene (3.3 mg/kg DW), indeno(1,2,3-cd)pyrene (1.2 mg/kg DW), naphthalene (6 mg/kg DW), phenanthrene (11 mg/kg DW), pyrene (7.9 mg/kg DW), total benzofluoranthenes (4.3 mg/kg DW), total HPAHs (33 mg/kg DW), total LPAHs (22 mg/kg DW), BEHP (45 mg/kg DW), BBP (7.2 mg/kg DW), dimethylphthalate (0.29 mg/kg DW), 2-methylphenol (0.088 mg/kg DW), 4-methylphenol (1.5 mg/kg DW), phenol (3 mg/kg DW), and PCBs (8.5 mg/kg DW) exceeded CSL in the storm drain solids sample collected from the scrap processing yard at Independent Metals Plant 2. Concentrations of PCBs (8.5 mg/kg DW), cPAHs (3.1 mg/kg DW), and dioxins/furans TEQ (69 ng/kg DW) exceeded LDW RALs in the sample collected from the catch basin in the scrap metal process yard. Chemical concentrations in the storm drain solids sample collected adjacent to the trailer storage lot were either not detected or detected below regulatory criteria. Copper (17-820 ug/L), lead (17-725 ug/L), mercury (0.061-0.91 ug/L), nickel (28-270 ug/L), zinc (280-2,340 ug/L), and PCBs (0.041-1.9 ug/L) exceeded the WQC for chronic exposure in both water samples collected at the facility.

## 24.2 Source Tracing

As of December 2013, SPU has collected 12 sediment trap samples, 24 in-line solids samples, one onsite catch basin samples, and 18 right-of-way catch basin samples in the 7<sup>th</sup> Avenue S SD basin.

- During the current reporting period, three sediment trap samples, four in-line solids samples, and five right-of-way catch basin samples were collected in this drainage basin (Figure 24-1).
  - Copper, lead, zinc, PCBs, acenaphthene, anthracene, fluorine, phenanthrene, total LPAH, benzo(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, total benzofluoranthenes, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, pyrene, total HPAH, total cPAH, BEHP, butylbenzylphthalate, dimethyl phthalate, 4-methylphenol, benzoic acid, benzyl alcohol, dibenzofuran, n-nitrosodiphenylamine, diesel-range hydrocarbons, and motor-oil range hydrocarbons exceeded the upper screening level in at least one source tracing sample collected during 2013.

- Right-of-way catch basin RCB198 contained BEHP at 69 mg/kg DW, more than 30 times the upper screening level of 1.9 mg/kg DW. In addition, this sample contained motor-oil range hydrocarbons at 46,000 mg/kg DW (more than 20 times the MTCA Method A soil cleanup level); and copper, lead, zinc, PCBs, and various PAHs at concentrations above the upper screening levels. RCB198 is located immediately north of West Coast Wire & Rope Rigging.
- High concentrations of PAHs were detected in RCB350, including benzo(g,h,i)perylene at 16 mg/kg DW, dibenzo(a,h)anthracene at 6.0 mg/kg DW, fluoranthene at 38 mg/kg DW, indeno(1,2,3-cd)pyrene at 14 mg/kg DW, pyrene at 39 mg/kg DW, total HPAH at 193 mg/kg DW, and total cPAH at 24 mg/kg DW, all more than 10 times the upper screening levels. This sample was collected at a catch basin on the northwest corner of the West Coast Wire & Rope Rigging property.
- High concentrations of PAHs were also detected in RCB291, including phenanthrene at 57 mg/kg DW, fluorene at 14 mg/kg DW, and pyrene at 57 mg/kg DW, all more than 10 times the upper screening levels. RCB291 is located on S Holden Street, between 7<sup>th</sup> Avenue S and 5<sup>th</sup> Avenue S.

SPU has collected six right-of-way catch basin samples in the 8<sup>th</sup> Avenue combined sewer basin, and two onsite catch basin samples in an area of the source control area that discharges directly to the LDW.

- During the current reporting period, one right-of-way catch basin sample was collected in the 8<sup>th</sup> Avenue CSO basin at RCB197, located at the southeast corner of 8<sup>th</sup> Avenue S and S Kenyon Street near Independent Metals Plant 2.
  - Copper (568 mg/kg DW), zinc (1,340 mg/kg DW), oil-range hydrocarbons (2,200 mg/kg DW), PCBs (1.1 mg/kg DW), BEHP (4.2 mg/kg DW), BBP (2.3 mg/kg DW), dimethylphthalate (0.3 mg/kg DW), benzoic acid (1.4 mg/kg DW), and benzyl alcohol (0.18 mg/kg DW) were detected at concentrations above the upper screening level.

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). An “X” indicates that the chemical concentration exceeded the lower screening level (SQS/LAET) during the current reporting period (2013). An “X” surrounded by a box indicates that the chemical concentration exceeded the upper screening level (CSL/2LAET) during 2013. Complete sample results for the current reporting period are presented in Appendix E; sample locations are shown in Figures 3-2 and 24-1. Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	Sediment Traps	In-line Solids	Onsite CB Solids	Right-of-Way CB Solids
Metals	Arsenic				
	Copper				☒
	Lead				☒
	Mercury				×
	Zinc	×	×		☒
PCBs	PCBs, total	×	×		☒
PAHs	LPAH				☒
	HPAH		×		☒
	Total cPAH		☒		☒
Phthalates	BEHP	☒	☒		☒
	Butylbenzylphthalate	×	×		☒
	Dimethylphthalate		☒		☒
	Di-n-butylphthalate				
	Di-n-octylphthalate				
Other SVOCs	2-Methylnaphthalene				
	2-Methylphenol				
	4-Methylphenol				☒
	Benzoic acid	☒			☒
	Benzyl alcohol	☒	☒		☒
	Dibenzofuran				☒
	N-Nitrosodiphenylamine		☒		×
	Phenol	×			×
TPH	TPH-diesel				☒
	TPH-oil	☒	☒		☒

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

× = Exceedance of lower screening level was observed during the current reporting period (January through December 2013).

☒ = Exceedance of upper screening level was observed during the current reporting period (January through December 2013).

## 24.3 Facility-Specific Source Control Actions

### Independent Metals Plants 1 and 2

- On January 25, 2013, Ecology issued an Administrative Order requiring Independent Metals to comply with Washington State Water Pollution Control Act, Water Quality Standards and NPDES ISGP No. WAR009725. The Administrative Order requires Independent Metals to expand coverage of their existing stormwater permit to include Plant 1 and the dirt lot on 7<sup>th</sup> Avenue S. Independent Metals must meet sampling requirements, including sampling for total PCBs at all stormwater discharge sampling locations. They must also comply with BMPs and other conditions as described in the Order (Ecology 2013d). Ecology also required Independent Metals to develop and implement a SWPPP for the expanded areas and begin monitoring.
- On January 31, 2013, Ecology fined Independent Metals \$5,000 for failing to report and properly clean up an oil spill that occurred in October 2012 (Ecology 2013c). The incident involved 10 gallons of diesel oil that spilled from their machinery onto the dock. A worker used detergent and a hose to scrub the dock and rinse the oil into the Duwamish. Independent Metals failed to properly report this oil spill to Ecology (Ecology 2013e).

<b>Current Operations</b>	Scrap metal sorting and processing
<b>Historical Operations</b>	Boat manufacturing, logging transport
<b>Address</b>	Plant 1: 703 S Monroe Street, 747 S Monroe Street, Plant 2: 816 S Kenyon Street
<b>Facility/Site ID</b>	16139 (Independent Metals Plant 2) 861945 (Silver Bay Logging) 95749157 (Former Workboats Northwest)
<b>Chemicals of Concern</b>	PCBs, metals, PAHs, phthalates, other SVOCs, and petroleum hydrocarbons
<b>Media Affected</b>	Stormwater, soil, groundwater

### Marine Lumber Service

In 2012, Marine Lumber Service and Seattle Department of Transportation (SDOT) developed a cleanup plan for removal of arsenic-contaminated soil from the right-of-way associated with the South Yard.

- In 2013, Marine Lumber Service completed a partial cleanup, including a 10 x 100 foot excavation in front of their property. SPU collected soil samples along the edge of the excavation to determine whether contaminants were left in place. Arsenic concentrations up to 220 mg/kg remain along the drainage pathway to the east of the Marine Lumber property (Schmoyer 2013b, SPU 2013).

<b>Current Operations</b>	Lumber products supply
<b>Historical Operations</b>	Lumber yard for 65 years
<b>Address</b>	7915 5 <sup>th</sup> Avenue S, 558 S Kenyon Street, 546 S Kenyon Street, 525 S Chicago Street
<b>Facility/Site ID</b>	38921541: Marine Lumber Service Inc. 73969348: Marine Lumber Service Shop
<b>Chemicals of Concern</b>	PCBs, metals, TPH
<b>Media Affected</b>	Storm drain solids

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## 25.0 RM 3.4-3.8 West (EAA-5: Terminal 117)

The RM 3.4-3.8 West (EAA-5; Terminal 117) source control area is shown in Figure 25-1. This source control area includes Port's Terminal 117, South Park Marina, and most of Boeing's South Park facility. There are 10 active outfalls in this area of the LDW, including the WSDOT 16<sup>th</sup> Avenue S Bridge outfall; private outfalls associated with South Park Marina and Boeing South Park properties; and two ditches and two outfalls at the Port's Terminal 117.

<b>Location</b>	RM 3.4-3.8 West
<b>Chemicals of Concern</b>	PCBs, PAHs, phenol, phthalates
<b>Data Gaps Evaluations</b>	Terminal 117: September 2003 (Windward 2003c) South Park Marina: June 2007 (SAIC 2007g)
<b>SCAP</b>	July 2005 (Ecology 2005)

Source control action items for the Terminal 117 source control area are listed in Table 3-2. A total of 32 source control action items have been identified for this source control area; as of December 2013, 24 of these have been completed. Of the remaining action items, two are considered high priority.

### 25.1 Business Inspections

- In December 2013 Ecology conducted a field review of the engineering report for the stormwater treatment system at the facility (Appendix C).

### 25.2 Source Tracing

As of December 31, 2013, SPU has collected seven onsite catch basin samples (two discharging to the separated storm drain system and four discharging to the combined sewer system), seven right-of-way catch basin samples (one discharging to the separated storm drain system and six discharging to the combined sewer system), and three in-line solids sample (discharging to the combined sewer system) within this source control area.

- No samples were collected during the current reporting period.

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	In-Line Solids	Onsite CB Solids	Right-of-Way CB Solids
Metals	Lead			
	Mercury			
	Zinc			
PCBs	PCBs, total			

Chemical Class	Chemical	In-Line Solids	Onsite CB Solids	Right-of-Way CB Solids
PAHs	LPAH			
	HPAH			
Phthalates	BEHP			
	Butylbenzylphthalate			
	Diethylphthalate			
	Dimethylphthalate			
Other SVOCs	2-Methylnaphthalene			
	4-Methylphenol			
	Benzoic acid			
	Benzyl alcohol			
	Dibenzofuran			
	Hexachlorobenzene			
TPH	TPH-diesel			
	TPH-oil			

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

## 25.3 Facility-Specific Source Control Actions

### Terminal 117 and Adjacent Streets

In June 2011, EPA signed an Administrative Settlement Agreement and Order on Consent with the Port and the City of Seattle to implement cleanup actions at Terminal 117 (USEPA 2011b). The order requires the Port and the City to implement EPA's cleanup decision for the Terminal 117 EAA. The cleanup includes the marine sediments adjacent to Terminal 117, the former industrial facility on terminal property, and 10 acres of soil in the nearby streets and residential area (USEPA 2011a).

<b>Current Operations</b>	Port of Seattle operations (International Inspection, Construction Services)
<b>Historical Operations</b>	Asphalt manufacturing; untreated lumber storage
<b>Address</b>	8700 Dallas Avenue S
<b>Facility/Site ID</b>	37657495 (Malarkey Asphalt Company)
<b>Chemicals of Concern</b>	PCBs
<b>Media Affected</b>	Soil, groundwater, sediment

- The residential yard cleanups on S Cloverdale Street began in early December 2012 and continued through early April 2013. This work involved removing and replacing soil in eight residential yards near T-117 and replanting those yards. In February and March 2013, the unimproved alleyway between S Cloverdale Street and S Donovan Street was excavated, backfilled with crushed gravel and re-graded (Port of Seattle 2013a, Port of Seattle 2013b).
- In February, the Port awarded a contract for \$10.5 million to Imco General Construction for the T-117 cleanup. The job will include demolition, excavation, dredging, disposal,



upland, and dredge backfilling and related work. The upland and river bank work is scheduled to be completed by October 31, 2013, and the sediment work is scheduled to be completed by February 14, 2014 (DJC 2013).

- The upland portion of the cleanup at T-117 started in June 2013. During the first month of construction, three buildings were demolished and excavation of contaminated soil started. In August 2013 the sheet piling along the shoreline was completed. This will be used to isolate the contaminated upland soil from the LDW (Port of Seattle 2013c).
- On July 31, 2013, the contractors hit an unmarked underground storage tank. It did not initially leak, however the next day they found some bulk oil that had spilled into soil, water, and the roadway (Ecology 2013as). In August, the contractor uncovered an underground storage tank and approximately 40 buried drums containing liquid waste and other products. As a result, the construction at T-117 was placed on temporary suspension, starting August 19, 2013. The site was secured and necessary precautions were taken in preparation for the stop work order (Jenkins 2013). NRC was hired to characterize and properly dispose of the material. By September 2013, all of the unanticipated materials were sampled and characterized for proper disposal. In October 2013, cleanup construction continued along the north and south river banks (Port of Seattle 2013c).
- In-water construction work was scheduled to begin in December 2013 (USEPA 2013j).

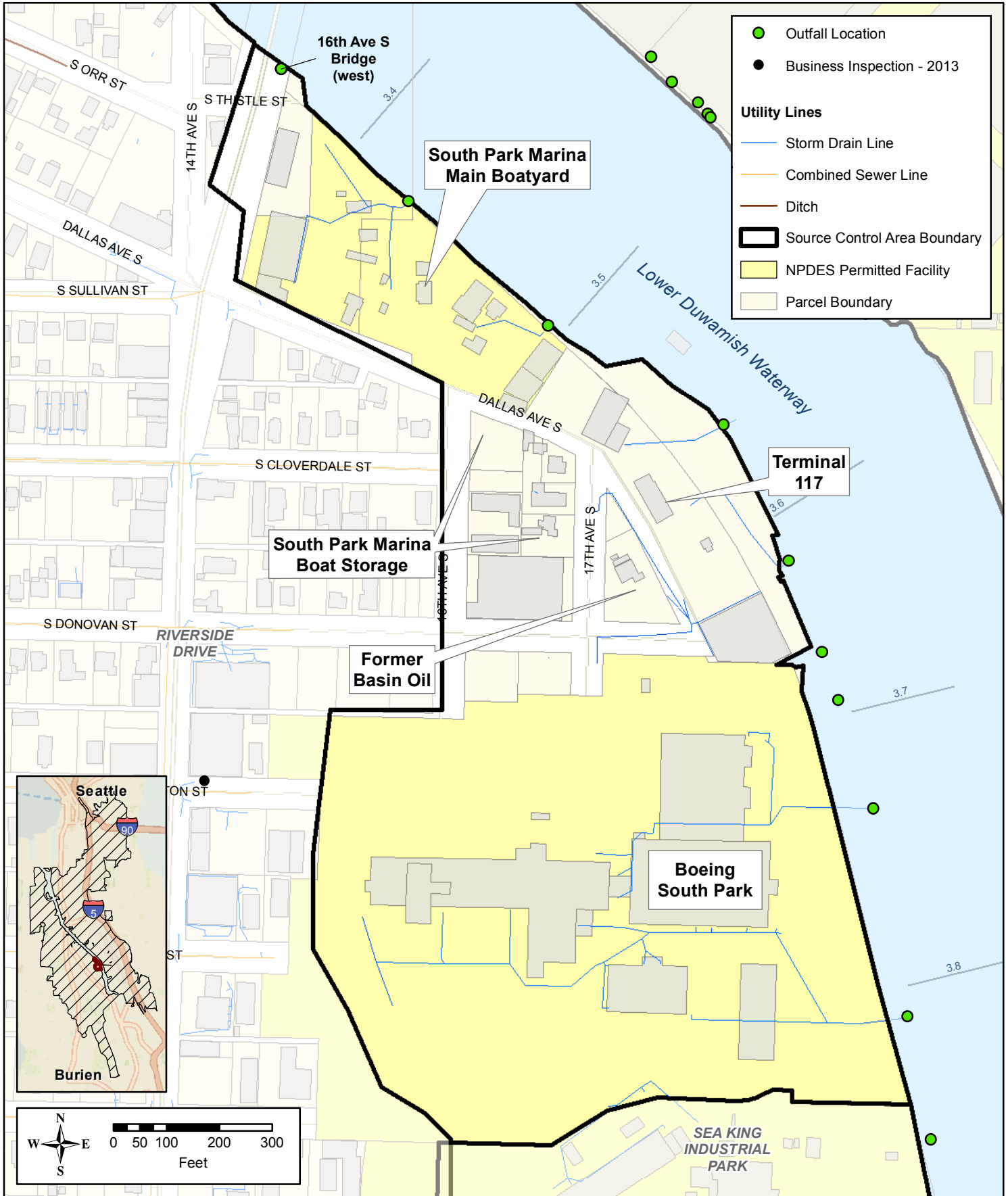
### Boeing South Park

Stormwater discharges from the Boeing South Park facility during 2010 triggered a Level 3 Corrective Action for copper, under the ISGP. Stormwater discharges from the facility during 2011 triggered a Level 3 corrective action for zinc. In November 2012, Ecology approved a Level 3 Corrective Action time extension until September 30, 2014; Boeing subsequently requested additional time to complete an engineering report (an interim requirement of Agreed Order No. 9601).

<b>Current Operations</b>	Training facility, research and calibration laboratories
<b>Historical Operations</b>	None
<b>Address</b>	1420 S Trenton Street
<b>Facility/Site ID</b>	60381981
<b>Chemicals of Concern</b>	Zinc, copper

- In February 2013, Ecology granted Boeing’s request to extend the engineering report deadline from April 30, 2013, to December 31, 2013 (Ecology 2013g).

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**Figure 25-1. RM 3.4-3.8 West  
(EAA-5: Terminal 117)  
Source Control Area**

## 26.0 RM 3.8-4.2 West (Sea King Industrial Park)

The RM 3.8-4.2 West (Sea King Industrial Park) source control area (Figure 26-1) includes the S 96<sup>th</sup> Street SD basin and portions of the 8<sup>th</sup> Avenue CSO basin. There are six active outfalls in this area of the LDW, including two outfalls associated with the Boeing South Park facility, a creek at S Director Street, private outfalls associated with the Sea King Industrial Park and Delta Marine properties, and the S 96<sup>th</sup> Street SD, which discharges to the LDW on the Duwamish Yacht Club property.

Ecology completed a Data Gaps Report and a SCAP for the Sea King Industrial Park source control area during the current reporting period. The Data Gaps report was finished in May 2013 (SAIC 2013a) and the SCAP was published in August 2013 (Ecology 2013ar). Five industrial properties adjacent to the LDW and 93 upland facilities in the S 96<sup>th</sup> Street SD basin were identified as potential sources of contaminants to sediment in the Sea King Industrial Park source control area.

<b>Location</b>	RM 3.8-4.2 West
<b>Chemicals of Concern</b>	Arsenic, mercury, zinc, butylbenzylphthalate, PAHs, benzyl alcohol, PCBs, pesticides, dioxins/furans
<b>Data Gaps Evaluation</b>	May 2013 (SAIC 2013a)
<b>SCAP</b>	August 2013 (Ecology 2013ar)

Action items for the Sea King Industrial Park source control area are listed in Table 3-2. A total of 41 source control action items were identified; three of these are considered high priority.

### 26.1 Business Inspections

- SPU conducted a total of five inspections at three facilities in the S 96<sup>th</sup> Street SD basin during the current reporting period, including three initial inspections and two follow-up inspections. All of these facilities were identified by SPU as in compliance as of the end of December 2013 (Appendix B).
- Ecology conducted 15 inspections at 14 facilities in the Sea King Industrial Park source control area during the current reporting period (Appendix C).
  - Ecology identified corrective actions at Absolute German (9510 14<sup>th</sup> Avenue S) and directed the facility to update the site map and implement proper BMPs (Ecology 2013be).
  - Ecology inspected Selland Auto Transport (615 S 96<sup>th</sup> Street) and directed the facility to include Level 2 and 3 Corrective Action details in the SWPPP, and to prevent discharge of wash water from the wash bay to the storm drain system (Ecology 2013bl).
- King County conducted 14 inspections at 12 businesses in this source control area (Appendix D) (Hickey 2013, Hickey 2014a, Hickey 2014b).

## 26.2 Source Tracing

SPU has collected 12 sediment trap samples, 17 in-line solids samples, two onsite catch basins, and 13 right-of-way catch basin samples in the S 96<sup>th</sup> Street SD basin.

- Three sediment trap samples, four right-of-way catch basin samples, and three in-line solids samples were collected during the current reporting period (Figure 26-1).
  - Zinc, BEHP, butylbenzylphthalate, dimethyl phthalate, 4-methylphenol, benzoic acid, benzyl alcohol, total cPAH, and oil-range hydrocarbon concentrations exceeded the upper screening level in at least one sample collected during 2013.
  - Right-of-way CB RCB287 contained BEHP at 19 mg/kg DW (10 times the upper screening level of 1.9 mg/kg DW), butylbenzylphthalate at 5.9 mg/kg DW (more than six times the upper screening level of 0.9 mg/kg DW), 4-methylphenol at 6.5 mg/kg DW (almost 10 times the upper screening level of 0.67 mg/kg DW), and oil-range hydrocarbons at 18,000 mg/kg DW. This catch basin is located at the dead-end of S Director Street at West Marginal Way S, east of 8<sup>th</sup> Avenue S (Figure 26-1).
  - Right-of-way CB RCB289 contained benzyl alcohol at 6.6 mg/kg DW, more than 90 times the upper screening level of 0.073 mg/kg DW. This sample also contained zinc and BEHP above the upper screening level. RCB289 is located on 8<sup>th</sup> Avenue S, between S 96<sup>th</sup> Street and S Director Street.

Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past (including the current reporting period). An “X” indicates that the chemical concentration exceeded the lower screening level (SQS/LAET) during the current reporting period (2013). An “X” surrounded by a box indicates that the chemical concentration exceeded the upper screening level (CSL/2LAET) during 2013. Complete sample results for the current reporting period are presented in Appendix E; sample locations are shown in Figures 3-2 and 26-1. Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	Sediment Traps	In-line Solids	Right-of-Way CB Solids
Metals	Copper			
	Lead			
	Zinc	x		☒
PCBs	PCBs, total			
PAHs	LPAH		x	x
	HPAH		x	
	Total cPAH		☒	
Phthalates	BEHP	☒		☒
	Butylbenzylphthalate	x		☒
	Dibutylphthalate			

Chemical Class	Chemical	Sediment Traps	In-line Solids	Right-of-Way CB Solids
	Dimethylphthalate	☒	×	
Other SVOCs	2-Methylphenol			
	4-Methylphenol	☒		☒
	Benzoic Acid	☒		☒
	Benzyl alcohol	☒		☒
	N-Nitrosodiphenylamine			
	Pentachlorophenol			
	Phenol			×
TPH	TPH-diesel			
	TPH-oil			☒

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

× = Exceedance of SQS/LAET was observed during the current reporting period (January through December 2013).

☒ = Exceedance of CSL/2LAET was observed during the current reporting period (January through December 2013).

- In December 2013 King County conducted a key manhole investigation for metals. This investigation included three sampling rounds at sanitary sewer manholes upgradient and downgradient of industrial users of the sanitary sewer system at S 96<sup>th</sup> Street (within the 8<sup>th</sup> Avenue CSO basin). The industrial users of interest were Ace Galvanizing, Show Quality Metal Finishing, and Concrete Restorations. Several metals were analyzed, but the study focused on chromium and zinc.

Chromium values were generally less than 10 µg/L. For comparison, the influent concentrations at King County wastewater treatment plants are approximately 5 µg/L or less. The zinc values at the manhole with the highest concentrations were in the range of approximately 200 to 450 µg/L. For comparison, influent concentrations at King County wastewater treatment plants are generally in the range of approximately 100 to 125 µg/L. The King County local discharge limits for chromium and zinc are 2,750 µg/L (2.75 mg/L) and 5,000 µg/L (5.0 mg/L), respectively.

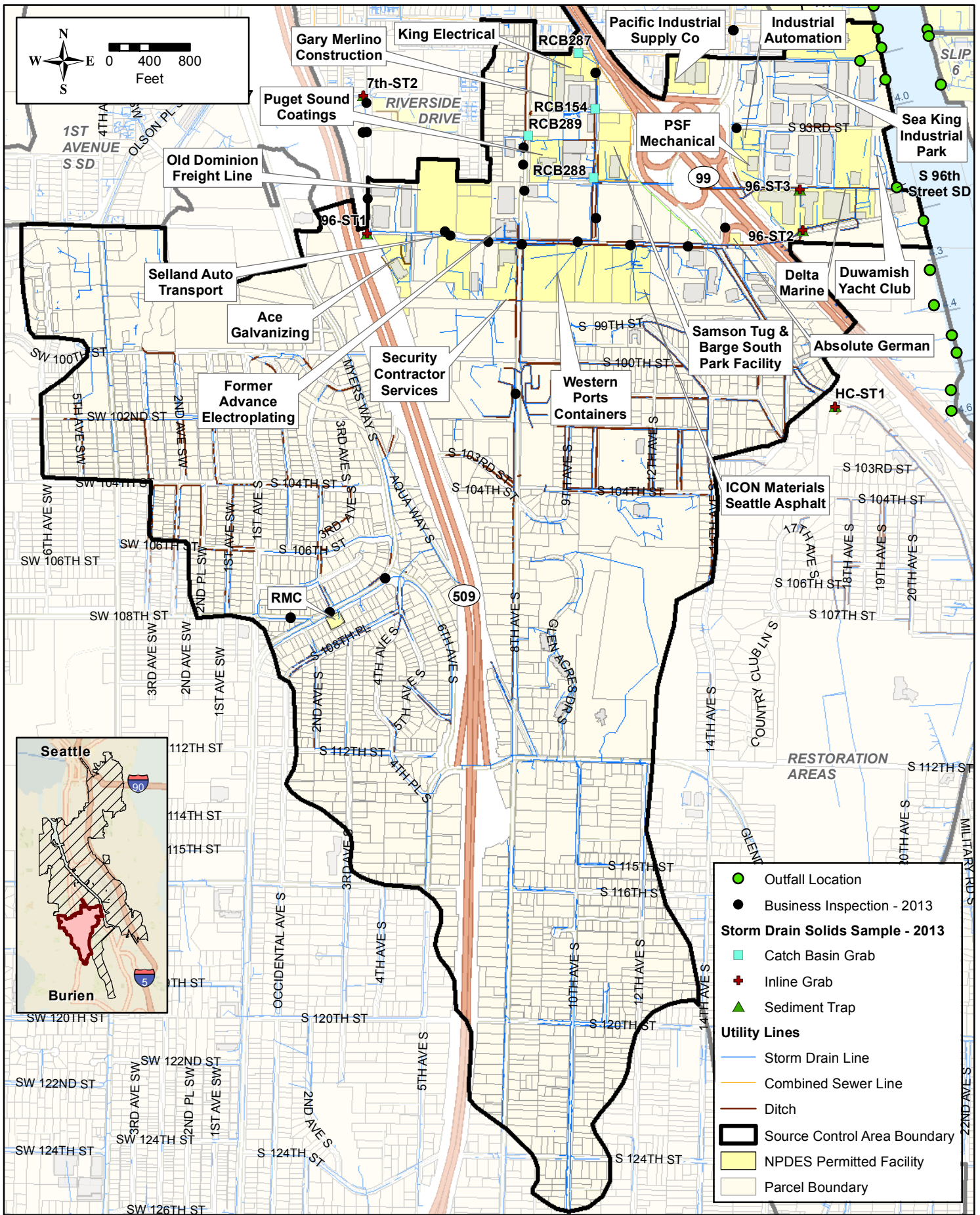
According to King County, the chromium and zinc levels from this key manhole investigation do not appear to be significantly elevated above wastewater background. KCIW will decide whether further key manhole investigations are needed in this area.

## 26.3 Facility-Specific Source Control Actions

### Gary Merlino Construction Company

Gary Merlino Construction Company is covered under the ISGP (WAR003120). Discharges from the facility exceeded the benchmark value for zinc during all four quarters of 2010, and exceeded the benchmark value for turbidity during three quarters of 2010.

- The company failed to complete the required Level 3 Corrective Action by September 30, 2011. In addition, Gary Merlino Construction failed to keep all dumpsters under cover or fitted with a lid. In May 2013, in response to these violations, EPA issued a Consent Agreement and Final Order which assessed a \$36,000 penalty for violations of the Clean Water Act (USEPA 2013d, USEPAi).
- In August 2013, Ecology issued Administrative Order #10160, which granted a Level 3 Corrective Action time extension until September 30, 2014. As part of the Order, the company is required to install filter inserts in all catch basins on site; submit an engineering report for Ecology review and approval by March 31, 2014; and install and make operational a final or permanent stormwater treatment system no later than September 30, 2014 (Ecology 2013ay).



**Figure 26-1. RM 3.8-4.2 West  
(Sea King Industrial Park)  
Source Control Area**



## 27.0 RM 4.2-5.8 West (Restoration Areas)

The RM 4.2-5.8 West (Restoration Areas) source control area includes the Hamm Creek SD basin (Figure 27-1) and a mix of restored habitats and industrial properties along the LDW shoreline. Restored areas include the Hamm Creek Restoration Area, the Muckleshoot Tribe/Kenco Marine Restoration Area, the Turning Basin 3 Restoration Area, North Wind's Weir, and the Point Rediscovery Wetland. There are 11 active outfalls in this source control area, including Hamm Creek, three outfalls associated with the City of Seattle's Duwamish substation, two WSDOT storm drains that carry drainage from SR-99, two ditches, and three City of Tukwila storm drains.

Ecology completed a Data Gaps report and a SCAP for the Restoration Areas source control area during the current reporting period. The Data Gaps report was finished in July 2013 (SAIC 2013b) and the SCAP was published in September 2013 (Ecology 2013ba). During preparation of the Data Gaps Report, Ecology decided to extend the upstream boundary of this source control area from RM 4.8 West to RM 5.8 West so that all properties on the peninsula between RM 4.7 and 5.8 West are included (Figure 27-1). Stormwater from these facilities discharges to the LDW. Five industrial properties adjacent to the LDW and five upland properties in the Hamm Creek storm drain basin were identified as potential sources of contaminants to sediments in the Restoration Areas source control area.

<b>Location</b>	RM 4.2-5.8 West
<b>Chemicals of Concern</b>	Arsenic, cadmium, silver, PAHs, butylbenzylphthalate, phenols, chlorobenzenes, PCBs, pesticides, dioxins/furans
<b>Data Gaps Evaluation</b>	July 2013 (SAIC 2013b)
<b>SCAP</b>	September 2013 (Ecology 2013ba)

Action items for the Restoration Areas source control area are listed in Table 3-2. A total of nine source control action items were identified in the SCAP. There are no high priority items for this source control area.

### 27.1 Business Inspections

- No business inspections were conducted in this source control area during 2013.

### 27.2 Source Tracing

SPU has collected four sediment trap samples, four in-line solids samples, two onsite catch basin solids samples, and one right-of-way catch basin solids sample in the Hamm Creek SD basin.

- One sediment trap sample and one in-line solids sample (both at location HC-ST1) were collected during the current reporting period. Contaminant concentrations in the 2013 source tracing samples did not exceed screening levels.

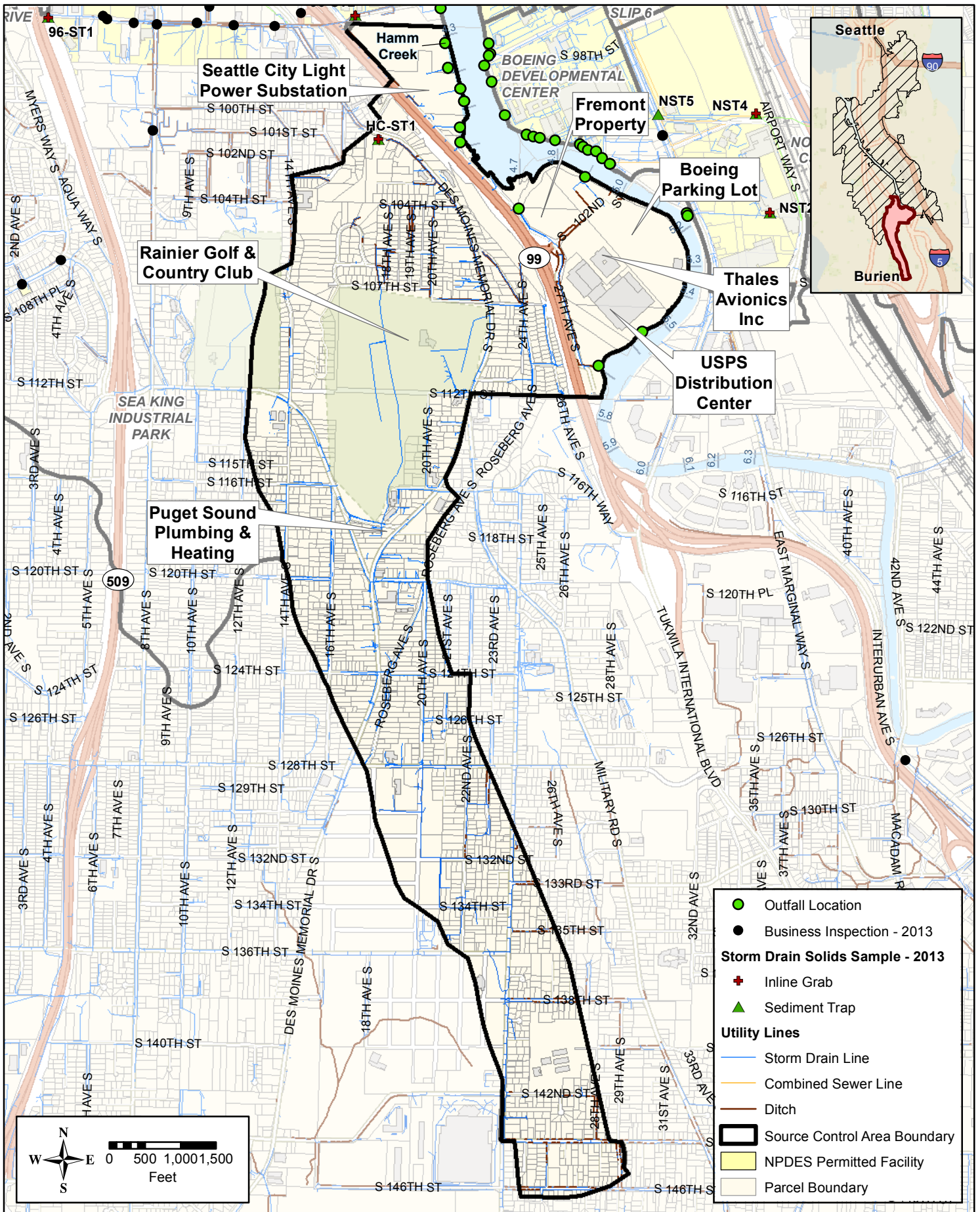
Chemicals detected at concentrations above storm drain screening levels are identified below. Shaded cells indicate that the chemical concentration exceeded a screening level sometime in the past. No samples exceeded screening levels during the current reporting period. Storm drain screening levels are defined in Section 3.2. Complete sample results for the current reporting period are presented in Appendix E; sample locations are shown in Figures 3-2 and 27-1. Storm drain screening levels are defined in Section 3.2.

Chemical Class	Chemical	Sediment Trap	In-line Solids	Onsite CB Solids	Right-of-Way CB Solids
Metals	Zinc				
HPAH	Fluoranthene				
Phthalates	BEHP				
	Butylbenzylphthalate				
Other SVOCs	4-Methylphenol				
TPH	TPH-diesel				
	TPH-oil				

Shading indicates that the chemical has been detected at a concentration above the screening level in one or more samples (2003 through December 2013).

### 27.3 Facility-Specific Source Control Actions

- No facility-specific source control actions were conducted in this source control area during the current reporting period.



**Figure 27-1. RM 4.2-5.8 West  
(Restoration Areas)  
Source Control Area**



Coordinate System:  
NAD 1983 StatePlane Washington North FIPS 4601 Feet  
Prepared By: mlf  
File: Figure\_27-1\_RM\_4-2-5-8W\_Restoration-Areas.mxd  
Illustrative purposes only.

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## **Appendix A**

### **LDW Source Control Schedule**

## Basic Assumptions for Creating Schedule and Timeline

A set of basic assumptions was used to model the scenario for those tasks yet to be started or completed. For sites where work has already begun, actual dates were used wherever possible.

The following process assumptions were made:

- Each site identified in a Source Control Action Plan (SCAP) or by other means that requires cleanup to stop contamination or recontamination of sediments will be shown on the chart if enough information is available to do so.
- Upland site cleanup is the critical path for source control for most sediment cleanup areas.
- Only sites that require cleanup or source control for the LDW Superfund contaminants of concern will be addressed in this schedule.
- This schedule does not include sites involving chlorinated solvents, pesticides or those actions needed to protect the water column.
- Ecology will use the Model Toxics Control Act (MTCA) rules and procedures for cleanup.
- All sites will require an administrative order, a Remedial Investigation/Feasibility Study (RI/FS), and a cleanup action plan (CAP).
- All upland cleanups are assumed to be interim actions.
- Interim actions do not require in-water work.
- A contractor will have assembled a package of credible evidence to support issuing a preliminary Potentially Liable Party (PLP) notice letter.
- Once a site manager is assigned, an Agreed Order takes approximately 8 months to complete, as follows:
  - Site manager sends a preliminary PLP notice letter to the owner/operator within two weeks of being assigned. The start date will be set by Ecology.
  - Owner/operator does not respond to preliminary PLP letter until the last day of the 30-day response period.
  - No new potential PLPs are identified who must be notified and included in negotiations.
  - PLP determination letter is sent two weeks after receiving the owner/operator response.
  - Negotiations for an Agreed Order begin 30 days after Ecology sends the PLP determination letter.
  - Negotiations are complete within five months of start of negotiations. This includes the public comment period, which includes two weeks to prepare, 30 days for comment, and two weeks for responses.
- It takes two years to complete Phase 1 – RI/FS and draft CAP.
- The RI/FS takes 18 months. This includes work plans, sampling plans, QAPP, fieldwork, laboratory analysis, and draft and final RI reports.

- The draft CAP will be completed 6 months after acceptance of the final RI/FS.
- The public comment period for the draft CAP, Consent Decree or Agreed Order, and SEPA checklist, will be 60 days. This includes two weeks to prepare, 30 days for comment, and two weeks for a responsiveness summary. After the responsiveness summary is completed, Ecology will issue a DNS or Mitigated DNS, the final CAP, and file the Order or Consent Decree.
- It will take three years to complete Phase 2 - Engineering Design, Permitting, and Construction.
- Interim actions to stop the release of contaminants are completed 36 months after issuance of the final CAP. Monitoring of the interim action starts one month after completion of field work, and continues for 12 months (assume quarterly monitoring), for a total of 13 months.
- Ecology accepts a final compliance monitoring report four months after the end of the monitoring period. Ecology determines the source is controlled.

The staffing scenario is based on known or anticipated assignments as of March 2014.

The following staffing assumptions were used:

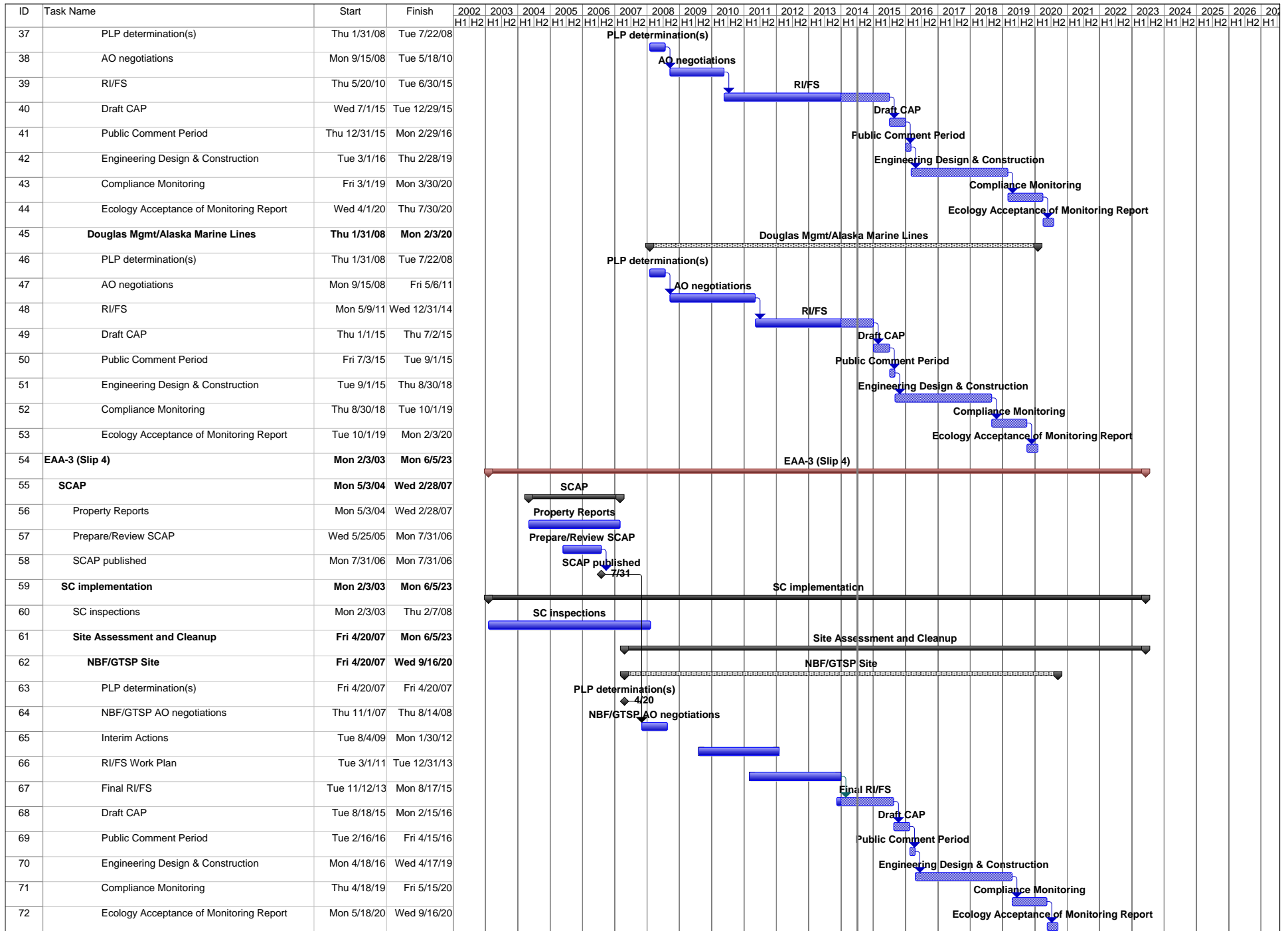
- A full-time site manager can handle a total of three sites.
- A full-time site manager, with no existing workload, can initially handle two sites, starting six months apart. Starting means initial file review to prepare the Preliminary PLP notice letter.
- Eighteen months after starting the first site, a full-time site manager will start file review for a third site.
- Four full-time site managers are assigned exclusively to the LDW.
- Work is underway at three EPA-lead sites:
  - EAA-4 (Boeing Plant 2/Jorgensen Forge bank)
  - EAA-5 (Terminal 117)
  - Rhone-Poulenc (RM 3.9-4.4 East; Slip 6) and
- Work has started at the following Ecology-lead sites. Site managers for these three sites are not dedicated to work on the LDW. Fox Ave and South Park Landfill do not require cleanup or source control for the LDW Superfund contaminants of concern. They are not included in the projected schedule for full-time site managers:
  - EAA-4 (Jorgensen Forge uplands)<sup>1</sup>
  - Fox Avenue Building (RM 2.0-2.3 East, Slip 3 to Seattle Boiler Works)
  - South Park Landfill (RM 2.1 West)
- Work has started at the following Ecology-lead sites (with full-time site managers):
  - Duwamish Marine Center (RM 1.7-2.0 East; Slip 2 to Slip 3)
  - Crowley Marine Services (EAA-3, Slip 4)
  - North Boeing Field/Georgetown Steam Plant (EAA-3, Slip 4)

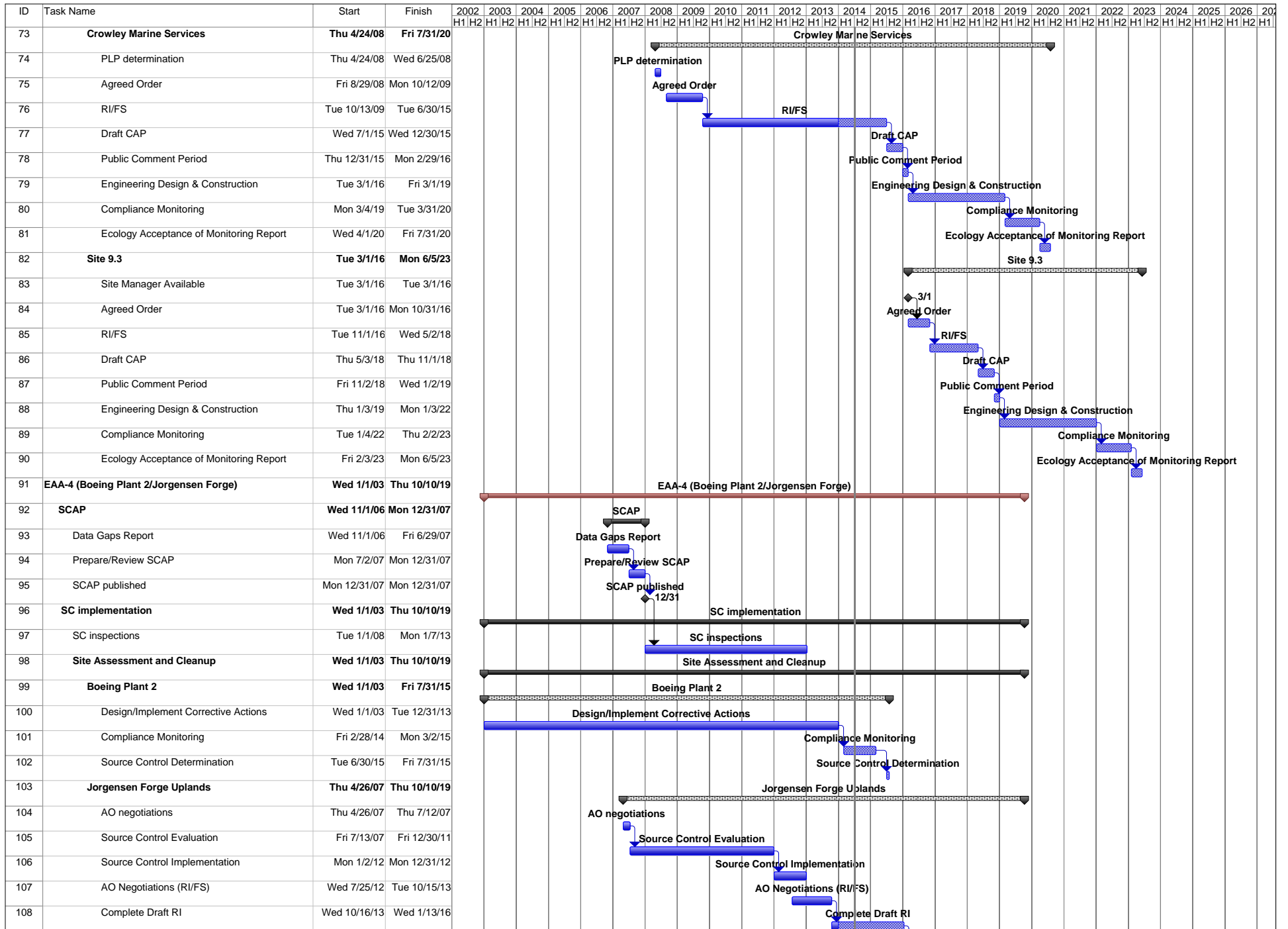
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<sup>1</sup> Ecology may elect to move Jorgensen Forge Uplands to the list of sites requiring a full-time site manager if determined to be a critical project for source control.

- Boeing Isaacson/Thompson (EAA-6; Boeing Isaacson/Central KCIA)
- 8801 Site/PACCAR (RM 3.9-4.4 East; Slip 6)
- Duwamish Shipyard (RM 1.3-1.6 West; Glacier Bay)
- Glacier Northwest/Reichhold (RM 1.3-1.6 West; Glacier Bay)
- Terminal 115 N (RM 1.3-1.6 West; Glacier Bay)
- Douglas Management/Alaska Marine Lines (EAA-2, Trotsky Inlet)
- Industrial Container/Trotsky Property (EAA-2, Trotsky Inlet)
- An additional 13 sites are being evaluated for Agreed Orders. Additional site managers will be needed to oversee work on these sites.
- Staffing is subject to availability of positions and funding. This schedule assumes that sufficient legal, technical, and public involvement support will be added as the number of sites increases.

ID	Task Name	Start	Finish	Timeline (2002-2027)																											
				2002 H1 H2	2003 H1 H2	2004 H1 H2	2005 H1 H2	2006 H1 H2	2007 H1 H2	2008 H1 H2	2009 H1 H2	2010 H1 H2	2011 H1 H2	2012 H1 H2	2013 H1 H2	2014 H1 H2	2015 H1 H2	2016 H1 H2	2017 H1 H2	2018 H1 H2	2019 H1 H2	2020 H1 H2	2021 H1 H2	2022 H1 H2	2023 H1 H2	2024 H1 H2	2025 H1 H2	2026 H1 H2	2027 H1 H2		
1	<b>EAA-1 (Duwamish/Diagonal Way)</b>	Sat 2/1/03	Wed 12/6/23	EAA-1 (Duwamish/Diagonal Way)																											
2	<b>SCAP</b>	Sat 2/1/03	Fri 12/31/04	SCAP																											
3	Property Reports	Sat 2/1/03	Mon 6/30/03	Property Reports																											
4	Prepare/Review SCAP	Mon 3/1/04	Fri 12/31/04	Prepare/Review SCAP																											
5	SCAP published	Fri 12/31/04	Fri 12/31/04	SCAP published																											
6	<b>SC implementation</b>	Sat 1/1/05	Wed 12/6/23	SC implementation																											
7	SC inspections	Sat 1/1/05	Thu 1/7/10	SC inspections																											
8	MTCA/LUST site screening & data gaps report	Mon 2/16/09	Mon 8/31/09	MTCA/LUST site screening & data gaps report																											
9	<b>Site Assessment and Cleanup</b>	Thu 6/2/16	Wed 12/6/23	Site Assessment and Cleanup																											
10	<b>Site 2.1</b>	Thu 6/2/16	Wed 9/6/23	Site 2.1																											
11	Site Manager Available	Thu 6/2/16	Thu 6/2/16	Site Manager Available																											
12	Agreed Order	Fri 6/3/16	Wed 2/1/17	Agreed Order																											
13	RI/FS	Thu 2/2/17	Fri 8/3/18	RI/FS																											
14	Draft CAP	Tue 8/7/18	Mon 2/4/19	Draft CAP																											
15	Public Comment Period	Wed 2/6/19	Fri 4/5/19	Public Comment Period																											
16	Engineering Design & Construction	Mon 4/8/19	Wed 4/6/22	Engineering Design & Construction																											
17	Compliance Monitoring	Thu 4/7/22	Fri 5/5/23	Compliance Monitoring																											
18	Ecology Acceptance of Monitoring Report	Tue 5/9/23	Wed 9/6/23	Ecology Acceptance of Monitoring Report																											
19	<b>Site 2.2</b>	Thu 9/1/16	Wed 12/6/23	Site 2.2																											
20	Site Manager Available	Thu 9/1/16	Thu 9/1/16	Site Manager Available																											
21	Agreed Order	Thu 9/1/16	Wed 5/3/17	Agreed Order																											
22	RI/FS	Thu 5/4/17	Fri 11/2/18	RI/FS																											
23	Draft CAP	Fri 11/2/18	Mon 5/6/19	Draft CAP																											
24	Public Comment Period	Mon 5/6/19	Thu 7/4/19	Public Comment Period																											
25	Engineering Design & Construction	Fri 7/5/19	Tue 7/5/22	Engineering Design & Construction																											
26	Compliance Monitoring	Wed 7/6/22	Mon 8/7/23	Compliance Monitoring																											
27	Ecology Acceptance of Monitoring Report	Mon 8/7/23	Wed 12/6/23	Ecology Acceptance of Monitoring Report																											
28	<b>EAA-2 (Trotsky Inlet)</b>	Mon 8/21/06	Thu 7/30/20	EAA-2 (Trotsky Inlet)																											
29	<b>SCAP</b>	Mon 8/21/06	Fri 6/29/07	SCAP																											
30	Data Gaps Report	Mon 8/21/06	Wed 2/28/07	Data Gaps Report																											
31	Prepare/Review SCAP	Thu 3/1/07	Fri 6/29/07	Prepare/Review SCAP																											
32	SCAP published	Fri 6/29/07	Fri 6/29/07	SCAP published																											
33	<b>SC implementation</b>	Mon 7/2/07	Thu 7/30/20	SC implementation																											
34	SC inspections	Mon 7/2/07	Fri 7/6/12	SC inspections																											
35	<b>Site Assessment and Cleanup</b>	Thu 1/31/08	Thu 7/30/20	Site Assessment and Cleanup																											
36	<b>Industrial Container Servcs/Trotsky Property</b>	Thu 1/31/08	Thu 7/30/20	Industrial Container Servcs/Trotsky Property																											







ID	Task Name	Start	Finish	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
				H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1
109	Design and Implement Interim Action	Thu 1/14/16	Thu 4/12/18																											
110	Compliance Monitoring	Fri 4/13/18	Thu 10/10/19																											
111	EAA-5 (Terminal 117)	Thu 4/1/04	Mon 6/3/13																											
112	SCAP	Thu 4/1/04	Fri 7/29/05																											
113	Property Reports	Thu 4/1/04	Wed 9/15/04																											
114	Prepare/Review SCAP	Thu 9/16/04	Fri 7/29/05																											
115	SCAP published	Fri 7/29/05	Fri 7/29/05																											
116	SC implementation	Mon 8/1/05	Mon 6/3/13																											
117	SC inspections	Mon 8/1/05	Fri 8/6/10																											
118	Terminal 117: Cleanup Implementation	Tue 1/1/08	Mon 6/3/13																											
119	EAA-6 (Boeing Isaacson/Central KCIA)	Mon 10/1/07	Fri 7/31/20																											
120	SCAP	Mon 10/1/07	Tue 3/31/09																											
121	Data Gaps Report	Mon 10/1/07	Tue 5/27/08																											
122	Prepare/Review SCAP	Wed 5/28/08	Tue 3/31/09																											
123	SCAP published	Tue 3/31/09	Tue 3/31/09																											
124	SC implementation	Fri 2/1/08	Fri 7/31/20																											
125	SC inspections	Fri 2/1/08	Thu 2/7/13																											
126	Site Assessment and Cleanup	Fri 12/5/08	Fri 7/31/20																											
127	Boeing Isaacson/Thompson	Fri 12/5/08	Fri 7/31/20																											
128	PLP Determination	Fri 12/5/08	Tue 4/7/09																											
129	Agreed Order	Wed 7/1/09	Fri 4/23/10																											
130	R/FS	Mon 4/26/10	Tue 6/30/15																											
131	Draft CAP	Wed 7/1/15	Wed 12/30/15																											
132	Public Comment Period	Thu 12/31/15	Mon 2/29/16																											
133	Engineering Design & construction	Tue 3/1/16	Thu 2/28/19																											
134	Compliance Monitoring	Fri 3/1/19	Tue 3/31/20																											
135	Ecology Acceptance of Monitoring Report	Wed 4/1/20	Fri 7/31/20																											
136	EAA-7 (Norfolk CSO/SD)	Fri 9/1/06	Thu 2/21/13																											
137	SCAP	Fri 9/1/06	Fri 9/28/07																											
138	Data Gaps Report	Fri 9/1/06	Fri 9/28/07																											
139	Prepare/Review SCAP	Fri 5/11/07	Fri 9/28/07																											
140	SCAP published	Fri 9/28/07	Fri 9/28/07																											
141	SC implementation	Mon 7/2/07	Thu 2/21/13																											
142	SC inspections	Mon 7/2/07	Fri 7/6/12																											
143	BDC South Storm Drain	Mon 1/4/10	Thu 2/21/13																											
144	Source Control Action: PCBs in Storm Drains	Mon 1/4/10	Fri 12/23/11																											

ID	Task Name	Start	Finish	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
145	Compliance Monitoring	Wed 2/22/12	Thu 2/21/13																										
146	<b>RM 0.0-0.1 E (Spokane St. to Ash Grove Cement)</b>	<b>Tue 4/15/08</b>	<b>Wed 12/6/23</b>																										
147	<b>SCAP</b>	<b>Tue 4/15/08</b>	<b>Tue 6/30/09</b>																										
148	Data Gaps Report	Tue 4/15/08	Wed 12/31/08																										
149	Prepare/Review SCAP	Thu 1/1/09	Tue 6/30/09																										
150	SCAP published	Tue 6/30/09	Tue 6/30/09																										
151	<b>SC implementation</b>	<b>Wed 7/1/09</b>	<b>Wed 12/6/23</b>																										
152	SC inspections	Wed 7/1/09	Tue 7/8/14																										
153	<b>Site Assessment and Cleanup</b>	<b>Thu 9/1/16</b>	<b>Wed 12/6/23</b>																										
154	<b>Site 1.1</b>	<b>Thu 9/1/16</b>	<b>Wed 12/6/23</b>																										
155	Site Manager Available	Thu 9/1/16	Thu 9/1/16																										
156	Agreed Order	Fri 9/2/16	Wed 5/3/17																										
157	Final RI/FS	Thu 5/4/17	Fri 11/2/18																										
158	Draft CAP	Mon 11/5/18	Fri 5/3/19																										
159	Public Comment Period	Mon 5/6/19	Wed 7/3/19																										
160	Engineering Design & Construction	Thu 7/4/19	Mon 7/4/22																										
161	Compliance Monitoring	Tue 7/5/22	Wed 8/2/23																										
162	Ecology Acceptance of Monitoring Report	Fri 8/4/23	Wed 12/6/23																										
163	<b>RM 0.9-1.0 E (Slip 1)</b>	<b>Wed 3/5/08</b>	<b>Fri 6/6/14</b>																										
164	<b>SCAP</b>	<b>Wed 3/5/08</b>	<b>Fri 5/29/09</b>																										
165	Data Gaps Report	Wed 3/5/08	Tue 8/26/08																										
166	Prepare/Review SCAP	Wed 8/27/08	Fri 5/29/09																										
167	SCAP published	Fri 5/29/09	Fri 5/29/09																										
168	<b>SC implementation</b>	<b>Mon 6/1/09</b>	<b>Fri 6/6/14</b>																										
169	SC inspections	Mon 6/1/09	Fri 6/6/14																										
170	<b>RM 1.0-1.2 E (KC Lease Parcels)</b>	<b>Tue 9/1/09</b>	<b>Fri 10/9/15</b>																										
171	<b>SCAP</b>	<b>Tue 9/1/09</b>	<b>Fri 10/1/10</b>																										
172	Data Gaps Report	Tue 9/1/09	Mon 6/7/10																										
173	Prepare/Review SCAP	Tue 6/8/10	Fri 10/1/10																										
174	SCAP published	Fri 10/1/10	Fri 10/1/10																										
175	<b>SC implementation</b>	<b>Mon 10/4/10</b>	<b>Fri 10/9/15</b>																										
176	SC inspections	Mon 10/4/10	Fri 10/9/15																										
177	<b>RM 1.2-1.7 E (St. Gobain to Glacier NW)</b>	<b>Wed 4/23/08</b>	<b>Tue 7/8/14</b>																										
178	<b>SCAP</b>	<b>Wed 4/23/08</b>	<b>Tue 6/30/09</b>																										
179	Data Gaps Report	Wed 4/23/08	Fri 2/27/09																										
180	Prepare/Review SCAP	Mon 3/2/09	Tue 6/30/09																										

ID	Task Name	Start	Finish	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
				H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1
181	SCAP published	Tue 6/30/09	Tue 6/30/09																											
182	<b>SC implementation</b>	<b>Wed 7/1/09</b>	<b>Tue 7/8/14</b>																											
183	SC inspections	Wed 7/1/09	Tue 7/8/14																											
184	<b>RM 1.7-2.0 E (Slip 2 to Slip 3)</b>	<b>Fri 4/11/08</b>	<b>Mon 2/1/21</b>																											
185	<b>SCAP</b>	<b>Fri 4/11/08</b>	<b>Tue 6/30/09</b>																											
186	Data Gaps Report	Fri 4/11/08	Fri 2/27/09																											
187	Prepare/Review SCAP	Mon 3/2/09	Tue 6/30/09																											
188	SCAP published	Tue 6/30/09	Tue 6/30/09																											
189	<b>SC implementation</b>	<b>Wed 7/1/09</b>	<b>Mon 2/1/21</b>																											
190	SC inspections	Wed 7/1/09	Tue 7/8/14																											
191	<b>Site Assessment and Cleanup</b>	<b>Wed 4/7/10</b>	<b>Mon 2/1/21</b>																											
192	<b>Duwamish Marine Center</b>	<b>Wed 4/7/10</b>	<b>Mon 2/1/21</b>																											
193	PLP Determination	Wed 4/7/10	Thu 4/14/11																											
194	AO negotiations	Fri 4/15/11	Fri 9/2/11																											
195	RI/FS	Mon 9/5/11	Thu 12/31/15																											
196	Draft CAP	Fri 1/1/16	Fri 7/1/16																											
197	Public Comment Period	Mon 7/4/16	Wed 8/31/16																											
198	Engineering Design & Construction	Thu 9/1/16	Mon 9/2/19																											
199	Compliance Monitoring	Tue 9/3/19	Thu 10/1/20																											
200	Ecology Acceptance of Monitoring Report	Fri 10/2/20	Mon 2/1/21																											
201	<b>RM 2.0-2.3 E (Slip 3 to SBW)</b>	<b>Mon 10/1/07</b>	<b>Thu 7/2/15</b>																											
202	<b>SCAP</b>	<b>Mon 10/1/07</b>	<b>Thu 4/30/09</b>																											
203	Data Gaps Report	Mon 10/1/07	Mon 6/23/08																											
204	Prepare/Review SCAP	Tue 6/24/08	Thu 4/30/09																											
205	SCAP published	Thu 4/30/09	Thu 4/30/09																											
206	<b>SC implementation</b>	<b>Tue 6/24/08</b>	<b>Thu 7/2/15</b>																											
207	SC inspections	Fri 5/1/09	Thu 5/8/14																											
208	<b>Fox Avenue Building</b>	<b>Tue 6/24/08</b>	<b>Thu 7/2/15</b>																											
209	PLP Determination	Tue 6/24/08	Mon 9/22/08																											
210	AO negotiations	Tue 9/23/08	Wed 5/6/09																											
211	Complete Draft RI	Thu 5/7/09	Fri 8/5/11																											
212	Design and Implement Interim Action	Wed 8/8/12	Wed 1/1/14																											
213	Compliance Monitoring	Mon 3/3/14	Tue 3/3/15																											
214	Ecology Acceptance of Monitoring Report	Wed 3/4/15	Thu 7/2/15																											
215	<b>RM 2.3-2.8 E (SBW to Slip 4)</b>	<b>Fri 12/28/07</b>	<b>Fri 6/3/22</b>																											
216	<b>SCAP</b>	<b>Fri 12/28/07</b>	<b>Tue 6/30/09</b>																											

ID	Task Name	Start	Finish	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
				H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1
217	Data Gaps Report	Fri 12/28/07	Fri 5/30/08																											
218	Prepare/Review SCAP	Mon 6/2/08	Tue 6/30/09																											
219	SCAP published	Tue 6/30/09	Tue 6/30/09																											
220	<b>SC implementation</b>	<b>Wed 7/1/09</b>	<b>Fri 6/3/22</b>																											
221	SC inspections	Wed 7/1/09	Tue 7/8/14																											
222	<b>Site Assessment and Cleanup</b>	<b>Sat 2/28/15</b>	<b>Fri 6/3/22</b>																											
223	<b>Site 8.1</b>	<b>Sat 2/28/15</b>	<b>Fri 6/3/22</b>																											
224	Site Manager Available	Sat 2/28/15	Sat 2/28/15																											
225	Agreed Order	Mon 3/2/15	Thu 10/29/15																											
226	RI/FS	Fri 10/30/15	Mon 5/1/17																											
227	Draft CAP	Tue 5/2/17	Tue 10/31/17																											
228	Public Comment Period	Wed 11/1/17	Mon 1/1/18																											
229	Engineering Design & Construction	Tue 1/2/18	Thu 12/31/20																											
230	Compliance Monitoring	Fri 1/1/21	Mon 1/31/22																											
231	Ecology Acceptance of Monitoring Report	Tue 2/1/22	Fri 6/3/22																											
232	<b>RM 3.9-4.3 E (Slip 6)</b>	<b>Mon 10/1/07</b>	<b>Mon 3/4/19</b>																											
233	<b>SCAP</b>	<b>Mon 10/1/07</b>	<b>Mon 9/15/08</b>																											
234	Data Gaps Report	Mon 10/1/07	Thu 2/28/08																											
235	Prepare/Review SCAP	Wed 3/5/08	Mon 9/15/08																											
236	SCAP published	Mon 9/15/08	Mon 9/15/08																											
237	<b>SC implementation</b>	<b>Fri 2/29/08</b>	<b>Mon 3/4/19</b>																											
238	SC inspections	Wed 10/1/08	Tue 10/8/13																											
239	<b>Site Assessment and Cleanup</b>	<b>Fri 2/29/08</b>	<b>Mon 3/4/19</b>																											
240	<b>8801 Site/PACCAR</b>	<b>Fri 2/29/08</b>	<b>Mon 3/4/19</b>																											
241	PLP Determination	Fri 2/29/08	Thu 9/25/08																											
242	AO negotiations	Fri 9/26/08	Fri 11/14/08																											
243	Complete Draft RI	Mon 11/17/08	Thu 9/30/10																											
244	Supplemental Investigation Plan	Fri 10/1/10	Wed 4/6/11																											
245	RI/FS	Thu 4/7/11	Wed 7/31/13																											
246	Draft CAP	Thu 8/1/13	Thu 7/31/14																											
247	Public Comment Period	Fri 8/1/14	Tue 9/30/14																											
248	Engineering Design & Construction	Wed 10/1/14	Fri 9/29/17																											
249	Compliance Monitoring	Mon 10/2/17	Wed 10/31/18																											
250	Ecology Acceptance of Monitoring Report	Thu 11/1/18	Mon 3/4/19																											
251	<b>Rhone-Poulenc Site</b>	<b>Mon 1/12/09</b>	<b>Thu 6/30/16</b>																											
252	Conduct Source Control Action	Mon 1/12/09	Wed 12/31/14																											

ID	Task Name	Start	Finish	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
253	Compliance Monitoring	Thu 2/26/15	Thu 6/30/16																											
254	<b>RM 4.3-4.9 E (Boeing Developmental Center)</b>	<b>Thu 10/1/09</b>	<b>Fri 12/3/21</b>																											
255	<b>SCAP</b>	<b>Thu 10/1/09</b>	<b>Thu 12/9/10</b>																											
256	Data Gaps Report	Thu 10/1/09	Wed 9/1/10																											
257	Prepare/Review SCAP	Thu 9/2/10	Thu 12/9/10																											
258	SCAP published	Thu 12/9/10	Thu 12/9/10																											
259	<b>SC implementation</b>	<b>Fri 12/10/10</b>	<b>Fri 12/3/21</b>																											
260	SC inspections	Fri 12/10/10	Thu 12/17/15																											
261	<b>Site Assessment and Cleanup</b>	<b>Sun 8/31/14</b>	<b>Fri 12/3/21</b>																											
262	<b>Site 13.1</b>	<b>Sun 8/31/14</b>	<b>Fri 12/3/21</b>																											
263	Site Manager Available	Sun 8/31/14	Sun 8/31/14																											
264	Agreed Order	Mon 9/1/14	Fri 5/1/15																											
265	RI/FS	Mon 5/4/15	Tue 11/1/16																											
266	Draft CAP	Wed 11/2/16	Wed 5/3/17																											
267	Public Comment Period	Thu 5/4/17	Mon 7/3/17																											
268	Engineering Design & Construction	Tue 7/4/17	Fri 7/3/20																											
269	Compliance Monitoring	Mon 7/6/20	Tue 8/3/21																											
270	Ecology Acceptance of Monitoring Report	Wed 8/4/21	Fri 12/3/21																											
271	<b>RM 0.0-1.0 W (Spokane St. to Kellogg Island)</b>	<b>Mon 1/3/11</b>	<b>Fri 1/17/25</b>																											
272	<b>SCAP</b>	<b>Thu 12/1/11</b>	<b>Thu 10/25/12</b>																											
273	Data Gaps Report	Thu 12/1/11	Fri 7/27/12																											
274	Prepare/Review SCAP	Mon 7/30/12	Thu 10/25/12																											
275	SCAP Published	Thu 10/25/12	Thu 10/25/12																											
276	<b>SC implementation</b>	<b>Mon 1/3/11</b>	<b>Fri 1/17/25</b>																											
277	SC inspections	Mon 1/3/11	Fri 1/8/16																											
278	<b>Site Assessment and Cleanup</b>	<b>Sat 4/16/16</b>	<b>Fri 1/17/25</b>																											
279	<b>Site 15.1</b>	<b>Sat 4/16/16</b>	<b>Fri 7/21/23</b>																											
280	Site Manager Available	Sat 4/16/16	Sat 4/16/16																											
281	Agreed Order	Mon 4/18/16	Fri 12/16/16																											
282	RI/FS	Mon 12/19/16	Tue 6/19/18																											
283	Draft CAP	Wed 6/20/18	Wed 12/19/18																											
284	Public Comment Period	Thu 12/20/18	Mon 2/18/19																											
285	Engineering Design & Construction	Tue 2/19/19	Thu 2/17/22																											
286	Compliance Monitoring	Fri 2/18/22	Mon 3/20/23																											
287	Ecology Acceptance of Monitoring Report	Tue 3/21/23	Fri 7/21/23																											
288	<b>Site 15.2</b>	<b>Tue 7/4/17</b>	<b>Mon 10/7/24</b>																											











## **Appendix B**

### **SPU Source Control Inspections (January 2013 through December 2013)**

**Appendix B**  
**SPU Source Control Inspections (January through December 2013)**

Facility (DBA)	Address	Date Inspected	Inspection Type	In Compliance?	Total Corrective Actions*	HW	IW	SP	SW	Rank
<b>RM 0.1-0.9 East (EAA-1: Duwamish/Diagonal Way)</b>										
<b>Diagonal Avenue S CSO/SD</b>										
ABM Janitorial Services Northwest	2001 22nd Avenue S	3/21/2013 4/26/2013	Initial Follow-up	-- Y	6			3	3	Low
ABM Parking Services Inc.	2001 22nd Avenue S	3/21/2013	Screening	NA						None
Abodian	2024 21st Avenue S	3/21/2013	Initial	--	6			3	3	Medium
		4/30/2013	Follow-up	--						
		5/16/2013	Follow-up	Y						
Acme Construction Supply Co., Inc.	4747 1st Avenue S	1/18/2013	Initial	--	8			2	6	Medium
		2/26/2013	Follow-up	--						
		3/26/2013	Follow-up	Y						
Afrikando Banadir		3/36/13	Initial	Y	5	1		3	1	Low
Airgas	4401 Airport Way S	2/6/2013	Initial	--	13	3		5	5	Medium
		3/8/2013	Follow-up	Y						
Alaskan Copper & Brass	3405 6th Avenue S	11/7/2013	Initial	Y	12	2		3	7	High
Alaskan Copper & Brass	3317 6th Avenue S	11/6/2013	Initial	Y	3			1	2	High
Alaskan Copper & Brass	3223 6th Avenue S	11/6/2013	Initial	Y	8	2		1	5	Low
Alaskan Copper & Brass	3200 6th Avenue S	11/6/2013	Initial	Y	7	1		1	5	High
Alaskan Copper & Brass	3300 6th Avenue S	11/6/2013	Initial	Y	9	3		3	3	Medium
All City Fence Co.	36 S Hudson Street	10/10/2013	Initial	--	6			3	3	None
		12/27/2013	Follow-up	N						
Amtrak	220 S Holgate Street	11/8/2013	Initial	NA						
Applied Industrial Technologies	4021 6th Avenue S	5/16/2013	Initial	Y						Low
Audio-Visual Products, Inc.	812 S Dakota Street	7/18/2013	Initial	Y	2				2	Low
Beacon Hill Dental Associates	3051 Beacon Avenue S	3/20/2013	Initial	--	2	1	1			Low
		4/24/2013	Follow-up	Y						
Blaine Memorial United Methodist Church	3001 24th Avenue S	11/27/2013	Initial	Y	1				1	Low
Borracchini Foods	2001 S Plum Street	10/24/2013	Initial	Y	2			1	1	Medium
Buck & Buck Designs	3111 27th Avenue S	10/24/2013	Initial	Y						Low
Chinn Investments LLC	1032 S Jackson Street	6/20/13	Follow-up	NA						
		7/18/2013	Follow-up							
Cascade Designs	4000 1st Avenue S	11/27/2013	Initial	--	15	7		3	5	Low
		12/24/2013	Follow-up	Y						
Cascade Designs	3800 1st Avenue S	11/27/2013	Initial	Y	9	4		3	2	Low
Cascade Designs	4225 2nd Avenue S	11/27/2013	Initial	Y	10	1		4	5	Low
		1/18/2013	Initial	--						
		2/26/2013	Follow-up	Y						
Cascade Machinery & Electric, Inc.	4600 East Marginal Way S	1/18/2013	Initial	--	9	4		3	2	Medium
		2/26/2013	Follow-up	Y						
		10/2/2013	Initial	--						
		11/14/2013	Follow-up	--						
City Art Works at Pratt Fine Arts Center	1902 S Main Street	11/27/2013	Follow-up	--	5			1	4	High
		11/27/2013	Follow-up	--						
		12/19/2013	Follow-up	Y						
Cordon Selections	4136 1st Avenue S	11/21/2013	Initial	N						Medium
Corner Store & Deli	1720 S Jackson Street	4/9/2013	Audit	N						Low
Crosscut Hardwoods	4100 1st Avenue S	9/11/2013	Initial	--	7	1		3	3	Medium
		10/18/2013	Follow-up	Y						

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Facility (DBA)	Address	Date Inspected	Inspection Type	In Compliance?	Total Corrective Actions*	HW	IW	SP	SW	Rank
Daniel Smith Inc.	4150 1st Avenue S	9/11/2013 10/18/2013	Initial Follow-up	-- Y	3	1			2	Medium
Davis Door Service, Inc.	2021 S Grand Street	3/15/2013	Screening	NA	11	2		3	6	None
Drainage System Cleaning		3/21/2013	Initial	Y	6	1	1	3	1	Medium
El Centro de la Raza	2524 16th Avenue S	8/22/2013 10/9/2013 12/16/2013	Initial Follow-up Follow-up	-- -- Y	13	2		7	4	Medium
Ex Officio	4202 6th Avenue S	10/25/2013	Initial	Y						Low
Express Cold Storage	4606 4th Avenue S	10/25/2013	Initial	N	4			2	2	Medium
EZ Buy Motors Inc.	401 Rainier Avenue S	7/25/2013 9/6/2013	Initial Follow-up	-- Y	3			3		Low
Fiberlay	24 S Idaho Street	11/22/2013	Initial	Y						Low
Georgetown Brewing Co.	5200 Denver Avenue S	10/16/2013	Initial	Y	8			3	5	High
Grand Central Baking Company	4634 East Marginal Way S	4/1/2013	Initial	Y	3	1		1	1	Low
Gretchen's Shoebox Express	3922 6th Avenue S	12/3/2013	Initial	N	12			4	8	High
JSH Properties Inc.	2601 S McClellan Street	10/8/2013 11/6/2013	Initial Follow-up	-- Y	2				2	Low
KDL Hardware Supply	850 Poplar Place S	7/18/2013 9/25/2013	Initial Follow-up	-- Y	1				1	Low
KT Building Supply	3614 6th Avenue S	9/19/2013 10/25/2013	Initial Follow-up	-- N	13	1		6	6	High
Lake View Cemetery Association, Inc	1554 15th Avenue E	2/4/2013 6/5/13	Initial Follow-up	NA						
LC Jergens Painting Co., Inc	417 18th Avenue S	11/4/2013	Initial	Y						Medium
Leon Sullivan Health Care Center	2611 S Dearborn Street	4/18/2013 5/31/2013	Initial Follow-up	-- Y	8	1		3	4	Low
Les Toussaints	901 Occidental Avenue S	12/5/2013	Audit	NA						
Lowes Home Improvement Warehouse	2700 Rainier Avenue S	6/21/13	Initial	N	17			5	12	Medium
M&R Equipment, Inc.	3626 Airport Way S	7/23/2013	Initial	Y	10	5		3	2	None
MacMillan Piper Inc.	655 S Edmunds Street	2/19/2013	Initial	Y	46	6		10	30	High
Mar Properties	1225 S Weller Street	10/8/2013	Initial	Y						None
Martin Luther King 76	2801 Martin Luther King Jr Way S	3/27/2013	Initial	Y	6	1	1	2	2	Medium
Maurer Supply	843 Rainier Avenue S	9/26/2013 12/3/2013	Initial Follow-up	-- Y	6			6		Low
MC Food Store	4800 Beacon Avenue S	6/28/13	Initial	NA						
Metal Works Northwest	3834 4th Avenue S	1/22/2013 4/11/2013	Initial Follow-up	-- Y	22	10		7	5	Medium
Mi La Cay	718 Rainier Avenue S	10/9/2013 11/25/2013 12/11/2013	Initial Follow-up Follow-up	-- -- Y	6			3	3	Low
Mount Baker Auto Care Detail Enterprises	2800 Martin Luther King Jr Way S	7/25/2013 9/6/2013	Initial Follow-up	-- Y	10			6	4	High
Mount Baker Cleaners	2864 S McClellan Street	10/8/2013 11/14/2013	Initial Follow-up	-- Y	3			3		Low

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**SPU Source Control Inspections (January through December 2013)**

Facility (DBA)	Address	Date Inspected	Inspection Type	In Compliance?	Total Corrective Actions*	HW	IW	SP	SW	Rank
Nikkei Concerns	1601 E Yesler Way	7/19/2013	Initial	N	11	3		3	5	NA
Northwest Concrete Resurfacing	3828 4th Avenue S	11/27/2013	Initial	N	6			3	3	High
Northwest Consolidated Investments	3828 4th Avenue S	11/27/2013	Initial	N	3				4	High
NW Container Services Inc.	635 S Edmunds Street	5/2/2013 6/6/13	Initial Follow-up	-- Y	13	4		4	5	Medium
Olympic Foundry	5200 Airport Way S	8/27/2013	Initial	Y	4			3	1	Low
Oma Construction Inc.	2760 6th Place S	11/23/2013 12/19/2013	Initial Follow-up	-- Y	4	1			3	High
Plymouth Poultry	4500 7th Avenue S	10/1/2013 10/22/2013 11/6/2013	Initial Follow-up Follow-up	-- -- N	11			4	7	High
Pollos A La Brasa	900 Rainier Avenue S	9/6/2013 10/10/2013 11/5/2013	Initial Follow-up Follow-up	-- -- Y	4			3	1	Low
Puget Sound Solar	805 Rainier Avenue S	8/2/2013 9/11/2013	Initial Follow-up	-- Y	4			3	1	Low
QFC #849		1/23/2013	Follow-up	Y	14			5	9	Medium
Quorum Property Management	807 Rainier Avenue S	9/10/2013 10/17/2013 10/30/2013 12/3/2013	Initial Follow-up Follow-up Follow-up	-- -- -- Y	1				1	Low
Ralph's Concrete Pumping	816 Poplar Place S	7/2/2013 8/9/2013	Initial Follow-up	-- Y	20	3		6	11	High
Ralph's Concrete Pumping	1511 Rainier Avenue S	7/16/2013 8/23/2013	Initial Follow-up	-- Y	8			2	6	High
Salon 206	2603 S McClellan Street	10/8/2013	Screening	NA						None
Schwartz Brothers Bakery Seattle	619 S Nevada Street	11/22/2013 12/23/2013	Initial Follow-up	-- Y	5			1	4	Low
Seattle Central Community College - Wood Technology Center	2310 S Lane Street	1/25/2013 3/4/2013	Initial Follow-up	-- Y	7	2		3	2	Low
Seattle Granite Countertops	4700 Ohio Avenue S	10/7/2013	Initial	Y	7			3	4	Low
Seattle Housing Authority - Housing Operations Facility	810 Martin Luther King Jr. Way S	4/3/2013 5/15/2013	Initial Follow-up	-- Y	3				3	Medium
Seattle Vocational Institute	2120 S Jackson Street	1/25/2013 3/8/2013 3/29/2013	Initial Follow-up Follow-up	-- -- Y	7	1	1	3	2	Medium
Seattle's Central Bark	838 Poplar Place S	7/2/2013 7/30/2013	Initial Follow-up	-- Y	3			3		Low
Second Use	3223 6th Avenue S	2/14/2013	Follow-up	Y	2				2	Low
SFD - Fire Station # 13	3601 Beacon Avenue S	11/4/2013	Initial	Y						Low
Skyline Pacific Northwest	4105 Airport Way S	1/17/2013 3/4/2013	Initial Follow-up	-- Y	3			3		Low
Sound Transit LINK Operations and Maintenance Facility	3407 Airport Way S	6/11/13 7/16/2013	Initial Follow-up	-- Y	2				2	Medium
Southern Wine and Spirits	4101 1st Avenue S	7/3/2013 8/16/2013	Initial Follow-up	-- Y	5			3	2	Medium

**Appendix B**  
**SPU Source Control Inspections (January through December 2013)**

Facility (DBA)	Address	Date Inspected	Inspection Type	In Compliance?	Total Corrective Actions*	HW	IW	SP	SW	Rank
Speedway Auto and Truck LLC	1801 Rainier Avenue S	4/26/2013	Initial	Y						Medium
Sprague Pest Solutions	1136 Poplar Place S	4/3/2013	Initial	--	3	1			2	Medium
		5/22/2013	Follow-up	--						
		7/9/2013	Follow-up	Y						
Stewart Lumber Co.	1761 Rainier Avenue S	10/10/2013	Initial	Y	6	1		3	2	Low
Summit Radiology	861 Poplar Place S	8/7/2013	Initial	--	5			3	2	Low
		9/11/2013	Follow-up	Y						
Taqueria Latino	2524 16th Avenue S	8/22/2013	Initial	--	3			3		Medium
		10/30/2013	Follow-up	Y						
Thai Recipe	2609 S McClellan Street	10/8/2013	Initial	Y						Low
The Foundry by Herban Feast	4130 1st Avenue S	10/23/2013	Initial	--	4			3	1	Low
		12/5/2013	Follow-up	Y						
The Original Philly's	3019 Martin Luther King Jr Way S	3/20/2013	Initial	--	9	2		4	3	Low
		4/26/2013	Follow-up	--						
		5/23/2013	Follow-up	--						
		6/26/13	Follow-up	--						
		7/9/2013	Follow-up	--						
7/11/2013	Follow-up	Y								
The Pepsi Bottling Group	2300 26th Avenue S	3/5/2013	Initial	--	9	2		3	4	Medium
		3/29/2013	Follow-up	Y						
Toshios Teriyaki	1706 Rainier Avenue S	3/29/2013	Audit	N						Low
Trade Marx Sign and Display	818 S Dakota Street	3/8/2013	Follow-up	--	3	1			2	Medium
		4/26/2013	Follow-up	--						
		1/22/2013	Initial	Y						
Travelers	2524 Beacon Avenue S	4/10/2013	Audit	N						Medium
Trig Electric Service, Inc.	1121 Rainier Avenue S	8/23/2013	Screening	NA						Low
Tully's Coffee Corporate	3100 Airport Way S	6/26/13	Initial	Y	6	2		3	1	None
		6/26/13	Initial	--	9	1		2	6	Medium
Union Pacific Railroad Argo Yard	402 S Dawson Street	8/29/2013	Follow-up	--						
		12/3/2013	Follow-up	Y						
University of Washington Consolidated Laundry	2901 27th Avenue S	11/14/2013	Initial	--	5	1	1	3		Low
		12/23/2013	Self-Cert	Y						
Waste Management, Inc. Alaska St. Facility	70 S Alaska Street	2/22/2013	Initial	--	2			1	1	High
		4/12/2013	Follow-up	Y						
Western Logistics	3623 6th Avenue S	12/5/2013	Initial	Y						Medium
Western Peterbilt Inc.	3801 Airport Way S	1/18/2013	Follow-up	Y	12	2	1	3	6	High
		7/2/2013	Initial	--	5	1		3	1	Medium
		8/28/2013	Follow-up	--						
Yuen Lui Studio	1407 S Dearborn Street	10/9/2013	Follow-up	Y						
<b>RM 1.7-2.0 East (Slip 2 to Slip 3)</b>										
<b>Duwamish East Direct</b>										
Duwamish Metal Fabrication	16 S Michigan Street	2/12/2013	Initial	Y	5			3	2	Low
Samson Tug and Barge	6361 1st Avenue S	11/14/2013	Initial	--	8	1	1	3	3	High
		12/26/2013	Follow-up	Y						
<b>1st Avenue S Bridge SD</b>										
Evergreen Tractor	164 S Michigan Street	1/3/2013	Follow-up	Y					1	Medium

**Appendix B**  
**SPU Source Control Inspections (January through December 2013)**

Facility (DBA)	Address	Date Inspected	Inspection Type	In Compliance?	Total Corrective Actions*	HW	IW	SP	SW	Rank
<b>RM 2.0-2.3 East (Slip 3 to Seattle Boiler Works)</b>										
<b>S Brighton St SD</b>										
Pike Brewing Co.	6725 East Marginal Way S	12/24/2013	Initial	N	4			3	1	Medium
Rosella's Fruit and Produce Co, Inc.	6731 East Marginal Way S	8/14/2013	Initial	Y	3			3		Medium
Seattle Distribution Center	6701 East Marginal Way S	8/14/2013	Initial	Y	1				1	Medium
<b>S River Street SD</b>										
Pile Contractors, Inc.	150 S River Street	8/8/2013	Initial	Y	5	1		3	1	Low
V.Van Dyke, Inc.	150 S River Street	8/8/2013	Initial	N	8	2		1	5	NA
<b>RM 2.3-3.8 East (Seattle Boiler Works to Slip 4)</b>										
<b>Duwamish East Direct</b>										
Cleanscapes Inc	7303 8th Avenue S	4/18/2013 6/6/13	Initial Follow-up	-- Y	3	1			2	Medium
Seattle Boilerworks Inc.	500 S Myrtle Street	11/13/2013	Initial	NA	2			1	1	Medium
<b>S Myrtle St SD</b>										
Seattle Iron And Metals Truck Parking	730 S Myrtle Street	2/20/2013	Follow-up	Y	6	1		2	3	High
<b>RM 2.8 East (EAA-3: Slip 4)</b>										
<b>Slip 4</b>										
Aero Motel Inn	7240 East Marginal Way S	4/20/2013	Initial	Y	3	1			2	Low
Chinese Baptist Church	5801 Beacon Avenue S	5/16/2013	Initial	NA	3	1			2	None
Galvin Flying	1495 S Hardy Street	11/6/2013	Initial	Y	6			4	2	Low
Georgetown Powerplant Museum	6605 13th Avenue S	11/4/2013	Screening	NA						Low
Jensen Family LTD Partners	1001 S Myrtle Street	11/22/2013	Initial	N	3				3	NA
Johnson Industries Inc.	1015 S Myrtle Street	6/3/13	Initial	Y						Low
King County International Airport	1495 S Hardy Street	11/12/2013	Initial	NA						
Shultz Distributing Inc.	1495 S Hardy Street	11/6/2013	Initial	Y	6			4	2	Low
United Refrigeration Inc.	1017 S Myrtle Street	6/3/13 6/17/13	Initial Follow-up	-- Y	3			3		Low
<b>RM 4.9 East (EAA-7: Norfolk CSO/SD)</b>										
<b>Norfolk CSO/SD</b>										
Affordable Auto Wrecking	9750 Martin Luther King Jr Way S	3/14/2013 3/20/2013	Initial Follow-up	-- Y	4			3	1	Medium
Fairn and Swanson	9875 40th Avenue S	3/29/2013	Initial	Y	6			3	3	Low
HD Supply Waterworks LTD	10013 Martin Luther King Jr Way S	4/29/2013 6/20/13	Initial Follow-up	-- Y	2				2	Medium
Hydroslice Aerospace LLC	9688 Martin Luther King Jr Way S	10/18/2013 11/26/2013	Initial Follow-up	-- Y	8			3	5	High
Martin Smith Inc. - Norfolk		8/1/2013	Screening	NA						None
Nelson Trucking	9747 Martin Luther King Jr Way S	11/7/2013	Initial	Y	18	2		5	11	High
Nelson Trucking	9777 Martin Luther King Jr Way S	12/13/2013	Initial	NA						High
NRC Environmental Services Inc.	9650 Martin Luther King Jr Way S	10/18/2013	Initial	Y						Low

**Appendix B**  
**SPU Source Control Inspections (January through December 2013)**

Facility (DBA)	Address	Date Inspected	Inspection Type	In Compliance?	Total Corrective Actions*	HW	IW	SP	SW	Rank
Public Storage - MLK WY S	10020 Martin Luther King Jr Way S	10/3/2013	Initial	Y	3				3	Low
Van Asselt Elementary School	8311 Beacon Avenue S	10/3/2013	Initial	Y	1				1	Low
Wall & Ceiling	9830 40th Avenue S	2/14/2013	Follow-up	Y	13	1		4	8	High
Workpointe	9877 40th Avenue S	2/26/2013	Initial	--	7			3	4	Low
	4/12/2013	Follow-up	Y							
<b>RM 0.0-1.0 West (Spokane St to Kellogg Island)</b>										
<b>Duwamish West Direct</b>										
Bob's Boat Shop	3800 West Marginal Way SW	4/16/2013	Initial	NA						
		5/21/2013	Follow-up							
CalPortland - Seattle Aggregate Yard	4002 West Marginal Way SW	11/20/2013	Initial	Y	1			1		Medium
General Recycling of Washington LLC	4260 West Marginal Way SW	5/23/2013	Initial	--						Medium
		7/2/2013	Follow-up	--						
		7/16/2013	Follow-up	Y						
Gray Line of Seattle and Horizon Coach Lines	4500 West Marginal Way SW	3/5/2013	Initial	Y	3			1	2	Medium
<b>SW Dakota St SD</b>										
Westbridge Maintenance Facility	4209 West Marginal Way S	6/25/13	Initial	Y	5	2			3	Medium
<b>SW Idaho St SD</b>										
Fog Tite Inc	4819 West Marginal Way SW	2/12/2013	Initial	--	8		1	4	3	Medium
		3/20/2013	Follow-up	Y						
<b>RM 1.0-1.3 West (Kellogg Island To Lafarge)</b>										
<b>Duwamish West Direct</b>										
LaFarge Corp	5400 West Marginal Way SW	4/2/2013	Initial	--	17	3	1	3	10	Medium
		5/23/2013	Follow-up	Y						
<b>RM 1.3-1.6 West (Glacier Bay)</b>										
<b>Duwamish West Direct</b>										
Alaska Marine Lines	5600 West Marginal Way SW	8/1/2013	Initial	--	13	2		3	8	High
		9/26/2013	Follow-up	Y						
Alaska Marine Lines	5615 West Marginal Way SW	8/1/2013	Initial	--	6			1	5	High
		9/26/2013	Follow-up	Y						
<b>RM 1.6-2.1 West (Terminal 115)</b>										
<b>SW Kenny Street SD</b>										
Commercial Fence Corp.	6000 West Marginal Way SW	1/31/2013	Follow-up	Y	6			3	3	Medium
Emswiler Construction	6045 West Marginal Way SW	10/18/2013	Initial	N	17	1		6	10	High
Kleen Environmental Technologies	5955 West Marginal Way SW	10/18/2013	Initial	--	3				Y	Medium
		12/16/2013	Follow-up	Y						
<b>RM 2.1 West (1st Avenue S SD)</b>										
<b>1st Avenue S SD</b>										
Eastmont Transfer Station	7201 West Marginal Way SW	6/6/13	Initial	--	3		1	1	1	Medium
		7/10/2013	Follow-up	--						
		7/19/2013	Follow-up	Y						



**Appendix B**  
**SPU Source Control Inspections (January through December 2013)**

Facility (DBA)	Address	Date Inspected	Inspection Type	In Compliance?	Total Corrective Actions*	HW	IW	SP	SW	Rank
IMS	7901 1st Avenue S	9/11/2013 11/13/2013	Initial Follow-up	-- Y	13	1		6	6	Medium
International Lubricants Inc.	7930 Occidental Avenue S	4/18/2013 5/31/2013	Initial Follow-up	-- Y	1	1				Medium
Lion Trucking, Inc.	8425 1st Avenue S	1/3/2013 2/27/2013	Follow-up Follow-up	-- Y	11	1		6	4	Medium
North Star Ice Equipment Corporation	8151 Occidental Avenue S	10/24/2013 12/5/2013	Initial Follow-up	-- Y	2				2	Medium
Seaport Petroleum	7800 Detroit Avenue SW	5/31/2013 6/6/13 12/6/2013	Self-Cert Follow-up Initial	-- -- N	26	5		5	16	High
SHA - South Operations Facility	7500 Detroit Avenue SW	6/21/13 8/23/2013	Initial Follow-up	-- Y	2	1			1	Medium
Standard Steel Fabricating Co. Inc.	8155 1st Avenue S	10/10/2013	Initial	Y						High
Sunfresh Foods Inc.	125 S Kenyon Street	10/24/2013 12/5/2013	Initial Follow-up	-- Y	3				3	Low
TNEMEC Co. Inc.	7929 2nd Avenue S	10/23/2013	Initial	Y						Low
W.G. Clark Construction Co.	7958 Occidental Avenue S	9/10/2013	Initial	Y	8	2		2	4	Medium
Windows 101 LLC	7900 Occidental Avenue S	11/22/2013 12/26/2013	Initial Follow-up	-- Y	5	1		1	3	Low
<b>RM 2.1-2.2 West (EAA-2: Trotsky Inlet)</b>										
<b>Trotsky Inlet</b>										
Industrial Container Services	7152 1st Avenue S	1/22/2013	Initial	Y						Medium
Pioneer Human Services	7440 West Marginal Way S	1/10/2013	Initial	Y	7			3	4	Medium
<b>RM 2.2-3.4 W (Riverside Drive)</b>										
<b>Duwamish West Direct</b>										
Pacific Pile and Marine	700 S Riverside Drive	5/23/2013	Follow-up	Y	12	2		3	7	High
<b>7th Avenue S SD</b>										
Cain Bolt and Gasket	7724 7th Avenue S	10/3/2013	Initial	Y	5	1		1	3	Low
Eagle Eye Enterprise Corp	8219 7th Avenue S	8/22/2013 11/13/2013	Initial Follow-up	-- Y	8	1	1	3	3	Medium
Fabrication Specialties Limited Art	527 S Portland Street	2/19/2013	Initial	Y						Low
Machinists Inc Plant 2	7600 5th Avenue S	8/28/2013 10/11/2013	Initial Follow-up	-- Y	2			1	1	Medium
Modern Machine Co.	524 S Southern Street	7/24/2013 9/13/2013 10/30/2013	Initial Follow-up Follow-up	-- -- Y	11	2		1	8	Medium
Portable Sheds of America	7510 5th Avenue S	10/24/2013 12/16/2013	Initial Follow-up	-- Y	13	2		5	6	High
Redox Inc.	7800 7th Avenue S	10/11/2013	Initial	N	5	1		3	1	Low
The Design Garage	7601 5th Avenue S	10/22/2013	Initial	NA	2			1	1	Medium
The Shop	740 S Monroe Street	6/3/13 7/19/2013 8/9/2013 9/6/2013	Initial Follow-up Follow-up Follow-up	-- -- -- Y	6			3	3	Medium

**Appendix B**  
**SPU Source Control Inspections (January through December 2013)**

Facility (DBA)	Address	Date Inspected	Inspection Type	In Compliance?	Total Corrective Actions*	HW	IW	SP	SW	Rank
Universal Applicators Inc	515 S Southern Street	8/26/2013	Initial	Y						Low
Westeel Company	8001 7th Avenue S	8/28/2013	Initial	Y						Low
White Glove Designer Moving & Storage Services	301 S Webster Street	10/15/2013	Initial	--	3			3		Low
Tours Northwest	8221 7th Avenue S	8/22/2013	Initial	Y	5			3	2	Low
<b>RM 3.8-4.2 West (Sea King Industrial Park)</b>										
<b>S 96th St SD</b>										
Western Ports Transportation (office)	9369 8th Avenue S	6/26/13	Initial	Y						Low
Gary Merlino Construction	9125 10th Avenue S	6/19/13	Initial	Y						High
Petrocard Systems Inc.	9014 14th Avenue S	9/11/2013	Initial	--	2			2		Medium
		11/1/2013	Follow-up	--						
		11/19/2013	Follow-up	Y						

DBA = doing business as

\* Total number of corrective actions, including those identified prior to the current reporting period.

"Rank" refers to relative risk of causing stormwater pollution: none, low, medium, or high.

HW = hazardous waste

IW = industrial waste

SP = spill prevention

SW = stormwater

NA = Compliance status not available.

Source: Seattle Public Utilities

## **Appendix C**

### **Ecology Source Control Inspections (January 2013 through December 2013)**

**Appendix C**  
**Ecology Source Control Inspections (January through December 2013)**

NPDES Permit ID	Facility Name	Address	Date Inspected	Type of Inspection	Ecology Findings
<b>RM 0.1-0.9 East (EAA-1: Duwamish/Diagonal Way)</b>					
WAR000139	Alaskan Copper Works	3200 6th Avenue S	2/14/2013	NPDES	Continue to monitor for copper and zinc at Outfalls 1 and 7 and re-evaluate which parameters have consistently met permit requirements (Ecology 2013z). Facility determined to be in compliance.
WAR010569	ConGlobal	1 South Idaho Street	4/23/2013	NPDES	Facility inspection and sampling. Interim treatment installed in drainage area #3.
No Permit	J.D. Ott Company, Inc.	2244 6th Avenue S	6/7/2013	Urban Waters	No violations.
No Permit	M&R Equipment	3626 Airport Way S	7/23/2013	Urban Waters	Battery storage on bare ground.
No Permit	MTR Western	720 S Forest Street	9/26/2013	Urban Waters	Mishandling universal waste lamps.
			7/25/2013	Urban Waters	
No Permit	Peace Vans	2401 5th Place S	3/28/2013	Urban Waters	No violations.
WAR008720	Pepsi Bottling Group Seattle Plant	2300 26th Avenue S	3/15/2013	NPDES	Update SWPPP and SPECP as necessary, implement additional housekeeping for sediment and debris accumulated in areas, and isolate and eliminate potential sources of zinc (Ecology 2013s). Facility determined to be in compliance.
No Permit	Plymouth Poultry	4500 7th Avenue S	10/22/2013	NPDES	
No Permit	Siemens Water Technology	601 S Snoqualmie Street	7/3/2013	Urban Waters	
WAR000930	Skyline Electrical	3619 7th Avenue S	4/3/2013	NPDES	Update facility SWPPP (Ecology 2013ad). Facility determined to be in compliance.
No Permit	SoDo Recycle & Auto Wrecking	2411 6th Avenue S	3/28/2013	Urban Waters	Issues include: improve secondary containment.
			1/3/2013	NPDES	
WAR001155	Union Pacific Rail Road-Argo Yard	402 S Dawson Street	6/26/2013	Urban Waters	Facility installed treatment systems on all three drainage basins in May 2013. Identified sampling locations; update SWPPP to include sample locations in site map, current permit information, identify mandatory BMPs, and include the O&M manual for stormwater treatment system (Ecology 2013bg).
No Permit	Western Waterproofing Company	4429 Airport Way S	11/22/2013	Urban Waters	Establish regular storm drain clean out.
<b>RM 0.9-1.0 East (Slip 1)</b>					
No Permit	Manson Construction	5209 East Marginal Way S	1/31/2013	Urban Waters	Source control measures improved and/or installed
<b>RM 1.0-1.2 East (King County Lease Parcels)</b>					
<b>Direct Discharge</b>					
WAG503337	Cadman Seattle	5225 East Marginal Way S	1/31/2013	NPDES/Urban Waters	Update Site Management Plan to include the monitoring plan (Ecology 2013aa).
			6/5/2013	NPDES	Update SWPPP, separate all process water from stormwater on-site, and prevent track-out onto East Marginal Way S (Ecology 2013aj).
WAG503082	JA Jacks & Sons, Inc.	5427 Ohio Avenue S	2/6/2013	NPDES	Update SWPPP to clearly delineate stormwater drainage and Site Management Plan to include Barge Unloading Belt Maintenance Plan to address wash water collection and disposal (Ecology 2013m).

**Appendix C**  
**Ecology Source Control Inspections (January through December 2013)**

NPDES Permit ID	Facility Name	Address	Date Inspected	Type of Inspection	Ecology Findings
<b>Brandon CSO</b>					
No Permit	A.J. Hanson & Co	203 S Orcas Street	8/28/2013	Urban Waters	No violations.
No Permit	Al Van Equip	124 S Findlay Street	11/13/2013	Urban Waters	No violations.
No Permit	Allied Marble & Granite Inc.	5219 4th Avenue S	7/31/2013	Urban Waters	Issues include: Apply for discharge permit and implement housekeeping procedures.
No Permit	Alpeza Company	550 S Brandon Street	5/10/2013	Urban Waters	Modify process to capture water & clean up stone to floor.
No Permit	Artco Sign Company	108 S Brandon Street	1/4/2013	Urban Waters	No violations.
No Permit	Aurora Building Supply	5201 4th Avenue S	7/31/2013	Urban Waters	No violations, but several recommendations. Cut stone inside and capture cutting water.
No Permit	Battery Systems	105 S Brandon Street	1/9/2013	Urban Waters	Issues include: Conduct storm drain maintenance. Scheduled drain vacuum.
No Permit	Branom Instrument Co	5500 4th Avenue S	6/25/2013	Urban Waters	No violations.
No Permit	Central Welding Supply	5401 4th Avenue S	11/13/2013	Urban Waters	No violations.
No Permit	Century Hardware	5700 3rd Avenue S	11/13/2013	Urban Waters	Issues include: dispose of ballasts and lamps found on site.
No Permit	Classic Hospitality Svcs	115 S Brandon Street	NA	Urban Waters	Issues include: improve grease storage/control on site. Completed during inspection.
No Permit	Coast Construction Supply	5419 Maynard Avenue S	8/28/2013	Urban Waters	No violations.
No Permit	Collision Care	5969 4th Avenue S	4/3/2013	Urban Waters	Issues include: change wash practices to prevent vehicle wash soap discharging to storm drain.
No Permit	Columbia Fire	111 S Findlay Street	8/8/2013	Urban Waters	
No Permit	Construction Agents Northwest	117 S Orcas Street	8/28/2013	Urban Waters	No violations.
No Permit	ConTech Svcs, Inc.	5304 3rd Avenue S	12/18/2013	Urban Waters	No violations.
No Permit	Contract Furnishings Mart	500 S Brandon Street	5/10/2013	Urban Waters	No violations.
No Permit	Corona Décor Company	6133 6th Avenue S	9/4/2013	Urban Waters	Issues include: conduct storm drain cleaning and maintenance.
No Permit	Daltile - ceramic warehouse	6020 6th Avenue S	5/21/2013	Urban Waters	Issues include: spill kit needed. Ecology provided information for a free spill kit.
No Permit	Daltile - stone warehouse	6020 6th Avenue S	5/21/2013	Urban Waters	No violations.
No Permit	Don's Group Attire	5216 1st Avenue S	2/21/2013	Urban Waters	Issues include: dispose of lamps and clean storm drains. Completed during inspection.
No Permit	Dresser Rand	225 S Lucile Street	11/13/2013	Urban Waters	No violations.
No Permit	Drive Lines NW	311 S Brandon Street	1/4/2013	Urban Waters	No violations.
No Permit	Eastbay Lighting	5333 2nd Avenue S	2/14/2013	Urban Waters	No violations.
No Permit	Fittings Inc	5979 4th Avenue S	4/3/2013	Urban Waters	Issues include: remove materials left by others. Completed during inspection.
No Permit	Foster's Frame & Axle	5300 1st Avenue S	2/5/2013	Urban Waters	Issues include: storm drain cleaning, housekeeping, waste storage and labeling.
No Permit	Foster's Frame and Axle	934 S Harney Street	2/14/2013	Urban Waters	Issues include: clean oil stain on ground and prevent oil from entering storm drain. Completed during inspection.
No Permit	Foster's Frame and Axle	934 S Harney Street	5/7/2013	Urban Waters	Issues include: proper labeling of oil tanks, clean up spills next to oil tank. Completed during inspection.
No Permit	Fryer-Knowles, Inc.	205 S Dawson Street	2/14/2013	Urban Waters	Issues include: set up secondary containment and clean storm drain. Completed during inspection.

**Appendix C**  
**Ecology Source Control Inspections (January through December 2013)**

NPDES Permit ID	Facility Name	Address	Date Inspected	Type of Inspection	Ecology Findings
No Permit	Global Calibration Services	502 S Lucile Street	6/25/2013	Urban Waters	No violations.
No Permit	Grape Expectations, Inc	6110 6th Avenue S	9/4/2013	Urban Waters	Issues include: spill kit needed. Ecology provided information for a free spill kit.
No Permit	Greater Seattle Floors	114 S Findlay Street	11/13/2013	Urban Waters	Issues include: Backlog of waste paints and upgrade RCRA ID # for LQG status.
No Permit	Hertz Equipment Rental Corp	5055 4th Avenue S	2/21/2013	Urban Waters	Issues include: update equipment wash rack and clean storm drain in dirt vehicle yard.
No Permit	Kaman Industrial Technologies	101 S Brandon Street	1/4/2013	Urban Waters	Issues include: conduct storm drain maintenance.
No Permit	Kamco Seafoods, Inc	128 S Orcas Street	9/4/2013	Urban Waters	Ecology verified facility has a King County Industrial Waste Discharge Permit.
No Permit	Les Schwab Tires	6111 4th Avenue S	4/3/2013	Urban Waters	No violations.
No Permit	Masons Supply Company	115 S Dawson Street	2/14/2013	Urban Waters	No violations.
No Permit	Manson Construction Co	5209 East Marginal Way S	1/31/2013	Urban Waters	No violations.
No Permit	Master Wholesale Inc.	520 S Front Street	5/21/2013	Urban Waters	No violations.
No Permit	MC Mobile Crane Co Inc	5900 2nd Avenue S	9/26/2013	Urban Waters	Issues include: clean catch basins.
No Permit	McKinstry Co	5005 3rd Avenue S	9/12/2003	Urban Waters	Issues include: Labeling, mishandling e-waste, universal waste. Photos show return to compliance.
No Permit	Mechanical Sales, Inc.	521 S Brandon Street	7/31/2013	Urban Waters	Issues include: spent lamps at facility for over one year. Recycled lamps following inspection.
No Permit	Meta Marble & Granite	410 S Front Street	5/21/2013	Urban Waters	Modify process to capture water & clean up stone to floor.
No Permit	Mojo Systems	128 S Lucile Street	1/4/2013	Urban Waters	Issues include: hazardous waste from previous owner. Waste properly disposed following inspection
No Permit	Museum Resource	5215 5th Avenue S	7/31/2013	Urban Waters	No violations.
No Permit	Neudorfer Engineers, Inc.	5516 1st Avenue S	8/8/2013	Urban Waters	No violations.
No Permit	Nicholson Mfring Supply dba Northern Industrial Inc	200 S Orcas Street	8/28/2013	Urban Waters	No violations.
No Permit	Northwest Wildlife Conservancy	5305 2nd Avenue S	2/14/2013	Urban Waters	No violations.
No Permit	NW Granite & Marble	6134 6th Avenue S	9/4/2013	Urban Waters	No violations.
No Permit	OMNI Packing & Seal Co	123 S Orcas Street	8/28/2013	Urban Waters	No violations.
No Permit	Pacific Lamp & Supply	5935 4th Avenue S	1/30/2013	Urban Waters	Issues include: better handling of spent lamps.
No Permit	Picture Source	220 S Brandon Street	2/14/2013	Urban Waters	Issues include: cleanup debris outside of rollup door and schedule storm drain cleanout.
No Permit	Russak Investment Co	5301 2nd Avenue S	2/14/2013	Urban Waters	No violations.
No Permit	SeaCast, Inc.	207 S Bennett Street	2/21/2013	Urban Waters	Issues include: disposal of outside wastes and schedule storm drain cleanout. Completed during inspection.
No Permit	Seattle Platen Company	5506 1st Avenue S	8/8/2103	Urban Waters	No violations.
No Permit	Sherman Supply Co.	300 S Lucile Street	11/13/2013	Urban Waters	No violations.
No Permit	Society of St Vincent de Paul	5950 4th Avenue S	2/13/2013	Urban Waters	Issues include: dispose of hazardous waste in a timely manner.
No Permit	Star Motel	5216 4th Avenue S	7/31/2013	Urban Waters	No violations.
No Permit	The Vac Shop	402 S Lucile Street	6/25/2013	Urban Waters	No violations.
No Permit	TLC Moving & Storage Inc.	5508 1st Avenue S	8/8/2013	Urban Waters	Issues include: recycle used oil and clean storm drains. Completed following inspection.

**Appendix C**  
**Ecology Source Control Inspections (January through December 2013)**

NPDES Permit ID	Facility Name	Address	Date Inspected	Type of Inspection	Ecology Findings
No Permit	Universal Bearings Inc aka Motion Industries Inc.	6141 4th Avenue S	4/3/2013	Urban Waters	Issues include: storage of products and waste outside. Removed during inspection.
No Permit	Urban Press	317 S Bennett Street	7/31/2013	Urban Waters	No violations.
No Permit	Velloti Fine Foods	135 S Brandon Street	1/4/2013	Urban Waters	Issues include: conduct storm drain maintenance.
No Permit	Washington Machine Works	5211 1st Avenue S	5/21/2013	Urban Waters	Issues include: clean up oil spills immediately.
No Permit	Waste Management of Washington/Alaska Street Reload	70 S Alaska Street	7/5/1905	ECY WQ and USEPA	Facility violated the ISGP by discharging industrial stormwater to storm sewers on multiple days between 2009 and 2011. The company agreed to pay a penalty of \$33,750 to settle these violations (USEPA 2013i).
No Permit	Williams Machine Fabrication	205 S Brandon Street	1/9/2013	Urban Waters	Issues include: Used oil stored outside and need for secondary containment.
<b>RM 1.2-1.7 East (Saint Gobain to Glacier Northwest)</b>					
No Permit	E-Cullet	5801 East Marginal Way S	2/6/2013	Urban Waters	
<b>RM 1.7-2.0 East (Slip 2 to Slip 3)</b>					
<b>Direct Discharge</b>					
WAR010447	General Biodiesel	6333 1st Avenue S	1/10/2013	NPDES	
			8/7/2013	NPDES/Urban Waters	Update SWPPP, prevent track-out, prevent oil leaks and spills, and conduct mandatory quarterly sweeping (Ecology 2013az). Facility determined to be in compliance.
WAG503191	Glacier NW-CalPortland	5975 East Marginal Way S	1/10/2013	NPDES	Ecology observed a large amount of turbid water discharging from a sand and gravel barge docked at the Glacier Northwest facility. Glacier NW-CalPortland took immediate action to stop the discharge to the LDW. Ecology issued a \$3,000 penalty (Ecology 2013y).
WAR011484	Samson Tug & Barge Seattle Facility	6361 1st Avenue S	1/3/2013	NPDES	
			2/6/2013	NPDES	
			3/26/2013	NPDES/Urban Waters	Issues include: regular storm drain cleanout needs to be conducted.
			4/19/2013	NPDES	Facility continues to exceed permit benchmarks. Administrative order issued to implement a Level 3 Corrective Action. Facility installed settling tanks but failed to submit an Engineering Report to Ecology (Ecology 2013x).
			8/7/2013	NPDES	
			11/19/2013	NPDES	
			12/18/2013	NPDES/Urban Waters	Issues include: wheel wash needs to be repaired to operate properly and prevent track out.
<b>Michigan Street CSO</b>					
No Permit	A Tile Tradition	5957 4th Avenue S	4/3/2013	Urban Waters	Discharge of cutting dust to storm drain.
No Permit	ACI Mechanical & HVAC Sales	6100 6th Avenue S	9/4/2013	Urban Waters	No violations.
No Permit	American Olean	530 S Front Street	5/21/2013	Urban Waters	No violations.
No Permit	Associated Incorporated	580 S Lucile Street	6/25/2013	Urban Waters	No violations.
No Permit	Carstar Hammer Auto Rebuild	1209 S Bailey Street	5/7/2013	Urban Waters	Issues include: waste container labeling and disposal. Completed following inspection.

**Appendix C**  
**Ecology Source Control Inspections (January through December 2013)**

NPDES Permit ID	Facility Name	Address	Date Inspected	Type of Inspection	Ecology Findings
No Permit	Distinctive Tile & Stone	6140 6th Avenue S	9/4/2013	Urban Waters	No violations.
No Permit	RT Hood and Duct Services, Inc	6100 12th Avenue S	1/30/2013	Urban Waters	No violations.
<b>RM 2.0-2.3 East (Slip 3 to Seattle Boiler Works)</b>					
WAR011723	Algas-SDI	151 S Michigan Street	6/6/2013	NPDES	Update SWPPP, submit a revised stormwater monitoring program, install stormwater treatment BMPs, clean catch basins, and vacuum sweep paved services (Ecology 2013ak).
WAR124764	SCS Refrigerator Services	303 S River Street	7/25/2013	NPDES	
WAR002346	Shultz Distributing	6851 E Marginal Way S	3/26/2013	NPDES	
WAR000453	V. Van Dyke	150 S River Street	1/3/2013	NPDES	Conduct monthly visual inspections and update SWPPP to adequately map stormwater drainage and discharge structures (Ecology 2013b). Facility determined to be in compliance.
			8/8/2013	Urban Waters	
<b>RM 2.3-2.8 East (Seattle Boiler Works to Slip 4)</b>					
WAR012409	Organic Fuel Processors	7400 8th Avenue S	3/26/2013	NPDES	Update the site map and install adequate catch basin filter inserts in all CBs onsite (Ecology 2013ac).
No Permit	OFP/Cedar Grove/KRS LLC/Heco	7400 8th Avenue S	3/26/2013	Urban Waters	Issues include: improved site waste control required.
WAR002208	Seattle Boiler Works, Inc.	500 S Myrtle Street	3/20/2013	NPDES	Submit a Level 3 Corrective Action Plan and estimated schedule when the plan will be implemented (Ecology 2013n).
WAR12502	Seattle Iron & Metal-Annex	730 S Myrtle Street	3/26/2013	NPDES	Conditionally approved engineering report for short and long term stormwater treatment and site paving.
			11/19/2013	NPDES	
WA0031968	Seattle Iron & Metal-Main Plant	601 S Myrtle Street	8/7/2013	NPDES	
WAR125683	Taxi King Auto Wrecking	720 S Orchard Street	3/6/2013	NPDES/Urban Waters	Issues include: recyclable liquids labeled incorrectly.
<b>RM 2.8 East (EAA-3: Slip 4)</b>					
WAR002641	Emerald Services-Corporate	7343 East Marginal Way S	4/24/2013	NPDES	Update SWPPP to include O&M of truck wash pad and a revised site map (Ecology 2013am). Issues include: 10 day transfer violations completed during inspection.
			10/1/2013	Urban Waters	
No Permit	GarageTuner Automotive	6327 18th Avenue S	6/19/2013	Urban Waters	Issues include: spills clean up & universal waste management. Completed following inspection.
WAR010792	King County Biosolids-Georgetown Yard	6640 Ellis Avenue S	8/20/2013	NPDES/Urban Waters	Facility needs to update SWPPP to resign and recertify the SWPPP certification. Facility must consistently monitor all required parameters and submit a DMR each quarter (Ecology 2013bi). Ecology found numerous source control problems during inspection.
			9/1/2013	NPDES	
No Permit	Skagit Transportation	6640 Ellis Avenue S	8/20/2013	Urban Waters	Issues include: conduct maintenance on backflow preventer and install correct spill pad.
No Permit	Slip 4		2/6/2013	Urban Waters	Barge complaint



**Appendix C**  
**Ecology Source Control Inspections (January through December 2013)**

NPDES Permit ID	Facility Name	Address	Date Inspected	Type of Inspection	Ecology Findings
<b>RM 2.8-3.7 East (EAA-4: Boeing Plant 2 to Jorgensen Forge)</b>					
WAR000482	Boeing Plant 2	7755 East Marginal Way S	12/19/2013	NPDES	
WAR003231	Jorgensen Forge	8531 East Marginal Way S Tukwila	1/3/2013	NPDES	Facility installed phase of stormwater treatment system in January 2013.
<b>RM 3.7-3.9 East (EAA-6: Boeing Isaacson/Central KCIA)</b>					
WAR000343	King County International Airport-Maintenance Yard	7277 Perimeter Road S	5/30/2013	NPDES	Clean up petroleum leaks and spills immediately, properly store chemical liquids, develop and implement procedures to properly handle and dispose of accumulated stormwater form uncovered containment structures (Ecology 2013aq).
			5/31/2013	NPDES	
			8/20/2013	NPDES	
<b>RM 4.9 East (EAA-7: Norfolk CSO/SD)</b>					
WAR125421	Nelson Trucking	9777 Martin Luther King Junior Way S	4/3/2013	NPDES/Urban Waters	Update SWPPP, monitoring plan, cover scrap metal dumpsters, provide secondary containment and cover for liquids stored outside (Ecology 2013ag).
WAR000150	Boeing Military Flight Center	10002 East Marginal Way S	2/12/2013	NPDES	Update SWPPP to revise the site map, stormwater monitoring plan, develop a source tracing plan for PCB source identification, control, and remediation. Monitoring plan needs to add PCBs as an analyte (Ecology 2013q).
			11/15/2013	NPDES	Stormwater sampling for PCBs had not been conducted or planned to be conducted. Ecology directed Boeing to monitor for PCBs to determine whether they are being discharged to the LDW (Ecology 2013bn). Ecology issued NOV 10417 on January 8, 2014 (Ecology 2014a).
No Permit	MacDonald - Miller Facility Solutions	3701 S Norfolk Street	2/6/2013	Urban Waters	Issues include: improved waste storage, labeling, and handling.
<b>RM 0.0-1.0 West (Spokane Street to Kellogg Island)</b>					
WAR002341	General Recycling of Washington	4200 West Marginal Way SW	4/4/2013	NPDES	Update SWPPP to include Mandatory BMP's, revised site map, O&M for treatments system, vehicle and equipment maintenance at oily scrap pad, and storage of scrap metal piles on bare dirt (Ecology 2013ah).
			4/11/2013	NPDES	
No Permit	Sequential Biodiesel	4034 West Marginal Way SW	4/11/2013	Urban Waters	
<b>RM 1.0-1.3 West (Kellogg Island to Lafarge)</b>					
WA-0002232	Lafarge	5400 West Marginal Way S	6/19/2013	NPDES	

**Appendix C  
Ecology Source Control Inspections (January through December 2013)**

NPDES Permit ID	Facility Name	Address	Date Inspected	Type of Inspection	Ecology Findings
<b>RM 1.3-1.6 West (Glacier Bay)</b>					
WAR001365	Alaska Marine Lines	5600 West Marginal Way SW	3/26/2013	NPDES/Urban Waters	Conduct regular storm drain cleanout
			6/12/2013	NPDES	Prohibit wash-water to surface waters or storm drains, prevent discharge of leachate to storm drains, update SWPPP to address improved source control measures in Zone D, accurately depict all storm drain lines, structures, and connects (Ecology 2013aw). Stormwater treatment was installed in late 2013 and appears to be working well.
			11/1/2013	NPDES	
<b>RM 1.6-2.1 West (Terminal 115)</b>					
WAR000471	Northland Services	6700 W Marginal Way S	2/20/2013	NPDES/Urban Waters	Revise monitoring plan, spill plan, and site map and provide status report regarding implementation of source control measures to reduce TSS loading at Northwest Container Services (Ecology 2013y). Subsequent engineering report for stormwater treatment was conditionally approved by Ecology in September 2013.
			7/16/2013	Urban Waters	Issues include: Improper waste labeling. Completed during inspection
No Permit	NW Container Svcs	6110 W Marginal Way SW	7/15/2013	Urban Waters	
No Permit	Pioneer Industries	7000 Highland Park Way SW	10/22/2013	NPDES	
			10/30/2013	NPDES	Wastewater complaint.
<b>RM 2.1 West (1st Avenue S SD)</b>					
WAR124991	First Student-Maintenance Base	7739 1st Avenue S	6/4/2013	NPDES/Urban Waters	Facility needs to update the sampling plan and storm drain structures in the SWPPP, prevent bus wash-water from flowing into storm drains, and establish a sampling location in the vicinity of SD4 or 5 (Ecology 2013at).
WAR011078	MAPSCO, Inc.	8135 1st Avenue S	5/1/2013	NPDES	Facility needs to update the monitoring plan, spill plan, and site map in the SWPPP, and provide cover and secondary containment for liquids stored outside (Ecology 2013an).
No Permit	Non-Ferrous Metals	230 S Chicago Street	7/25/2013	NPDES	
WAR125959	SeaPort Petroleum	7800 Detroit Avenue SW	7/17/2013	NPDES/Urban Waters	Spill stains & Unknown drums outside
No Permit	Seathe Housing Authority	7500 Detroit Avenue SW	8/7/2013	Urban Waters	Complete a NOI for coverage under the ISWGP (Ecology 2013av).
WAR125583	South Transfer Station	130 S Kenyon Street	12/4/2013	NPDES	Update SWPPP and prevent discharge of tire bath water to surface waters and storm drains (Ecology 2014b).
WAR000617	Standard Steel Fabricating Co., Inc.	8155 1st Avenue S	4/25/2013	NPDES	Facility met Consistent Attainment for all parameters in the 4th quarter of 2011 and no additional discharge monitoring is necessary. Ecology did not observe any permit violations (Ecology 2013ab).

**Appendix C**  
**Ecology Source Control Inspections (January through December 2013)**

NPDES Permit ID	Facility Name	Address	Date Inspected	Type of Inspection	Ecology Findings
<b>RM 2.1-2.2 West (EAA-2: Trotsky Inlet)</b>					
No Permit	Alaska Marine Lines (Douglas Management Company)	7100 1st Avenue S	3/26/2013	Urban Waters	Facility updated and resubmitted SWPPP in January 2013. Stormwater treatment system verified during inspection in March 2013.
No Permit	American Environmental Construction LLC	7417 4th Avenue S	11/6/2013	Urban Waters	No violations.
WAR005598	Boyer Logistics	7318 4th Avenue S	10/30/2013	NPDES	Update the SWPPP to include upgrades and additions to the stormwater collection and treatment system and continue to implement appropriate BMPs (Ecology 2013bk). Facility determined to be in compliance.
			12/31/2013	Urban Waters	Issues include: 5 unknown drums in storage yard. Contents were identified and removed following inspection.
No Permit	Cunningham Manufacturing Company	318 S Webster Street	10/23/2013	Urban Waters	Issues include: missing hazardous waste annual report. Facility activated site ID and completed annual report following inspection.
No Permit	Elliott Bay Industries	7500 West Marginal Way S	10/23/2013	Urban Waters	Issues include: improved universal waste handling.
No Permit	Ferguson Construction	4100 West Marginal Way	October 30,2013	Urban Waters	Issues include: universal waste labeling. Completed during inspection.
No Permit	Fox Plumbing & Heating	7501 2nd Avenue S	10/30/2013	Urban Waters	Issues include: re-locate parts washer.
No Permit	Industrial Container Services	7152 1st Avenue S	10/23/2013	Urban Waters	Complaint.
No Permit	Kerry Ingredients	7224 1st Avenue S	10/22/2013	Urban Waters	
No Permit	Northwest Center	7272 West Marginal Way S	10/22/2013	Urban Waters	
No Permit	Oppenheimer Cine Rental LLC	7400 3rd Avenue S	10/23/2013	Urban Waters	No violations.
No Permit	PACO Construction Equipment	7400 2nd Avenue S	10/23/2013	Urban Waters	
			11/6/2013	Urban Waters	Spill clean up, labeling, designation, & secondary containment.
No Permit	Pro Fab, Inc.	211 S Austin Street	5/9/2013	Urban Waters	
WAR002137	United Iron Works Inc	7421 5th Avenue S	1/15/2013	NPDES/Urban Waters	
			October 30,2013	Urban Waters	The property was up for sale with hazardous waste located onsite.
No Permit	Wheco Worldwide Services	315 S Fontanelle Street	10/23/2013	Urban Waters	Issues include: hazardous waste paint improperly labeled. Completed during inspection.
<b>RM 2.2-3.4 West (Riverside Drive)</b>					
No Permit	BFC Architectural Metals, Inc.	8300 7th Avenue S	5/9/2013	Urban Waters	Issues include: removal of hazardous waste backlog. Completed with time extensions.
No Permit	Global Metalfab	7619 5th Avenue S	5/9/2013	Urban Waters	Issues include: improve hazardous waste management. Failed to meet time requirement.
WAR009725	Independent Metals Plant 2	816 S Kenyon Street	4/10/2013	NPDES	PCBs found during inspection sampling; facility is monitoring stormwater discharges for PCBs.
			8/20/2013	NPDES	
No Permit	Lotus United (phone interview)	401 S Webster Street	12/3/2013	Urban Waters	No violations.

**Appendix C**  
**Ecology Source Control Inspections (January through December 2013)**

NPDES Permit ID	Facility Name	Address	Date Inspected	Type of Inspection	Ecology Findings
WAR010782	Machinists, Inc.	7600 5th Avenue S	11/20/2013	NPDES/Urban Waters	Include O&M manual for treatment system in the SWPPP and clean up spills and leaks to prevent the discharge of pollutants to the LDW (Ecology 2013bj). Facility determined to be in compliance.
No Permit	Machinists, Inc. Fabrication Shop	509 S Austin Street	11/20/2013	Urban Waters	No violations.
WAR011741	Marine Lumber Services	525 S Chicago Street	1/15/2013	NPDES/Urban Waters	Facility does not meet CNE eligibility requirements due to the use of industrial machinery or equipment that is exposed to rain or snow. Hazardous wastes left onsite (Ecology 2013i).
			7/12/2013	NPDES	
No Permit	Modern Machine	524 S Southern Street	7/23/2013	Urban Waters	Facility is switching from chlorinated machine oils to water base coolants.
No Permit	Modern Machine	519 S Elmgrove Street	9/13/2013	Urban Waters	
No Permit	Ness Crane	500 S Sullivan Street	3/13/2013	Urban Waters	Unknown complaint.
No Permit	Northwest Building Tech, Inc	215 S Austin Street	October 30,2013	Urban Waters	Issues include: properly label hazardous waste paint. Completed during inspection.
No Permit	Pacific Pile and Marine	582 Riverside Drive	12/18/2013	NPDES/Urban Waters	Facility needs permit to offload dredged sediment at site.
			12/19/2013	NPDES	
No Permit	Portable Storage of America	7510 5th Avenue S	10/24/2013	Urban Waters	Issues include: water quality violations and universal waste labeling. Completed following inspection.
No Permit	Rogers Machine	7800 5th Avenue S	10/23/2013	Urban Waters	Wastewater complaint.
No Permit	Schuchart Construction	530 S Holden Street	11/20/2013	Urban Waters	Issues include: mislabeled universal waste lamps and need to monitor stormwater for zinc. Facility allegedly moving from location.
WAR012448	South Park Bridge Construction	14th/16th Avenue S	1/8/2013	NPDES	
No Permit	Tierney Electrical Manufacturing Co.	7901 7th Avenue S	11/22/2013	Urban Waters	Issues include: improper labeling of universal waste lamps. Completed during inspection.
<b>RM 3.4-3.8 West (EAA-5: Terminal 117)</b>					
WAR001009	Boeing South Park	1420 S Trenton Street	12/19/2013	NPDES	Field review of engineering report for the stormwater treatment system.
<b>RM 3.8-4.2 West (Sea King Industrial Park)</b>					
No Permit	96th Street Sinkhole	S 96 Street	9/11/2013	Urban Waters	
WAR125038	Absolute German	9510 14th Avenue S	9/13/2013	NPDES/Urban Waters	Update SWPPP to adequately map stormwater drainage and discharge structures, describe facility layout and flow of material, and include site specific BMPs. Properly store batteries, metal recycling bins, chemical liquids, fluids, and petroleum products, and clean up spills and leaks immediately (Ecology 2013be).
No Permit	Concrete Restoration	9327 8th Avenue S	6/19/2013	Urban Waters	Issues include: Unlabeled hazardous waste containers near a storm drain.
No Permit	Heath Northwest (Distinctive Electrical Advertising)	727 S 96th Street	4/23/2013	Urban Waters	Issues include: improper hazardous waste labeling and storm drain cleanout needed. Completed following inspection.

**Appendix C  
Ecology Source Control Inspections (January through December 2013)**

NPDES Permit ID	Facility Name	Address	Date Inspected	Type of Inspection	Ecology Findings
WAG503282	ICON Materials	1115 S 96th Street	8/28/2013	NPDES	Provide cover and secondary containment and update the SWPPP for asphalt release agents stored outside of the shop area, prevent track-out onto S 96th Street, and add the onsite catch basin as a sample location in the sampling plan (Ecology 2013bp).
No Permit	NRC Enviro Svcs	9520 10th Avenue S	7/3/2013	Urban Waters	No violations.
CNE126316	Old Dominion Trucking	600 S 96th Street	7/25/2013	NPDES	Facility does not meet CNE eligibility requirements because the facility uses industrial machinery/equipment outdoors exposed to stormwater (Ecology 2013bb).
WAR002124	Puget Sound Coatings	9220 9th Avenue S	12/5/2013	NPDES	
WAR301216	Riverton Distribution Center	9600 8th Avenue S	10/29/2013	NPDES	
WAR011783	RMC, Inc.	10766 Myers Way S	1/3/2013	NPDES	Current catch basin filter has not been adequate at preventing exceedances of copper and zinc. Facility needs to pursue alternative BMPs (Ecology 2013a).
WAR000650	Selland Auto Transport	615 S 96th Street	8/28/2013	NPDES	Include Level 2 and 3 Corrective Action details in the SWPPP, provide cover and secondary containment for liquid chemicals, petroleum, and wastes stored outside. Prevent discharge of washwater from the wash bay to storm drains (Ecology 2013bl).
No Permit	S 96th Street Source Control Investigations	S 96th Street	6/3/2013	Urban Waters	
No Permit	Terex Utilities	9426 8th Avenue S	4/23/2013	Urban Waters	Issues include: spill cleanup and proper labeling.
WAR011548	Western Ports Transportation, Inc.	9600 8th Avenue S	4/23/2013	Urban Waters	Issues include: implement proper BMPs and us a drain insert in storm drain located in gravel area.
			8/28/2013	NPDES	
<b>Unknown Address</b>					
No Permit	Environmental Drilling, Inc.	NA	11/6/2013	Urban Waters	Complaint.
No Permit	Puget Sound Blood Ctr Transp 5800	NA	1/4/2013	Urban Waters	Issues include: improved secondary containment.

BMP = best management practice  
 CNE = Conditional No Exposure certification  
 EAA = Early Action Area  
 EPA = Environmental Protection Agency  
 ISGP = Industrial Stormwater General Permit  
 NPDES = National Pollutant Discharge Elimination System  
 RM = river mile  
 SPU = Seattle Public Utilities  
 SW = stormwater  
 SWPPP = Stormwater Pollution Prevention Plan  
 NA = Not Available

## **Appendix D**

### **King County Source Control Inspections (January 2013 through December 2013)**

**Appendix D**  
**King County Source Control Inspections (January through December 2013)**

Facility Name	Address	Parcel No.	No. of Inspections	Notes
<b>RM 2.2-3.4 West (Riverside Drive)</b>				
Graham Trucking	9301 4th Avenue S	3224049056	1	
CDL Recycling	9208 4th Avenue S	3224049023	1	Fibres International no longer here. CDL Recycling is a drywall recycler.
<b>RM 3.8-4.2 West (Sea King Industrial Park)</b>				
Absolute German	9510 4th Avenue S	5624200091	1	Joint inspection with Ecology.
Anmarco Yard	111 S 96th Street	5624200110	1	Includes parcel 5624200132.
Beckwith and Kuffel	1313 S 96th Street	5264200351	1	New owner improved cleanliness of facility; fixing some drainage issues, all activity is inside building.
Former Providence Trucking	10708 Meyers Way S	0795001510	1	
Frog Hollow Corporation	1425 S 93rd Street	0001600042	1	
Honest Auto Care	115 S 108th Street	0795000270	1	
Industrial Automation	9300 4th Avenue S	0001600037	1	
NRC Environmental	910 S 96th Street	5624200170	1	
Old Dominion Freight	600 S 96th Street	3224049034	2	
Park South Apartments	10101 8th Avenue S	5624200631	2	
Puget Sound Coatings	9400 8th Avenue S	5624200190	1	Joint inspection with Ecology.
Scott's Autobody	117 S 108th Street	0795000280	1	

Source: Adapted from Hickey 2013, Hickey 2014a, Hickey 2014b

## **Appendix E**

### **SPU Source Tracing Sample Results (January 2013 through December 2013)**



## Appendix E

### Table 1. SPU Source Tracing Sample Locations (January through December 2013)

Station ID	Sample No.	Date	Type	Sewer Type	Source Control Area	Outfall	Location	Xcoord	Ycoord
CB170	CB170-011813	01/18/13	CB	CS	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	CB on eastern side of 3223 6th Ave S, Second Use	1,271,916.21	213,336.62
MH18	MH18-050813	05/08/13	Inline	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	6th Ave S and S Snoqualmie St	1,271,741.49	208,576.18
MH18	MH18-053013	05/30/13	Inline	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	6th Ave S and S Snoqualmie St	1,271,741.49	208,576.18
MH261	MH261-050813	05/08/13	Inline	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	EQ597668, east of Airport Way S & S Snoqualmie St	1,272,813.98	208,566.84
MH262	MH262-052213	05/22/13	Inline	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Map ID 52. Denver Ave S between Colorado Ave S and 1st Ave S. Next to Union Pacific Intermodal Station	1,269,341.98	209,004.43
MH263	MH263-052213	05/22/13	Inline	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Map ID 51. Colorado Ave A just north of S. Oregon St/Diagonal Ave S/S Denver St. Adjacent to Union Pacific maintenane shop	1,269,302.65	209,254.03
MH266	MH266-060613	06/06/13	Inline	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Map ID 61. S Idaho St just west of E Marginal Way S. Entrance road to Terminal 108 and Terminal 106	1,267,977.91	209,554.49
MH267	MH267-060613	06/06/13	Inline	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Map ID 62. North side of intersection of Denver Ave S, S Dawson St, and 6th Ave S. On property of Waste Management	1,271,599.95	206,306.45
MH268	MH268-060713	06/07/13	Inline	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Map ID 53. West side of intersection of S Plum and Rainier Ave S	1,277,559.09	217,043.33
MH269	MH269-060713	06/07/13	Inline	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Map ID 44. On yellow line of turn lane along southbound Airport Way S at S Industrial Way	1,272,722.07	209,559.90
MH270	MH270-060713	06/07/13	Inline	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Map ID 63. SW corner of S Lane St and 18th Ave S	1,276,338.66	221,108.63
MH271	MH271-060713	06/07/13	Inline	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Map ID 64. NE side of intersection of S Lane St and Dearborn PI S. Between Goodwill store and new Goodwill offices	1,275,408.96	221,153.63
MH272	MH272-060713	06/07/13	Inline	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Map ID 70. NW corner of intersection of S Hanford St and 16th Ave S	1,275,415.33	213,308.61
MH273	MH273-061313	06/13/13	Inline	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Map ID 67. S Weller St just west of Rainier Ave S	1,274,855.40	221,472.93
MH274	MH274-061313	06/13/13	Inline	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Map ID 68. MLK Jr. Way S between S McClellan and Rainier Ave S	1,279,346.93	214,028.73
MH276	MH276-061313	06/13/13	Inline	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Map ID 69. S Mt. Baker Blvd @ Rainier Ave S	1,279,360.32	213,499.05
RCB162	RCB162-011813	01/18/13	RCB	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	SE corner of intersection	1,268,922.59	207,970.94
RCB199	RCB199-040413	04/04/13	RCB	SD	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	RCB at NE corner of Airport Way S & S Horton St	1,273,148.43	213,035.17
MH264	MH264-060613	06/06/13	Inline	SD	RM 2.0-2.3 East	1st Ave S East	Map ID 56. S Michigan St between E Marginal Way S and Occidental Ave S. Sort of under 1st ave S Bridge off-ramp	1,270,146.60	202,234.80
MH265	MH265-060613	06/06/13	Inline	SD	RM 2.0-2.3 East	1st Ave S East	Map ID 57.S Michigan St under southbound lanes of 1st Ave S bridge	1,269,783.80	202,163.70
MH277	MH277-061313	06/13/13	Inline	SD	RM 2.8 East	KCIA SD#3/PS44 EOF	Map ID 66. 21st Ave S just north of S Graham St	1,276,751.53	203,150.29
SL4-T6	SL4-T6-052813	05/28/13	SedTrap	SD	RM 2.8 East	KCIA SD#3/PS44 EOF	MH at Airport Way S and S Hardy St	1,274,989.40	202,834.00
NST1	NST1-052813	05/28/13	SedTrap	SD	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	60-in line west of MLK Way	1,283,043.33	189,358.24
NST1	NST1-052813G	05/28/13	Inline	SD	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	60-in line west of MLK Way	1,283,043.33	189,358.24
NST2	NST2-052813	05/28/13	SedTrap	SD	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Overflow to WSDOT system	1,280,892.65	189,496.66
NST2	NST2-052813G	05/28/13	Inline	SD	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Overflow to WSDOT system	1,280,892.65	189,496.66

**Appendix E**

**Table 1. SPU Source Tracing Sample Locations (January through December 2013)**

Station ID	Sample No.	Date	Type	Sewer Type	Source Control Area	Outfall	Location	Xcoord	Ycoord
NST3	NST3-052813	05/28/13	SedTrap	SD	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Ditch at MLK Way and Boeing Access Rd	1,283,147.01	188,728.61
NST3	NST3-052813G	05/28/13	Inline	SD	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Ditch at MLK Way and Boeing Access Rd	1,283,147.01	188,728.61
NST4	NST4-052813	05/28/13	SedTrap	SD	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	S Norfolk St at SE corner KC Airport	1,280,697.59	190,890.74
NST4	NST4-052813G	05/28/13	Inline	SD	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	S Norfolk St at SE corner KC Airport	1,280,697.59	190,890.74
NST5	NST5-052813	05/28/13	SedTrap	SD	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	E Marginal Wy S at S Norfolk St	1,279,322.05	190,882.62
ID-ST1	ID-ST1-041713	04/17/13	SedTrap	SD	RM 0.0-1.0 West	SW Idaho St SD	18th Ave SW and S Hudson St	1,264,220.16	206,583.53
ID-ST2	ID-ST2-041713	04/17/13	SedTrap	SD	RM 0.0-1.0 West	SW Idaho St SD	SW Idaho St SD just east of W Marginal Wy S	1,265,316.19	209,904.80
ID-ST3	DK-ST1-042513	04/25/13	SedTrap	SD	RM 0.0-1.0 West	SW Idaho St SD	North end of 19th Ave SW at SW Dawson St	1,263,879.13	206,423.86
ID-ST3	DK-ST1-042513-G	04/25/13	Inline	SD	RM 0.0-1.0 West	SW Idaho St SD	North end of 19th Ave SW at SW Dawson St	1,263,879.13	206,423.86
HP-ST4	HP-ST4-041713	04/17/13	SedTrap	SD	RM 1.6-2.1 West	Highland Park Wy SW SD	Northwest corner of W Marginal and Highland Pk Wy	1,267,618.04	200,796.20
HP-ST6	HP-ST6-042313	04/23/13	SedTrap	SD	RM 1.6-2.1 West	Highland Park Wy SW SD	SW Michigan St just east of W Marginal Wy S	1,268,086.32	200,870.80
HP-ST6	HP-ST6-042313-G	04/23/13	Inline	SD	RM 1.6-2.1 West	Highland Park Wy SW SD	SW Michigan St just east of W Marginal Wy S	1,268,086.32	200,870.80
KN-ST1	KN-ST1-042513	04/25/13	SedTrap	SD	RM 1.6-2.1 West	SW Kenny St SD/T115 CSO	Eastern end of S Kenny St, on T115	1,268,138.36	203,628.91
KN-ST1	KN-ST1-042513-G	04/25/13	Inline	SD	RM 1.6-2.1 West	SW Kenny St SD/T115 CSO	Eastern end of S Kenny St, on T115	1,268,138.36	203,628.91
1st-ST1	1ST-ST1-042313	04/23/13	SedTrap	SD	RM 2.1 West	1st Ave S SD, west	1st Ave S pond, N side of S Holden St--SR99 inlet	1,269,790.80	198,570.70
1st-ST1	1ST-ST1-042313-G	04/23/13	Inline	SD	RM 2.1 West	1st Ave S SD, west	1st Ave S pond, N side of S Holden St--SR99 inlet	1,269,790.80	198,570.70
1st-ST2	1ST-ST2-042313	04/23/13	SedTrap	SD	RM 2.1 West	1st Ave S SD, west	1st Ave S pond, N side of S Holden St--SR509 inlet	1,269,960.40	198,632.00
1st-ST2	1ST-ST2-042313-G	04/23/13	Inline	SD	RM 2.1 West	1st Ave S SD, west	1st Ave S pond, N side of S Holden St--SR509 inlet	1,269,960.40	198,632.00
1st-ST3	1ST-ST3-041613	04/16/13	SedTrap	SD	RM 2.1 West	1st Ave S SD, west	SW Kenyon St at 4th Ave SW	1,267,991.38	197,680.32
1st-ST3	1ST-ST3-041613-G	04/16/13	Inline	SD	RM 2.1 West	1st Ave S SD, west	SW Kenyon St at 4th Ave SW	1,267,991.38	197,680.32
1st-ST7	1ST-ST7-041613	04/16/13	SedTrap	SD	RM 2.1 West	1st Ave S SD, west	In turn lane of Olsen Pl SW just west of 1st Ave S	1,269,028.98	193,714.03
CB108	CB108-060613	06/06/13	CB	SD	RM 2.1-2.2 West	2nd Ave S SD	7265 2nd Ave S SD	1,270,436.09	199,406.88
7th-ST1	7TH-ST1-042313	04/23/13	SedTrap	SD	RM 2.2-3.4 West	7th Ave S SD	7th Ave S SD at S Portland St	1,271,845.54	198,135.36
7th-ST1	7TH-ST1-042313-G	04/23/13	Inline	SD	RM 2.2-3.4 West	7th Ave S SD	7th Ave S SD at S Portland St	1,271,845.54	198,135.36
7th-ST1	7TH-ST1-050313G	05/03/13	Inline	SD	RM 2.2-3.4 West	7th Ave S SD	7th Ave S SD at S Portland St	1,271,845.54	198,135.36
7th-ST2	7TH-ST2-041613	04/16/13	SedTrap	SD	RM 2.2-3.4 West	7th Ave S SD	4th Ave S at S Barton St, next to P-Patch	1,270,702.00	193,616.50
7th-ST2	7TH-ST2-041613-G	04/16/13	Inline	SD	RM 2.2-3.4 West	7th Ave S SD	4th Ave S at S Barton St, next to P-Patch	1,270,702.00	193,616.50
7th-ST3	7TH-ST3-042313	04/23/13	SedTrap	SD	RM 2.2-3.4 West	7th Ave S SD	S Southern St just W of 7th Ave S SD	1,271,346.96	196,842.03
7th-ST3	7TH-ST3-042313-G	04/23/13	Inline	SD	RM 2.2-3.4 West	7th Ave S SD	S Southern St just W of 7th Ave S SD	1,271,346.96	196,842.03
RCB198	RCB 198-032113	03/21/13	RCB	SD	RM 2.2-3.4 West	7th Ave S SD	Sandbox immediately north of West Coast Wire Rope	1,271,674.55	198,132.08
RCB290	RCB290-060613	06/06/13	RCB	SD	RM 2.2-3.4 West	7th Ave S SD	NE corner of intersection of S Holden St and 5th Ave S	1,271,200.31	198,428.77
RCB291	RCB291-060613	06/06/13	RCB	SD	RM 2.2-3.4 West	7th Ave S SD	S Holden St between 7th Ave S and 5th Ave S	1,271,577.24	198,424.42
RCB292	RCB292-060613	06/06/13	RCB	SD	RM 2.2-3.4 West	7th Ave S SD	NE corner of intersection of 7th Ave S and S Austin St	1,271,207.47	198,689.13
RCB350	RCB350-050313	05/03/13	RCB	SD	RM 2.2-3.4 West	7th Ave S SD	CB at the NW corner of West Coast Wire Rope	1,271,556.29	198,133.74
RCB197	RCB-8TH/KENYON-021413	02/14/13	RCB	CS	RM 2.2-3.4 West	8th Ave S	Inlet at the SE corner of 8th Ave S & S Kenyon St	1,272,536.49	197,588.19
96-ST1	96-ST1-042513	04/25/13	SedTrap	SD	RM 3.8-4.2 West	S 96th St SD	Driveway north of S 96th St SD, west of W Marginal PI S	1,270,741.32	192,246.67
96-ST1	96-ST1-042513-G	04/25/13	Inline	SD	RM 3.8-4.2 West	S 96th St SD	Driveway north of S 96th St SD, west of W Marginal PI S	1,270,741.32	192,246.67
96-ST2	96-ST2-042513	04/25/13	SedTrap	SD	RM 3.8-4.2 West	S 96th St SD	S 96th St SD east of W Marginal PI S	1,275,063.56	192,278.28
96-ST2	96-ST2-042513-G	04/25/13	Inline	SD	RM 3.8-4.2 West	S 96th St SD	S 96th St SD east of W Marginal PI S	1,275,063.56	192,278.28

**Appendix E**

**Table 1. SPU Source Tracing Sample Locations (January through December 2013)**

Station ID	Sample No.	Date	Type	Sewer Type	Source Control Area	Outfall	Location	Xcoord	Ycoord
96-ST3	96-ST3-041613	04/16/13	SedTrap	SD	RM 3.8-4.2 West	S 96th St SD	Vault at 4th Ave S and S 96th St SD	1,275,030.99	192,684.64
96-ST3	96-ST3-041613-G	04/16/13	Inline	SD	RM 3.8-4.2 West	S 96th St SD	Vault at 4th Ave S and S 96th St SD	1,275,030.99	192,684.64
RCB154	RCB154-052213	05/22/13	RCB	SD	RM 3.8-4.2 West	S 96th St SD	CB in front of King Electric, NW corner of intersection	1,273,002.61	193,484.21
RCB287	RCB287-052213	05/22/13	RCB	SD	RM 3.8-4.2 West	S 96th St SD	At dead-end of S Director St at West Marginal Way S east of 8th Ave S	1,272,836.26	194,042.13
RCB288	RCB288-052313	05/23/13	RCB	SD	RM 3.8-4.2 West	S 96th St SD	10th Ave S at S Cambridge St adjacent to TeamOne building	1,272,985.84	192,801.16
RCB289	RCB289-052313	05/23/13	RCB	SD	RM 3.8-4.2 West	S 96th St SD	8th Ave S between S 96th St and S Director St	1,272,343.03	193,216.96
HC-ST1	HC-ST1-041613	04/16/13	SedTrap	SD	RM 4.2-5.8 West	Hamm Creek	Near Des Moines Memorial Dr S and 17th Pl S	1,275,382.75	190,530.64
HC-ST1	HC-ST1-041613-G	04/16/13	Inline	SD	RM 4.2-5.8 West	Hamm Creek	Near Des Moines Memorial Dr S and 17th Pl S	1,275,382.75	190,530.64

Appendix E


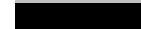
Table 2. SPU Source Tracing Sample Results (January through December 2013)

Station ID	Source Control Area	Outfall	Type	Date Sampled	Solids, Total	Total Organic Carbon	Arsenic (mg/kg DW)	Copper (mg/kg DW)	Lead (mg/kg DW)	Mercury (mg/kg DW)	Zinc (mg/kg DW)	Diesel Range HC* (mg/kg DW)	Motor Oil Range HC* (mg/kg DW)	Total PCBs (ug/kg DW)	2-Methylnaphthalene (ug/kg DW)	Acenaphthene (ug/kg DW)	Acenaphthylene (ug/kg DW)
SQS/LAET					NA	NA	57	390	450	0.41	410	2,000	2,000	130	670	500	1,300
CSL/2LAET					NA	NA	93	390	530	0.59	960	2,000	2,000	1,000	1,400	730	1,300
CB170	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	CB	01/18/13	56.1	7.07	27	467	74	0.08	1,060	950	3,900	202 J	120 J	170 U	170 U
MH18	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/08/13	45.1	8.33	20	251	352	3.48	529	970	3,000	6,560	200	190	150 U
MH18	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/30/13			0.2 U	0.03	0.3	0.00 U	3.1						
MH261	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/08/13	83.3	1.37	10	47	140	0.47	124	9	40	39	72	18 U	18 U
MH262	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/22/13	19.5	3.53	17	51	50 U	0.10 U	540	150	600	84	79 J	98 U	98 U
MH263	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/22/13	82.1	2.54	7	49	22	0.07	153	59	300	17 U	33	93 U	93 U
MH266	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/06/13	75.1	2.63	8	69	88	0.16	650	140	510	170	98 U	210	55 U
MH267	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/06/13	69.3	5.42	20	288	157	0.21	674	230	960	6,000	100	30 J	110
MH268	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	89.7	6.25	10	192	536	0.52	502	310	1,300	830	92	57 U	57 U
MH269	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	70.1	9.42	10	84	133	0.09	236	160	930	299	200	63	58 U
MH270	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	49.7	7.66	15	141	230	0.17	730	320	1,200	20	310	68 U	68 U
MH271	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	85.8	2.61	6 U	30	17	0.02	107	310	1,600	105	57 U	57 U	57 U
MH272	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	79.7	6.68	20	129	1,040	0.22	1,200	200	1,300	100	95 U	31 J	42 J
MH273	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/13/13	82.0	3.21	20	109	487	0.20	1,030	93	320	73	58 U	94 U	94 U
MH274	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/13/13	75.3	1.83	6 U	43	147	0.08	341	130	500	73	190	97 U	97 U
MH276	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/13/13	83.3	4.25	11	101	334	0.21	695	170	750	19 U	120	92 U	92 U
RCB162	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	RCB	01/18/13	68.4	5.71	7 U	50	17	0.03 U	298	110	970	24 J	450	31 J	57 U
RCB199	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	RCB	04/04/13	61.3	6.52								440			
MH264	RM 2.0-2.3 East	1st Ave S East	Inline	06/06/13	74.9	2.31	7	74	38	0.03	526	250	910	54	380	53 U	53 U
MH265	RM 2.0-2.3 East	1st Ave S East	Inline	06/06/13	76.9	2.96	7	401	130	0.04	550	260	1,200	109	19 U	59	56 U
MH277	RM 2.8 East	KCIA SD#3/PS44 EOF	Inline	06/13/13	48.6	6.51	10 U	46	36	0.09	518	340	1,100	89	210 J	98 U	98 U
SL4-T6	RM 2.8 East	KCIA SD#3/PS44 EOF	SedTrap	05/28/13	64.9	2.62	8	309 J	95	0.04 J	737 J	270	1,500	199	20 U	77 J	96 U
NST1	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	37.8	2.81	20	154	87	0.13	941	2,000	6,000	232	19 U	270 U	270 U
NST1	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	45.5	5.48	10	114	76 J	0.10	701	880	3,200	166	59 U	95 U	95 U
NST2	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	20.4	8.61	40	187	180	0.20	1,530	960	4,400	163	5700	180 U	180 U
NST2	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	87.7	0.787	10 U	54	21 J	0.02 U	378	160	440	24	58 U	20 U	20 U
NST3	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	35.8	5.91	10 U	91	65	0.09	508	830	5,000	30 J	58 U	220 U	220 U
NST3	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	64.4	4.3	8 U	66	36 J	0.08	1,760	250	1,400	47 J	110	62 U	62 U
NST4	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	50.2	1.89	9 U	31	70 J	0.06	145	86 U	180	44	19 U	15 J	13 J
NST4	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	9.2	5.29								36			
NST5	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	39.9	5.49	30	95	110	0.18	1,140			400	13 J	180 U	180 U
ID-ST1	RM 0.0-1.0 West	SW Idaho St SD	SedTrap	04/17/13	32.2	12.3	10 U	134	111	0.23	939	30	180	320	19 U	160 U	160 U
ID-ST2	RM 0.0-1.0 West	SW Idaho St SD	SedTrap	04/17/13	67.0	1.51	7 U	26	13	0.04	94	8	54	114	81	15 J	20 U
ID-ST3	RM 0.0-1.0 West	SW Idaho St SD	SedTrap	04/25/13	64.5	4.39	11	30	52	0.08	200	32	170	10 J	93 U	58 U	58 U
ID-ST3	RM 0.0-1.0 West	SW Idaho St SD	Inline	04/25/13	80.6	0.717	7	18	29	0.04	124	13	67	17 U	32 J	19 U	19 U
HP-ST4	RM 1.6-2.1 West	Highland Park Wy SW SD	SedTrap	04/17/13	78.8	4.38	4	1,400	30	0.04	198	30	230	14 J	2900 J	58 U	58 U
HP-ST6	RM 1.6-2.1 West	Highland Park Wy SW SD	SedTrap	04/23/13	68.6	3.69	8	102	130	0.14 J	285	310	1,000	85	420 J	97 U	97 U
HP-ST6	RM 1.6-2.1 West	Highland Park Wy SW SD	Inline	04/23/13	33.2	9.57	30	130	152	0.28	842	410	1,600	205	20 U	110	79 U
KN-ST1	RM 1.6-2.1 West	SW Kenny St SD/T115 CSO	SedTrap	04/25/13	50.4	4.34	16	75	65	0.18	420	790	1,400	93	40 J	99 U	99 U
KN-ST1	RM 1.6-2.1 West	SW Kenny St SD/T115 CSO	Inline	04/25/13	52.4	3.82	58	174	462	0.32	742	1,200	2,100	710	140	130	68
1st-ST1	RM 2.1 West	1st Ave S SD, west	SedTrap	04/23/13	48.2	11.8	10 U	209	104	0.19 J	1,090	1,900	7,600	196	52 J	240 U	240 U
1st-ST1	RM 2.1 West	1st Ave S SD, west	Inline	04/23/13	50.5	10.1	9 U	153	55	0.10	624	600	3,000	93	97 U	49 J	89 U
1st-ST2	RM 2.1 West	1st Ave S SD, west	SedTrap	04/23/13	40.9	9.43	10 U	67	77	0.12 J	333	310	1,400	72	57 U	120 U	120 U
1st-ST2	RM 2.1 West	1st Ave S SD, west	Inline	04/23/13	79.0	2.44	7	26	66	0.03 U	167	63 U	280	18 U	64	58 U	58 U

**Appendix E**  
**Table 2. SPU Source Tracing Sample Results (January through December 2013)**

Station ID	Source Control Area	Outfall	Type	Date Sampled	Solids, Total	Total Organic Carbon	Arsenic (mg/kg DW)	Copper (mg/kg DW)	Lead (mg/kg DW)	Mercury (mg/kg DW)	Zinc (mg/kg DW)	Diesel Range HC* (mg/kg DW)	Motor Oil Range HC* (mg/kg DW)	Total PCBs (ug/kg DW)	2-Methylnaphthalene (ug/kg DW)	Acenaphthene (ug/kg DW)	Acenaphthylene (ug/kg DW)
<b>SQS/LAET</b>					NA	NA	57	390	450	0.41	410	2,000	2,000	130	670	500	1,300
<b>CSL/2LAET</b>					NA	NA	93	390	530	0.59	960	2,000	2,000	1,000	1,400	730	1,300
1st-ST3	RM 2.1 West	1st Ave S SD, west	SedTrap	04/16/13	80.8	4.85	6 U	37	7	0.02 U	215	72	390	18 U	1100	95 U	95 U
1st-ST3	RM 2.1 West	1st Ave S SD, west	Inline	04/16/13	82.6	0.848	6 U	37	8	0.04	188	52	310	19 U	65	57 U	57 U
1st-ST7	RM 2.1 West	1st Ave S SD, west	SedTrap	04/16/13	39.1	13.8	10 U	125	249	0.18	649	740	3,500	1,930	92 U	200 U	200 U
CB108	RM 2.1-2.2 West	2nd Ave S SD	CB	06/06/13	84.4	1.53	6	144	34	0.02	130	750	2,000	32	1100	59 U	59 U
7th-ST1	RM 2.2-3.4 West	7th Ave S SD	SedTrap	04/23/13	39.7	11.8	20	172	120	0.19 J	790	1,400	5,000	370	510 J	130 U	130 U
7th-ST1	RM 2.2-3.4 West	7th Ave S SD	Inline	04/23/13	39.1	10.6	30 U	248	190	0.27	807	880	2,800	640	130	88 U	88 U
7th-ST1	RM 2.2-3.4 West	7th Ave S SD	Inline	05/03/13	49.7	5.92	9 U	86	38	0.10	252	1,100	4,200	710	18 U	220 U	220 U
7th-ST2	RM 2.2-3.4 West	7th Ave S SD	SedTrap	04/16/13	60.4	7.76	14	15	20	0.03	131	36	110	18 U	84 J	20 U	20 U
7th-ST2	RM 2.2-3.4 West	7th Ave S SD	Inline	04/16/13	76.5	0.343	6 U	11	4	0.02 U	59	6 U	12 U	17 U	94 U	18 U	18 U
7th-ST3	RM 2.2-3.4 West	7th Ave S SD	SedTrap	04/23/13	29.6	13.8	27	138	110	0.19 J	759	610	2,600	135	92 U	260 U	260 U
7th-ST3	RM 2.2-3.4 West	7th Ave S SD	Inline	04/23/13	42.9	8.38	20	165	165	0.24	798	400	1,500	240	74 J	60 U	33 J
RCB198	RM 2.2-3.4 West	7th Ave S SD	RCB	03/21/13	32.4	17.2	30	466	542	0.54	4,140	11,000	46,000	1,210	40 J	1,300 U	1,300 U
RCB290	RM 2.2-3.4 West	7th Ave S SD	RCB	06/06/13	84.1	3.2	7	59	16	0.03 U	160	400	1,700	54	18 U	56 U	56 U
RCB291	RM 2.2-3.4 West	7th Ave S SD	RCB	06/06/13	83.1	4.35	8	136	45	0.03	437	4,100	3,800	128	220	2,600	140 U
RCB292	RM 2.2-3.4 West	7th Ave S SD	RCB	06/06/13	71.6	6	8 U	57	17	0.04 U	186	400	2,500	50	190 J	67 U	67 U
RCB350	RM 2.2-3.4 West	7th Ave S SD	RCB	05/03/13	45.6	12.8	8 U	2,880	51	0.04	402	780	3,100	200	83 J	2,400	91 J
RCB197	RM 2.2-3.4 West	8th Ave S	RCB	02/14/13	52.2	8.24	8 U	568 J	204 J	0.41	1,340	380	2,200	1,140	510	79 U	79 U
96-ST1	RM 3.8-4.2 West	S 96th St SD	SedTrap	04/25/13	68.2	4.03	7 U	38	42	0.07	482	56	250	30 J	55 U	98 U	98 U
96-ST1	RM 3.8-4.2 West	S 96th St SD	Inline	04/25/13	77.8	0.38	6 U	16	15	0.03 U	296	17	69	18 U	34 J	19 U	19 U
96-ST2	RM 3.8-4.2 West	S 96th St SD	SedTrap	04/25/13	44.3	6.33	20	54	45	0.06	373	250	1,000	50 J	57 U	74 J	98 U
96-ST2	RM 3.8-4.2 West	S 96th St SD	Inline	04/25/13	67.6	2.2	7 U	36	35	0.04	303	50	220	24 U	98	110	58 U
96-ST3	RM 3.8-4.2 West	S 96th St SD	SedTrap	04/16/13	57.3	6.3	8 U	25	25	0.07	96	260	1,500	33 J	170	19 U	19 U
96-ST3	RM 3.8-4.2 West	S 96th St SD	Inline	04/16/13	75.1	0.731	6 U	9	5	0.02 U	41	6 U	16	18 U	81	19 U	19 U
RCB154	RM 3.8-4.2 West	S 96th St SD	RCB	05/22/13	77.7	3.1	17 J	58 J	19 J	0.03	291	150	680	17 U	820	92 U	92 U
RCB287	RM 3.8-4.2 West	S 96th St SD	RCB	05/22/13	44.3	5.06	30 J	158 J	43 J	0.04 U	725	1,600	18,000	78	210	310 U	310 U
RCB288	RM 3.8-4.2 West	S 96th St SD	RCB	05/23/13	71.3	2.36	30	84	65	0.02	1,650	110	320	130	97 U	530	94 U
RCB289	RM 3.8-4.2 West	S 96th St SD	RCB	05/23/13	71.3	3.02	5	98	27	0.04	1,740	580	1,200	51	58	51 J	93 U
HC-ST1	RM 4.2-5.8 West	Hamm Creek	SedTrap	04/16/13	79.5	1.87	6 U	13	11	0.04	75	9	43	18 U	1300 U	19 U	19 U
HC-ST1	RM 4.2-5.8 West	Hamm Creek	Inline	04/16/13	84.6	0.551	6 U	15	5	0.02 U	71	7	36	20 U	180 J	20 U	20 U

Source: Seattle Public Utilities

 Exceeds SQS/LAET/MTCA Method A  
 Exceeds CSL/2LAET

\* MTCA Method A Soil Cleanup Level

mg/kg DW - milligram per kilogram dry weight

ug/kg DW - microgram per kilogram dry weight

BEHP - bis(2-ethylhexyl)phthalate

NA - Not applicable

HC - hydrocarbon

LPAH - Low molecular weight polycyclic aromatic hydrocarbon

HPAH - High molecular weight polycyclic aromatic hydrocarbon

cPAH - carcinogenic polycyclic aromatic hydrocarbon

PCB - polychlorinated biphenyl

Appendix E

Table 2. SPU Source Tracing Sample Results (January through December 2013)

Station ID	Source Control Area	Outfall	Type	Date Sampled	Anthracene (ug/kg DW)	Fluorene (ug/kg DW)	Naphthalene (ug/kg DW)	Phenanthrene (ug/kg DW)	Total LPAH (ug/kg DW)	Benzo(a)anthracene (ug/kg DW)	Benzo(a)pyrene (ug/kg DW)	Benzo(g,h,i)perylene (ug/kg DW)	Total Benzo-fluoranthenes (ug/kg DW)	Chrysene (ug/kg DW)	Dibenzo(a,h)anthracene (ug/kg DW)	Fluoranthene (ug/kg DW)
SQS/LAET					960	540	2,100	1,500	5,200	1,300	1,600	670	3,200	1,400	230	1,700
CSL/2LAET					4,400	1,000	2,400	5,400	13,000	1,600	3,000	720	3,600	2,800	540	2,500
CB170	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	CB	01/18/13	170 U	170 U	160 J	360	520 J	140 J	170	330	400	350	170 U	480
MH18	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/08/13	280	210	160	2,400	3,240	1,100	1,300	1,200	2,500	1,700	420	3,200
MH18	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/30/13												
MH261	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/08/13	18 U	18 U	16 J	43	59 J	34	42	51	95	56	14 J	65
MH262	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/22/13	98 U	98 U	98 U	74 J	74 J	59 J	88 J	120	190 J	130	98 U	110
MH263	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/22/13	93 U	93 U	93 U	93 U	93 U	93 U	93 U	84 J	56 J	93 U	61 J	
MH266	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/06/13	400	250	55	2,600	3,515	1,200	1,500	940	2,200	1,600	260	3,000
MH267	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/06/13	180	65	35 J	880	1,300 J	790	880	650	1,500	1,000	190	1,300
MH268	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	54 J	57 U	62	330	446 J	230	300	460	550	370	57 U	510
MH269	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	150	78	55 J	1,200	1,546 J	660	700	480	1,400	890	190	1,600
MH270	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	68 U	68 U	44 J	91	135 J	68	110	180	220	170	68 U	140
MH271	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	57 U	57 U	57 U	57 U	57 U	31 J	43 J	80	83 J	110	57 U	40 J
MH272	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	110	70	72	650	975 J	460	800	520	1,900	1,200	220	980
MH273	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/13/13	94 U	94 U	94 U	170	170	110	140	260	290	190	56 J	270
MH274	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/13/13	97 U	97 U	97 U	110	110	160	240	220	420	240	58 J	300
MH276	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/13/13	92 U	92 U	92 U	180	180	150	220	360	420	260	78 J	360
RCB162	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	RCB	01/18/13	57	34 J	57 U	340	462 J	180	190	120	400	330	37 J	440
RCB199	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	RCB	04/04/13												
MH264	RM 2.0-2.3 East	1st Ave S East	Inline	06/06/13	53 U	53 U	53 U	180	180	150	180	200	340	230	48 J	300
MH265	RM 2.0-2.3 East	1st Ave S East	Inline	06/06/13	87	70	56	480	752	260	260	270	480	370	87	600
MH277	RM 2.8 East	KCIA SD#3/PS44 EOF	Inline	06/13/13	74 J	98 U	98 U	470	544 J	330	390	340	750	550	120	870
SL4-T6	RM 2.8 East	KCIA SD#3/PS44 EOF	SedTrap	05/28/13	130	86 J	77 J	910	1,280 J	480	480	520	940	700	96 U	1,300
NST1	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	300	150 J	190 J	1,300	1,940 J	1,200	1,400	1,400	2,800	1,900	300	2,300
NST1	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	80 J	80 J	85 J	630	875 J	550	760	670	1,500	1,000	150	1,400
NST2	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	100 J	180 U	190	600	890 J	300	440	980	940	810	120 J	900
NST2	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	17 J	14 J	11 J	89	131 J	54	66	78	140	110	17 J	140
NST3	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	220 U	220 U	220 U	410	410	310	480	650	990	780	170 J	760
NST3	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	47 J	62 U	38 J	310	395 J	400	560	440	1,200	670	110	720
NST4	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	36	19	34	200	317 J	130	250	350	580	310	74	380
NST4	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13												
NST5	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	180 U	180 U	180	520	700	270	480	890	1,200	670	140 J	830
ID-ST1	RM 0.0-1.0 West	SW Idaho St SD	SedTrap	04/17/13	90 J	160 U	110 J	610	810 J	580	870	1,000	2,600	1,400	300	1,300
ID-ST2	RM 0.0-1.0 West	SW Idaho St SD	SedTrap	04/17/13	23	16 J	15 J	110	179 J	69	110	92	350	180	25	170
ID-ST3	RM 0.0-1.0 West	SW Idaho St SD	SedTrap	04/25/13	58 U	58 U	58 U	58 U	58 U	58 U	58 U	58 U	120 U	58 U	58 U	58 U
ID-ST3	RM 0.0-1.0 West	SW Idaho St SD	Inline	04/25/13	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	38 U	19 U	19 U	19 U
HP-ST4	RM 1.6-2.1 West	Highland Park Wy SW SD	SedTrap	04/17/13	35 J	58 U	58 U	220	255 J	140	160	120	300	220	32 J	400
HP-ST6	RM 1.6-2.1 West	Highland Park Wy SW SD	SedTrap	04/23/13	82 J	97 U	97 U	290	372 J	440	460	330	860	490	140	890
HP-ST6	RM 1.6-2.1 West	Highland Park Wy SW SD	Inline	04/23/13	75 J	110	270	400	965 J	190	260	240	610	420	63 J	560
KN-ST1	RM 1.6-2.1 West	SW Kenny St SD/T115 CSO	SedTrap	04/25/13	74 J	99 U	69 J	380	523 J	250	320	420	1,000	590	130	620
KN-ST1	RM 1.6-2.1 West	SW Kenny St SD/T115 CSO	Inline	04/25/13	270	100	96	530	1,194	430	570	440	1,400	920	130	1,200
1st-ST1	RM 2.1 West	1st Ave S SD, west	SedTrap	04/23/13	130 J	240 U	130 J	690	950 J	440	540	800	1,300	1,100	200 J	1,200
1st-ST1	RM 2.1 West	1st Ave S SD, west	Inline	04/23/13	76 J	58 J	76 J	460	719 J	240	340	260	740	540	62 J	620
1st-ST2	RM 2.1 West	1st Ave S SD, west	SedTrap	04/23/13	120 U	120 U	120 U	190	190	130	170	220	310	240	120 U	310
1st-ST2	RM 2.1 West	1st Ave S SD, west	Inline	04/23/13	58 U	58 U	58 U	58 U	58 U	58 U	58 U	58 U	55 J	46 J	58 U	58

Appendix E

Table 2. SPU Source Tracing Sample Results (January through December 2013)

Station ID	Source Control Area	Outfall	Type	Date Sampled	Anthracene (ug/kg DW)	Fluorene (ug/kg DW)	Naphthalene (ug/kg DW)	Phenanthrene (ug/kg DW)	Total LPAH (ug/kg DW)	Benzo(a)anthracene (ug/kg DW)	Benzo(a)pyrene (ug/kg DW)	Benzo(g,h,i)perylene (ug/kg DW)	Total Benzo-fluoranthenes (ug/kg DW)	Chrysene (ug/kg DW)	Dibenzo(a,h)anthracene (ug/kg DW)	Fluoranthene (ug/kg DW)
<b>SQS/LAET</b>					960	540	2,100	1,500	5,200	1,300	1,600	670	3,200	1,400	230	1,700
<b>CSL/2LAET</b>					4,400	1,000	2,400	5,400	13,000	1,600	3,000	720	3,600	2,800	540	2,500
1st-ST3	RM 2.1 West	1st Ave S SD, west	SedTrap	04/16/13	95 U	95 U	95 U	200	200	240	270	220	500	330	62 J	590
1st-ST3	RM 2.1 West	1st Ave S SD, west	Inline	04/16/13	57 U	57 U	57 U	68	68	57	74	60	120	94	57 U	140
1st-ST7	RM 2.1 West	1st Ave S SD, west	SedTrap	04/16/13	220	120 J	150 J	1,800	2,290 J	1,400	1,800	1,600	3,900	2,300	590	4,300
CB108	RM 2.1-2.2 West	2nd Ave S SD	CB	06/06/13	59 U	41 J	59 U	94	135 J	59 U	47 J	85	85 J	130	59 U	85
7th-ST1	RM 2.2-3.4 West	7th Ave S SD	SedTrap	04/23/13	94 J	130 U	120 J	480	694 J	350	450	460	900	700	160	870
7th-ST1	RM 2.2-3.4 West	7th Ave S SD	Inline	04/23/13	92	88 U	92	460	644	420	640	600	1,400	700	140	1,000
7th-ST1	RM 2.2-3.4 West	7th Ave S SD	Inline	05/03/13	190 J	220 U	220 U	1,000	1,190 J	880	1,200	1,400	2,200	1,400	420	2,100
7th-ST2	RM 2.2-3.4 West	7th Ave S SD	SedTrap	04/16/13	20 U	10 J	20 U	32	42 J	11 J	11 J	16 J	28 J	21	20 U	43
7th-ST2	RM 2.2-3.4 West	7th Ave S SD	Inline	04/16/13	18 U	18 U	18 U	18 U	18 U	18 U	18 U	18 U	37 U	27	18 U	18 U
7th-ST3	RM 2.2-3.4 West	7th Ave S SD	SedTrap	04/23/13	260 U	260 U	160 J	570	730 J	420	540	740	1,200	940	160 J	1,100
7th-ST3	RM 2.2-3.4 West	7th Ave S SD	Inline	04/23/13	78	60 U	80	370	561 J	260	400	380	900	440	110	640
RCB198	RM 2.2-3.4 West	7th Ave S SD	RCB	03/21/13	1,300 U	1,300 U	1,300 U	2,300	2,300	1,200 J	1,300	1,400	2,600	2,200	1,300 U	3,000
RCB290	RM 2.2-3.4 West	7th Ave S SD	RCB	06/06/13	56 U	56 U	100	110	210	61	67	100	140	150	56 U	130
RCB291	RM 2.2-3.4 West	7th Ave S SD	RCB	06/06/13	7,100	14,000	140	57,000	80,840	11,000	7,100	6,000	6,100	19,000	990	17,000
RCB292	RM 2.2-3.4 West	7th Ave S SD	RCB	06/06/13	57 J	43 J	67 U	340	440 J	210	220	180	440	380	67 U	460
RCB350	RM 2.2-3.4 West	7th Ave S SD	RCB	05/03/13	4,600	2,300	320	27,000	36,711 J	15,000	17,000	16,000	30,000	18,000	6,000	38,000
RCB197	RM 2.2-3.4 West	8th Ave S	RCB	02/14/13	47 J	79 U	99	230	376 J	220	280	430	860	500	100	440
96-ST1	RM 3.8-4.2 West	S 96th St SD	SedTrap	04/25/13	98 U	98 U	98 U	170	170	130	160	130	300	190	49 J	300
96-ST1	RM 3.8-4.2 West	S 96th St SD	Inline	04/25/13	19 U	19 U	19 U	21	21	21	22	14 J	46	32	19 U	52
96-ST2	RM 3.8-4.2 West	S 96th St SD	SedTrap	04/25/13	180	100	54 J	990	1,398 J	490	560	400	990	670	150	1,300
96-ST2	RM 3.8-4.2 West	S 96th St SD	Inline	04/25/13	370	140	58 U	1,600	2,220	760	790	340	1,300	870	120	2,000
96-ST3	RM 3.8-4.2 West	S 96th St SD	SedTrap	04/16/13	19 U	19 U	20	40	60	34	48	64	100	65	13 J	98
96-ST3	RM 3.8-4.2 West	S 96th St SD	Inline	04/16/13	19 U	19 U	19 U	13 J	13 J	12 J	15 J	12 J	27 J	16 J	19 U	28
RCB154	RM 3.8-4.2 West	S 96th St SD	RCB	05/22/13	92 U	92 U	92 U	92	92	74 J	100	130	230	200	92 U	160
RCB287	RM 3.8-4.2 West	S 96th St SD	RCB	05/22/13	310 U	310 U	180 J	230 J	410 J	310 U	310 U	180 J	230 J	290 J	310 U	230 J
RCB288	RM 3.8-4.2 West	S 96th St SD	RCB	05/23/13	250	380	420	1,600	3,180	400	390	260	660	480	94 U	1,200
RCB289	RM 3.8-4.2 West	S 96th St SD	RCB	05/23/13	89 J	79 J	110	830	1,159 J	340	380	320	720	550	100	840
HC-ST1	RM 4.2-5.8 West	Hamm Creek	SedTrap	04/16/13	19 U	19 U	19 U	25	25	14 J	18 J	17 J	31 J	21	19 U	29
HC-ST1	RM 4.2-5.8 West	Hamm Creek	Inline	04/16/13	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	39 U	14 J	20 U	20 U

Source: Seattle Public Utilities

Exceeds SQS/LAET/MTCA Method A  
 Exceeds CSL/2LAET

\* MTCA Method A Soil Cleanup Level

mg/kg DW - milligram per kilogram dry weight

ug/kg DW - microgram per kilogram dry weight

BEHP - bis(2-ethylhexyl)phthalate

NA - Not applicable

HC - hydrocarbon

LPAH - Low molecular w

HPAH - High molecular

cPAH - carcinogenic pol

PCB - polychlorinated bi

Appendix E

Table 2. SPU Source Tracing Sample Results (January through December 2013)

Station ID	Source Control Area	Outfall	Type	Date Sampled	Indeno (1,2,3-cd) pyrene (ug/kg DW)	Pyrene (ug/kg DW)	Total HPAH (ug/kg DW)	Total cPAH (ug/kg DW)	BEHP (ug/kg DW)	Butylbenzyl phthalate (ug/kg DW)	Diethyl phthalate (ug/kg DW)	Dimethyl phthalate (ug/kg DW)	Di-n-butyl phthalate (ug/kg DW)	Di-n-octyl phthalate (ug/kg DW)	1,2,4-Trichlorobenzene (ug/kg DW)	1,2-Dichlorobenzene (ug/kg DW)
SQS/LAET					600	2,600	12,000	1,000	1,300	63	200	71	1,400	6,200	31	35
CSL/2LAET					690	3,300	17,000	1,000	1,900	900	1,200	160	5,100	NA	31	50
CB170	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	CB	01/18/13	150 J	540	2,560 J	251	11,000	1,800	420 U	170 U	480	730	170 U	170 U
MH18	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/08/13	860	2,800	15,080	1,805	7,200	670	380 U	120 J	660	1,800	150 U	150 U
MH18	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/30/13												
MH261	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/08/13	37	63	457 J	61	51	18 J	46 U	18 U	18 U	18 U	18 U	18 U
MH262	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/22/13	74 J	170	941 J	127	2,000	74 J	240 U	98 U	59 J	120	98 U	98 U
MH263	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/22/13	93 U	79 J	280 J	69	1,200	93 U	230 U	93 U	93 U	93 U	93 U	93 U
MH266	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/06/13	880	3,300	14,880	1,970	1,500	230	140 U	55 U	400	430	55 U	55 U
MH267	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/06/13	600	1,400	8,310	1,198	1,500	300	140 U	54	130	1,900	54 U	54 U
MH268	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	270	570	3,260	412	770	800	140 U	57 U	76	57 U	57 U	57 U
MH269	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	410	1,400	7,730	975	1,300	280	140 U	75	40 J	58 U	58 U	58 U
MH270	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	100	200	1,188	154	1,000	340	170 U	68 U	68 U	68 U	68 U	68 U
MH271	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	57 U	110	497 J	61	1,300	57 U	140 U	63	250	57 U	57 U	57 U
MH272	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	420	1,200	7,700	1,112	1,700	140	140 U	56 U	42 J	56 U	56 U	56 U
MH273	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/13/13	150	290	1,756 J	203	360	130	230 U	94 U	47 J	94 U	94 U	94 U
MH274	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/13/13	180	310	2,128 J	324	1,000	1,400	240 U	97 U	100	97 U	97 U	97 U
MH276	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/13/13	200	350	2,398 J	307	1,300	190	230 U	92 U	92 U	630	92 U	92 U
RCB162	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	RCB	01/18/13	91	450	2,238 J	264		170	140 U	99	120	140	57 U	57 U
RCB199	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	RCB	04/04/13												
MH264	RM 2.0-2.3 East	1st Ave S East	Inline	06/06/13	130	360	1,938 J	249	1,300	350	130 U	53 U	40 J	82	53 U	53 U
MH265	RM 2.0-2.3 East	1st Ave S East	Inline	06/06/13	160	660	3,147	362	2,600	570	140 U	64	34 J	270	56 U	56 U
MH277	RM 2.8 East	KCIA SD#3/PS44 EOF	Inline	06/13/13	260	890	4,500	542	4,800	150	240 U	98 U	130	120	98 U	98 U
SL4-T6	RM 2.8 East	KCIA SD#3/PS44 EOF	SedTrap	05/28/13	330	1,400	6,150	672	6,200	1,900	240 U	140	480	560	96 U	96 U
NST1	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	990	2,800	15,090	1,948	17,000	580	670 U	270 U	160 J	10,000	270 U	270 U
NST1	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	520	1,500	8,050	1,042	8,600	95 U	240 U	95 U	76 J	2,000	95 U	95 U
NST2	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	380	1,400	6,270 J	622	8,500	250	440 U	180	180 U	180 U	180 U	180 U
NST2	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	55	200	860 J	94	760	20 U	50 U	20 U	19 J	20 U	20 U	20 U
NST3	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	390	980	5,510 J	674	5,700	220 U	540 U	220 U	1,300	220 U	220 U	220 U
NST3	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	350	830	5,280	773	2,100	62 U	160 U	62 U	150	62 U	62 U	62 U
NST4	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	280	400	2,754	360	120	86	48 U	15 J	19 U	19 U	19 U	19 U
NST4	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13												
NST5	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	640	890	6,010 J	712	2,000	190	440 U	180 U	180 U	390	180 U	180 U
ID-ST1	RM 0.0-1.0 West	SW Idaho St SD	SedTrap	04/17/13	840	1,300	10,190	1,316	14,000	1,400	410 U	160 U	240	940	160 U	160 U
ID-ST2	RM 0.0-1.0 West	SW Idaho St SD	SedTrap	04/17/13	88	160	1,244	165	410	43	50 U	63	34	28	20 U	20 U
ID-ST3	RM 0.0-1.0 West	SW Idaho St SD	SedTrap	04/25/13	58 U	58 U	58 U	44	550	58 U	140 U	58 U	58 U	58 U	58 U	58 U
ID-ST3	RM 0.0-1.0 West	SW Idaho St SD	Inline	04/25/13	19 U	19 U	38 U	14	2,800	67	47 U	19 U	19 U	1,600	19 U	19 U
HP-ST4	RM 1.6-2.1 West	Highland Park Wy SW SD	SedTrap	04/17/13	100	390	1,862 J	219	3,800	170	150 U	58 U	58 U	190	58 U	58 U
HP-ST6	RM 1.6-2.1 West	Highland Park Wy SW SD	SedTrap	04/23/13	290	870	4,770	638	3,100	170	240 U	92 J	97 U	92 J	97 U	97 U
HP-ST6	RM 1.6-2.1 West	Highland Park Wy SW SD	Inline	04/23/13	150	620	3,113 J	366	4,000	780	200 U	79 U	83	280	79 U	79 U
KN-ST1	RM 1.6-2.1 West	SW Kenny St SD/T115 CSO	SedTrap	04/25/13	370	670	4,370	501	3,400	270	250 U	99 U	99 U	200	99 U	99 U
KN-ST1	RM 1.6-2.1 West	SW Kenny St SD/T115 CSO	Inline	04/25/13	350	1,200	6,640	810	3,100	330	170 U	68 U	230	68 U	68 U	68 U
1st-ST1	RM 2.1 West	1st Ave S SD, west	SedTrap	04/23/13	690	1,800	8,070 J	814	18,000	490	610 U	130 J	230 J	1,300	240 U	240 U
1st-ST1	RM 2.1 West	1st Ave S SD, west	Inline	04/23/13	150	940	3,892 J	465	8,900	280	220 U	1,300	430	520	89 U	89 U
1st-ST2	RM 2.1 West	1st Ave S SD, west	SedTrap	04/23/13	190	370	1,940	241	4,100	190	290 U	120 U	120 U	360	120 U	120 U
1st-ST2	RM 2.1 West	1st Ave S SD, west	Inline	04/23/13	58 U	66	225 J	44	430	58 U	140 U	58 U	150	52 J	58 U	58 U



Appendix E

Table 2. SPU Source Tracing Sample Results (January through December 2013)

Station ID	Source Control Area	Outfall	Type	Date Sampled	Indeno (1,2,3-cd) pyrene (ug/kg DW)	Pyrene (ug/kg DW)	Total HPAH (ug/kg DW)	Total cPAH (ug/kg DW)	BEHP (ug/kg DW)	Butylbenzyl phthalate (ug/kg DW)	Diethyl phthalate (ug/kg DW)	Dimethyl phthalate (ug/kg DW)	Di-n-butyl phthalate (ug/kg DW)	Di-n-octyl phthalate (ug/kg DW)	1,2,4-Trichlorobenzene (ug/kg DW)	1,2-Dichlorobenzene (ug/kg DW)
<b>SQS/LAET</b>					600	2,600	12,000	1,000	1,300	63	200	71	1,400	6,200	31	35
<b>CSL/2LAET</b>					690	3,300	17,000	1,000	1,900	900	1,200	160	5,100	NA	31	50
1st-ST3	RM 2.1 West	1st Ave S SD, west	SedTrap	04/16/13	180	490	2,882 J	372	790	95 U	240 U	95 U	95 U	95 U	95 U	95 U
1st-ST3	RM 2.1 West	1st Ave S SD, west	Inline	04/16/13	40 J	140	725 J	99	320 B	57 U	140 U	57 U	57 U	57 U	57 U	57 U
1st-ST7	RM 2.1 West	1st Ave S SD, west	SedTrap	04/16/13	1,200	3,600	20,690	2,532	11,000	650	490 U	4,200	200 U	1,600	200 U	200 U
CB108	RM 2.1-2.2 West	2nd Ave S SD	CB	06/06/13	59 U	180	612 J	66	2,800	210	150 U	73	59 U	180	59 U	59 U
7th-ST1	RM 2.2-3.4 West	7th Ave S SD	SedTrap	04/23/13	400	1,000	5,290	638	6,900	340	310 U	130 U	75 J	500	130 U	130 U
7th-ST1	RM 2.2-3.4 West	7th Ave S SD	Inline	04/23/13	430	1,100	6,430	886	3,500	370	220 U	88	110	310	88 U	88 U
7th-ST1	RM 2.2-3.4 West	7th Ave S SD	Inline	05/03/13	1,000	2,400	13,000	1,664	6,300 B	370	560 U	220	110 J	250	220 U	220 U
7th-ST2	RM 2.2-3.4 West	7th Ave S SD	SedTrap	04/16/13	20 U	34	164 J	17	150	16 J	49 U	20 U	20 U	20 U	20 U	20 U
7th-ST2	RM 2.2-3.4 West	7th Ave S SD	Inline	04/16/13	18 U	18 U	27	14	23 U	18 U	46 U	18 U	18 U	18 U	18 U	18 U
7th-ST3	RM 2.2-3.4 West	7th Ave S SD	SedTrap	04/23/13	640	1,300	7,040 J	791	11,000	710	650 U	260 U	260 U	1,000	260 U	260 U
7th-ST3	RM 2.2-3.4 West	7th Ave S SD	Inline	04/23/13	270	620	4,020	558	1,300	360	150 U	66	130	95	60 U	60 U
RCB198	RM 2.2-3.4 West	7th Ave S SD	RCB	03/21/13	920 J	3,500	16,120 J	1,859	69,000 B	1,300 U	3,300 U	1,300 U	1,300 U	1,300 U	1300 U	1300 U
RCB290	RM 2.2-3.4 West	7th Ave S SD	RCB	06/06/13	56 U	210	858	94	1,200	250	140 U	56 U	56 U	58	56 U	56 U
RCB291	RM 2.2-3.4 West	7th Ave S SD	RCB	06/06/13	1,800	57,000	125,990	9,279	10,000	1,200	340 U	180	140 U	1,200	140 U	140 U
RCB292	RM 2.2-3.4 West	7th Ave S SD	RCB	06/06/13	67 U	500	2,390	296	1,300	250	170 U	67 U	67 U	67 U	67 U	67 U
RCB350	RM 2.2-3.4 West	7th Ave S SD	RCB	05/03/13	14,000	39,000	193,000	23,680	4,500 B	150	350 U	250	220	300	140 U	140 U
RCB197	RM 2.2-3.4 West	8th Ave S	RCB	02/14/13	290	460	3,580	432	4,200	2,300	200 U	300	520	79 U	79 U	79 U
96-ST1	RM 3.8-4.2 West	S 96th St SD	SedTrap	04/25/13	110	290	1,659 J	221	820	140	240 U	98 U	98 U	98 U	98 U	98 U
96-ST1	RM 3.8-4.2 West	S 96th St SD	Inline	04/25/13	10 J	48	245 J	31	260	21	48 U	19 U	19 U	11 J	19 U	19 U
96-ST2	RM 3.8-4.2 West	S 96th St SD	SedTrap	04/25/13	340	1,200	6,100	764	2,400	130	240 U	240	98 U	120	98 U	98 U
96-ST2	RM 3.8-4.2 West	S 96th St SD	Inline	04/25/13	340	1,800	8,320	1,051	870	58 U	140 U	110	58 U	58 U	58 U	58 U
96-ST3	RM 3.8-4.2 West	S 96th St SD	SedTrap	04/16/13	42	83	547 J	68	340	42	48 U	19 U	24	22	19 U	19 U
96-ST3	RM 3.8-4.2 West	S 96th St SD	Inline	04/16/13	11 J	26	147 J	21	26 U	19 U	47 U	19 U	19 U	19 U	19 U	19 U
RCB154	RM 3.8-4.2 West	S 96th St SD	RCB	05/22/13	83 J	200	1,177 J	145	1,400	1,700	230 U	92 U	92 U	150	92 U	92 U
RCB287	RM 3.8-4.2 West	S 96th St SD	RCB	05/22/13	310 U	370	1,300 J	227	19,000	5,900	770 U	310 U	620	520	310 U	310 U
RCB288	RM 3.8-4.2 West	S 96th St SD	RCB	05/23/13	220	1,300	4,910	528	1,300	490	240 U	94 U	80 J	230	94 U	94 U
RCB289	RM 3.8-4.2 West	S 96th St SD	RCB	05/23/13	230	770	4,250	525	3,000	820	230 U	93 U	100	300	93 U	93 U
HC-ST1	RM 4.2-5.8 West	Hamm Creek	SedTrap	04/16/13	12 J	30	172 J	25	360	19 U	48 U	19 U	37	19 U	19 U	19 U
HC-ST1	RM 4.2-5.8 West	Hamm Creek	Inline	04/16/13	20 U	10 J	24 J	15	320 B	20 U	49 U	20 U	20 U	20 U	20 U	20 U

Source: Seattle Public Utilities

Exceeds SQS/LAET/MTCA Method A  
 Exceeds CSL/2LAET

\* MTCA Method A Soil Cleanup Level

mg/kg DW - milligram per kilogram dry weight

ug/kg DW - microgram per kilogram dry weight

BEHP - bis(2-ethylhexyl)phthalate

NA - Not applicable

HC - hydrocarbon

LPAH - Low molecular w

HPAH - High molecular

cPAH - carcinogenic pol

PCB - polychlorinated bi

Appendix E

Table 2. SPU Source Tracing Sample Results (January through December 2013)

Station ID	Source Control Area	Outfall	Type	Date Sampled	1,4-Dichlorobenzene (ug/kg DW)	2,4-Dimethyl phenol (ug/kg DW)	2-Methyl phenol (ug/kg DW)	4-Methyl phenol (ug/kg DW)	Benzoic acid (ug/kg DW)	Benzyl alcohol (ug/kg DW)	Dibenzo-furan (ug/kg DW)	Hexachlorobenzene (ug/kg DW)	Hexachlorobutadiene (ug/kg DW)	N-Nitrosodiphenylamine (ug/kg DW)	Pentachlorophenol (ug/kg DW)	Phenol (ug/kg DW)
SQS/LAET					110	29	63	670	650	57	540	22	11	28	360	420
CSL/2LAET					120	29	63	670	650	73	700	70	120	40	690	1,200
CB170	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	CB	01/18/13	170 U	340 U	170 U	1600	3400 U	170	170 U	170 U	170 U	170 U	1700 U	5700
MH18	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/08/13	98 J	300 U	150 U	270	800 J	98 J	160	150 U	150 U	150 U	1500 U	200
MH18	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/30/13												
MH261	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/08/13	18 U	37 U	18 U	18 U	370 UJ	18 U	18 U	18 U	18 U	18 U	180 U	18 U
MH262	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/22/13	98 U	200 U	98 U	98 U	2000 U	98 R	98 U	98 U	98 U	98 U	980 U	83 J
MH263	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	05/22/13	93 U	190 U	93 U	93 U	1900 U	93 R	93 U	93 U	93 U	93 U	930 U	93 U
MH266	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/06/13	55 U	110 U	55 U	55 U	1100 U	55 U	130	55 U	55 U	55 U	550 U	55 U
MH267	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/06/13	87	110 U	54 U	350	1100 U	54 U	30 J	54 U	54 U	54 U	540 U	98
MH268	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	54 J	110 U	57 U	57 U	1100 U	57 U	57 U	57 U	57 U	57 U	570 U	57 U
MH269	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	58 U	120 U	58 U	43 J	1200 U	55 J	60	58 U	58 U	58 U	580 U	40 J
MH270	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	68 U	140 U	68 U	68 U	560 J	68 U	68 U	68 U	68 U	68 U	680 U	140
MH271	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	57 U	110 U	57 U	57 U	1100 U	57 U	57 U	57 U	57 U	57 U	570 U	57 U
MH272	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/07/13	56 U	110 U	240	56 U	1100 U	56 U	39 J	56 U	56 U	56 U	560 U	64
MH273	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/13/13	94 U	190 U	94 U	94 U	1900 UJ	94 U	94 U	94 U	94 U	94 U	940 U	52 J
MH274	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/13/13	97 U	190 U	97 U	97 U	1900 UJ	97 U	97 U	97 U	97 U	97 U	970 U	97 U
MH276	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	Inline	06/13/13	92 U	180 U	92 U	92 U	1800 UJ	92 U	92 U	92 U	92 U	92 U	920 U	92 U
RCB162	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	RCB	01/18/13	57 U	110 U	57 U	99 J	1100 U	320	57 U	57 U	57 U	57 U	570 U	65
RCB199	RM 0.1-0.9 East	Diagonal Ave S CSO/SD	RCB	04/04/13												
MH264	RM 2.0-2.3 East	1st Ave S East	Inline	06/06/13	53 U	110 U	53 U	53 U	1100 U	53 U	53 U	53 U	53 U	53 U	530 U	32 J
MH265	RM 2.0-2.3 East	1st Ave S East	Inline	06/06/13	56 U	110 U	56 U	76	1100 U	56 U	42 J	56 U	56 U	56 U	560 U	34 J
MH277	RM 2.8 East	KCIA SD#3/PS44 EOF	Inline	06/13/13	98 U	200 U	98 U	160	520 J	98 U	98 U	98 U	98 U	98 U	980 U	74 J
SL4-T6	RM 2.8 East	KCIA SD#3/PS44 EOF	SedTrap	05/28/13	96 U	190 U	96 U	340	520 J	96 UJ	62 J	96 U	96 U	96 U	960 U	120 J
NST1	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	270 U	540 U	270 U	520	3500 J	2500 J	270 U	270 U	270 U	270 U	2700 U	510 J
NST1	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	95 U	190 U	95 U	62 J	910 J	600	95 U	95 U	95 U	95 U	950 U	130
NST2	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	180 U	350 U	180 U	390	2200 J	180 UJ	180 U	180 U	180 U	180 U	1800 U	420 J
NST2	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	20 U	40 U	20 U	9.9 J	400 U	20 U	20 U	20 U	20 U	20 U	200 U	20 U
NST3	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	220 U	430 U	220 U	29000	31000	1700 J	220 U	220 U	220 U	220 U	2200 U	2900 J
NST3	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	62 U	120 U	62 U	160	610 J	270	62 U	62 U	62 U	62 U	620 U	81
NST4	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	Inline	05/28/13	19 U	38 U	19 U	19 U	380 U	19 U	29	19 U	19 U	19 U	190 U	19 U
NST4	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13												
NST5	RM 4.9 East	Norfolk CSO/PS17 EOF/SD	SedTrap	05/28/13	180 U	350 U	180 U	180 U	3500 U	180 UJ	180 U	180 U	180 U	180 U	1800 U	180 J
ID-ST1	RM 0.0-1.0 West	SW Idaho St SD	SedTrap	04/17/13	160 U	330 U	160 U	3200	3500	2200	160 U	160 U	160 U	160 U	1600 U	820
ID-ST2	RM 0.0-1.0 West	SW Idaho St SD	SedTrap	04/17/13	20 U	40 U	20 U	25	210 J	110	20 U	20 U	20 U	20 U	200 U	33
ID-ST3	RM 0.0-1.0 West	SW Idaho St SD	SedTrap	04/25/13	58 U	120 U	58 U	58 U	1200 UJ	680	58 U	58 U	58 U	58 U	580 U	58 U
ID-ST3	RM 0.0-1.0 West	SW Idaho St SD	Inline	04/25/13	19 U	38 U	19 U	19 U	380 U	90	19 U	19 U	19 U	19 U	190 U	19 U
HP-ST4	RM 1.6-2.1 West	Highland Park Wy SW SD	SedTrap	04/17/13	58 U	120 U	58 U	180	1200 U	100	58 U	58 U	58 U	58 U	580 U	58
HP-ST6	RM 1.6-2.1 West	Highland Park Wy SW SD	SedTrap	04/23/13	97 U	190 U	97 U	97 U	1900 UJ	97 U	97 U	97 U	97 U	97 U	970 U	97 U
HP-ST6	RM 1.6-2.1 West	Highland Park Wy SW SD	Inline	04/23/13	79 U	160 U	79 U	75 J	1200 J	370	120	79 U	79 U	79 U	790 U	210
KN-ST1	RM 1.6-2.1 West	SW Kenny St SD/T115 CSO	SedTrap	04/25/13	99 U	200 U	99 U	50 J	2000 UJ	470	99 U	99 U	99 U	99 U	990 U	79 J
KN-ST1	RM 1.6-2.1 West	SW Kenny St SD/T115 CSO	Inline	04/25/13	68 U	140 U	68 U	68 U	1400 U	110	68	68 U	68 U	310	680 U	72
1st-ST1	RM 2.1 West	1st Ave S SD, west	SedTrap	04/23/13	240 U	490 U	240 U	330	4900 UJ	450	240 U	240 U	240 U	220 J	2400 UJ	210 J
1st-ST1	RM 2.1 West	1st Ave S SD, west	Inline	04/23/13	89 U	180 U	89 U	98	670 J	200	49 J	89 U	89 U	76 J	890 U	120
1st-ST2	RM 2.1 West	1st Ave S SD, west	SedTrap	04/23/13	120 U	230 U	120 U	110 J	2500 UJ	1000	120 U	120 U	120 U	120 U	1200 U	190
1st-ST2	RM 2.1 West	1st Ave S SD, west	Inline	04/23/13	58 U	120 U	58 U	58 U	1200 U	58 U	58 U	58 U	58 U	58 U	580 U	58 U

Appendix E

Table 2. SPU Source Tracing Sample Results (January through December 2013)

Station ID	Source Control Area	Outfall	Type	Date Sampled	1,4-Dichlorobenzene (ug/kg DW)	2,4-Dimethyl phenol (ug/kg DW)	2-Methyl phenol (ug/kg DW)	4-Methyl phenol (ug/kg DW)	Benzoic acid (ug/kg DW)	Benzyl alcohol (ug/kg DW)	Dibenzo-furan (ug/kg DW)	Hexachlorobenzene (ug/kg DW)	Hexachlorobutadiene (ug/kg DW)	N-Nitrosodiphenylamine (ug/kg DW)	Pentachlorophenol (ug/kg DW)	Phenol (ug/kg DW)
<b>SQS/LAET</b>					110	29	63	670	650	57	540	22	11	28	360	420
<b>CSL/2LAET</b>					120	29	63	670	650	73	700	70	120	40	690	1,200
1st-ST3	RM 2.1 West	1st Ave S SD, west	SedTrap	04/16/13	95 U	190 U	95 U	57 J	1900 U	95 U	95 U	95 U	95 U	95 U	950 U	95 U
1st-ST3	RM 2.1 West	1st Ave S SD, west	Inline	04/16/13	57 U	110 U	57 U	57 U	1100 U	57 U	57 U	57 U	57 U	57 U	570 UJ	57 U
1st-ST7	RM 2.1 West	1st Ave S SD, west	SedTrap	04/16/13	200 U	390 U	200 U	1900	1600 J	620	200 U	200 U	200 U	200 U	2000 U	310
CB108	RM 2.1-2.2 West	2nd Ave S SD	CB	06/06/13	59 U	120 U	59 U	59 U	1200 U	59 U	59 U	59 U	59 U	59 U	590 U	59 U
7th-ST1	RM 2.2-3.4 West	7th Ave S SD	SedTrap	04/23/13	130 U	250 U	130 U	480	770 J	1300	130 U	130 U	130 U	130 U	1300 U	200
7th-ST1	RM 2.2-3.4 West	7th Ave S SD	Inline	04/23/13	88 U	180 U	88 U	88 U	1800 U	150	88 U	88 U	88 U	88 U	880 U	92
7th-ST1	RM 2.2-3.4 West	7th Ave S SD	Inline	05/03/13	220 U	450 U	220 U	220 U	4500 U	410	220 U	220 U	220 U	220 U	2200 U	190 J
7th-ST2	RM 2.2-3.4 West	7th Ave S SD	SedTrap	04/16/13	20 U	39 U	20 U	20	930	3500	20 U	20 U	20 U	20 U	200 U	220
7th-ST2	RM 2.2-3.4 West	7th Ave S SD	Inline	04/16/13	18 U	37 U	18 U	18 U	370 U	18 U	18 U	18 U	18 U	18 U	180 UJ	18 U
7th-ST3	RM 2.2-3.4 West	7th Ave S SD	SedTrap	04/23/13	260 U	520 U	260 U	220 J	4200 J	5800	260 U	260 U	260 U	260 U	2600 U	1100
7th-ST3	RM 2.2-3.4 West	7th Ave S SD	Inline	04/23/13	60 U	120 U	60 U	60 U	560 J	370	33 J	60 U	60 U	57 J	600 U	100
RCB198	RM 2.2-3.4 West	7th Ave S SD	RCB	03/21/13	1300 U	2600 U	1300 U	1300 U	26000 UJ	1300 U	1,300 U	1300 U	1300 U	1300 U	13000 U	1300 U
RCB290	RM 2.2-3.4 West	7th Ave S SD	RCB	06/06/13	56 U	110 U	56 U	130	1100 U	83	56 U	56 U	56 U	56 U	560 U	81
RCB291	RM 2.2-3.4 West	7th Ave S SD	RCB	06/06/13	140 U	280 U	140 U	140 U	2800 U	120 J	140 U	140 U	140 U	140 U	1400 U	170
RCB292	RM 2.2-3.4 West	7th Ave S SD	RCB	06/06/13	67 U	130 U	67 U	520	1300 U	67 U	67 U	67 U	67 U	67 U	670 U	40 J
RCB350	RM 2.2-3.4 West	7th Ave S SD	RCB	05/03/13	140 U	280 U	140 U	3600	3700	140 U	1,100	140 U	140 U	140 U	1400 U	510
RCB197	RM 2.2-3.4 West	8th Ave S	RCB	02/14/13	79 U	160 U	79 U	39 J	1400 J	180	79 U	79 U	79 U	39 J	790 UJ	450
96-ST1	RM 3.8-4.2 West	S 96th St SD	SedTrap	04/25/13	98 U	200 U	98 U	98 U	2000 UJ	98 U	98 U	98 U	98 U	98 U	980 U	98 U
96-ST1	RM 3.8-4.2 West	S 96th St SD	Inline	04/25/13	19 U	38 U	19 U	19 U	380 U	19 U	19 U	19 U	19 U	19 U	190 U	19 U
96-ST2	RM 3.8-4.2 West	S 96th St SD	SedTrap	04/25/13	98 U	200 U	98 U	1700	750 J	200	54 J	98 U	98 U	98 U	980 U	380
96-ST2	RM 3.8-4.2 West	S 96th St SD	Inline	04/25/13	58 U	120 U	58 U	58 U	1200 U	58 U	52 J	58 U	58 U	58 U	580 U	58 U
96-ST3	RM 3.8-4.2 West	S 96th St SD	SedTrap	04/16/13	19 U	39 U	19 U	31	1200	970	19 U	19 U	19 U	19 U	190 U	110
96-ST3	RM 3.8-4.2 West	S 96th St SD	Inline	04/16/13	19 U	38 U	19 U	19 U	380 U	19 U	19 U	19 U	19 U	19 U	190 UJ	19 U
RCB154	RM 3.8-4.2 West	S 96th St SD	RCB	05/22/13	92 U	180 U	92 U	92 U	1800 U	92 R	92 U	92 U	92 U	92 U	920 U	92 U
RCB287	RM 3.8-4.2 West	S 96th St SD	RCB	05/22/13	310 U	620 U	310 U	6500	1600 J	310 R	310 U	310 U	310 U	310 U	3100 U	1100
RCB288	RM 3.8-4.2 West	S 96th St SD	RCB	05/23/13	94 U	190 U	94 U	94 U	1900 U	94 R	290	94 U	94 U	94 U	940 U	94 U
RCB289	RM 3.8-4.2 West	S 96th St SD	RCB	05/23/13	93 U	190 U	93 U	89 J	1900 U	6600 J	93 U	93 U	93 U	93 U	930 U	84 J
HC-ST1	RM 4.2-5.8 West	Hamm Creek	SedTrap	04/16/13	19 U	39 U	19 U	62	390 U	14 J	19 U	19 U	19 U	19 U	190 U	13 J
HC-ST1	RM 4.2-5.8 West	Hamm Creek	Inline	04/16/13	20 U	39 U	20 U	20 U	390 U	20 U	20 U	20 U	20 U	20 U	200 UJ	20 U

Source: Seattle Public Utilities

Exceeds SQS/LAET/MTCA Method A  
 Exceeds CSL/2LAET

\* MTCA Method A Soil Cleanup Level

mg/kg DW - milligram per kilogram dry weight

ug/kg DW - microgram per kilogram dry weight

BEHP - bis(2-ethylhexyl)phthalate

NA - Not applicable

HC - hydrocarbon

LPAH - Low molecular w

HPAH - High molecular

cPAH - carcinogenic pol

PCB - polychlorinated bi

## **Appendix F**

### **Ecology Lower Duwamish Waterway Source Control Summary Table**

## Appendix F. Lower Duwamish Waterway Source Control Summary

### Introduction

This source control summary table lists media (soil and groundwater, stormwater, and bank soil) that are potential sources of contamination to LDW sediment. Progress can be measured by comparing the number of sources that pose a threat to LDW sediments with the number of sources that are currently being addressed by EPA and Ecology.

### Soil & Groundwater Cleanup for Sediment Protection

	Number
Contaminated sites in the LDW basin <sup>1</sup>	364
Contaminated sites in the LDW basin that may pose a threat to LDW sediment recontamination (as assessed in Ecology's SCAPs, Data Gaps Reports, and Status Reports)	60
Contaminated sites in the LDW basin that may pose a threat to LDW sediment recontamination which are under an Ecology or EPA Order (MTCA, CERCLA, RCRA, TSCA)	232
Contaminated sites in the LDW basin with interim actions planned (as identified in Status Reports) <sup>2</sup>	25
Contaminated sites in the LDW basin where an EPA or Ecology site manager has issued a closure letter indicating that sources are controlled	0
Contaminated sites where EPA or Ecology has determined that cleanup is complete	0

### Stormwater Cleanup for Sediment Protection

	Number
Public and private stormwater outfalls <sup>3</sup>	195
Public and private stormwater outfalls where sediment samples have been collected within 100 ft of outfall <sup>4</sup>	138
Public and private stormwater outfalls where sediment samples have been collected with contaminant concentrations above the CSL or LDW FS CUL within 100 feet of outfall	63
Private stormwater outfalls where sediment COCs in stormwater are being monitored and managed <sup>5</sup> under an Ecology Order, an EPA Order, or an NPDES permit	7

### Bank Soil<sup>6</sup> Cleanup for Sediment Protection

	Number
Feet of shoreline in LDW	79,580
Feet of armored banks	53,400
Feet of exposed shoreline in LDW with the potential for soil erosion	19,300
Feet of shoreline with bank soils characterized under an Ecology or EPA Order and/or Ecology study <sup>7</sup>	16,608
Feet of shoreline with contaminated <sup>8</sup> bank soils identified under an Ecology or EPA order and/or Ecology study	13,622
Feet of shoreline with bank soil cleanup in process <sup>9</sup>	7,454
Feet of shoreline with erosion of contaminated bank soil controlled <sup>9</sup>	2,098

## Notes:

- <sup>1</sup> Contaminated sites are those that are included on Ecology's CSCSL or those identified as contaminated by EPA, not including Harbor Island (Leidos 2013b).
- <sup>2</sup> Interim actions may include preliminary cleanup actions conducted under state MTCA regulations, federal CERCLA or RCRA regulations, or independently by responsible parties.
- <sup>3</sup> This does not include CSOs or EOFs. CSOs are being addressed under a separate consent decree; EOFs only operate under emergency conditions (e.g., pump station failures) and are not considered to be potentially significant contributors to sediment contamination. Includes active outfalls only.
- <sup>4</sup> Sediment samples have not been collected at all outfall locations because of access problems or sampling difficulties.
- <sup>5</sup> Management may include monitoring of stormwater, source removal, or stormwater treatment.
- <sup>6</sup> Bank soil is soil or sediment up to the mean higher high water level (generally 0 – 12 feet above mean sea level) on the banks of the LDW.
- <sup>7</sup> Additional sampling and testing of bank soil will be done as part of LDW cleanup under federal Superfund or individual upland site cleanups under Ecology orders.
- <sup>8</sup> Contamination is defined as values that exceed AET sediment quality criteria.
- <sup>9</sup> "Cleanup in process" means that there is a cleanup plan in place which includes bank cleanup or dredging.
- <sup>10</sup> Control of erosion means contaminated bank soil areas have been completely excavated and restored or partially excavated and contained and that upland sources of contamination that may recontaminate bank soils have been removed or contained.

## Acronyms and Definitions

CERCLA	Federal Comprehensive Environmental Response, Compensation, and Liability Act
COC	chemical of concern
CSCSL	State Confirmed or Suspected Contaminated Sites List
CSL	State Sediment Cleanup Screening Levels
CSO	combined sewer overflow
CUL	Cleanup Levels
Ecology	WA State Department of Ecology
EOF	emergency overflow
EPA	U.S. Environmental Protection Agency
FS	Feasibility Study
LDW	Lower Duwamish Waterway
MTCA	State Model Toxics Control Act
RCRA	Federal Resource Conservation and Recovery Act
Status Report	LDW Source Control Status Report (prepared by Ecology)
SCAPs	LDW Source Control Action Plans (prepared Ecology)
TSCA	Federal Toxics Substances Control Act

## **Appendix G**

### **Summary of Facilities and Sites within the Norfolk CSO/SD Basin**

# Appendix G

## Summary of Facilities and Sites within the Norfolk CSO/SD Basin

The Norfolk CSO/SD system includes the municipal storm drain system for the 826-acre Norfolk SD basin and the 5,169-acre Norfolk CSO basin. The Norfolk CSO and SDs basins overlap over an area of approximately 425 acres. Property use in the Norfolk CSO/SD basin is mixed residential, commercial, and industrial. Sites within the basin have been identified as follows:

- 234 sites have been assigned Ecology Facility/Site ID numbers (Table G-1, Figure G-1).
- 12 sites hold NPDES permits or CNE certificates (Table G-2, Figure G-2).
- 4 sites have KCIW discharge authorizations or permits, allowing them to discharge industrial wastes to the sanitary sewer (Table G-3, Figure G-2).
- 60 sites are listed on Ecology's CSCSL, including 39 LUST sites; 27 sites have been granted an NFA (Tables G-4 and G-5, Figure G-3).
- 58 sites are listed on Ecology's UST list (Table G-6, Figure G-4).
- 19 sites have active EPA ID numbers (Table G-7).
- Regulatory source control inspections have been performed at 63 sites (Table G-8, Figure G-5).

These sites are listed by category in Table G-1 and their locations are shown on Figure G-1. Sites discharging industrial stormwater and wastes to the Norfolk CSO/SD basin and sites listed on the CSCSL may represent potential sources of contaminants to sediment associated with Early Action Area 7 (EAA-7). Contaminants in wastewater, if any, may be transported to LDW sediment near the EAA-7 during a CSO event via the Norfolk CSO. Contaminants in soil and groundwater beneath these properties, 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 these sites.

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 sites adjacent to the LDW and within the Norfolk SD basin. However, given the frequency of discharge from the Norfolk CSO (approximately 4 times per year with an average discharge of 0.28 mgy), the cumulative effects of CSO discharges could contribute to recontamination of sediments associated with EAA-7.

### G-1 CSO Discharges

During periods of heavy rainfall, when the combined wastewater and stormwater flow exceeds system capacity, the excess flow is discharged to the Norfolk CSO structure. The Norfolk CSO is controlled to no more than one untreated discharge event on average per year (per state law). The Norfolk CSO has had four treated discharges and no untreated discharges in the past 5 years.



When and if they do occur, CSO discharges contain a mixture of wastewater and stormwater, with stormwater generally comprising the majority of the flow. Sites located within the Norfolk CSO basin that hold industrial stormwater discharge permits are listed in Table G-2. Wastewater may carry concentrations of sediment COCs, particularly from those facilities that are permitted to discharge industrial wastes to the sanitary sewer (Table G-3). KCIW estimates that, on a county-wide basis, industrial discharges comprise less than 0.5 percent of the total volume of a CSO event (Tiffany 2008). Chemical residues present in catch basins on these properties or on adjacent roadways may become dissolved and suspended in stormwater. Contaminants suspended in the combined sewer discharge (if any) may be conveyed to EAA-7 during a CSO event.

Sites permitted to discharge stormwater or wastewater to the Norfolk CSO/SD system are shown on Figure G-2.

## **G-2 Groundwater Discharge and Infiltration**

Within the Norfolk CSO basin, environmental contaminants have been identified at 60 sites. Contaminants in soil and groundwater beneath these sites may leach into groundwater and infiltrate the combined sewer system. There is potential for sediment recontamination associated with combined sewer discharges from these sites. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from these sites will impact EAA-7 sediments is very low. Soil and/or groundwater contamination is suspected or has been confirmed at the sites listed on Tables G-3 and shown on Figure G-3.

## **G-3 CSCSL Sites within the Norfolk CSO/SD Basin**

The presence of contaminants in environmental media has been confirmed at five sites within the Norfolk SD basin. Information regarding the nature and extent of contamination at Affordable Auto Wrecking, Arco Gas Station (FSID 29429665), Northwest Auto Wrecking, and Unified Grocers (identified as Associated Grocers, Inc.) was summarized in the EAA-7 Data Gaps Report and SCAP. Data gaps and source control actions identified for these sites are documented in the Source Control Status Report.

Ohno Construction Company was not evaluated in the Data Gaps Report (E&E 2007) and SCAP (Ecology 2007) prepared for EAA-7. Information regarding current and historical operations, regulatory history, and environmental investigations at Ohno Construction Company is presented in this report. Because this facility is not adjacent to the LDW, surface runoff directly to the waterway, bank erosion, and spills directly to the waterway are not potential sediment recontamination pathways. The location of Ohno Construction Company is shown on Figure G-1 (Map IDs 100 and 167).

### **G-3.1 Ohno Construction Company**

<b>Facility Summary: Ohno Construction Company</b>	
<b>Tax Parcel No.</b>	8072000087, 8072000115
<b>Address</b>	0087: 9250 Martin Luther King Jr. Way S, Seattle 98118

<b>Facility Summary: Ohno Construction Company</b>	
	0115: 9416 Martin Luther King Jr. Way S, Seattle 98118
<b>Property Owner</b>	GIY & Associates
<b>Parcel Size</b>	0087: 3.31 acres (144,375 sq ft) 0115: 2.02 acres (88,084 sq ft)
<b>Facility/Site ID</b>	0087: 87886749 0115: 14961
<b>Alternate Names</b>	Sea & Shore Pile Driving Co., Sound Transit Central Link Light Rail – Parcel RV-318.1
<b>SIC Code(s)</b>	None listed
<b>EPA ID No.</b>	None
<b>NPDES Permit No.</b>	None
<b>UST/LUST ID No.</b>	UST: 12645 LUST: 6364

Ohno Construction Company operates a construction storage yard, warehouse, and office at parcels 0087 and 0115. Martin Luther King Jr. Way S borders the parcels on the west. North-bound and south-bound lanes of Martin Luther King Jr. Way S are divided by Sound Transit Central Link Light Rail tracks. Commercial and industrial properties are located to the north and south of the parcels. City of Seattle-owned, vacant parcels that are zoned for residential use are located to the east.

King County Tax Assessor records indicate that there is one industrial light manufacturing warehouse on parcel 0087. The 1,750 sq ft building was built in 1967. A 2,300 sq ft office building, built in 1941, is present on parcel 0115. Several outbuildings are also present (SES 2007).

The parcels are partially paved with concrete. Unpaved areas are covered with gravel. The parcels are underlain by clay with some sand to at least 13 feet bgs. In the areas where USTs were historically present, sandy fill is present to depths between 6 and 10 feet bgs (CDM 2006). Depth to groundwater is approximately 6 to 11 feet bgs (SES 2007).

In 2004, in preparation of the construction of the Sound Transit Central Link Light Rail system, Sound Transit acquired an 8-foot-wide strip of land on the western side of parcel 0087 for widening Martin Luther King Jr. Way S (CDM 2006).

### **Current Operations**

Ohno Construction Company has operated a construction storage yard, warehouse, and office at this location since 1988 (Ecology 1990). An equipment maintenance shop, stationary fueling station, compressor shed, and pressure washing area are maintained at the facility (Ecology 2011a).

In 2004, in preparation for the construction of the Sound Transit Central Link Light Rail system, Sound Transit acquired an 8-foot-wide strip of land on the western side of parcel 0087 for widening Martin Luther King Jr. Way S (CDM 2006).

### **Historical Operations**

Sea & Shore Pile Driving Company historically operated at parcel 0087. The company installed two USTs and removed two USTs from service in 1986 (Ecology 1986). Information regarding the company's operations was not available for review. The property was sold to Ohno Construction Company in 1988 (Ecology 1990).

Four underground storage tanks (USTs) were historically present on parcel 0087. Three of these USTs were removed in 2006 and the fourth UST was removed in 2007.

### **Regulatory History**

In March 2007, Ecology issued a Notice of Non-Compliance to Ohno Construction Company with regard to improper closure of the remaining UST at parcel 0087. Approximately 35 inches of water and 13 inches of product were present in the UST (Ecology 2007a). Ecology added parcel 0087 to the CSCSL in August 2007 (Ecology 2007b).

Ecology performed an Urban Waters environmental compliance inspection at Ohno Construction Company on May 12, 2011. The Ecology inspector identified corrective actions related to improper storage of batteries, lamps, and oil; improper product storage; improper waste disposal; housekeeping; maintenance of the storm drain system; and spill response procedures. Ecology identified the following corrective actions (Ecology 2011a).

- Properly store products and waste by providing secondary containment and cover.
- Properly dispose of waste.
- Implement proper housekeeping by cleaning up leaks and spills as they occur, repairing leaking vehicles and equipment, increasing frequency of parking lot sweeping, covering dumpsters and checking for leaks and drips, and disposing of excess waste and equipment.
- Maintain storm drain structures by regularly checking and cleaning catch basins and performing regular maintenance of oil/water separators.
- Improve spill response procedures by obtaining additional spill kits for the stationary fueling station.
- Contact KCIW and determine if the facility was required to obtain a waste discharge authorization.

Ohno Construction Company implemented the corrective actions and submitted documentation to Ecology in July 2011 (Ohno Construction Company 2011). Ecology confirmed that the company had achieved compliance with the corrective actions (Ecology 2011b).

KCIW issued Discharge Authorization 11279-01 to Ohno Construction Company on June 29, 2011. The discharge authorization permits the company to discharge up to 100 gallons of waste water per day from pressure washing operations to the sanitary sewer (KCIW 2011).

## **Environmental Investigations and Cleanups**

Two environmental investigations have been conducted on parcel 0087. Sampling locations are shown on Figures G-6 and G-7. Chemical data are presented in Table G-9.

### Remedial Excavations and UST Assessment (2005 and 2006)

In June 2005, Sound Transit encountered petroleum-contaminated soils and four USTs during widening of Martin Luther King Jr. Way S and replacement of an underground sewer line. Three of the four USTs were located in the “fee-take” area, the 8-foot-wide strip of parcel 0087 that had been acquired by Sound Transit in 2004. The fourth UST was located in the area of the parcel operated by Ohno Construction Company (CDM 2006).

One soil sample was collected from the sewer line excavation for waste characterization and analyzed for petroleum hydrocarbons, metals, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and volatile organic compounds (VOCs). Diesel-range hydrocarbons (25 mg/kg), chromium (95 mg/kg), and lead (23 mg/kg) were detected at concentrations below MTCA Method A cleanup levels. Barium (151 mg/kg) was detected below the MTCA Method B cleanup level. The remaining analytes were not detected (CDM 2006).

Due to the strong petroleum odor of the soil, Sound Transit completed a remedial excavation of the sewer line corridor over an area of approximately 50 feet long by 8 feet wide and to a depth of 13 feet bgs. The excavation limits were determined when visual observations and field screening for VOCs indicated that all petroleum-contaminated soil had been removed. Confirmation samples were not collected (CDM 2006).

In August 2005, Sound Transit encountered a second area of petroleum-contaminated soil during installation of a storm sewer. This area was approximately 130 feet south of the July 2005 excavation. A remedial excavation was performed over an area approximately 15 feet long by 6 feet wide and to a depth of 9 feet bgs. Confirmation samples were not collected. Approximately 225 cubic yards of soil were removed during the June and August 2005 (CDM 2006).

In July 2006, the three USTs located in the fee-take area were removed by Sound Transit. Tanks 1 and 2 were reported to be in good condition upon removal. No evidence of soil contamination was observed in the tank excavations. An area approximately 18 feet wide by 24 feet long and 11 feet deep was excavated around Tanks 1 and 2 (CDM 2006).

Approximately 1,000 gallons of water mixed with residual gasoline were pumped from Tank 3 prior to tank removal. Two 0.25-inch diameter holes were observed in Tank 3. Field observations indicated soil contamination beneath Tank 3. Tank 3 historically contained gasoline. An area approximately 14 feet wide by 20 feet long and 10 feet deep was excavated around Tank 3 (CDM 2006).

Nine confirmation soil samples were collected from the excavations and analyzed for petroleum hydrocarbons, BTEX, and lead. Lead, diesel- and heavy oil-range hydrocarbons were detected at concentrations below MTCA Method A cleanup levels. Approximately 130 cubic yards of soil were removed from the property (CDM 2006).

#### UST Assessment and Removal (2007)

In April 2007, Ohno Construction Company removed the fourth UST from the property. Several pinholes were observed in the 1,100-gallon fuel oil tank. Petroleum staining was observed at the bottom and on the north and east sidewalls of the excavation. Four confirmation samples were collected and analyzed for diesel- and heavy oil-range petroleum hydrocarbons. Diesel-range hydrocarbon concentrations in the north sidewall exceeded the MTCA Method A cleanup level. Additional excavation activities were not performed to remove this soil. Excavated soil was used as backfill (SES 2007).

Groundwater seeped into the excavation at approximately 6 feet bgs. A petroleum sheen was observed on the groundwater. Further assessment of potential groundwater contamination has not been performed; the potential extent of contamination is unknown (SES 2007).

### **Potential for Sediment Recontamination**

#### Stormwater and Spills

Ohno Construction Company completed the corrective actions required by Ecology in 2011 (Ecology 2011b). Potential for sediment recontamination due to current facility operations is low provided that the improvements and source control BMPs are maintained.

#### Groundwater Discharge

Diesel-range hydrocarbons have been detected in soil at concentrations above MTCA Method A cleanup levels and sheen was observed on groundwater that seeped into a UST excavation (SES 2007). Contaminated groundwater associated with Ohno Construction Company may become part of storm sewer or combined sewer discharge to the Norfolk CSO/SD by infiltrating the sewer systems. Petroleum hydrocarbons are not sediment COCs; while the presence of petroleum hydrocarbons in soil and groundwater may mobilize naturally occurring arsenic (Harter and Rollins 2008), arsenic is not a sediment COC for EAA-7 but is one of the four driver COCs for the LDW sediment cleanup. Detections of sediment COCs (chromium and lead) in soil have not exceeded MTCA cleanup levels or the draft soil-to-sediment screening levels (SAIC 2006). Therefore, the potential for sediment recontamination from the Ohno Construction Company property is very low.

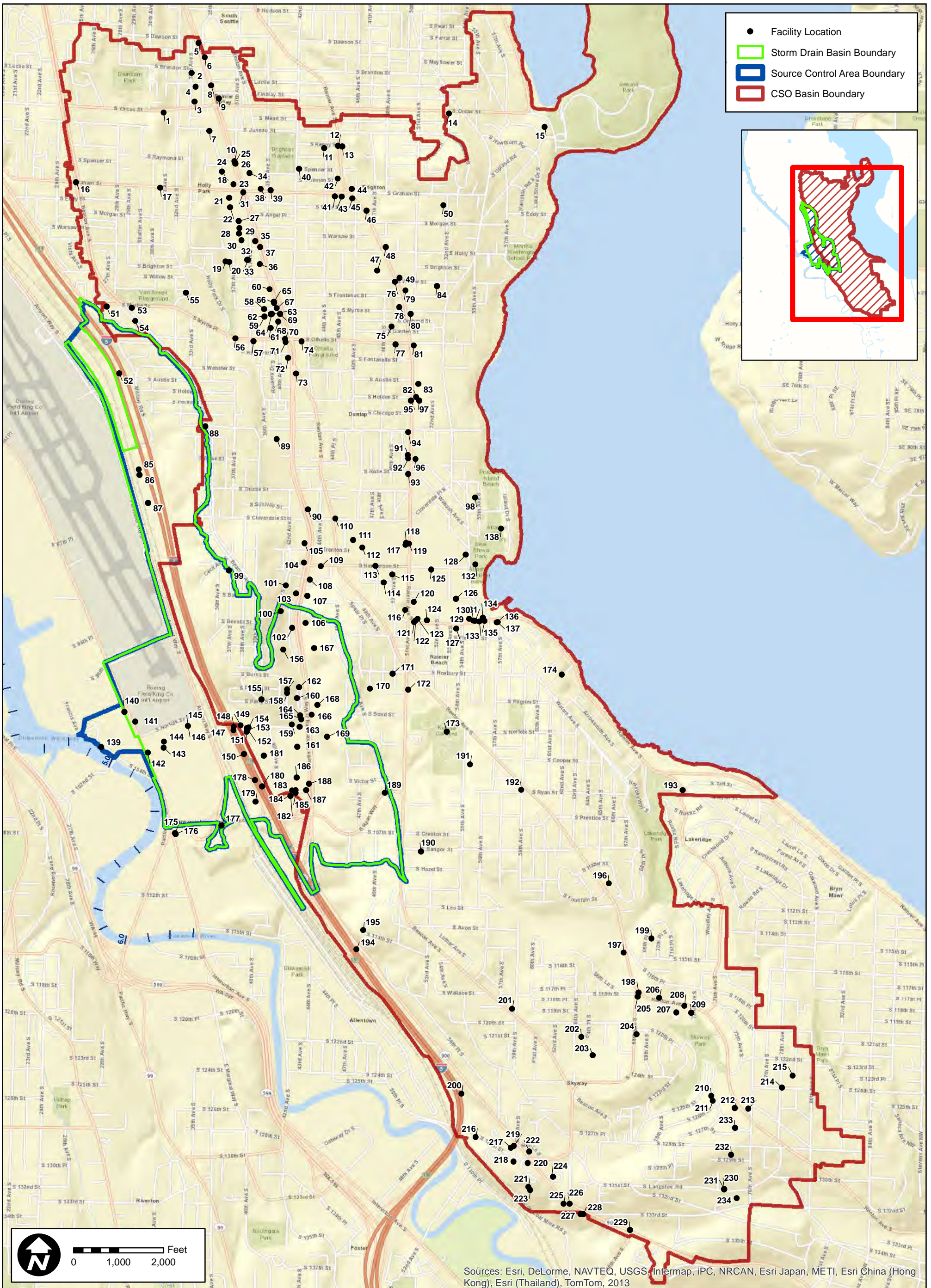
### **Data Gaps**

No data gaps have been identified for this property.

- CDM. 2006. Parcel RV-318.1, Underground Storage Tank Closure Assessment, Sound Transit Central Link Light Rail, Seattle, Washington, Ecology Facility Site ID #87886749. Prepared for Sound Transit. December 18.
- Ecology. 1986. Letter from Melany Vorass, Ecology, to Joseph Schembrie, Sea & Shore Pile Driving Company. Regarding completion or correction of the Underground Storage Tank Notification Form submitted to Ecology. September 30.
- Ecology. 1990. UST File - Seattle, 9250 Martin Luther King Way So, U0006298, Sea & Shore Pile Driving Co., UST 012645. December 20.
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- Ecology. 2007b. Letter from Gail Colburn, Ecology, to GIY & Associates. Re: Early Notice Letter Site # 87886749, Ohno Construction Company, 9250 Martin Luther King Jr Way S, Seattle, WA 98118, Tax Parcel # 807200087. August 6.
- Ecology. 2011a. Letter from Donovan Gray, Ecology, to Jill Agnelli, Ohno Construction Company. RE: Results from the Urban Waters Environmental Compliance Inspection at Ohno Construction Company on May 12, 2011: Corrective action required. May 27.
- Ecology. 2011b. Letter from Donovan Gray, Ecology, to Jill Agnelli, Ohno Construction Company. RE: Notification Compliance Achieved. July 21.
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- Ohno Construction Company. 2011. Letter from Jimmy Brown, Ohno Construction Company, to Donovan Gray, Ecology. Re: Corrective Action Summary – Urban Waters Environmental Compliance Inspection. July 8.
- SAIC (Science Applications International Corporation). 2006. Draft Soil and Groundwater Screening Criteria, Source Control Action Plan, Slip 4, Lower Duwamish Waterway. Prepared for Washington State Department of Ecology. August 2006 (Revised February 2007).
- SES (Sound Environmental Strategies Corporation). 2007. UST Decommissioning Report, Ohno Construction Company, 9250 Martin Luther King Jr. Way South, Seattle, Washington. Prepared for Ohno Construction Company. May 16.
- 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.

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**Figure G-1. Sites in the Norfolk CSO/SD Basin Listed in the Ecology Facility/Site Database**



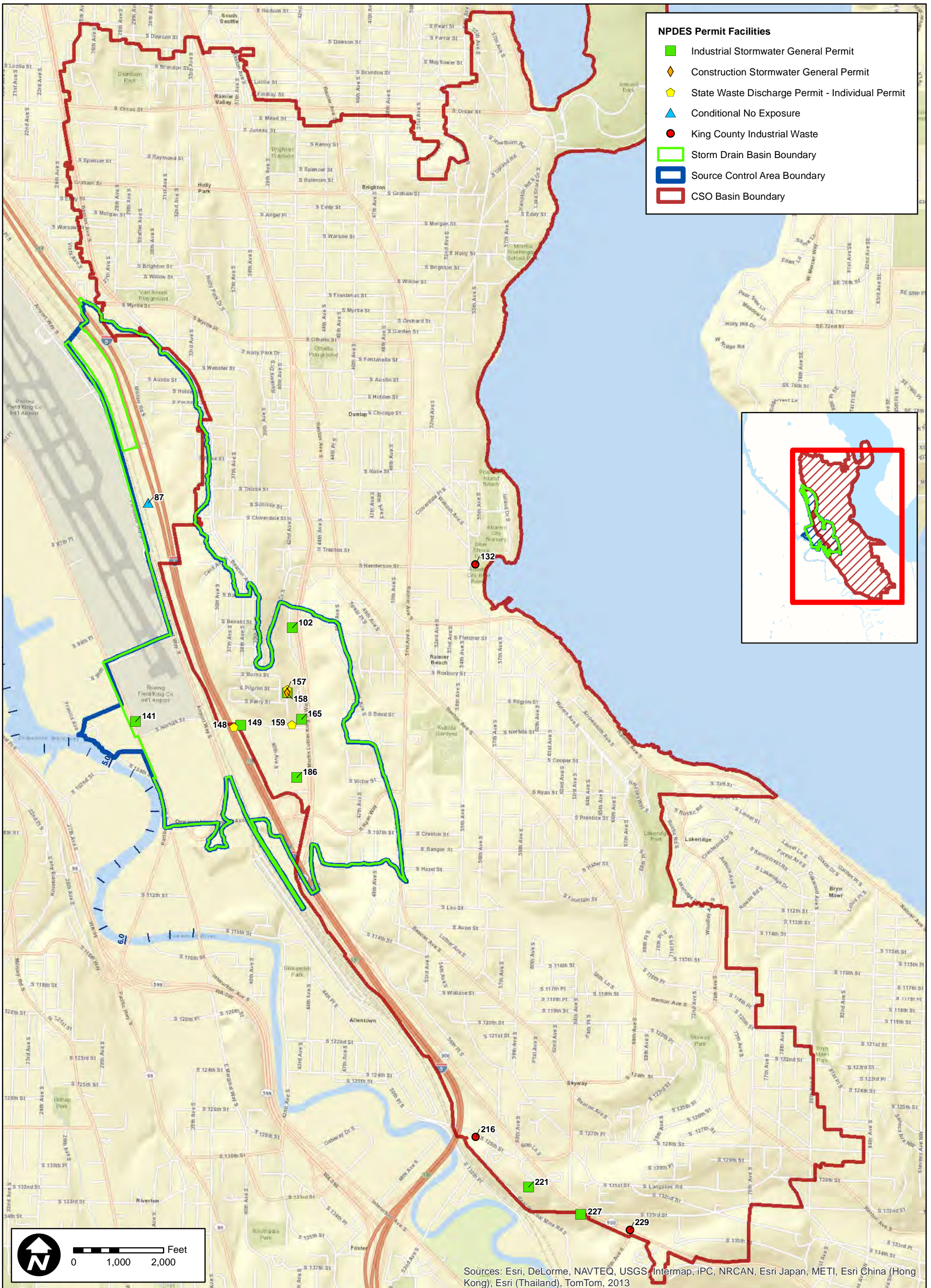
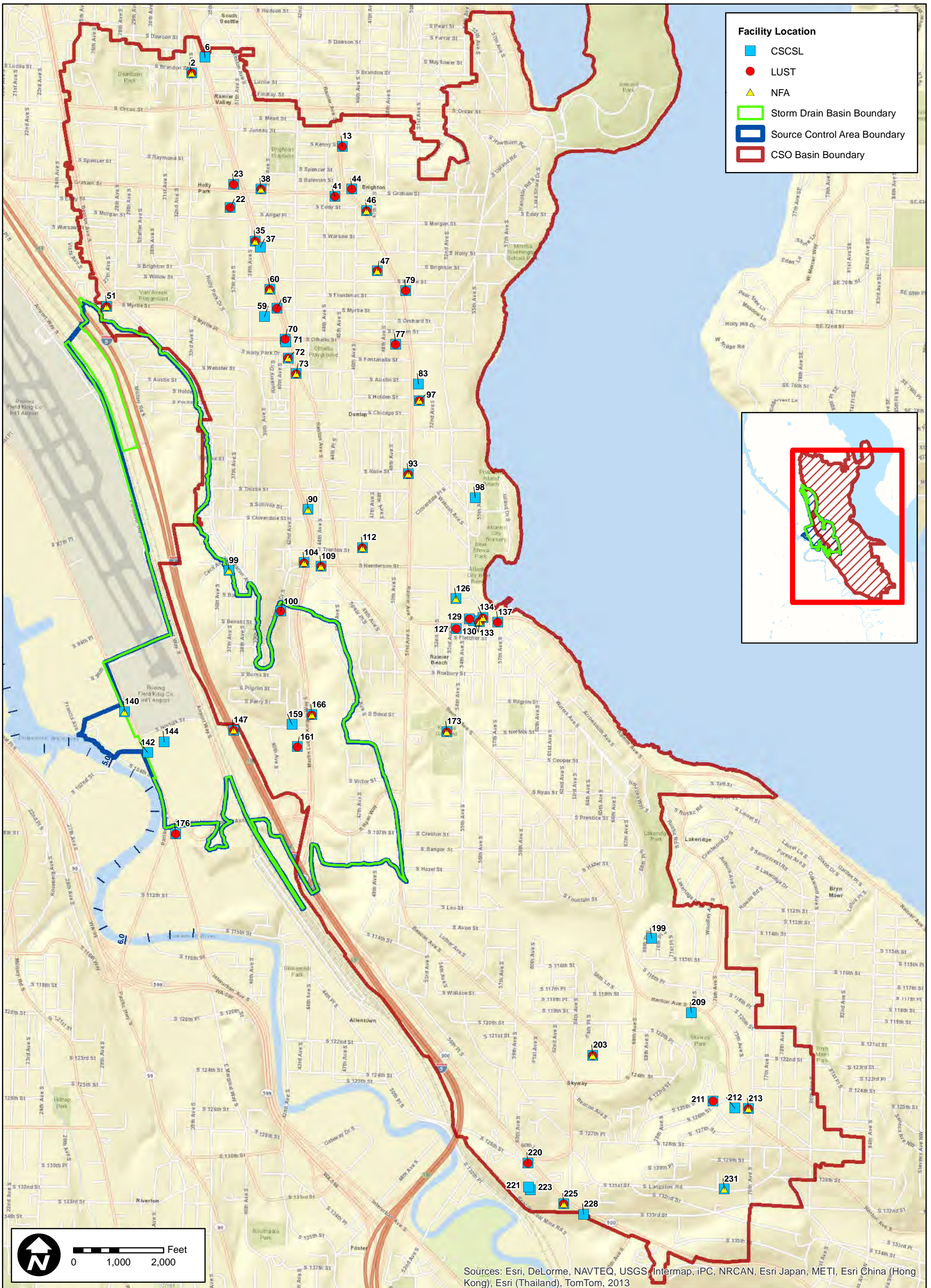


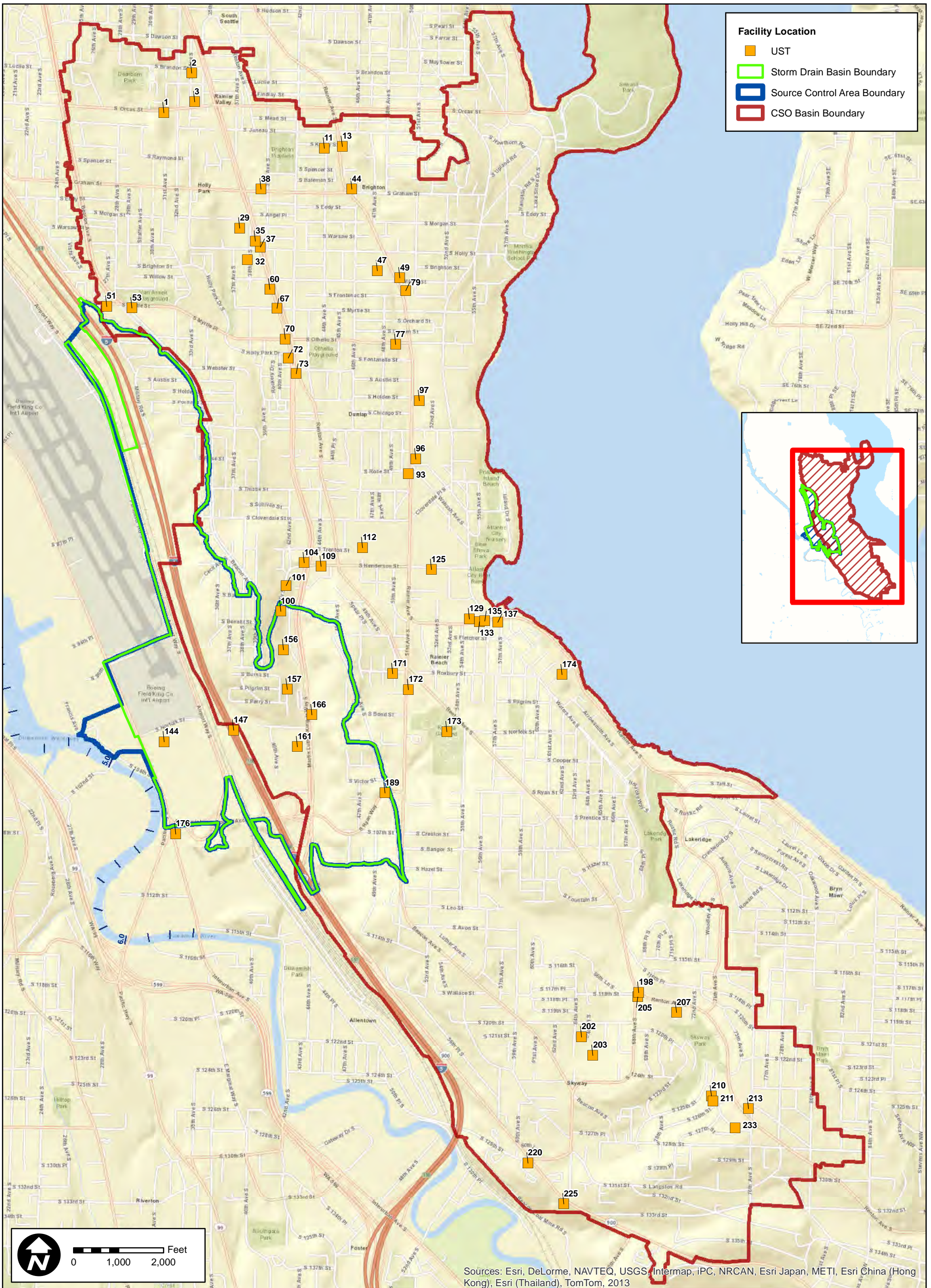
Figure G-2. Sites in the Norfolk CSO/SD Basin with Discharge Permits





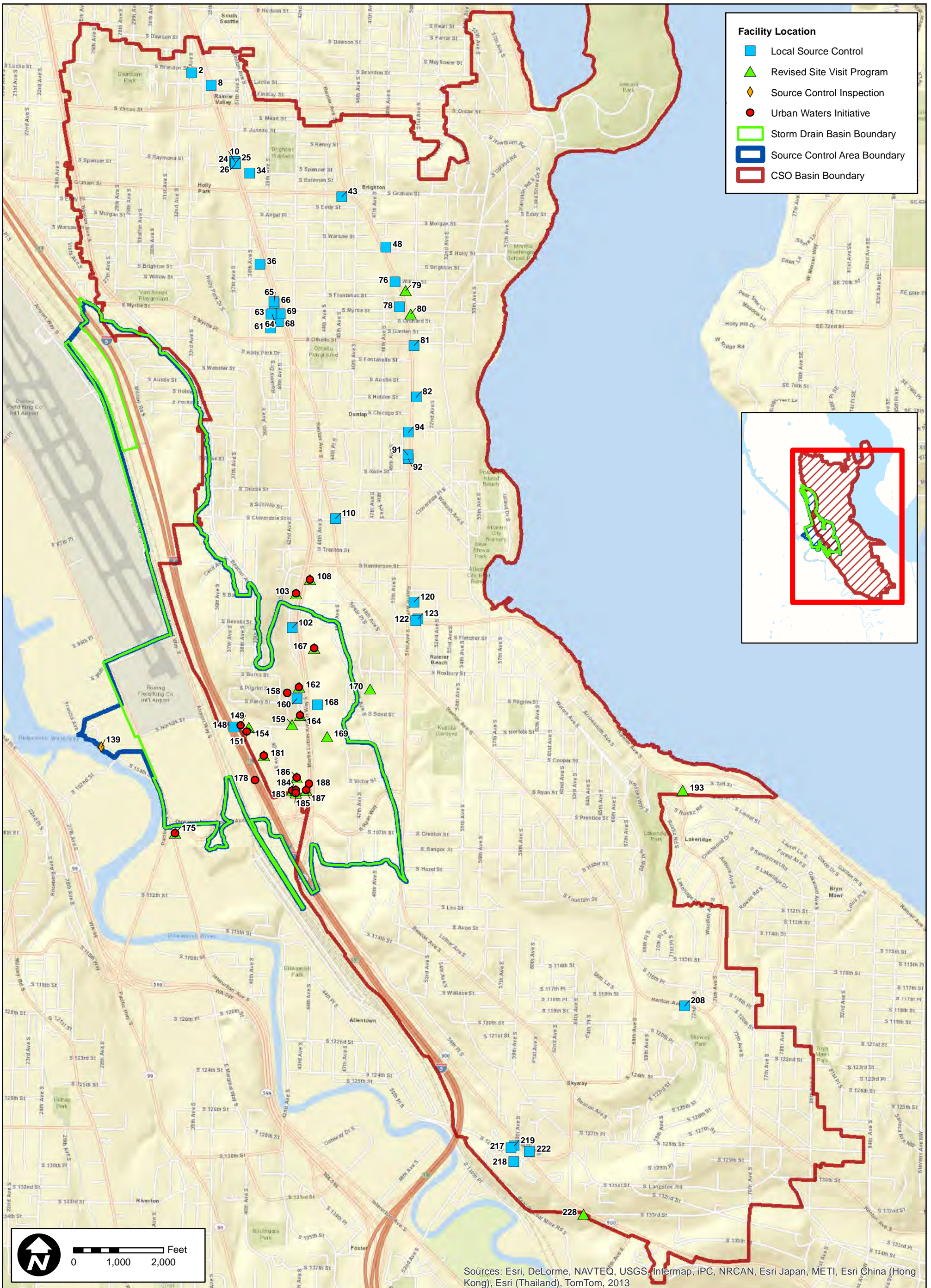
**Figure G-3. Sites with the Norfolk CSO/SD Basin Listed on Ecology's Confirmed or Suspected Contaminated Site List**





**Figure G-4. Sites in the Norfolk CSO/SD Basin with Underground Storage Tanks**





**Figure G-5. Source Control Inspections at Sites within the Norfolk CSO/SD Basin**



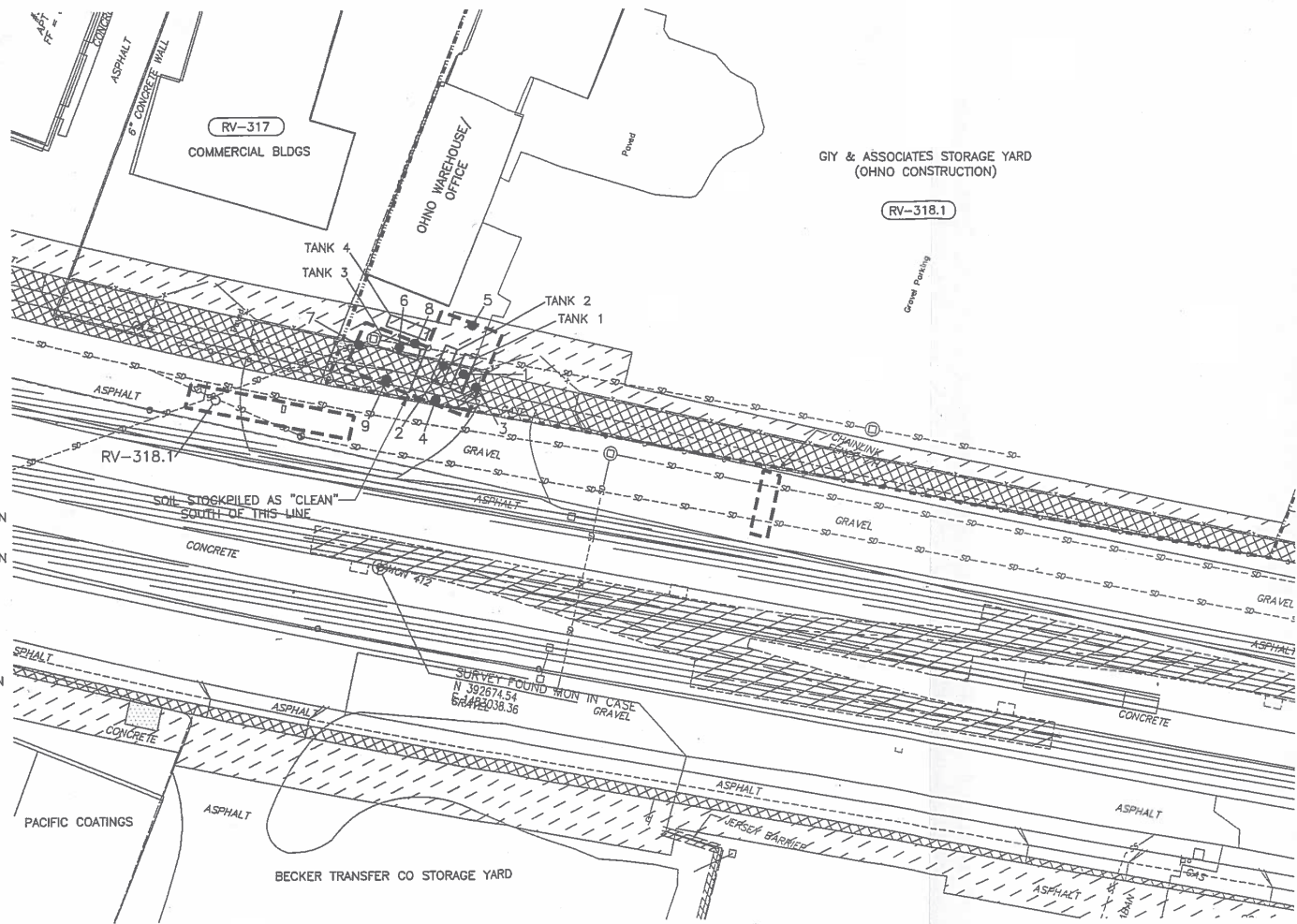
Coordinate System:  
NAD 1983 StatePlane Washington North FIPS 4601 Feet  
Prepared By: Mill  
File: Norfolk-Inspections.mxd  
Illustrative purposes only.



RV-318.1 ○ WASTE PROFILE SAMPLE LOCATION AND DESIGNATION  
 9 ● EXCAVATION SOIL SAMPLE LOCATION AND DESIGNATION  
 - - - - - LIMIT OF SITE  
 - - - - - EXTENT OF EXCAVATION  
 [Cross-hatched] LIMITS OF SOUND TRANSIT ACQUISITION (FEE TAKE)  
 [Diagonal lines] TEMPORARY CONSTRUCTION EASEMENT

N  
 1" = 30'  
 15 0 30

P:\22107\41853\RV-318.1\318.1-Fig2 12/05/06 07:30  
 netlepj



SOUND TRANSIT  
 RV-318.1  
 SEATTLE, WASHINGTON

Figure No. 2  
 Site Plan

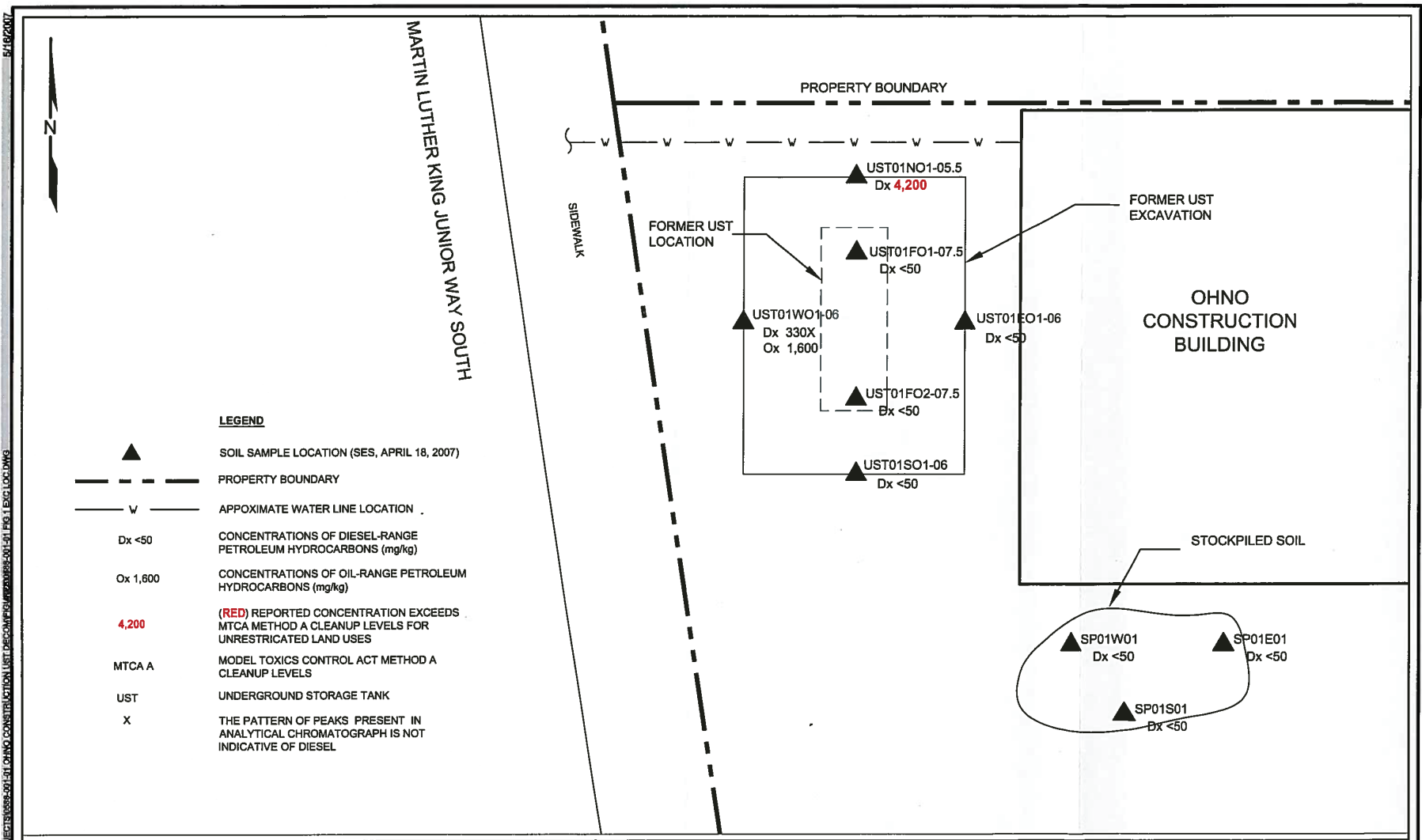
CDM



Figure G-6. Remedial Excavations and UST Assessment (2005 and 2006)



Source: CDM 2006 [10592]



**LEGEND**

▲ SOIL SAMPLE LOCATION (SES, APRIL 18, 2007)

--- PROPERTY BOUNDARY

- - - APPROXIMATE WATER LINE LOCATION

Dx <50 CONCENTRATIONS OF DIESEL-RANGE PETROLEUM HYDROCARBONS (mg/kg)

Ox 1,600 CONCENTRATIONS OF OIL-RANGE PETROLEUM HYDROCARBONS (mg/kg)

4,200 (RED) REPORTED CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVELS FOR UNRESTRICTED LAND USES

MTCA A MODEL TOXICS CONTROL ACT METHOD A CLEANUP LEVELS

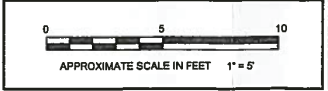
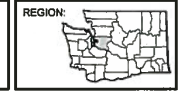
UST UNDERGROUND STORAGE TANK

X THE PATTERN OF PEAKS PRESENT IN ANALYTICAL CHROMATOGRAPH IS NOT INDICATIVE OF DIESEL



DATE: 04/26/2007  
 DRAWN BY: VPB  
 CHECKED BY: HCL  
 CAD FILE: 0588-001-01 FIG 2

PROJECT NAME: OHNO CONSTRUCTION  
 SES PROJECT NUMBER: 0588-001-01  
 STREET ADDRESS: 9250 MLK JR WAY SOUTH  
 CITY: SEATTLE, WA



**FIGURE 2**  
 EXCAVATION LOCATION MAP



Figure G-7. UST Assessment and Removal (2007)

Source: SES 2007 [10590]



**Table G-1**  
**Facilities within the Norfolk CSO/SD Basin that are Listed in the Ecology Facility/Site Database**

Facility/ Site ID	Map ID	Facility/Site Name	Alternate Name(s)	Address	City	Zip Code	Ecology CSCSL	Active NPDES Permit	Inactive NPDES Permit	KCIW Discharge Authorization
2393964	42	5201 Rainier LLC	5201 Rainier LLC	5201 RAINIER AVE S	SEATTLE	98118				
15296	132	52nd Ave CSO Conveyance/Mapes Creek	52nd Ave CSO Conveyance/Mapes Creek		SEATTLE	98118		●		
9608	92	99 Cent Plus Store	99 Cent Plus Store	8115 RAINIER AVE S	SEATTLE	98118				
7163112	159	Affordable Auto Wrecking	IKAN Auto Wrecking	9802 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	●		●	●
17408	169	Affordable Auto Wrecking MLK Jr Wy S		9820 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
28918339	177	Airport Way Drum		AIRPORT WAY S & BOEING ACCESS RD	SEATTLE	98168				
10573	91	Altaya Restaurant	Altaya Restaurant	8135 RAINIER AVE S	SEATTLE	98118				
8509656	223	Anderson Joseph B	Junior Trucking	13336 BEACON COAL MINE RD	SEATTLE	98178	●			
1075883	221	Anderson Joseph B et al	Building Busters, Building Busters Inc, Washing	13001 MARTIN LUTHER KING JR WY S	SEATTLE	98178	●	●		
4816696	135	Aqua Marina Apts		9520 RAINIER AVE S	SEATTLE	98118				
29429665	161	Arco Gas Station	Arco Eastey Site	9840 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	●			
4552344	225	Arco Station & Mini Mart	Arco Station & Mini Mart	13201 MARTIN LUTHER KING JR WAY	SEATTLE	98178	●			
93132962	9	Arco Station 5246	Arco 05246, ARCO 5246, Arco Facility 07013/Strasburger Convenience Management, BP West Coast Products LLC, BP West Coast Products, LLC	5620 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
45994359	133	ASAP Auto Repair		9480 RAINIER AVE S	SEATTLE	98118	●			
9970306	85	AT&T Wireless Boeing Field		8300 MILITARY RD AT&T	SEATTLE	98108				
45799631	35	Auto Repair Shop Former	Auto Repair Shop Former	6633 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	●			
18463	78	BBB Used Tires	BBB Used Tires	7000 RAINIER AVE S	SEATTLE	98118				
71341384	33	Blackstones Autobody of Seattle Inc		6754 MARTIN LUTHER KING JR WAY S	SEATTLE	98118-3217				
13895	17	Block 16-1 High Point Revitalization	Block 16-1 High Point Revitalization		SEATTLE				●	
56652786	212	Boathouse Inc Renton Skyway	Ken's Skyway Cleaners	12548 RENTON AVE S	SEATTLE	98118	●			
52828576	204	Boeing A&M E Marginal Way Corporate Park		3417 S 120TH PL	SEATTLE	98108				
4581384	146	Boeing Development Center Norfolk		9725 E MARGINAL WAY	TUKWILA	98108				
14532	141	Boeing Military Flight Center		10002 E MARGINAL WAY S	TUKWILA	98108		●		
64295469	18	BP 03167 EXXON 79049	BP Service Station 03167, BP SERVICE STATION 6056 MLK JR WAY, CONOCOPHILLIPS 30121, EXXON COMPANY USA 7-9049, KING 76, TOSCO 0316730121	6056 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
52957232	218	BP Service Station 03140	Shell Thomas Express Inc	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178-4611				
69383993	4	Bracy Auto Body		5503 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
12982	49	Brighton Beach Autobody	Brighton Beach Autobody	6824 RAINIER AVE S	SEATTLE	98118				
43825591	197	Bryn Mawr Lakeridge Water & Sewer Dist		7843 S 116TH S	SEATTLE	98178				
4285	226	Building Busters		13001 MARTIN LUTHER KING JR WAY S	SEATTLE	98178				
17358	229	Cambridge Park Villa	Cambridge Park Villa	13370 MARTIN LUTHER KING JR WAY S	RENTON	98178		●		
88838687	148	Cascade Engine Center LLC	9800 Associates, Alpha Cine Laboratory Inc, Alpha Cine Labs, Golden International Co-op	9800 40TH AVE S	SEATTLE	98118				●
9809063	107	Central Puget Sound Regional Transit Au		9132 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
13879377	59	Central Puget Sound Regional Transit Aut	Fabian Schweitzer, Jiffy Cleaners Former, Jiffy Cleaners Seattle, King Square, King Square Enterprises Jiffy Cleaners	7126 MARTIN LUTHER KING JR WAY	SEATTLE	98118	●			
88374932	97	Chaus Auto Repair	Chaus Auto Repair	7700 & 7708 RAINIER AVE S	SEATTLE	98118	●			
92732861	1	Columbia Greenhouse Company		5710 32ND AVE S	SEATTLE	98118-2276				
2936208	199	Cowley Property		11430 69TH PL S	SEATTLE	98178	●			
72684374	151	Dietzgen Corp	Fairn & Swanson Inc	9875 40TH AVE S	SEATTLE	98118				
15215	34	Dim Sum House	Dim Sum House	6008 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
2115	140	Dimensional Engineering		9407 E MARGINAL WY	SEATTLE	98108	●			
54924846	114	Duwamish Riv Abandone		DIRECTOR ST FOOT OF	SEATTLE	98118				
6805845	213	Eat Em Up Hut	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	●			
13882	48	El Nopalito	El Nopalito	6622 RAINIER AVE S	SEATTLE	98118				
8436	216	Empire Way	Empire Way	5515 S 129TH ST 12929 BEACON	SKYWAY	98178		●		
9122	234	Evergreen Floral Phase 2	Evergreen Floral Phase 2	7435 S LANGSTON RD	TUKWILA	98178			●	
48796862	220	Exxon 72894	MLK Food Mart & HL Travel, MLK Shell, Sun Cor Holdings CopII LLC, TOSCO 0314030108	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	●			

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61442182	205	Exxon Station 7-7176	BP Service Station 03161, BP Service Station Renton Ave, Conoco Phillips 30119, Skyway Gasoline, Sun Cor Holdings Copll LLC 7, TOSCO 0316130119	11655 RENTON AVE S	SEATTLE	98178				
33189129	202	Federal Lease Co Inc		12817 EMPIRE WAY S	SEATTLE	98178				
98981573	130	Fisher Property		9420 RAINIER AVE S	SEATTLE	98118	●			
18108	66	Five Stars Laundry	Five Stars Laundry	7137 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
41435438	230	Floral Crest		7432 S 131ST CT	SEATTLE	98178				
2246	231	Floral Crest Nursery	Floral Crest Nursery	7432 S 131ST ST & LANGSTON RD	SEATTLE	98178	●			
56365941	210	Foreign Specialties		12561 RENTON AVE S	SEATTLE	98178-3710				
75459226	157	Frank Coluccio Construction Company		9600 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				●
71287498	211	Franks		12603 RENTON AVE S	SEATTLE	98178	●			
81561572	163	General Electrical Capitol Tran Intl Pool	Frank & Vice Coluccio Property, TIP	9801 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
21178	219	Global Autobody & Repair	Global Autobody & Repair	12817 MARTIN LUTHER KING JR WAY	SEATTLE	98178				
20298	94	Global Food Market & Halai Meat	Global Food Market & Halai Meat	7917 RAINIER AVE S	SEATTLE	98118				
47322747	38	Goos Property		3816 S GRAHAM ST	SEATTLE	98110-3158	●			
20123	183	Harrington Industrial Plastics Inc	Harrington Plastics	4322 S 104TH PL	SEATTLE	98178				
95378394	67	Haug 42nd Ave Site	Cullyspring Water Company, Miracle Temple C	7100 42ND AVE S	SEATTLE	98118	●			
4707503	188	HD Supply Waterwork Ltd 3010	National Water Works HDWW 5890	10013 MARTIN LUTHER KING WAY S	SEATTLE	98178				
6572	108	HE Goldberg & Co Inc		9050 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
57951531	37	Helmer Property		6700 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	●			
18825	184	Herzog Industries LLC	Herzog Glass	4344 S 104TH PL	SEATTLE	98178				
18440	68	Hoang Lan	Hoang Lan	7119 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
8747316	70	Holly Park	Church's Fried Chicken, Former Tidewater Service Station No. 30-3189, Holly Park, PHILLIPS PETROLEUM CO, Tidewater Associates Oil Co Station, UNION OIL	7301 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	●			
93585452	194	I5 Hwy 900 Spill		I5 MP 157 NORTHBOUND AT HWY 900 RAMP	TUKWILA	98168				
97252792	155	Industrial Magic S Perry		3922 S PERRY ST	SEATTLE	98118				
20152	69	International Market	International Market	7126 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
34895863	174	Jack Collier		9701 RAINIER AVE S	SEATTLE	98112-9999				
94616485	156	Jacks Auto Parts Inc		9423 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
17450	160	JCM U Link	Frank Coluccio Construction Co Inc	9645 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
18916576	29	Jet		3810 S MORGAN ST	SEATTLE	98118-3167				
94253462	73	Jims Market & Gas	Jims Market & Gas	7500 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	●			
13552	179	John Farrell Property		AIRPORT WAY S AND N OF BOEING RD	TUKWILA	98168			●	
19746	25	Joy Palace Seafood Restaurant	Joy Palace Seafood Restaurant	6030 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
66867121	145	Junk House Inc		10404 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
4649	36	Karama Restaurant	Karama Restaurant	6727 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
2279	99	Khy & Li Property		9056 37TH AV S	SEATTLE	98118	●			
6406	64	King Plaza Laundry	King Plaza Laundry	7101 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
15373862	152	Kingsway Freightlines Ltd		9833 40TH AV S	SEATTLE	98118				
81758697	193	Lakeridge Park	Lakeridge Park	10127 CORNELL WAY S	SEATTLE	98178-2605				
2285	126	Lakeshore Village Apartments	Lakeshore Village Apartments	9061 SEWARD PARK AV S	SEATTLE	98118	●			
51648386	16	Larrys Volvo Repair Svc Inc		6301 BEACON AVE S	SEATTLE	98108				
5147650	6	Le & Thuy Property	Le & Thuy Property	5306 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	●			
95195341	209	Lemonbusters	Elburn Property	11903 RENTON AVE S	SEATTLE	98178	●			
715544	31	Lewis Family Properties LLC		6310 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
13173922	182	Lindal Cedar Homes Inc		4300 S 104TH PL	SEATTLE	98178				
2423	228	Little Ethels Auto Wrecking	Joseph Anderson Properties, Little Ethels Auto	13301 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	●			
49944537	129	Living Color Hair Salon	Seattle City Used Oil Collect Rainier Av	9416 RAINIER AVE S	SEATTLE	98118	●			
23845	81	Los Tinos	Los Tinos	7300 RAINIER AVE S	SEATTLE	98118				
7493317	83	Low Rate Hauling & Yard Clean Up	Coleman Property	7020 44TH AVE S	SEATTLE	98118	●			
96935538	158	Lucks Bakery Supply	Northwest Gourmet Foods, NW Gourmet Food Products Inc.	9620 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		●		●
91725823	47	Lucky One Food Store		6815 RAINIER AVE S	SEATTLE	98118	●			
12345973	27	M & K Auto Sevices		6464 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				



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8578521	149	Mac Donald Miller Facility Solutions	Adventure 78, Encompass Mechanical Service, MacDonald Miller Facility Solutions Fabrication Shop, Seattle Packaging Corporation	3701 S NORFOLK	SEATTLE	98118		●		
53781321	89	Martin Luther King Apartments		7923 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
2427	90	Martir Property	Martir Property	4211 S CLOVERDALE ST	SEATTLE	98118	●			
19547	43	Mawadda Cafe	Mawadda Café	4433 S GRAHAM ST	SEATTLE	98118				
97268417	176	McConkey Property	Hertz Equipment Rental Corp, Boeing Oxbow Corp Park	10710 E MARGINAL WAY S	SEATTLE	98168	●			
19033	84	McCullum Property	McCullum Property	5145 S WILLOW ST	SEATTLE	98118				
2479873	3	Merlino Foods		5605 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
16892	82	Mi Ranchito	Mi Ranchito	7636 RAINIER AVE S STE A	SEATTLE	98118				
20230	76	Minhs Auto Repair	Minhs Auto Repair	6905 RAINIER AVE S	SEATTLE	98118				
6604	227	Monster Auto Wrecking	Monster Auto Wrecking	13301 MARTIN LUTHER KING JR WAY	SEATTLE	98178		●		
24773	103	MT Auto Repair		9101 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
93144373	121	Neighborcare Health	Vinson Brothers Corp	9245 RAINIER AVE S	SEATTLE	98118				
71	164	Nelson Trucking Co		9747 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
18277	165	Nelson Trucking Co 9777		9777 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		●		
40616942	2	Ngoc Used Cars	Ducs Auto Repair	5421 MARTIN LUTHER KING JR WAY S	SEATTLE	98118-2234	●			
6491976	139	Norfolk CSO SD		27TH AVE S	SEATTLE	98134				
23725	180	Norfolk MLK Way Subbasin Improvements		W OF I5 N OF S BOEING ACCESS RD	SEATTLE	98108			●	
88347472	7	Northern Professional Inc		3611 S JUNEAU	SEATTLE	98118				
2287	142	Northwest Auto Wrecking	Northwest Auto & Truck Wrecking Inc.	10230 E MARGINAL WY S	TUKWILA	98168	●		●	
21493	175	NW Fleet Truck Trailer Repair Inc		10710 E MARGINAL WAY S	TUKWILA	98168				
7120	168	NW Kidney Ctr		9700 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
87886749	100	Ohno Construction Co	Sea & Shore Pile Driving Co., Sound Transit Central Link Light Rail - Parcel RV-318.1	9250 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	●			
14961	167	Ohno Construction Company		9416 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
17592	74	Othello Station South	Othello Station South	4219 S OTHELLO ST	SEATTLE	98118			●	
21044	187	Pacific Grip & Lighting		10401 ML KING JR WAY	TUKWILA	98178				
5074	217	Pacific Topsoils Inc Seattle	Pacific Topsoils Inc Seattle	6000 S 129TH ST	SEATTLE	98178				
2595	178	Pape Material Handling	Hyster Company, Hyster Sales	9892 40TH AVE S	SEATTLE	98118				
2094680	105	Partners Mortgage Corp Investment Trust	Partners Mortgage Corp Investment Trust	NW CORNER MARTIN LUTHER KING JR WAY	SEATTLE	98118				
62385828	143	Penske Truck Leasing Co LP Seattle Norfo		3301 S NORFOLK ST PENSKE	SEATTLE	98118				
32746547	171	Pham Ngoc Taun		9601 RENTON AVE S	SEATTLE	98118				
13976	63	Pho My Chau	Pho My Chau	7101 MARTIN LUTHER KING JR WAY S STE 2	SEATTLE	98118				
5831	120	Pho Van Vietnamese Restaurant	Pho Van Vietnamese Restaurant	9150 RAINIER AVE S	SEATTLE	98118				
21287436	207	Quality Food Market	Sky Way Gas 2	11900 RENTON AVE S	SEATTLE	98178				
12024	208	Quality Food Mart Shell	Quality Food Mart Shell	11890 RENTON AVE S	SEATTLE	98178				
16564	65	Quan Binh Dan	Quan Binh Dan	7127 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
21154698	41	Qwest Communications International	CENTURYLINK QC, PARKWAY CO 070296, Qwest Communications International, US WEST COMMUNICATIONS W00296	6315 RAINIER AVE S	SEATTLE	98118	●			
17638742	191	Qwest Communications W000182		10018 RENTON AVE S	SEATTLE	98178-2255				
65136957	44	Rainier 76	Rainier Unocal 76, Simpson Service Station	6230 RAINIER AVE S	SEATTLE	98118	●			
31625795	45	Rainier Auto Body	Rainier Auto Body	6355 RAINIER AVE S	SEATTLE	98118				
79391627	137	Rainier Beach Automotive		9479 RAINIER AVE S	SEATTLE	98118	●			
6991459	131	Rainier Beach Cleaners		9432 RAINIER AVE S	SEATTLE	98118				
15542927	112	Rainier Beach Playfield		8825 RAINIER AVE S	SEATTLE	98118	●			
7978	123	Rainier Beach Veterinary Hospital	Rainier Beach Veterinary Hospital	9238 RAINIER AVE S	SEATTLE	98118				
92476571	166	Rainier Pacific Co Seattle	Rainier Pacific Co Simkus Property	9656 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	●			
52192378	77	Rainier Shell	Rainier Valero	7301 RAINIER AVE S	SEATTLE	98118	●			
600222	5	Rainier Sign Co		5208 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
57956112	189	Raymond Babula Estate of		10401 51ST AVE S	SEATTLE	98178				
63111842	203	RCAG Beacon Hill		BEACON HILL	SEATTLE	98108	●			
22202	185	Reliable Auto Motors Inc		4345 S 104TH PL UNIT B	SEATTLE	98178				
57935661	215	Renton Sch Dist 403 Dimmit Middle School	Renton Sch Dist 403 Dimmit Middle School	12320 80TH AVE S	SEATTLE	98178			●	

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Facility/ Site ID	Map ID	Facility/Site Name	Alternate Name(s)	Address	City	Zip Code	Ecology CSCSL	Active NPDES Permit	Inactive NPDES Permit	KCIW Discharge Authorization
913282	214	Renton School Dist Fac & Ops Bldg	Renton School Dist Fac & Ops Bldg	7812 S 124TH ST	SEATTLE	98178				
4882670	71	Residence 7313 Martin Luther King Jr Way		7313 MARTIN LUTHER KING JR WAY	SEATTLE	98118	●			
4787484	115	Rite Aid 5217	Rite Aid 5217	9000 RAINIER AVE S	SEATTLE	98118				
61864115	101	RL Alia Co	OR Alia Inc	9215 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
75625924	32	Robert K Blackstone A1 Auto Rebuild		6754 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
82855211	93	Rose St Auto Repair Inc	Rose St Auto Repair Inc	8335 RAINIER AVE S	SEATTLE	98118	●			
19890	96	Rose Street Apartments	Rose Street Apartments	8124 RAINIER AVE S	SEATTLE	98118			●	
29194726	127	Rossoe Oil Co	Rossoe Energy Systems Inc	9367 RAINIER AVE S	SEATTLE	98118	●			
90152648	14	S Orcas Diesel Cleanup		SW COR S ORCAS & WILSON S	SEATTLE	98118				
1308598	124	Safeway Fuel Ctr 1965		9262 RAINIER AVE S	SEATTLE	98335				
16454	61	Safeway Store 219	Safeway Store 219	3900 S OTHELLO ST	SEATTLE	98118				
2277	95	Sams Auto Repair	Sams Auto Repair	7722 1/2 RAINIER AV S	SEATTLE	98118				
14897342	200	Schafer Industrial Park		10400 MARTIN LUTHER KING JR WAY S	SEATTLE	98178				
79855373	13	Seattle City (Hillman) Shops	Hillman City 26, Hillman Emergency Training Fa	5900 RAINIER AVE S	SEATTLE	98118	●			
446156	190	Seattle City Creston Nelson Substation		5300 S BANGOR ST	SEATTLE	98178				
66399681	12	Seattle City ESD Engineering		5952 RAINIER AVE S	SEATTLE	98108				
93238925	136	Seattle City Parks Aqua Marina		9520 RAINIER AVE S PARKS	SEATTLE	98118				
45539956	196	Seattle City Rainier Ave Illegal Dump		1000 FT NW OF RAINIER AVE S ON 68TH AVE	SEATTLE	98118				
3498543	118	Seattle City Rainier Beach Play		8802 RAINIER AVE S	SEATTLE	98118				
88161966	15	Seattle City Seward Park		5900 LAKE WASHINGTON BLVD S	SEATTLE	98118				
68757861	11	Seattle Fire Station 28		5968 RAINIER AVE S	SEATTLE	98118-2764				
8288833	172	Seattle Fire Station 33		9645 RENTON AVE S	SEATTLE	98118-5719				
79149596	55	Seattle Housing Authority Holly Park		7001 32ND AVE S	SEATTLE	98118				
39472424	58	Seattle Housing Authority Middle Holly P	Seattle Housing Authority Middle Holly P	3800 S MYRTLE ST	SEATTLE	98118				
7645835	57	Seattle Housing Authority Seattle		3815 S OTHELLO ST	SEATTLE	98109				
34926628	173	Seattle Parks Rec Kubota Gar		9817 55TH AVE S	SEATTLE	98118	●			
93539581	53	Seattle Police Dept 27		3001 S MYRTLE ST	SEATTLE	98108				
12744577	111	Seattle Sch Dist 1 Dunlap Elementary		8621 46 AVE S	SEATTLE	98118				
34868146	128	Seattle School Dist 1 Rainier Beach HS	Seattle School Dist 1 Rainier Beach HS	8815 SEWARD PARK AVE S	SEATTLE	98118				
23861338	117	Seattle School Dist 1 S Shore Middle	Rainier Beach Community Center and Pool, Ra	8825 RAINIER AVE S	SEATTLE	98118			●	
45153145	39	Seattle School Dist 1 Sharples School		3928 S GRAHAM ST	SEATTLE	98118				
5944825	54	Seattle School Dist 1 Van Asselt Element		7201 BEACON AVE S	SEATTLE	98108				
64831467	28	Seattle Solid Waste Util Oil Coll Tank		6600 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
19367	50	Sellers Property		6323 52ND AVE S	SEATTLE	98118				
64415463	30	Shell Oil Products US SAP 121476	M L K Chevron, Shell Oil Products US SAP 121	6600 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
52783488	75	Shell Station 121526	Rainier Shell Mini Mart, Shell 7219 Rainier Ave	7219 RAINIER AVE S	SEATTLE	98188				
10329	72	Site 3 7343 MLK	Site 3 7343 MLK	7343 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	●			
6151	170	Skyway Cleaning Services		4801 S ROXBURY ST APT C	SEATTLE	98118				
23549	110	Skyway Gasoline Seattle	Skyway Gasoline Seattle	1655 RENTON AVE S	SEATTLE	98178				
83867552	206	Skyway Park Cleaning Center		11831 RENTON AVE S	SEATTLE	98178				
61186376	198	Skyway Shell & Automotive	Skyway Shell & Automotive, Skyway Texaco, Skyway Texaco Service, Unocal 5534	11809 RENTON AVE S	SEATTLE	98178				
7945	181	SNW LLC		9877 40TH AVE S	SEATTLE	98118				
16114	80	Sonny Auto Body Repair	Sonny Auto Body Repair	7100 RAINIER AVE S	SEATTLE	98118				
64287785	46	Sound Oil	Sound Oil	6346 RAINIER AVE S	SEATTLE	98118	●			
7794978	106	Sound Transit Central Link		9224 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
8554739	104	Sound Transit Vegetable Bin Property	RV-295, Sound Transit HENDERSON & M L KING, Tire Shack	8825 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	●			
24475	119	South Lake High School	South Lake High School	8825 RAINIER AVE S	SEATTLE	98118			●	
22987	113	South Shore Phase 1 & 2	South Shore Phase 1 & 2	4800 S HENDERSON ST	SEATTLE	98118			●	
81536493	109	South Shore Texaco	South Shore Texaco	9001 RENTON AVE S	SEATTLE	98118-5018	●			
25181548	23	Southland 27390	7 Eleven Store 230727390M, 7 Eleven Store 27390, 7-Eleven 27390	6061 MARTIN LUTHER KING JR WAY	SEATTLE	98118	●			
86951499	233	Southland Corp 2307		12702 RENTON AVE S	SEATTLE	98178-4850				
99853513	222	Southland Facility 23525	7 Eleven, 7 Eleven Store 23525, 7-Eleven 2307-23525D, Seven Eleven MLK, Seven Eleven Seattle, Southland Corp 23525, Southland Facility 23525	12848 MARTIN LUTHER KING JR WAY	SEATTLE	98178				

**Table G-1  
Facilities within the Norfolk CSO/SD Basin that are Listed in the Ecology Facility/Site Database**

Facility/ Site ID	Map ID	Facility/Site Name	Alternate Name(s)	Address	City	Zip Code	Ecology CSCSL	Active NPDES Permit	Inactive NPDES Permit	KCIW Discharge Authorization
13876787	134	Southland Store 17381	Southland Store 17381	9436 RAINIER AVE S	SEATTLE	98118	●			
21356	102	Special Asphalt Products Inc		9243 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		●		
9600	162	Speedeelube		9637 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
7453	186	Steeler Inc		10023 MARTIN LUTHER KING JR WAY S	SEATTLE	98178		●		
78724276	138	Stipe Crow Peschel Residence	Stipe Crow Peschel Residence	8694 & 8696 ISLAND DR S	SEATTLE	98118				
2596	98	Stone Property 55th Ave S	Arthur Stone Property	8433 55TH AVE S	SEATTLE	98118	●			
98192359	153	Stoneway Carton Co		9860 40TH AVE S	SEATTLE	98118				
5766	87	Swan Net USA LLC		8300 MILITARY RD S STE 100	SEATTLE	98108		●		
21803	10	Thanh Thao	Thanh Thao	6012 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
15318746	86	Thaw Corp		8300 MILITARY RD S	SEATTLE	98108				
41562715	88	Tlh Abatement Inc		7917 BEACON AVE S	SEATTLE	98118				
91353329	147	TNT United Truck Lines Seattle		9833 40TH AVE S	SEATTLE	98118	●			
20717	201	Toddler Tech Academy		11900 BEACON AVE S	SEATTLE	98178				
1786	24	Tonys Bakery & Deli	Tonys Bakery & Deli	6020 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
94567695	21	Trim Cleaners	RV-172, Sound Transit Central Link Light Rail	6320 MARTIN LUTHER KING JR WAY	SEATTLE	98118				
20307	8	Triple T Auto Repair	Triple T Auto Repair	5510 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
31187623	195	Tukwila Container		NE COR S 114TH ST & 49TH AVE S	TUKWILA	98168				
93694734	150	Tukwila Lucile Intersection Stage 1		MP 158	SEATTLE	98118				
13523	232	Tuscany Ridge	Tuscany Ridge	7425 S 129TH ST	SEATTLE	98178			●	
1969712	22	U-Haul Martin Luther King Wy S	U Haul Co of SE Seattle	6403 MARTIN LUTHER KING JR WAY	SEATTLE	98118	●			
73338176	144	Unified Grocers 3301 Norfolk	Associated Grocers 3301 Norfolk, Associated Grocers UST 5765, Associated Grocers Seattle, Unified Grocers	3301 S NORFOLK ST	SEATTLE	98118	●			
52544853	56	Union Gospel Mission Seattle		3800 S OTHELLO ST	SEATTLE	98118				
95997636	192	Union Pacific Railroad Co		COUGAR RD & S RAYN T23N R4E	SEATTLE	98108				
55792445	60	Unocal Station 3707	3707, Unocal Station 3707	6956 MARTIN LUTHER KING JR WAY S	SEATTLE	98108	●			
68995612	224	US DOJ DEA Martin Luther King Jr Way S		13000 MARTIN LUTHER KING JR WAY S	SEATTLE	98178-4643				
68373867	40	US HUD Environet Inc Cleanup SE		4217 S SPENCER ST	SEATTLE	98118				
5846	62	Verizon Wireless Othello SEA	Verizon Wireless Othello SEA	7101 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
33876576	51	Victor Oishi DBA Vics Union 76		7100 BEACON AVE S	SEATTLE	98108	●			
22194	26	Viet Wah Superfoods	Viet Wah Superfoods	6040 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				
7724	20	Village Homes	Village Homes	S HOLLY STREET & 37TH AVE S	SEATTLE				●	
22407	19	Village Homes at Othello Station	Village Homes at Othello Station	37TH AVE S & S HOLLY ST	SEATTLE	98118			●	
73975933	52	WA DOT Spokane		15 S MP 160.1	SEATTLE	98108				
16714	154	Wall & Ceiling Supply Co Inc		9830 40TH AVE S	SEATTLE	98118				
81879447	116	Washington 1 Hour Cleaners		9180 RAINIER AVE S	SEATTLE	98118				
23910	122	Washington Cleaners	Washington Cleaners	9252 RAINIER AVE S	SEATTLE	98118				
53346856	79	Wholesale Transmission	S&M Auto Repair	6924 RAINIER AVE S	SEATTLE	98118	●			
97191961	125	WTD Henderson Pump Station		5364 S HENDERSON ST	SEATTLE	98118-4773				

Possibly in Duwamish/Diagonal CSO/SD

- EPA - U.S. Environmental Protection Agency
- CSCSL - Confirmed or Suspected Contaminated Sites List
- NPDES - National Pollutant Discharge Elimination System
- KCIW - King County Industrial Waste
- LUST - Leaking Underground Storage Tank
- UST - Underground Storage Tank
- NFA - No Further Action

**Table G-1  
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2393964	42	5201 Rainier LLC					•					
15296	132	52nd Ave CSO Conveyance/Mapes Creek										
9608	92	99 Cent Plus Store									•	
7163112	159	Affordable Auto Wrecking									•	
17408	169	Affordable Auto Wrecking MLK Jr Wy S									•	
28918339	177	Airport Way Drum		•								
10573	91	Altaya Restaurant									•	
8509656	223	Anderson Joseph B										
1075883	221	Anderson Joseph B et al										
4816696	135	Aqua Marina Apts				•						
29429665	161	Arco Gas Station			•	•	•					
4552344	225	Arco Station & Mini Mart			•	•	•			•		
93132962	9	Arco Station 5246	•				•					•
45994359	133	ASAP Auto Repair			•	•				•		
9970306	85	AT&T Wireless Boeing Field		•								
45799631	35	Auto Repair Shop Former		•	•	•				•		
18463	78	BBB Used Tires									•	
71341384	33	Blackstones Autobody of Seattle Inc		•								
13895	17	Block 16-1 High Point Revitalization										
56652786	212	Boathouse Inc Renton Skyway		•			•					
52828576	204	Boeing A&M E Marginal Way Corporate Park		•								
4581384	146	Boeing Development Center Norfolk					•					
14532	141	Boeing Military Flight Center										
64295469	18	BP 03167 EXXON 79049		•			•					
52957232	218	BP Service Station 03140		•							•	
69383993	4	Bracy Auto Body		•								
12982	49	Brighton Beach Autobody				•						
43825591	197	Bryn Mawr Lakeridge Water & Sewer Dist	•									
4285	226	Building Busters										•
17358	229	Cambridge Park Villa										
88838687	148	Cascade Engine Center LLC	•	•							•	
9809063	107	Central Puget Sound Regional Transit Au		•								
13879377	59	Central Puget Sound Regional Transit Aut		•			•					
88374932	97	Chaus Auto Repair			•	•	•			•		
92732861	1	Columbia Greenhouse Company				•						
2936208	199	Cowley Property										
72684374	151	Dietzgen Corp	•	•							•	
15215	34	Dim Sum House									•	
2115	140	Dimensional Engineering								•		
54924846	114	Duwamish Riv Abandone		•								
6805845	213	Eat Em Up Hut			•	•	•			•		
13882	48	EI Nopalito									•	
8436	216	Empire Way										
9122	234	Evergreen Floral Phase 2										
48796862	220	Exxon 72894			•	•						

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61442182	205	Exxon Station 7-7176		•		•						
33189129	202	Federal Lease Co Inc				•						
98981573	130	Fisher Property										
18108	66	Five Stars Laundry									•	
41435438	230	Floral Crest		•								
2246	231	Floral Crest Nursery					•			•		
56365941	210	Foreign Specialties				•						
75459226	157	Frank Coluccio Construction Company		•		•						
71287498	211	Franks			•	•						
81561572	163	General Electrical Capitol Tran Intl Pool					•					
21178	219	Global Autobody & Repair									•	
20298	94	Global Food Market & Halai Meat									•	
47322747	38	Goos Property			•	•				•		
20123	183	Harrington Industrial Plastics Inc									•	
95378394	67	Haug 42nd Ave Site			•	•			•			
4707503	188	HD Supply Waterwork Ltd 3010	•	•							•	
6572	108	HE Goldberg & Co Inc									•	
57951531	37	Helmer Property				•	•					
18825	184	Herzog Industries LLC									•	
18440	68	Hoang Lan									•	
8747316	70	Holly Park			•	•	•					
93585452	194	I5 Hwy 900 Spill		•								
97252792	155	Industrial Magic S Perry		•								
20152	69	International Market									•	
34895863	174	Jack Collier				•						
94616485	156	Jacks Auto Parts Inc				•						
17450	160	JCM U Link		•							•	
18916576	29	Jet				•						
94253462	73	Jims Market & Gas			•	•	•			•		
13552	179	John Farrell Property										
19746	25	Joy Palace Seafood Restaurant									•	
66867121	145	Junk House Inc		•								
4649	36	Karama Restaurant									•	
2279	99	Khy & Li Property								•		
6406	64	King Plaza Laundry									•	
15373862	152	Kingsway Freightlines Ltd		•								
81758697	193	Lakeridge Park		•							•	
2285	126	Lakeshore Village Apartments					•	•		•		
51648386	16	Larrys Volvo Repair Svc Inc		•								
5147650	6	Le & Thuy Property										
95195341	209	Lemonbusters										
715544	31	Lewis Family Properties LLC		•								
13173922	182	Lindal Cedar Homes Inc		•								
2423	228	Little Ethels Auto Wrecking									•	
49944537	129	Living Color Hair Salon			•	•	•					
23845	81	Los Tinos									•	
7493317	83	Low Rate Hauling & Yard Clean Up										
96935538	158	Lucks Bakery Supply									•	
91725823	47	Lucky One Food Store			•	•				•		•
12345973	27	M & K Auto Sevices		•								

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8578521	149	Mac Donald Miller Facility Solutions					•				•	
53781321	89	Martin Luther King Apartments		•								
2427	90	Martir Property								•		
19547	43	Mawadda Cafe									•	
97268417	176	McConkey Property			•	•						
19033	84	McCullum Property							•			
2479873	3	Merlino Foods		•		•						
16892	82	Mi Ranchito									•	
20230	76	Minhs Auto Repair									•	
6604	227	Monster Auto Wrecking										
24773	103	MT Auto Repair									•	
93144373	121	Neighborcare Health		•			•					
71	164	Nelson Trucking Co									•	
18277	165	Nelson Trucking Co 9777									•	
40616942	2	Ngoc Used Cars			•	•				•	•	
6491976	139	Norfolk CSO SD									•	
23725	180	Norfolk MLK Way Subbasin Improvements										
88347472	7	Northern Professional Inc		•								
2287	142	Northwest Auto Wrecking					•					
21493	175	NW Fleet Truck Trailer Repair Inc									•	
7120	168	NW Kidney Ctr									•	
87886749	100	Ohno Construction Co			•	•						
14961	167	Ohno Construction Company									•	
17592	74	Othello Station South										
21044	187	Pacific Grip & Lighting									•	
5074	217	Pacific Topsoils Inc Seattle									•	
2595	178	Pape Material Handling	•	•							•	
2094680	105	Partners Mortgage Corp Investment Trust		•			•					
62385828	143	Penske Truck Leasing Co LP Seattle Norfo		•								
32746547	171	Pham Ngoc Taun				•						
13976	63	Pho My Chau									•	
5831	120	Pho Van Vietnamese Restaurant									•	
21287436	207	Quality Food Market				•						•
12024	208	Quality Food Mart Shell									•	
16564	65	Quan Binh Dan									•	
21154698	41	Qwest Communications International	•	•	•							
17638742	191	Qwest Communications W000182		•								
65136957	44	Rainier 76			•	•	•					
31625795	45	Rainier Auto Body	•									
79391627	137	Rainier Beach Automotive			•	•						
6991459	131	Rainier Beach Cleaners		•								
15542927	112	Rainier Beach Playfield			•	•				•		
7978	123	Rainier Beach Veterinary Hospital									•	
92476571	166	Rainier Pacific Co Seattle			•	•		•		•		
52192378	77	Rainier Shell			•	•						
600222	5	Rainier Sign Co		•								
57956112	189	Raymond Babula Estate of				•						
63111842	203	RCAG Beacon Hill			•	•				•		
22202	185	Reliable Auto Motors Inc									•	
57935661	215	Renton Sch Dist 403 Dimmit Middle School	•	•								

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913282	214	Renton School Dist Fac & Ops Bldg										
4882670	71	Residence 7313 Martin Luther King Jr Way										
4787484	115	Rite Aid 5217	•	•								
61864115	101	RL Alia Co		•		•						
75625924	32	Robert K Blackstone A1 Auto Rebuild				•						
82855211	93	Rose St Auto Repair Inc		•	•	•				•		
19890	96	Rose Street Apartments				•	•					
29194726	127	Rossoe Oil Co	•	•	•							
90152648	14	S Orcas Diesel Cleanup		•								
1308598	124	Safeway Fuel Ctr 1965	•	•								
16454	61	Safeway Store 219	•								•	
2277	95	Sams Auto Repair						•				
14897342	200	Schafer Industrial Park		•								
79855373	13	Seattle City (Hillman) Shops			•	•						
446156	190	Seattle City Creston Nelson Substation	•									
66399681	12	Seattle City ESD Engineering		•								
93238925	136	Seattle City Parks Aqua Marina		•								
45539956	196	Seattle City Rainier Ave Illegal Dump		•								
3498543	118	Seattle City Rainier Beach Play		•								
88161966	15	Seattle City Seward Park		•								
68757861	11	Seattle Fire Station 28				•						
8288833	172	Seattle Fire Station 33				•						
79149596	55	Seattle Housing Authority Holly Park		•								
39472424	58	Seattle Housing Authority Middle Holly P		•			•					
7645835	57	Seattle Housing Authority Seattle		•								
34926628	173	Seattle Parks Rec Kubota Gar		•	•	•				•		
93539581	53	Seattle Police Dept 27				•						
12744577	111	Seattle Sch Dist 1 Dunlap Elementary		•								
34868146	128	Seattle School Dist 1 Rainier Beach HS	•	•								
23861338	117	Seattle School Dist 1 S Shore Middle	•	•								
45153145	39	Seattle School Dist 1 Sharples School		•								
5944825	54	Seattle School Dist 1 Van Asselt Element		•								
64831467	28	Seattle Solid Waste Util Oil Coll Tank		•								
19367	50	Sellers Property					•					
64415463	30	Shell Oil Products US SAP 121476					•					
52783488	75	Shell Station 121526		•			•					
10329	72	Site 3 7343 MLK			•	•	•			•		
6151	170	Skyway Cleaning Services									•	
23549	110	Skyway Gasoline Seattle									•	
83867552	206	Skyway Park Cleaning Center		•								
61186376	198	Skyway Shell & Automotive		•		•	•					
7945	181	SNW LLC									•	
16114	80	Sonny Auto Body Repair									•	
64287785	46	Sound Oil	•		•		•			•		
7794978	106	Sound Transit Central Link	•	•								
8554739	104	Sound Transit Vegetable Bin Property			•	•	•			•		
24475	119	South Lake High School										
22987	113	South Shore Phase 1 & 2										
81536493	109	South Shore Texaco			•	•				•		
25181548	23	Southland 27390		•	•		•					
86951499	233	Southland Corp 2307		•		•						
99853513	222	Southland Facility 23525					•				•	

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13876787	134	Southland Store 17381		•	•		•			•		
21356	102	Special Asphalt Products Inc									•	
9600	162	Speedeelube									•	
7453	186	Steeler Inc									•	
78724276	138	Stipe Crow Peschel Residence					•					
2596	98	Stone Property 55th Ave S										
98192359	153	Stoneway Carton Co		•								
5766	87	Swan Net USA LLC										
21803	10	Thanh Thao									•	
15318746	86	Thaw Corp		•								
41562715	88	Tlh Abatement Inc		•								
91353329	147	TNT United Truck Lines Seattle			•	•	•			•		
20717	201	Toddler Tech Academy					•					
1786	24	Tonys Bakery & Deli									•	
94567695	21	Trim Cleaners		•			•					
20307	8	Triple T Auto Repair									•	
31187623	195	Tukwila Container		•								
93694734	150	Tukwila Lucile Intersection Stage 1		•								
13523	232	Tuscany Ridge										
1969712	22	U-Haul Martin Luther King Wy S			•		•					
73338176	144	Unified Grocers 3301 Norfolk				•	•	•				
52544853	56	Union Gospel Mission Seattle		•								
95997636	192	Union Pacific Railroad Co		•								
55792445	60	Unocal Station 3707			•	•	•			•		
68995612	224	US DOJ DEA Martin Luther King Jr Way S		•								
68373867	40	US HUD Environet Inc Cleanup SE		•								
5846	62	Verizon Wireless Othello SEA	•									
33876576	51	Victor Oishi DBA Vics Union 76			•	•				•		
22194	26	Viet Wah Superfoods									•	
7724	20	Village Homes										
22407	19	Village Homes at Othello Station										
73975933	52	WA DOT Spokane		•								
16714	154	Wall & Ceiling Supply Co Inc									•	
81879447	116	Washington 1 Hour Cleaners		•								
23910	122	Washington Cleaners									•	
53346856	79	Wholesale Transmission			•	•					•	
97191961	125	WTD Henderson Pump Station				•						

Possibly in Duwamish/Diagonal CSO/SD

- EPA - U.S. Environmental Protection Agency
- CSCSL - Confirmed or Suspected Contaminated Sites List
- NPDES - National Pollutant Discharge Elimination System
- KCIW - King County Industrial Waste
- LUST - Leaking Underground Storage Tank
- UST - Underground Storage Tank
- NFA - No Further Action



**Table G-2  
Facilities in the Norfolk CSO/SD Basin with NPDES Permits**

Facility/ Site ID	Map ID	Facility/Site Name	Address	City	Zip Code	Active Date	Active NPDES Permit			
							ISGP	CNE	Industrial to Ground SWDP IP	CSWGP
15296	132	52nd Ave CSO Conveyance/Mapes Creek		SEATTLE	98118	2/19/2013				WAR126721
1075883	221	Anderson Joseph B et al	13001 MARTIN LUTHER KING JR WY S	SEATTLE	98178	1/3/1995	WAR002153			
14532	141	Boeing Military Flight Center	10002 E MARGINAL WAY S	TUKWILA	98108	12/22/1992	WAR000150			
17358	229	Cambridge Park Villa	13370 MARTIN LUTHER KING JR WAY S	RENTON	98178	5/19/2008				WAR010541
8436	216	Empire Way	5515 S 129TH ST 12929 BEACON	SKYWAY	98178	3/9/2009				WAR011571
96935538	158	Lucks Bakery Supply	9620 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	12/15/2010	WAR125428		I	
8578521	149	Mac Donald Miller Facility Solutions	3701 S NORFOLK	SEATTLE	98118	9/13/2010	WAR125005			
6604	227	Monster Auto Wrecking	13301 MARTIN LUTHER KING JR WAY	SEATTLE	98178	5/12/2010	WAR012345			
18277	165	Nelson Trucking Co 9777	9777 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	8/15/2011	WAR125421			
21356	102	Special Asphalt Products Inc	9243 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	9/20/2011	WAR125646			
7453	186	Steeler Inc	10023 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	4/29/2010	WAR125358			
5766	87	Swan Net USA LLC	8300 MILITARY RD S STE 100	SEATTLE	98108	8/8/2010		CNE126545		

ISGP - Industrial Stormwater General Permit

CNE - Conditional No Exposure

SWDP IP - State Waste Discharge Permit - Individual Permit

CSWGP - Construction Stormwater General Permit

**Table G-3  
Facilities in the Norfolk CSO/SD Basin with KCIW Discharge Permits**

<b>Facility/ Site ID</b>	<b>Map ID</b>	<b>Facility Name</b>	<b>Permittee Name</b>	<b>Facility Address</b>	<b>City</b>	<b>Zip Code</b>	<b>KCIW Discharge Number</b>	<b>Discharge Type</b>
7163112	159	Affordable Auto Wrecking	Same	9802 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	4134-01	Major Discharge
88838687	148	Cascade Engine Center LLC	Alpha Cine Labs	9800 40TH AVE S	SEATTLE	98118	4172-01	Major Discharge
75459226	157	Frank Coluccio Construction Company	Same	9600 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	779-01	Minor Discharge
96935538	158	Lucks Bakery Supply	Northwest Gourmet Food Products	9620 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	784-01	Minor Discharge

KCIW - King County Industrial Waste

**Table G-4  
Facilities with the Norfolk CSO/SD Basin  
Listed on Ecology's Confirmed or Suspected Contaminated Site List**

Facility/ Site ID	Map ID	Cleanup Site ID	Facility Name	Address	City	Zip Code	Contaminant Name	Groundwater	Soil	Surface Water	Sediment	Air	NFA
7163112	159	1484	Affordable Auto Wrecking	9802 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Metals Priority Pollutants	S	C	S			
7163112	159	1484	Affordable Auto Wrecking	9802 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Non-Halogenated Solvents	S	S	S			
7163112	159	1484	Affordable Auto Wrecking	9802 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum Products-Unspecified	S	C	C			
7163112	159	1484	Affordable Auto Wrecking	9802 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Polynuclear Aromatic Hydrocarbons	S	S	S			
8509656	223	2813	Anderson Joseph B	13336 BEACON COAL MINE RD	SEATTLE	98178	Conventional Contaminants, Organic		S	S			
8509656	223	2813	Anderson Joseph B	13336 BEACON COAL MINE RD	SEATTLE	98178	Corrosive Wastes		S	S			
8509656	223	2813	Anderson Joseph B	13336 BEACON COAL MINE RD	SEATTLE	98178	Metals - Other		S	S			
8509656	223	2813	Anderson Joseph B	13336 BEACON COAL MINE RD	SEATTLE	98178	Metals Priority Pollutants		S	S			
8509656	223	2813	Anderson Joseph B	13336 BEACON COAL MINE RD	SEATTLE	98178	Non-Halogenated Solvents		S	C			
8509656	223	2813	Anderson Joseph B	13336 BEACON COAL MINE RD	SEATTLE	98178	Petroleum Products-Unspecified	S	C	C			
8509656	223	2813	Anderson Joseph B	13336 BEACON COAL MINE RD	SEATTLE	98178	Polychlorinated biphenyls (PCBs)		B				
8509656	223	2813	Anderson Joseph B	13336 BEACON COAL MINE RD	SEATTLE	98178	Polynuclear Aromatic Hydrocarbons		S	S			
1075883	221	1961	Anderson Joseph B et al	13001 MARTIN LUTHER KING JR WY S	SEATTLE	98178	Arsenic		S	S			
1075883	221	1961	Anderson Joseph B et al	13001 MARTIN LUTHER KING JR WY S	SEATTLE	98178	Asbestos		S	S			
1075883	221	1961	Anderson Joseph B et al	13001 MARTIN LUTHER KING JR WY S	SEATTLE	98178	Conventional Contaminants, Inorganic		S	S			
1075883	221	1961	Anderson Joseph B et al	13001 MARTIN LUTHER KING JR WY S	SEATTLE	98178	Conventional Contaminants, Organic		S	S			
1075883	221	1961	Anderson Joseph B et al	13001 MARTIN LUTHER KING JR WY S	SEATTLE	98178	Corrosive Wastes		S	S			
1075883	221	1961	Anderson Joseph B et al	13001 MARTIN LUTHER KING JR WY S	SEATTLE	98178	Halogenated Organics		S	S			
1075883	221	1961	Anderson Joseph B et al	13001 MARTIN LUTHER KING JR WY S	SEATTLE	98178	Metals - Other		S	S			
1075883	221	1961	Anderson Joseph B et al	13001 MARTIN LUTHER KING JR WY S	SEATTLE	98178	Metals Priority Pollutants		S	S			
1075883	221	1961	Anderson Joseph B et al	13001 MARTIN LUTHER KING JR WY S	SEATTLE	98178	Methyl tertiary-butyl ether		S	S			
1075883	221	1961	Anderson Joseph B et al	13001 MARTIN LUTHER KING JR WY S	SEATTLE	98178	Non-Halogenated Solvents		S				
1075883	221	1961	Anderson Joseph B et al	13001 MARTIN LUTHER KING JR WY S	SEATTLE	98178	Other Deleterious Substances		C				
1075883	221	1961	Anderson Joseph B et al	13001 MARTIN LUTHER KING JR WY S	SEATTLE	98178	Petroleum Products-Unspecified		C	C			
29429665	161	5834	Arco Gas Station	9840 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum Products-Diesel		C				
29429665	161	5834	Arco Gas Station	9840 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum Products-Unspecified	B					
4552344	225	5343	Arco Station & Mini Mart	13201 MARTIN LUTHER KING JR WAY	SEATTLE	98178	Benzene		C				
4552344	225	5343	Arco Station & Mini Mart	13201 MARTIN LUTHER KING JR WAY	SEATTLE	98178	Non-Halogenated Solvents		C				2/21/2003
4552344	225	5343	Arco Station & Mini Mart	13201 MARTIN LUTHER KING JR WAY	SEATTLE	98178	Petroleum-Gasoline		C				
45994359	133	9304	ASAP Auto Repair	9480 RAINIER AVE S	SEATTLE	98118	Benzene		RB				
45994359	133	9304	ASAP Auto Repair	9480 RAINIER AVE S	SEATTLE	98118	Petroleum-Gasoline		RB				10/3/2011
45994359	133	9304	ASAP Auto Repair	9480 RAINIER AVE S	SEATTLE	98118	Petroleum-Other		RB				
45799631	35	6118	Auto Repair Shop Former	6633 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum-Gasoline		C				10/27/2008
56652786	212	567	Boathouse Inc Renton Skyway	12548 RENTON AVE S	SEATTLE	98118	Conventional Contaminants, Organic	C	C				
56652786	212	567	Boathouse Inc Renton Skyway	12548 RENTON AVE S	SEATTLE	98118	Halogenated Organics	C	C				
56652786	212	567	Boathouse Inc Renton Skyway	12548 RENTON AVE S	SEATTLE	98118	Metals Priority Pollutants	C					
13879377	59	1050	Central Puget Sound Regional Transit Aut	7126 MARTIN LUTHER KING JR WAY	SEATTLE	98118	Halogenated Organics		C				
13879377	59	1050	Central Puget Sound Regional Transit Aut	7126 MARTIN LUTHER KING JR WAY	SEATTLE	98118	Petroleum Products-Unspecified		B				
13879377	59	1050	Central Puget Sound Regional Transit Aut	7126 MARTIN LUTHER KING JR WAY	SEATTLE	98118	Polynuclear Aromatic Hydrocarbons		B				
88374932	97	11957	Chaus Auto Repair	7700 & 7708 RAINIER AVE S	SEATTLE	98118	Petroleum-Gasoline		RB				5/31/2013
2936208	199	1415	Cowley Property	11430 69TH PL S	SEATTLE	98178	Petroleum Products-Unspecified	S	C				
2115	140	792	Dimensional Engineering	9407 E MARGINAL WY	SEATTLE	98108	Halogenated Organics	S					05/25/89
6805845	213	5420	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	Benzene	C	C				
6805845	213	5420	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	Lead	C	C				
6805845	213	5420	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	Metals Priority Pollutants	C	S				
6805845	213	5420	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	Non-Halogenated Solvents	C	C				
6805845	213	5420	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	Petroleum-Gasoline	C	C				
6805845	213	5420	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	Petroleum-Other	C	C				
6805845	213	5420	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	Polynuclear Aromatic Hydrocarbons	S	S				
48796862	220	9417	Exxon 72894	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	Benzene	C	C				
48796862	220	9417	Exxon 72894	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	Lead	C	C				
48796862	220	9417	Exxon 72894	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	Methyl tertiary-butyl ether	C	C				
48796862	220	9417	Exxon 72894	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	Non-Halogenated Solvents	C	C				
48796862	220	9417	Exxon 72894	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	Petroleum-Diesel	C	C				
48796862	220	9417	Exxon 72894	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	Petroleum-Gasoline	C	C				
48796862	220	9417	Exxon 72894	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	Petroleum-Other	C	C				
98981573	130	4230	Fisher Property	9420 RAINIER AVE S	SEATTLE	98118	Non-Halogenated Solvents	S	C				
98981573	130	4230	Fisher Property	9420 RAINIER AVE S	SEATTLE	98118	Petroleum Products-Unspecified	S	C				
2246	231	1363	Floral Crest Nursery	7432 S 131ST ST & LANGSTON RD	SEATTLE	98178	Asbestos	B	R			R	

**Table G-4  
Facilities with the Norfolk CSO/SD Basin  
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Facility/ Site ID	Map ID	Cleanup Site ID	Facility Name	Address	City	Zip Code	Contaminant Name	Groundwater	Soil	Surface Water	Sediment	Air	NFA
2246	231	1363	Floral Crest Nursery	7432 S 131ST ST & LANGSTON RD	SEATTLE	98178	Conventional Contaminants, Inorganic	B	R			R	09/17/99
2246	231	1363	Floral Crest Nursery	7432 S 131ST ST & LANGSTON RD	SEATTLE	98178	Conventional Contaminants, Organic	B	R			R	
2246	231	1363	Floral Crest Nursery	7432 S 131ST ST & LANGSTON RD	SEATTLE	98178	Corrosive Wastes	B	R			R	
2246	231	1363	Floral Crest Nursery	7432 S 131ST ST & LANGSTON RD	SEATTLE	98178	Halogenated Organics		R			R	
2246	231	1363	Floral Crest Nursery	7432 S 131ST ST & LANGSTON RD	SEATTLE	98178	Metals Priority Pollutants	B					
2246	231	1363	Floral Crest Nursery	7432 S 131ST ST & LANGSTON RD	SEATTLE	98178	Other Reactive Wastes	B	R	R		R	
2246	231	1363	Floral Crest Nursery	7432 S 131ST ST & LANGSTON RD	SEATTLE	98178	Pesticides-Unspecified	B	R	R		R	
71287498	211	10235	Franks	12603 RENTON AVE S	SEATTLE	98178	Benzene		S				
71287498	211	10235	Franks	12603 RENTON AVE S	SEATTLE	98178	Petroleum-Gasoline		C				
71287498	211	10235	Franks	12603 RENTON AVE S	SEATTLE	98178	Petroleum-Other		S				
47322747	38	9360	Goos Property	3816 S GRAHAM ST	SEATTLE	98110-315	Benzene		RB				10/3/2011
47322747	38	9360	Goos Property	3816 S GRAHAM ST	SEATTLE	98110-315	Petroleum-Gasoline		RB				
47322747	38	9360	Goos Property	3816 S GRAHAM ST	SEATTLE	98110-315	Petroleum-Other		RB				
95378394	67	11202	Haug 42nd Ave Site	7100 42ND AVE S	SEATTLE	98118	Benzene		RB				
95378394	67	11202	Haug 42nd Ave Site	7100 42ND AVE S	SEATTLE	98118	Petroleum-Gasoline		S				
95378394	67	11202	Haug 42nd Ave Site	7100 42ND AVE S	SEATTLE	98118	Petroleum-Other		RB				
57951531	37	6333	Helmer Property	6700 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Benzene	C	C				
57951531	37	6333	Helmer Property	6700 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Halogenated Organics		R				
57951531	37	6333	Helmer Property	6700 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum-Diesel	C	C				
57951531	37	6333	Helmer Property	6700 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum-Gasoline	C	C				
57951531	37	6333	Helmer Property	6700 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum-Other	C	C				
8747316	70	4040	Holly Park	7301 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Benzene	C					
8747316	70	4040	Holly Park	7301 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum-Diesel	C					
8747316	70	4040	Holly Park	7301 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum-Gasoline	C					
8747316	70	4040	Holly Park	7301 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum-Other	C					
8747316	70	4040	Holly Park	7301 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum Products-Unspecified		C				
94253462	73	6905	Jims Market & Gas	7500 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum-Other		C				5/17/2001
2279	99	1915	Khy & Li Property	9056 37TH AV S	SEATTLE	98118	Petroleum Products-Unspecified		S				07/10/98
2285	126	2050	Lakeshore Village Apartments	9061 SEWARD PARK AV S	SEATTLE	98118	Metals Priority Pollutants		R				06/19/13
2285	126	2050	Lakeshore Village Apartments	9061 SEWARD PARK AV S	SEATTLE	98118	Petroleum-Other		C				
5147650	6	2218	Le & Thuy Property	5306 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum Products-Unspecified		C				
95195341	209	4483	Lemonbusters	11903 RENTON AVE S	SEATTLE	98178	Halogenated Organics	S					
95195341	209	4483	Lemonbusters	11903 RENTON AVE S	SEATTLE	98178	Metals - Other		S	S			
95195341	209	4483	Lemonbusters	11903 RENTON AVE S	SEATTLE	98178	Metals Priority Pollutants		C	S			
95195341	209	4483	Lemonbusters	11903 RENTON AVE S	SEATTLE	98178	Non-Halogenated Solvents		S				
95195341	209	4483	Lemonbusters	11903 RENTON AVE S	SEATTLE	98178	Petroleum Products-Unspecified	S	S	S			
2423	228	3163	Little Ethels Auto Wrecking	13301 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	Halogenated Organics	S	S	S			
2423	228	3163	Little Ethels Auto Wrecking	13301 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	Metals Priority Pollutants	S	C	S			
2423	228	3163	Little Ethels Auto Wrecking	13301 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	Non-Halogenated Solvents	S	S	S			
2423	228	3163	Little Ethels Auto Wrecking	13301 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	Petroleum Products-Unspecified	S	C	S			
2423	228	3163	Little Ethels Auto Wrecking	13301 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	Polynuclear Aromatic Hydrocarbons	S	C	S			
49944537	129	12157	Living Color Hair Salon	9416 RAINIER AVE S	SEATTLE	98118	Benzene	B					
49944537	129	12157	Living Color Hair Salon	9416 RAINIER AVE S	SEATTLE	98118	Other Non-Halogenated Organics	B					
49944537	129	12157	Living Color Hair Salon	9416 RAINIER AVE S	SEATTLE	98118	Petroleum-Diesel	C					
49944537	129	12157	Living Color Hair Salon	9416 RAINIER AVE S	SEATTLE	98118	Petroleum-Gasoline	C					
49944537	129	12157	Living Color Hair Salon	9416 RAINIER AVE S	SEATTLE	98118	Petroleum-Other	B					
7493317	83	1031	Low Rate Hauling & Yard Clean Up	7020 44TH AVE S	SEATTLE	98118	Conventional Contaminants, Organic		S				
7493317	83	1031	Low Rate Hauling & Yard Clean Up	7020 44TH AVE S	SEATTLE	98118	Halogenated Organics		S				
7493317	83	1031	Low Rate Hauling & Yard Clean Up	7020 44TH AVE S	SEATTLE	98118	Metals - Other		S				
7493317	83	1031	Low Rate Hauling & Yard Clean Up	7020 44TH AVE S	SEATTLE	98118	Metals Priority Pollutants		S				
7493317	83	1031	Low Rate Hauling & Yard Clean Up	7020 44TH AVE S	SEATTLE	98118	Non-Halogenated Solvents		S				
7493317	83	1031	Low Rate Hauling & Yard Clean Up	7020 44TH AVE S	SEATTLE	98118	Petroleum Products-Unspecified		S				
91725823	47	11040	Lucky One Food Store	6815 RAINIER AVE S	SEATTLE	98118	Benzene		C				10/3/2011
91725823	47	11040	Lucky One Food Store	6815 RAINIER AVE S	SEATTLE	98118	Petroleum-Gasoline		RB				
91725823	47	11040	Lucky One Food Store	6815 RAINIER AVE S	SEATTLE	98118	Petroleum-Other		C				
2427	90	2980	Martir Property	4211 S CLOVERDALE ST	SEATTLE	98118	Corrosive Wastes	S	S	S		S	01/11/01
2427	90	2980	Martir Property	4211 S CLOVERDALE ST	SEATTLE	98118	Metals Priority Pollutants	S	S	S		S	

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Facilities with the Norfolk CSO/SD Basin  
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Facility/ Site ID	Map ID	Cleanup Site ID	Facility Name	Address	City	Zip Code	Contaminant Name	Groundwater	Soil	Surface Water	Sediment	Air	NFA
97268417	176	11275	McConkey Property	10710 E MARGINAL WAY S	SEATTLE	8168-193	Benzene	S	C				
97268417	176	11275	McConkey Property	10710 E MARGINAL WAY S	SEATTLE	8168-193	Petroleum-Diesel	S	C				
97268417	176	11275	McConkey Property	10710 E MARGINAL WAY S	SEATTLE	8168-193	Petroleum-Gasoline	S	C				
97268417	176	11275	McConkey Property	10710 E MARGINAL WAY S	SEATTLE	8168-193	Petroleum-Other	S	C				
40616942	2	9024	Ngoc Used Cars	5421 MARTIN LUTHER KING JR WAY S	SEATTLE	8118-223	Benzene		S				
40616942	2	9024	Ngoc Used Cars	5421 MARTIN LUTHER KING JR WAY S	SEATTLE	8118-223	Petroleum-Gasoline		C				10/3/2011
40616942	2	9024	Ngoc Used Cars	5421 MARTIN LUTHER KING JR WAY S	SEATTLE	8118-223	Petroleum-Other		S				
2287	142	1877	Northwest Auto Wrecking	10230 E MARGINAL WY S	TUKWILA	98168	Halogenated Organics	S	S	S	S	S	
2287	142	1877	Northwest Auto Wrecking	10230 E MARGINAL WY S	TUKWILA	98168	Metals - Other	S	S	S	S	S	
2287	142	1877	Northwest Auto Wrecking	10230 E MARGINAL WY S	TUKWILA	98168	Metals Priority Pollutants	S	C	S	C	S	
2287	142	1877	Northwest Auto Wrecking	10230 E MARGINAL WY S	TUKWILA	98168	Non-Halogenated Solvents	S	S	S	S	S	
2287	142	1877	Northwest Auto Wrecking	10230 E MARGINAL WY S	TUKWILA	98168	Petroleum Products-Unspecified	S	C	S	C	S	
2287	142	1877	Northwest Auto Wrecking	10230 E MARGINAL WY S	TUKWILA	98168	Polychlorinated biphenyls (PCBs)		C				
87886749	100	6803	Ohno Construction Co	9250 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Metals - Other	S	S				
87886749	100	6803	Ohno Construction Co	9250 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Metals Priority Pollutants	S	S				
87886749	100	6803	Ohno Construction Co	9250 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Non-Halogenated Solvents	S	S				
87886749	100	6803	Ohno Construction Co	9250 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	PCBs		S				
87886749	100	6803	Ohno Construction Co	9250 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum-Diesel	C	C				
21154698	41	8267	Qwest Communications International	6315 RAINIER AVE S	SEATTLE	98118	Petroleum-Diesel		C				
65136957	44	10034	Rainier 76	6230 RAINIER AVE S	SEATTLE	98118	Benzene	RB					
65136957	44	10034	Rainier 76	6230 RAINIER AVE S	SEATTLE	98118	Non-Halogenated Solvents	RB					
65136957	44	10034	Rainier 76	6230 RAINIER AVE S	SEATTLE	98118	Petroleum - Gasoline	RB					
79391627	137	6682	Rainier Beach Automotive	9479 RAINIER AVE S	SEATTLE	98118	Benzene		S				
79391627	137	6682	Rainier Beach Automotive	9479 RAINIER AVE S	SEATTLE	98118	Metals - Other		S	S			
79391627	137	6682	Rainier Beach Automotive	9479 RAINIER AVE S	SEATTLE	98118	Metals Priority Pollutants		S	S			
79391627	137	6682	Rainier Beach Automotive	9479 RAINIER AVE S	SEATTLE	98118	Non-Halogenated Solvents		S	S			
79391627	137	6682	Rainier Beach Automotive	9479 RAINIER AVE S	SEATTLE	98118	Petroleum Products-Unspecified			C			
79391627	137	6682	Rainier Beach Automotive	9479 RAINIER AVE S	SEATTLE	98118	Petroleum-Gasoline		C				
79391627	137	6682	Rainier Beach Automotive	9479 RAINIER AVE S	SEATTLE	98118	Petroleum-Other		S				
79391627	137	6682	Rainier Beach Automotive	9479 RAINIER AVE S	SEATTLE	98118	Polynuclear Aromatic Hydrocarbons		S	S			
15542927	112	8094	Rainier Beach Playfield	8825 RAINIER AVE S	SEATTLE	98118	Petroleum-Diesel		RB				10/3/2011
15542927	112	8094	Rainier Beach Playfield	8825 RAINIER AVE S	SEATTLE	98118	Petroleum-Other		RB				
92476571	166	11657	Rainier Pacific Co Seattle	9656 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Halogenated Organics		RB				8/5/2011
52192378	77	11967	Rainier Shell	7301 RAINIER AVE S	SEATTLE	98118	Petroleum-Gasoline		C				
63111842	203	9948	RCAG Beacon Hill	BEACON HILL	SEATTLE	98108	Benzene		RB				
63111842	203	9948	RCAG Beacon Hill	BEACON HILL	SEATTLE	98108	Petroleum-Gasoline		RB				10/3/2011
63111842	203	9948	RCAG Beacon Hill	BEACON HILL	SEATTLE	98108	Petroleum-Other		RB				
4882670	71	1582	Residence 7313 Martin Luther King Jr Way	7313 MARTIN LUTHER KING JR WAY	SEATTLE	98118	Petroleum Products-Unspecified		S				
82855211	93	10666	Rose St Auto Repair Inc	8335 RAINIER AVE S	SEATTLE	98118	Benzene		RB				
82855211	93	10666	Rose St Auto Repair Inc	8335 RAINIER AVE S	SEATTLE	98118	Petroleum-Gasoline		RB				10/3/2011
82855211	93	10666	Rose St Auto Repair Inc	8335 RAINIER AVE S	SEATTLE	98118	Petroleum-Other		RB				
29194726	127	8610	Roscoe Oil Co	9367 RAINIER AVE S	SEATTLE	98118	Petroleum-Diesel	S	C				
79855373	13	10578	Seattle City (Hillman) Shops	5900 RAINIER AVE S	SEATTLE	98118	Petroleum-Other		C				
34926628	173	8819	Seattle Parks Rec Kubota Gar	9817 55TH AVE S	SEATTLE	98118	Benzene		RB				
34926628	173	8819	Seattle Parks Rec Kubota Gar	9817 55TH AVE S	SEATTLE	98118	Petroleum-Gasoline		RB				10/3/2011
34926628	173	8819	Seattle Parks Rec Kubota Gar	9817 55TH AVE S	SEATTLE	98118	Petroleum-Other		RB				
8554739	104	3006	Sound Transit Vegetable Bin Property	8825 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Lead		R				8/17/2009
8554739	104	3006	Sound Transit Vegetable Bin Property	8825 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum-Other		R				
10329	72	11880	Site 3 7343 MLK	7343 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum-Diesel		RB				
10329	72	11880	Site 3 7343 MLK	7343 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum-Gasoline		RB				10/10/12
10329	72	11880	Site 3 7343 MLK	7343 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	Petroleum-Other		RB				
64287785	46	3107	Sound Oil	6346 RAINIER AVE S	SEATTLE	98118	Lead	RB					
64287785	46	3107	Sound Oil	6346 RAINIER AVE S	SEATTLE	98118	Petroleum-Diesel	RB	RB				
64287785	46	3107	Sound Oil	6346 RAINIER AVE S	SEATTLE	98118	Petroleum-Other		RB				6/21/2010
64287785	46	3107	Sound Oil	6346 RAINIER AVE S	SEATTLE	98118	Polynuclear Aromatic Hydrocarbons		RB				

**Table G-4  
Facilities with the Norfolk CSO/SD Basin  
Listed on Ecology's Confirmed or Suspected Contaminated Site List**

Facility/ Site ID	Map ID	Cleanup Site ID	Facility Name	Address	City	Zip Code	Contaminant Name	Groundwater	Soil	Surface Water	Sediment	Air	NFA
81536493	109	10610	South Shore Texaco	9001 RENTON AVE S	SEATTLE	98118-501	Benzene		RB				10/3/2011
81536493	109	10610	South Shore Texaco	9001 RENTON AVE S	SEATTLE	98118-501	Petroleum-Gasoline		RB				
81536493	109	10610	South Shore Texaco	9001 RENTON AVE S	SEATTLE	98118-501	Petroleum-Other		RB				
13876787	134	8003	Southland Store 17381	9436 RAINIER AVE S	SEATTLE	98118	Benzene	RB	RB				10/11/2012
13876787	134	8003	Southland Store 17381	9436 RAINIER AVE S	SEATTLE	98118	Petroleum-Gasoline	RB	RB				
25181548	23	8458	Southland 27390	6061 MARTIN LUTHER KING JR WAY	SEATTLE	98118	Benzene	C	C				
25181548	23	8458	Southland 27390	6061 MARTIN LUTHER KING JR WAY	SEATTLE	98118	Other Non-Halogenated Organics	C	C				
25181548	23	8458	Southland 27390	6061 MARTIN LUTHER KING JR WAY	SEATTLE	98118	Petroleum - Gasoline	C	C				
2596	98	752	Stone Property 55TH AVE S	8433 55TH AVE S	SEATTLE	98118	Conventional Contaminants, Organic		S				
2596	98	752	Stone Property 55TH AVE S	8433 55TH AVE S	SEATTLE	98118	Metals Priority Pollutants	S	S	S			
2596	98	752	Stone Property 55TH AVE S	8433 55TH AVE S	SEATTLE	98118	Petroleum Products-Unspecified	S	C	S			
91353329	147	6844	TNT United Truck Lines Seattle	9833 40TH AVE S	SEATTLE	98118	Benzene		C				11/16/2001
91353329	147	6844	TNT United Truck Lines Seattle	9833 40TH AVE S	SEATTLE	98118	Petroleum Products-Unspecified	B					
91353329	147	6844	TNT United Truck Lines Seattle	9833 40TH AVE S	SEATTLE	98118	Petroleum-Gasoline		C				
1969712	22	7458	U-Haul Martin Luther King Wy S	6403 MARTIN LUTHER KING JR WAY	SEATTLE	98118-319	Benzene	B	S				
1969712	22	7458	U-Haul Martin Luther King Wy S	6403 MARTIN LUTHER KING JR WAY	SEATTLE	98118-319	Other Non-Halogenated Organics	S	S				
1969712	22	7458	U-Haul Martin Luther King Wy S	6403 MARTIN LUTHER KING JR WAY	SEATTLE	98118-319	Petroleum - Diesel		S				
1969712	22	7458	U-Haul Martin Luther King Wy S	6403 MARTIN LUTHER KING JR WAY	SEATTLE	98118-319	Petroleum - Gasoline	B	S				
1969712	22	7458	U-Haul Martin Luther King Wy S	6403 MARTIN LUTHER KING JR WAY	SEATTLE	98118-319	Petroleum - Other	C	S				
73338176	144	6584	Unified Grocers 3301 NORFOLK	3301 S NORFOLK ST	SEATTLE	98118	Halogenated Organics	C	S				
73338176	144	6584	Unified Grocers 3301 NORFOLK	3301 S NORFOLK ST	SEATTLE	98118	Non-Halogenated Solvents	C	C				
73338176	144	6584	Unified Grocers 3301 NORFOLK	3301 S NORFOLK ST	SEATTLE	98118	Petroleum-Diesel	C	C				
73338176	144	6584	Unified Grocers 3301 NORFOLK	3301 S NORFOLK ST	SEATTLE	98118	Petroleum-Gasoline	C	C				
55792445	60	6289	Unocal Station 3707	6956 MARTIN LUTHER KING JR WAY S	SEATTLE	98108	Metals Priority Pollutants		C				3/26/2009
55792445	60	6289	Unocal Station 3707	6956 MARTIN LUTHER KING JR WAY S	SEATTLE	98108	Petroleum-Other	R	R				
33876576	51	8775	Victor Oishi DBA Vics Union 76	7100 BEACON AVE S	SEATTLE	98108	Benzene		RB				10/3/2011
33876576	51	8775	Victor Oishi DBA Vics Union 76	7100 BEACON AVE S	SEATTLE	98108	Petroleum-Gasoline		RB				
33876576	51	8775	Victor Oishi DBA Vics Union 76	7100 BEACON AVE S	SEATTLE	98108	Petroleum-Other		RB				
53346856	79	9584	Wholesale Transmission	6924 RAINIER AVE S	SEATTLE	98118	Petroleum - Other		C				

B - Below MTCA Cleanup Level After Assessment  
C - Confirmed Above Cleanup Level  
S - Suspected  
R - Remediated  
RB - Remediated-Below Cleanup Level  
NFA - No Further Action

**Table G-5  
Properties in the Norfolk CSO/SD Basin with Leaking Underground Storage Tanks**

Facility/ Site ID	Map ID	Facility Name	Facility Address	City	Zip Code	UST Site ID	Cleanup Site ID	LUST Release ID	Contaminant Name	Ground-water	Soil	Surface Water	Process Type	Release Status	Release Status Change Date
29429665	161	Arco Gas Station	9840 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	11253	5834	3921	Petroleum - Diesel		C				
29429665	161	Arco Gas Station	9840 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	11253	5834	3921	Petroleum Products-Unspecified	B			Independent Action	Awaiting Cleanup	8/17/1995
4552344	225	Arco Station & Mini Mart	13201 MARTIN LUTHER KING JR WAY	SEATTLE	98178	8090	5343	5751	Benzene		C				
4552344	225	Arco Station & Mini Mart	13201 MARTIN LUTHER KING JR WAY	SEATTLE	98178	8090	5343	5751	Non-Halogenated Solvents		C				
4552344	225	Arco Station & Mini Mart	13201 MARTIN LUTHER KING JR WAY	SEATTLE	98178	8090	5343	5751	Petroleum-Gasoline		C		Voluntary Cleanup Program	NFA	2/21/2003
45994359	133	ASAP Auto Repair	9480 RAINIER AVE S	SEATTLE	98118	102403	9304	3757	Benzene		RB				
45994359	133	ASAP Auto Repair	9480 RAINIER AVE S	SEATTLE	98118	102403	9304	3757	Petroleum-Gasoline		RB				
45994359	133	ASAP Auto Repair	9480 RAINIER AVE S	SEATTLE	98118	102403	9304	3757	Petroleum-Other		RB		Initial Investigation	NFA	10/3/2011
45799631	35	Auto Repair Shop Former	6633 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	619352	6118	6278	Petroleum-Gasoline		C		SHA, IRAP, or VCP	NFA	10/27/2008
88374932	97	Chaus Auto Repair	7700 & 7708 RAINIER AVE S	SEATTLE	98118	447720	11957	6723	Petroleum-Gasoline		RB		Voluntary Cleanup Program	NFA	5/31/2013
6805845	213	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	619116	5420	6064	Benzene	C	C				
6805845	213	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	619116	5420	6064	Lead	C	C				
6805845	213	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	619116	5420	6064	Metals Priority Pollutants	C	S				
6805845	213	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	619116	5420	6064	Non-Halogenated Solvents	C	C				
6805845	213	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	619116	5420	6064	Petroleum-Gasoline	C	C				
6805845	213	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	619116	5420	6064	Petroleum-Other	C	C				
6805845	213	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	619116	5420	6064	Polynuclear Aromatic Hydrocarbons	S	S		Voluntary Cleanup Program	NFA	9/16/2010
48796862	220	Exxon 72894	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	9554	9417	1415	Benzene	C	C		Independent Action	Cleanup Started	6/1/1995
48796862	220	Exxon 72894	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	9554	9417	1415	Lead	C	C				
48796862	220	Exxon 72894	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	9554	9417	1415	Methyl tertiary-butyl ether	C	C				
48796862	220	Exxon 72894	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	9554	9417	1415	Non-Halogenated Solvents	C	C				
48796862	220	Exxon 72894	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	9554	9417	1415	Petroleum - Diesel	C	C				
48796862	220	Exxon 72894	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	9554	9417	1415	Petroleum - Gasoline	C	C				
48796862	220	Exxon 72894	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	9554	9417	1415	Petroleum - Other	C	C				
71287498	211	Franks	12603 RENTON AVE S	SEATTLE	98178-3712	101878	10235	3528	Benzene		S				
71287498	211	Franks	12603 RENTON AVE S	SEATTLE	98178-3712	101878	10235	3528	Petroleum - Gasoline		C				
71287498	211	Franks	12603 RENTON AVE S	SEATTLE	98178-3712	101878	10235	3528	Petroleum - Other		S		Independent Action	Cleanup Started	7/1/2011
47322747	38	Goos Property	3816 S GRAHAM ST	SEATTLE	98110-3158	200161	9360	592	Benzene		RB				
47322747	38	Goos Property	3816 S GRAHAM ST	SEATTLE	98110-3158	200161	9360	592	Petroleum-Gasoline		RB				
47322747	38	Goos Property	3816 S GRAHAM ST	SEATTLE	98110-3158	200161	9360	592	Petroleum-Other		RB		Initial Investigation	NFA	10/3/2011
95378394	67	Haug 42nd Ave Site	7100 42ND AVE S	SEATTLE	98118-3515	100251	11202	607	Benzene		RB				
95378394	67	Haug 42nd Ave Site	7100 42ND AVE S	SEATTLE	98118-3515	100251	11202	607	Petroleum - Gasoline		S				
95378394	67	Haug 42nd Ave Site	7100 42ND AVE S	SEATTLE	98118-3515	100251	11202	607	Petroleum - Other		RB		Independent Action	Cleanup Started	5/24/2012
8747316	70	Holly Park	7301 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	619851	4040	6592	Benzene	C					
8747316	70	Holly Park	7301 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	619851	4040	6592	Petroleum - Diesel	C					
8747316	70	Holly Park	7301 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	619851	4040	6592	Petroleum - Gasoline	C					
8747316	70	Holly Park	7301 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	619851	4040	6592	Petroleum - Other	C					
8747316	70	Holly Park	7301 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	619851	4040	6592	Petroleum Products-Unspecified		C		Independent Action	Cleanup Started	9/9/2003
94253462	73	Jims Market & Gas	7500 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	100800	6905	2234	Petroleum-Other		C		Voluntary Cleanup Program	NFA	5/17/2001
49944537	129	Living Color Hair Salon	9416 RAINIER AVE S	SEATTLE	98118	620048	12157	6721	Benzene	B					
49944537	129	Living Color Hair Salon	9416 RAINIER AVE S	SEATTLE	98118	620048	12157	6721	Other Non-Halogenated Organics	B					
49944537	129	Living Color Hair Salon	9416 RAINIER AVE S	SEATTLE	98118	620048	12157	6721	Petroleum - Diesel	C					
49944537	129	Living Color Hair Salon	9416 RAINIER AVE S	SEATTLE	98118	620048	12157	6721	Petroleum - Gasoline	C					
49944537	129	Living Color Hair Salon	9416 RAINIER AVE S	SEATTLE	98118	620048	12157	6721	Petroleum - Other	B			Voluntary Cleanup Program	Cleanup Started	10/21/2009
91725823	47	Lucky One Food Store	6815 RAINIER AVE S	SEATTLE	98118	8704	11040	1368	Benzene		C				
91725823	47	Lucky One Food Store	6815 RAINIER AVE S	SEATTLE	98118	8704	11040	1368	Petroleum-Gasoline		RB				
91725823	47	Lucky One Food Store	6815 RAINIER AVE S	SEATTLE	98118	8704	11040	1368	Petroleum-Other		C		Initial Investigation	NFA	10/3/2011
97268417	176	McConkey Property	10710 E MARGINAL WAY S	SEATTLE	98168-1930	11310	11275	952	Benzene	S	C				
97268417	176	McConkey Property	10710 E MARGINAL WAY S	SEATTLE	98168-1930	11310	11275	952	Petroleum - Diesel	S	C				
97268417	176	McConkey Property	10710 E MARGINAL WAY S	SEATTLE	98168-1930	11310	11275	952	Petroleum - Gasoline	S	C				
97268417	176	McConkey Property	10710 E MARGINAL WAY S	SEATTLE	98168-1930	11310	11275	952	Petroleum - Other	S	C		Independent Action	Cleanup Started	7/1/2011
40616942	2	NGOC Used Cars	5421 MARTIN LUTHER KING JR WAY S	SEATTLE	98118-2234	200922	9024	950	Benzene		S				
40616942	2	NGOC Used Cars	5421 MARTIN LUTHER KING JR WAY S	SEATTLE	98118-2234	200922	9024	950	Petroleum-Gasoline		C				
40616942	2	NGOC Used Cars	5421 MARTIN LUTHER KING JR WAY S	SEATTLE	98118-2234	200922	9024	950	Petroleum-Other		S		Initial Investigation	NFA	10/3/2011

**Table G-5  
Properties in the Norfolk CSO/SD Basin with Leaking Underground Storage Tanks**

Facility/ Site ID	Map ID	Facility Name	Facility Address	City	Zip Code	UST Site ID	Cleanup Site ID	LUST Release ID	Contaminant Name	Ground-water	Soil	Surface Water	Process Type	Release Status	Release Status Change Date
87886749	100	Ohno Construction Co	9250 MARTIN LUTHER KING JR WAY S	SEATTLE	98118-5315	12645	6803	6364	Metals - Other	S	S				
87886749	100	Ohno Construction Co	9250 MARTIN LUTHER KING JR WAY S	SEATTLE	98118-5315	12645	6803	6364	Metals Priority Pollutants	S	S				
87886749	100	Ohno Construction Co	9250 MARTIN LUTHER KING JR WAY S	SEATTLE	98118-5315	12645	6803	6364	Non-Halogenated Solvents	S	S				
87886749	100	Ohno Construction Co	9250 MARTIN LUTHER KING JR WAY S	SEATTLE	98118-5315	12645	6803	6364	PCBs		S		No Process	Cleanup Started	4/13/2007
87886749	100	Ohno Construction Co	9250 MARTIN LUTHER KING JR WAY S	SEATTLE	98118-5315	12645	6803	6364	Petroleum-Diesel	C	C				
21154698	41	Qwest Communications International	6315 RAINIER AVE S	SEATTLE	98118	9997	8267	2258	Petroleum - Diesel	C	S		Independent Action	Cleanup Started	7/1/2011
65136957	44	Rainier 76	6230 RAINIER AVE S	SEATTLE	98118	7161	10034	3734	Benzene	RB					
65136957	44	Rainier 76	6230 RAINIER AVE S	SEATTLE	98118	7161	10034	3734	Non-Halogenated Solvents	RB					
65136957	44	Rainier 76	6230 RAINIER AVE S	SEATTLE	98118	7161	10034	3734	Petroleum - Gasoline	RB			Voluntary Cleanup Program	Cleanup Started	6/1/1995
79391627	137	Rainier Beach Automotive	9479 9481 RAINIER AVE S	SEATTLE	98118-5565	200853	6682	791	Benzene		S				
79391627	137	Rainier Beach Automotive	9479 9481 RAINIER AVE S	SEATTLE	98118-5565	200853	6682	791	Metals - Other		S	S			
79391627	137	Rainier Beach Automotive	9479 9481 RAINIER AVE S	SEATTLE	98118-5565	200853	6682	791	Metals Priority Pollutants		S	S			
79391627	137	Rainier Beach Automotive	9479 9481 RAINIER AVE S	SEATTLE	98118-5565	200853	6682	791	Non-Halogenated Solvents		S	S			
79391627	137	Rainier Beach Automotive	9479 9481 RAINIER AVE S	SEATTLE	98118-5565	200853	6682	791	PAHs		S	S	Independent Action	Cleanup Started	7/1/2011
79391627	137	Rainier Beach Automotive	9479 9481 RAINIER AVE S	SEATTLE	98118-5565	200853	6682	791	Petroleum - Gasoline		C				
79391627	137	Rainier Beach Automotive	9479 9481 RAINIER AVE S	SEATTLE	98118-5565	200853	6682	791	Petroleum - Other		S				
79391627	137	Rainier Beach Automotive	9479 9481 RAINIER AVE S	SEATTLE	98118-5565	200853	6682	791	Petroleum Products-Unspecified			C			
15542927	112	Rainier Beach Playfield	8825 RAINIER AVE S	SEATTLE	98118	102419	8094	3752	Petroleum-Diesel		RB				
15542927	112	Rainier Beach Playfield	8825 RAINIER AVE S	SEATTLE	98118	102419	8094	3752	Petroleum-Other		RB		Initial Investigation	NFA	10/3/2011
92476571	166	Rainier Pacific Co Seattle	9656 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	102141	11657	6657	Halogenated Solvents		RB		Initial Investigation	NFA	8/5/2011
52192378	77	Rainier Shell	7301 RAINIER AVE S	SEATTLE	98118	225	11967	6642	Petroleum - Gasoline		C		Independent Action	Cleanup Started	3/31/2012
63111842	203	RCAG Beacon Hill	BEACON HILL	SEATTLE	98108	11618	9948	5246	Benzene		RB				
63111842	203	RCAG Beacon Hill	BEACON HILL	SEATTLE	98108	11618	9948	5246	Petroleum-Gasoline		RB				
63111842	203	RCAG Beacon Hill	BEACON HILL	SEATTLE	98108	11618	9948	5246	Petroleum-Other		RB		Initial Investigation	NFA	10/3/2011
82855211	93	Rose St Auto Repair Inc	8335 RAINIER AVE S	SEATTLE	98118	314	10666	3786	Benzene		RB				
82855211	93	Rose St Auto Repair Inc	8335 RAINIER AVE S	SEATTLE	98118	314	10666	3786	Petroleum-Gasoline		RB				
82855211	93	Rose St Auto Repair Inc	8335 RAINIER AVE S	SEATTLE	98118	314	10666	3786	Petroleum-Other		RB		Initial Investigation	NFA	10/3/2011
29194726	127	Roscoe Oil Co	9367 RAINIER AVE S	SEATTLE	98118	6947	8610	301	Petroleum - Diesel	S	C		Independent Action	Awaiting Cleanup	7/1/2011
79855373	13	Seattle City (Hillman) Shops	5952 RAINIER AVE S	SEATTLE	98118-2724	7933	10578	4792	Petroleum - Other		C		Independent Action	Cleanup Started	3/12/1998
34926628	173	Seattle Parks Rec Kubota Gar	9817 55TH AVE S	SEATTLE	98118	384139	8819	4293	Benzene		RB				
34926628	173	Seattle Parks Rec Kubota Gar	9817 55TH AVE S	SEATTLE	98118	384139	8819	4293	Petroleum-Gasoline		RB				
34926628	173	Seattle Parks Rec Kubota Gar	9817 55TH AVE S	SEATTLE	98118	384139	8819	4293	Petroleum-Other		RB		Initial Investigation	NFA	10/3/2011
10329	72	Site 3 7343 MLK	7343 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	619889	11880, 12483	6610	Petroleum-Diesel		RB				
10329	72	Site 3 7343 MLK	7343 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	619889	11880, 12483	6610	Petroleum-Gasoline		RB				
10329	72	Site 3 7343 MLK	7343 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	619889	11880, 12483	6610	Petroleum-Other		RB		Voluntary Cleanup Program	NFA	10/10/2012
64287785	46	Sound Oil	6346 RAINIER AVE S	SEATTLE	98118	1796	3107	6198	Lead	RB					
64287785	46	Sound Oil	6346 RAINIER AVE S	SEATTLE	98118	1796	3107	6198	Petroleum-Diesel	RB	RB				
64287785	46	Sound Oil	6346 RAINIER AVE S	SEATTLE	98118	1796	3107	6198	Petroleum-Other		RB				
64287785	46	Sound Oil	6346 RAINIER AVE S	SEATTLE	98118	1796	3107	6198	Polynuclear Aromatic Hydrocarbons		RB		Voluntary Cleanup Program	NFA	6/21/2010
8554739	104	Sound Transit Vegetable Bin Property	8825 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	619197	3006	6136	Lead		R				
8554739	104	Sound Transit Vegetable Bin Property	8825 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	619197	3006	6136	Petroleum-Other		R		VCP Review	NFA	8/17/2009
81536493	109	South Shore Texaco	9001 RENTON AVE S	SEATTLE	98118-5018	1168	10610	197	Benzene		RB				
81536493	109	South Shore Texaco	9001 RENTON AVE S	SEATTLE	98118-5018	1168	10610	197	Petroleum-Gasoline		RB				
81536493	109	South Shore Texaco	9001 RENTON AVE S	SEATTLE	98118-5018	1168	10610	197	Petroleum-Other		RB		Initial Investigation	NFA	10/3/2011



**Table G-5  
Properties in the Norfolk CSO/SD Basin with Leaking Underground Storage Tanks**

Facility/ Site ID	Map ID	Facility Name	Facility Address	City	Zip Code	UST Site ID	Cleanup Site ID	LUST Release ID	Contaminant Name	Ground-water	Soil	Surface Water	Process Type	Release Status	Release Status Change Date
25181548	23	Southland 27390	6061 MARTIN LUTHER KING JR WAY	SEATTLE	98118	97593	8458	5102	Benzene	C	C				
25181548	23	Southland 27390	6061 MARTIN LUTHER KING JR WAY	SEATTLE	98118	97593	8458	5102	Other Non-Halogenated Organics	C	C				
25181548	23	Southland 27390	6061 MARTIN LUTHER KING JR WAY	SEATTLE	98118	97593	8458	5102	Petroleum - Gasoline	C	C		Voluntary Cleanup Program	Cleanup Started	1/8/2013
13876787	134	Southland Store 17381	9436 RAINIER AVE S	SEATTLE	98118	8701	8003	217	Benzene	RB	RB				
13876787	134	Southland Store 17381	9436 RAINIER AVE S	SEATTLE	98118	8701	8003	217	Petroleum-Gasoline	RB	RB		Voluntary Cleanup Program	NFA	10/11/2012
91353329	147	TNT United Truck Lines Seattle	9833 40TH AVE S	SEATTLE	98118	6619	6844	5579	Benzene		C				
91353329	147	TNT United Truck Lines Seattle	9833 40TH AVE S	SEATTLE	98118	6619	6844	5579	Petroleum Products-Unspecified	B					
91353329	147	TNT United Truck Lines Seattle	9833 40TH AVE S	SEATTLE	98118	6619	6844	5579	Petroleum-Gasoline		C		VCP Review	NFA	11/16/2001
1969712	22	U-Haul Martin Luther King Wy S	6403 MARTIN LUTHER KING JR WAY	SEATTLE	98118-3195	6047	7458	3526	Benzene	B	S				
1969712	22	U-Haul Martin Luther King Wy S	6403 MARTIN LUTHER KING JR WAY	SEATTLE	98118-3195	6047	7458	3526	Other Non-Halogenated Organics	S	S				
1969712	22	U-Haul Martin Luther King Wy S	6403 MARTIN LUTHER KING JR WAY	SEATTLE	98118-3195	6047	7458	3526	Petroleum - Diesel		S		Voluntary Cleanup Program	Cleanup Started	7/1/2011
1969712	22	U-Haul Martin Luther King Wy S	6403 MARTIN LUTHER KING JR WAY	SEATTLE	98118-3195	6047	7458	3526	Petroleum - Gasoline	B	S				
1969712	22	U-Haul Martin Luther King Wy S	6403 MARTIN LUTHER KING JR WAY	SEATTLE	98118-3195	6047	7458	3526	Petroleum - Other	C	S				
55792445	60	Unocal Station 3707	6956 MARTIN LUTHER KING JR WAY S	SEATTLE	98108	8404	6289	622	Metals Priority Pollutants		C				
55792445	60	Unocal Station 3707	6956 MARTIN LUTHER KING JR WAY S	SEATTLE	98108	8404	6289	622	Petroleum-Other	R	R		VCP Review	NFA	3/26/2009
33876576	51	Victor Oishi DBA Vics Union 76	7100 BEACON AVE S	SEATTLE	98108	5910	8775	601					Initial Investigation	NFA	10/3/2011
53346856	79	Wholesale Transmission	6924 RAINIER AVE S	SEATTLE	98118	101741	9584	2105	Petroleum - Other		C		Independent Action	Cleanup Started	6/1/1995

B - Below MTCA Cleanup Level After Assessment  
C - Confirmed Above Cleanup Level  
S - Suspected  
R - Remediated  
RB - Remediated-Below Cleanup Level  
NFA - No Further Action  
VCP - Voluntary Cleanup Program

**Table G-6  
Properties in the Norfolk CSO/SD Basin with Underground Storage Tanks**

Facility/ Site ID	Map ID	Facility/Site Name	Address	City	Zip Code	LUST	UST	Operational	Removed	Closed-in- Place	Unknown	Exempt	Temporarily Closed	Closure in Process	Unregister 30 Day Notice	Change in Service
4816696	135	Aqua Marina Apts	9520 RAINIER AVE S	SEATTLE	98118		100990		2							
29429665	161	Arco Gas Station	9840 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	3921	11253		26							
4552344	225	Arco Station & Mini Mart	13201 MARTIN LUTHER KING JR WAY	SEATTLE	98178	5751	8090		4							
45994359	133	ASAP Auto Repair	9480 RAINIER AVE S	SEATTLE	98118	3757	102403			3						
45799631	35	Auto Repair Shop Former	6633 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	6278	619352		3							
12982	49	Brighton Beach Autobody	6824 RAINIER AVE S	SEATTLE	98118		620091		4							
88374932	97	Chaus Auto Repair	7700 & 7708 RAINIER AVE S	SEATTLE	98118	6723	447720		3							
92732861	1	Columbia Greenhouse Company	5710 32ND AVE S	SEATTLE	98118-2276		491519		6							
6805845	213	Eat Em Up Hut	12640 RENTON AVE S	SEATTLE	98178	6064	619116		2							
48796862	220	Exxon 72894	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178	1415	9554	4	1							
61442182	205	Exxon Station 7-7176	11655 RENTON AVE S	SEATTLE	98178		9521	4				1				
33189129	202	Federal Lease Co Inc	12817 EMPIRE WAY S	SEATTLE	98178		6556			4						
56365941	210	Foreign Specialities	12561 RENTON AVE S	SEATTLE	98178-3710		795									2
75459226	157	Frank Coluccio Construction Company	9600 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		2676	6								
71287498	211	Franks	12603 RENTON AVE S	SEATTLE	98178	3528	101878		4							
47322747	38	Goos Property	3816 S GRAHAM ST	SEATTLE	98110-3158	592	200161		4							
95378394	67	Haug 42nd Ave Site	7100 42ND AVE S	SEATTLE	98118	607	100251		2							
57951531	37	Helmer Property	6700 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		548239		2							
8747316	70	Holly Park	7301 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	6592	619851				4					
34895863	174	Jack Collier	9701 RAINIER AVE S	SEATTLE	98112-9999		102218		4							
94616485	156	Jacks Auto Parts Inc	9423 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		11252			4						
18916576	29	Jet	3810 S MORGAN ST	SEATTLE	98118-3167		3378		3							
94253462	73	Jims Market & Gas	7500 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	2234	100800	3								
49944537	129	Living Color Hair Salon	9416 RAINIER AVE S	SEATTLE	98118	6721	620048			3						
91725823	47	Lucky One Food Store	6815 RAINIER AVE S	SEATTLE	98118	1368	8704	1	2							
97268417	176	McConkey Property	10710 E MARGINAL WAY S	SEATTLE	98168	952	11310		2							
2479873	3	Merlino Foods	5605 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		100508		1							
40616942	2	Ngoc Used Cars	5421 MARTIN LUTHER KING JR WAY S	SEATTLE	98118-2234	950	200922		5							
87886749	100	Ohno Construction Co	9250 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	6364	12645		4							
32746547	171	Pham Ngoc Taun	9601 RENTON AVE S	SEATTLE	98118		9330		3							
21287436	207	Quality Food Market	11900 RENTON AVE S	SEATTLE	98178		100889	4	1				4			
65136957	44	Rainier 76	6230 RAINIER AVE S	SEATTLE	98118	3734	7161	2	3					1		
79391627	137	Rainier Beach Automotive	9479 RAINIER AVE S	SEATTLE	98118	791	200853		4							
15542927	112	Rainier Beach Playfield	8825 RAINIER AVE S	SEATTLE	98118	3752	102419		1							
92476571	166	Rainier Pacific Co Seattle	9656 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	6657	102141		1							
52192378	77	Rainier Shell	7301 RAINIER AVE S	SEATTLE	98118	6642	225	2	3							
57956112	189	Raymond Babula Estate of	10401 51ST AVE S	SEATTLE	98178		1947			1						
63111842	203	RCAG Beacon Hill	BEACON HILL	SEATTLE	98108	5246	11618		1							
61864115	101	RL Alia Co	9215 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		2705		2							
75625924	32	Robert K Blackstone A1 Auto Rebuild	6754 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		7500			3						
82855211	93	Rose St Auto Repair Inc	8335 RAINIER AVE S	SEATTLE	98118	3786	314		4							
19890	96	Rose Street Apartments	8124 RAINIER AVE S	SEATTLE	98118		619723		3						1	
79855373	13	Seattle City (Hillman) Shops	5900 RAINIER AVE S	SEATTLE	98118	4792	7933		2							
68757861	11	Seattle Fire Station 28	5968 RAINIER AVE S	SEATTLE	98118-2764		7908		1	1						
8288833	172	Seattle Fire Station 33	9645 RENTON AVE S	SEATTLE	98118-5719		7887		1							
34926628	173	Seattle Parks Rec Kubota Gar	9817 55TH AVE S	SEATTLE	98118	4293	384139		1							
93539581	53	Seattle Police Dept 27	3001 S MYRTLE ST	SEATTLE	98108		7922	2				1				

**Table G-6  
Properties in the Norfolk CSO/SD Basin with Underground Storage Tanks**

Facility/ Site ID	Map ID	Facility/Site Name	Address	City	Zip Code	LUST	UST	Operational	Removed	Closed-in- Place	Unknown	Exempt	Temporarily Closed	Closure in Process	Unregister 30 Day Notice	Change in Service
10329	72	Site 3 7343 MLK	7343 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	6610	619889		1							
61186376	198	Skyway Shell & Automotive	11809 RENTON AVE S	SEATTLE	98178		8477	2	3							
8554739	104	Sound Transit Vegetable Bin Property	8825 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	6136	619197		3							
81536493	109	South Shore Texaco	9001 RENTON AVE S	SEATTLE	98118-5018	197	1168		5							
86951499	233	Southland Corp 2307	12702 RENTON AVE S	SEATTLE	98178-4850		8700		2							
91353329	147	TNT United Truck Lines Seattle	9833 40TH AVE S	SEATTLE	98118	5579	6619		2							
73338176	144	Unified Grocers 3301 Norfolk	3301 S NORFOLK ST	SEATTLE	98118		5765	2	12	1						
55792445	60	Unocal Station 3707	6956 MARTIN LUTHER KING JR WAY S	SEATTLE	98108	622	8404		3							
33876576	51	Victor Oishi DBA Vics Union 76	7100 BEACON AVE S	SEATTLE	98108	601	5910		3							
53346856	79	Wholesale Transmission	6924 RAINIER AVE S	SEATTLE	98118	2105	101741		5							
97191961	125	WTD Henderson Pump Station	5364 S HENDERSON ST	SEATTLE	98118-4773		10093	1	1					1		

LUST - Leaking Underground Storage Tank  
UST - Underground Storage Tank  
GW - Groundwater

**Table G-7  
Facilities in the Norfolk CSO/SD Basin with Active EPA Identification Numbers**

Facility/ Site ID	Map ID	Facility/Site Name	Address	City	Zip Code	Active EPA ID No.	Date Issued	HWG	HW Mgmt	Tier 2
93132962	9	Arco Station 5246	5620 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	WAD988514840	12/31/2008			
43825591	197	Bryn Mawr Lakeridge Water & Sewer Dist	7843 S 116TH S	SEATTLE	98178	CRK000041700	1/1/1995			
88838687	148	Cascade Engine Center LLC	9800 40TH AVE S	SEATTLE	98118	WAH000016360	12/20/2013			
72684374	151	Dietzgen Corp	9875 40TH AVE S	SEATTLE	98118	WAD061669891	1/1/1990			
4707503	188	HD Supply Waterwork Ltd 3010	10013 MARTIN LUTHER KING WAY S	SEATTLE	98178	WAH000030152	12/31/2012			
2595	178	Pape Material Handling	9892 40TH AVE S	SEATTLE	98118	WAD988495339	8/30/2005			
21154698	41	Qwest Communications International	6315 RAINIER AVE S	SEATTLE	98118	WAT540012705	1/1/1999			
31625795	45	Rainier Auto Body	6355 RAINIER AVE S	SEATTLE	98118	WAD027465202	6/4/1984			
57935661	215	Renton Sch Dist 403 Dimmit Middle School	12320 80TH AVE S	SEATTLE	98178	WAH000009472	12/31/2007			
4787484	115	Rite Aid 5217	9000 RAINIER AVE S	SEATTLE	98118	WAH000010868	12/31/2012			
29194726	127	Rosroe Oil Co	9367 RAINIER AVE S	SEATTLE	98118	WAD027467794	1/1/1994			
1308598	124	Safeway Fuel Ctr 1965	9262 RAINIER AVE S	SEATTLE	98335	WAH000032688	12/31/2010			
16454	61	Safeway Store 219	3900 S OTHELLO ST	SEATTLE	98118	WAH000045402	2/7/2014			
446156	190	Seattle City Creston Nelson Substation	5300 S BANGOR ST	SEATTLE	98178	CRK000052950	9/15/2003			
34868146	128	Seattle School Dist 1 Rainier Beach HS	8815 SEWARD PARK AVE S	SEATTLE	98118	WAD988504817	12/31/2012			
23861338	117	Seattle School Dist 1 S Shore Middle	8825 RAINIER AVE S	SEATTLE	98118	WAD100569078	12/31/2011			
64287785	46	Sound Oil	6346 RAINIER AVE S	SEATTLE	98118	WAD027473503	1/1/1993			
7794978	106	Sound Transit Central Link	9224 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	WAH000023868	12/31/2007			
5846	62	Verizon Wireless Othello SEA	7101 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	CRK000078280	11/7/2011			

EPA - U.S. Environmental Protection Agency

HWG - Facilities that generate any quantity of hazardous waste

HW Mgmt - Facilities that are required to have a RCRA Site ID# but who do not generate and/or manage hazardous waste (XQG generator status). This includes transporters, used oil recyclers, and dangerous waste fuel marketers and burners.

Tier 2 - Businesses that store 10,000 pounds or more of a hazardous chemical or 500 pounds or less, depending on the chemical, of an extremely hazardous chemical at any time must report annually.

**Table G-8**  
**Source Control Inspections at Facilities within the Norfolk CSO/SD Basin**

Facility/ Site ID	Map ID	Facility/Site Name	Address	City	Zip Code	Local Source Control	Revised Site Visit Program	Source Control Inspection	Urban Waters Initiative
9608	92	99 Cent Plus Store	8115 RAINIER AVE S	SEATTLE	98118	12/23/09- 04/29/10			
7163112	159	Affordable Auto Wrecking	9802 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		11/14/2007		
17408	169	Affordable Auto Wrecking MLK Jr Wy S	9820 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		10/16/2008		
10573	91	Altaya Restaurant	8135 RAINIER AVE S	SEATTLE	98118	12/03/09- 04/29/10			
18463	78	BBB Used Tires	7000 RAINIER AVE S	SEATTLE	98118	10/01/10- 10/01/10			
52957232	218	BP Service Station 03140	12911 MARTIN LUTHER KING JR WAY S	SEATTLE	98178-4611	09/10/09- 04/29/10			
88838687	148	Cascade Engine Center LLC	9800 40TH AVE S	SEATTLE	98118	12/15/2010			
72684374	151	Dietzgen Corp	9875 40TH AVE S	SEATTLE	98118				1/10/2011
15215	34	Dim Sum House	6008 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	10/26/10- 10/26/10			
13882	48	El Nopalito	6622 RAINIER AVE S	SEATTLE	98118	11/15/10- 11/15/10			
18108	66	Five Stars Laundry	7137 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	12/17/09- 04/29/10			
21178	219	Global Autobody & Repair	12817 MARTIN LUTHER KING JR WAY	SEATTLE	98178	07/23/09- 07/23/09			
20298	94	Global Food Market & Halai Meat	7917 RAINIER AVE S	SEATTLE	98118	12/23/09- 04/29/10			
20123	183	Harrington Industrial Plastics Inc	4322 S 104TH PL	SEATTLE	98178		2/14/2011		1/26/2011
4707503	188	HD Supply Waterwork Ltd 3010	10013 MARTIN LUTHER KING WAY S	SEATTLE	98178				1/25/2011
6572	108	HE Goldberg & Co Inc	9050 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		7/13/2011		6/21/2011
18825	184	Herzog Industries LLC	4344 S 104TH PL	SEATTLE	98178		2/16/2011		1/26/2011
18440	68	Hoang Lan	7119 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	11/04/10- 11/04/10			
20152	69	International Market	7126 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	11/08/10- 11/08/10			
17450	160	JCM U Link	9645 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	05/12/11- 05/12/11			
19746	25	Joy Palace Seafood Restaurant	6030 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	10/26/10- 10/26/10			
4649	36	Karama Restaurant	6727 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	11/08/10- 11/08/10			
6406	64	King Plaza Laundry	7101 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	12/17/09 - 04/29/10			
81758697	193	Lakeridge Park	10127 CORNELL WAY S	SEATTLE	98178-2605		12/5/2007		

**Table G-8  
Source Control Inspections at Facilities within the Norfolk CSO/SD Basin**

Facility/ Site ID	Map ID	Facility/Site Name	Address	City	Zip Code	Local Source Control	Revised Site Visit Program	Source Control Inspection	Urban Waters Initiative
2423	228	Little Ethels Auto Wrecking	13301 MARTIN LUTHER KING JR WAY S	SEATTLE	98178		3/21/2006		
23845	81	Los Tinos	7300 RAINIER AVE S	SEATTLE	98118	11/01/10- 11/01/10			
96935538	158	Lucks Bakery Supply	9620 MARTIN LUTHER KING JR WAY S	SEATTLE	98118				9/15/2010
8578521	149	Mac Donald Miller Facility Solutions	3701 S NORFOLK	SEATTLE	98118				6/17/2010
19547	43	Mawadda Café	4433 S GRAHAM ST	SEATTLE	98118	11/08/10- 11/08/10			
16892	82	Mi Ranchito	7636 RAINIER AVE S STE A	SEATTLE	98118	11/1/2010			
20230	76	Minhs Auto Repair	6905 RAINIER AVE S	SEATTLE	98118	12/01/09- 04/29/10			
24773	103	MT Auto Repair	9101 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		7/13/2011		6/21/2011
71	164	Nelson Trucking Co	9747 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		3/31/2011		2/23/2011
40616942	2	Ngoc Used Cars	5421 MARTIN LUTHER KING JR WAY S	SEATTLE	98118-2234	12/01/09- 04/29/10			
6491976	139	Norfolk CSO SD	27TH AVE S	SEATTLE	98134			9/15/2008	
21493	175	NW Fleet Truck Trailer Repair Inc	10710 E MARGINAL WAY S	TUKWILA	98168		1/6/2011		12/2/2010
7120	168	NW Kidney Ctr	9700 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	08/23/11- 08/23/11			
14961	167	Ohno Construction Company	9416 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		6/6/2011		5/12/2011
21044	187	Pacific Grip & Lighting	10401 ML KING JR WAY	TUKWILA	98178		3/31/2011		3/1/2011
5074	217	Pacific Topsoils Inc Seattle	6000 S 129TH ST	SEATTLE	98178	08/24/11- 08/24/11			
2595	178	Pape Material Handling	9892 40TH AVE S	SEATTLE	98118				9/15/2010
13976	63	Pho My Chau	7101 MARTIN LUTHER KING JR WAY S STE 201	SEATTLE	98118	12/21/10- 12/21/10			
5831	120	Pho Van Vietnamese Restaurant	9150 RAINIER AVE S	SEATTLE	98118	11/04/10- 11/04/10			
12024	208	Quality Food Mart Shell	11890 RENTON AVE S	SEATTLE	98178	09/01/09- 04/29/10			
16564	65	Quan Binh Dan	7127 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	12/29/10- 12/29/10			
7978	123	Rainier Beach Veterniary Hospital	9238 RAINIER AVE S	SEATTLE	98118	08/11/11- 08/11/11			
22202	185	Reliable Auto Motors Inc	4345 S 104TH PL UNIT B	SEATTLE	98178		3/11/2011		01/26/11- 01/26/11
16454	61	Safeway Store 219	3900 S OHELLO ST	SEATTLE	98118	09/07/11- 09/07/11			
6151	170	Skyway Cleaning Services	4801 S ROXBURY ST APT C	SEATTLE	98118		6/7/2011		

**Table G-8  
Source Control Inspections at Facilities within the Norfolk CSO/SD Basin**

Facility/ Site ID	Map ID	Facility/Site Name	Address	City	Zip Code	Local Source Control	Revised Site Visit Program	Source Control Inspection	Urban Waters Initiative
23549	110	Skyway Gasoline Seattle	1655 RENTON AVE S	SEATTLE	98178	09/01/09- 04/29/10			
7945	181	SNW LLC	9877 40TH AVE S	SEATTLE	98118		1/25/2011		1/10/2011
16114	80	Sonny Auto Body Repair	7100 RAINIER AVE S	SEATTLE	98118		7/1/2008		
99853513	222	Southland Facility 23525	12848 MARTIN LUTHER KING JR WAY	SEATTLE	98178	09/08/09- 04/29/10			
21356	102	Special Asphalt Products Inc	9243 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	09/02/10- 09/02/10			
9600	162	Speedeelube	9637 MARTIN LUTHER KING JR WAY S	SEATTLE	98118		11/2/2010		9/15/2010
7453	186	Steeler Inc	10023 MARTIN LUTHER KING JR WAY S	SEATTLE	98178		6/6/2011		5/12/2011
21803	10	Thanh Thao	6012 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	10/26/10- 10/26/10			
1786	24	Tonys Bakery & Deli	6020 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	10/26/10- 10/26/10			
20307	8	Triple T Auto Repair	5510 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	12/02/09- 04/29/10			
22194	26	Viet Wah Superfoods	6040 MARTIN LUTHER KING JR WAY S	SEATTLE	98118	11/18/09- 04/29/10			
16714	154	Wall & Ceiling Supply Co Inc	9830 40TH AVE S	SEATTLE	98118		1/25/2011		
23910	122	Washington Cleaners	9252 RAINIER AVE S	SEATTLE	98118	06/09/11- 06/09/11			
53346856	79	Wholesale Transmission	6924 RAINIER AVE S	SEATTLE	98118		10/30/2007		

Local Source Control - The site has received a technical assistance visit from a Local Source Control Specialist.

Revised Site Visit Program - The Hazardous Waste and Toxics Reduction Program engages in a variety of field work, site visits, and contacts with sites. While most the other types of activities are recorded into the Revised Site Visit Program (RSVP).

Source Control Inspection - Source control inspection conducted by Ecology or other agency for TCP Cleanup Sites.

Urban Waters Initiative - The site has received an inspection by an Ecology Urban Waters Inspector.

**Table G-9  
Chemicals Detected Above Screening Levels in Soil  
Ohno Construction Company - 9250 Martin Luther King Jr. Way S, Seattle**

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Soil Conc'n (mg/kg)	MTCA Method A Cleanup Level (mg/kg)	Soil-to-Sediment Screening Level <sup>a</sup> (mg/kg)	MTCA Exceedance Factor	Soil-to-Sediment Screening Level Exceedance Factor
CDM 2006 [10592]	7/12/2005	RV-318.1		Barium	151	16,000 <sup>b</sup>	NA	<1	NA
CDM 2006 [10592]	7/12/2005	RV-318.1		Chromium	95	2,000	270	<1	<1
SES 2007 [10590]	4/18/2007	UST01N01-05.5	5.5	Diesel-Range Hydrocarbons	4,200	2,000	NA	2.1	NA
SES 2007 [10590]	4/18/2007	UST01W01-06	6	Diesel-Range Hydrocarbons	330	2,000	NA	<1	NA
CDM 2006 [10592]	7/19/2005	C735-318.1-East-2-7	7	Diesel-Range Hydrocarbons	46	2,000	NA	<1	NA
CDM 2006 [10592]	7/12/2005	RV-318.1		Diesel-Range Hydrocarbons	25	2,000	NA	<1	NA
SES 2007 [10590]	4/18/2007	UST01W01-06	6	Heavy Oil-Range Hydrocarbons	1,600	2,000	NA	<1	NA
CDM 2006 [10592]	7/19/2005	C735-318.1-South-1-7	7	Heavy Oil-Range Hydrocarbons	280	2,000	NA	<1	NA
CDM 2006 [10592]	7/19/2005	C735-318.1-South-1-7	7	Lead	61	250	67	<1	<1
CDM 2006 [10592]	7/12/2005	RV-318.1	7	Lead	23	250	67	<1	<1
CDM 2006 [10592]	7/19/2005	C735-318.1-West-2-7	7	Lead	17	250	67	<1	<1

ft bgs - Feet below ground surface

mg/kg - Milligrams per kilogram

MTCA - Model Toxics Control Act

CSL - Cleanup Screening Level from Washington Sediment Management Standards

a - Based on CSL, saturated zone screening level (SAIC 2006 [0100]). Depth to groundwater is between 6 and 11 feet bgs (SES 2007 [10590]).

b - MTCA Method B Cleanup Level

Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level or Soil-to-Sediment Screening Level.