Completion Summary for City of Portland Outfall Basin 44A

1 Summary

The City of Portland (City) has been addressing source control concerns related to the City conveyance systems for more than four decades, and several City programs have evolved to meet changing regulatory requirements and watershed health objectives. Following the 2000 listing of Portland Harbor on the National Priorities List, the City initiated a new partnership with the Oregon Department of Environmental Quality (DEQ) Cleanup Program to identify specific sources of contaminants to City stormwater conveyance systems in the harbor that were not being adequately controlled. This report summarizes the results of this collaborative effort in Outfall Basin 44A.

Outfall 44A is located on the east side of the Willamette River at approximately River Mile (RM) 11.2, within a reach of the river (referred to as RM11E) that was identified in 2007 as a target for focused inriver and upland investigations in response to detections of elevated concentrations of polychlorinated biphenyls (PCB) and other contaminants in river sediment, water, and fish tissue samples collected from this area.

Prior to 2011, the basin was about 115 acres. Under the City's combined sewer overflow (CSO) Abatement Program, almost all of the basin was slated for diversion to the Columbia Boulevard Wastewater Treatment Plant (WWTP) via the new East Side Big Pipe tunnel. In early 2011, the City completed a source evaluation of Basin 44A, determined that major contaminant sources are not present, and concluded that future discharges from the basin are not likely to represent a significant source to the Willamette River or to the WWTP. Diversion of the majority of the basin drainage area occurred in late 2011.

Current basin drainage area is limited to a small portion of one industrial site, Ross Island Sand & Gravel (RIS&G); DEQ determined that operations at this site do not warrant a source control evaluation (SCE) under DEQ Cleanup Program authority. This site is covered under federal stormwater regulations, which are expected to provide adequate source controls for current discharges to the outfall. In addition, the City plans to abandon the outfall, which will eliminate this potential pathway to the river. Therefore, the City has met the remedial investigation (RI)/ source control measure (SCM) objectives for Basin 44A.

2 Introduction

This Completion Summary presents a weight-of-evidence evaluation of whether further source investigation is needed in Basin 44A, and the rationale for concluding that current and future discharges from the basin are not likely to be significant sources of contaminants to river sediment. The purpose of this report is to demonstrate that, for Basin 44A, the City has met the joint RI/SCM objectives of the August 13, 2003, intergovernmental agreement (IGA) between the City and DEQ. Together the City and DEQ evaluated sources of contaminants to the basin and are utilizing respective authorities to ensure that source controls are implemented where needed.

This report is included in Appendix A of the *Municipal Stormwater Source Control Report for Portland Harbor*, which provides additional background and detail regarding the City's harborwide source control efforts, including regulatory and non-regulatory programs to address current and future sources and to minimize recontamination potential.

3 Outfall and Basin Setting

3.1 Basin Location and Configuration

Outfall 44A discharges to the east side of the Willamette River at approximately RM 11.2. The outfall currently conveys stormwater from a 2.4-acre drainage basin located entirely within the RIS&G site. Before the 2011 CSO diversion, the basin drained approximately 115 acres. The former basin conveyance system includes several stormwater treatment facilities along various rights-of-way. These facilities were constructed by the City, Tri-Met, and private parties (e.g., Legacy Emanuel Hospital) to reduce total suspended solids loading to the former basin.

Figure 1 shows the location of the outfall, the pre- and post-diversion drainage basin boundaries, and provides an overview of the associated stormwater conveyance system. Additional detail on the Outfall 44A stormwater conveyance system and associated drainage basin is included in the *Albina Riverlots: City Basin Information and Source Investigation Approach Technical Memorandum* (BES, 2008) and the *Outfall Basin 44A Source Investigation Report* (BES, 2011).

3.2 Land Use and Potential Upland Sources

Basin 44A is located in the historical Albina area. Land use in the current basin is heavy industrial and consists entirely of sand and gravel operations on a portion of the RIS&G site (see Figure 2). Land use in the diverted basin is a mix of industrial, commercial, residential, and open space uses (see Figure 1).

The RIS&G site in the current basin has been evaluated by DEQ (DEQ, 2013). Sites that were identified as potential sources in the diverted basin include two DEQ Cleanup Program sites, as currently listed in DEQ's Environmental Cleanup Site Information (ECSI) database.[1] Table 1 lists these sites, the associated contaminants of interest (COI), and the status of stormwater pathway evaluations.

[1] A third DEQ Cleanup Program Site in the former basin, Campbell Dry Cleaner (Former) (ECSI #5680), joined the Cleanup Program in July 2013, after this portion of the basin was diverted, and therefore was not identified as a potential source.

Table 1. DEQ Cleanup Program Sites in Basin 44A

DEQ Cleanup Program Site	Site COIs (1)	Site Stormwater Pathway Evaluations (2)
Sites in Current Basin		
Ross Island Sand & Gravel Company (ESCI #5577)(3)	No Sampling Reported(4)	Source Control Evaluation Not Needed
Sites in Former Basin (pre-2011 CSO diversion)		
PacifiCorp Albina Riverlots (Knott Street Substation) (part of ECSI #5117)	TPH, PCBs	Source Control Evaluation In Progress
Tarr Inc. (ECSI #1139)	VOCs, PAHs, TPH (3)	Source Control Evaluation Not Needed

Notes:

TPH = total petroleum hydrocarbons; PCBs = polychlorinated biphenyls; PAHs = polycyclic aromatic hydrocarbons; VOCs = volatile organic compounds; COIs = contaminants of interest; ECSI = Environmental Cleanup Site Information; DEQ = Oregon Department of Environmental Quality; CSO = combined sewer overflow; SCE = source control evaluation

(1) Unless otherwise noted, site COIs are those identified in Appendix Q (Source Control Inventory Tables) of the Portland Harbor RI/FS Draft Feasibility Study (FS) (Anchor et al., 2012).

(2) Source: DEQ Milestone Report, Figure 1b, "Status of Stormwater Source Control Evaluations, January 2013" (DEQ, 2013), unless otherwise noted.

(3) Site is no longer listed in the ECSI database. In 2008, DEQ requested the facility owners to conduct an SCE (DEQ, 2008). DEQ subsequently rescinded its request based on a site visit and additional information provided by the property owners (DEQ, 2011).

(4) Source: Table 4.2-2 in the Portland Harbor RI/FS Draft Final Remedial Investigation Report (Integral et al., 2011).

Industrial sites covered or historically covered by National Pollutant Discharge Elimination System (NPDES) stormwater regulations also were considered as potential sources of pollutants to the City conveyance system. Sites within the basin that currently hold, or historically held, NPDES permits to discharge to the Basin 44A conveyance system are listed in Table 2. Sites with current NPDES permits are shown in Figure 2. The only site in the current basin operates under an NPDES permit.

Table 2. Current[(1)] and Historical NPDES Permit Coverage in Basin 44A

Address	Company	Permit Type	Time Period
Sites in Current Basin			
1208 N River	**KF Jacobsen & Co Inc-Plant[(2)]**	Gravel Mining (WPCF 1000)	1997 – 2001
		Stormwater for Gravel Mining (1200-A)	2001 – present
Sites in Diverted Basin			
2429 N Borthwick	Priestly Oil & Chemical Co., Inc	Stormwater (1200-T)	1992 – 1995
	Tarr Acquisition LLC	Stormwater (1200-T)	1995 – 1996
		Stormwater (1200-Z)	1998 – 2012

Notes:

NPDES = National Pollutant Discharge Elimination System; WPCF = Water Pollution Control Facilities

(1) Current permits are indicated in bold.

(2) Ross Island Sand & Gravel Co. is listed as a tenant covered under this permit.

3.3 Outfall Setting

Outfall 44A discharges to a reach of the river (referred to as RM11E) that the U.S. Environmental Protection Agency (EPA) has designated as an area of potential concern (AOPC 25) based on elevated concentrations of PCBs, metals, and pesticides (EPA, 2010). In addition to Outfall 44A, 3 other City outfalls (Outfalls 43, 44 and 45), 1 Oregon Department of Transportation outfall, and approximately 12 private industrial outfalls also discharge to AOPC 25. Overwater activities (e.g., dock operations, material loading and unloading) occur within the AOPC in the vicinity of Outfall 44A.

4 Basin Screening and Source Investigations

The City initiated phased investigations in Basin 44A in 2008 as part of its evaluation of City basins discharging to RM11E, to determine whether there were major contaminant sources in the basin (BES, 2011). The objective of the investigations was to determine whether source controls may be needed at sites discharging to the basin (i.e., either to address current contaminant discharges to the river or to address future contaminant discharges to the City's WWTP). During Phase 1 of the investigation, the City collected and analyzed stormwater grab samples and concurrent inline sediment trap samples in 2008-2009 to determine the potential for sources to be present in the basin. The Phase 1 stormwater samples were collected at a location representative of the majority of the basin drainage area; samples were analyzed for a broad suite of analytes and the results were evaluated using a conservative screening approach. Phase 1 basin screening results did not indicate the potential presence of major contaminant sources to the basin (BES, 2011).

Because concurrent data collection in Basin 44 had identified the PacifiCorp Albina Substation as a source of PCBs to Basin 44, the City opted to conduct a Phase 2 investigation in the upper subbasin in the vicinity of the PacifiCorp Knott Street Substation to evaluate whether this site was a source to Basin 44A. The City analyzed stormwater solids collected from two catch

basins adjacent to the site and concluded that the site was not a likely major source to the Basin 44A conveyance system (BES, 2011).

Approximately 2.4 acres of the RIS&G site drainage area connects to the Basin 44A conveyance system downstream of the monitoring location used during Phase 1. In 2008, DEQ requested RIS&G to conduct an SCE (DEQ, 2008). Based on a site visit and additional information provided by the property owners, DEQ subsequently determined that an SCE was not warranted (DEQ, 2011). No other sites are in the current basin.

Table 3 lists investigations and evaluations completed by the City in the Basin 44A conveyance system.

Table 3. City Investigations in the Basin 44A Stormwater Conveyance System

Data Collection Period	Purpose	Documentation
NA	Describe existing inriver sediment data collected adjacent to the Albina Riverlots shoreline (RM11E), describe adjacent City basins and potential sources, and identify next steps to prioritize outfall basins for future source tracing activities.	Albina Riverlots: City Basin Information and Source Investigation Approach, Technical Memorandum (BES, 2008)
2008 – 2009	Collected stormwater and solids data as part of a stormwater pathway screening evaluation of Basin 44A to determine major sources that may need to be controlled to protect the river or the wastewater treatment plant.	Outfall Basin 44A Source Investigation Report, City of Portland Outfall Project, ECSI No. 2425 (BES, 2011)

Notes:

NA = not applicable

5 Completion of Source Identification

A 2.4-acre portion of the RIS&G site is the only drainage area to Basin 44A. The City is planning to abandon Outfall 44A by the end of 2014, which will eliminate this pathway from the RIS&G site. Figure 3 displays the spatial extent of DEQ Cleanup Program site investigation and other programmatic controls (see key to figures provided at beginning of this Appendix) in the current (post-diversion) basin. Given that only one site discharges to this basin, and this connection to the City system will be eliminated in 2014, source tracing is complete.

6 Basin Source Controls

A portion of the RIS&G site is the only area that discharges to the outfall. The City and DEQ collaborated under their respective authorities to identify whether additional source control measures were needed at this site. In 2011, the DEQ Cleanup Program determined that an SCE was not needed at this site (DEQ, 2011). Current operations at this site are covered by the DEQ Water Quality Program under the NPDES industrial stormwater regulations (see Table 2). The City Industrial Stormwater Program has inspected this site and provides technical assistance on stormwater best management practices. Ongoing compliance with the permit and program implementation by DEQ and the City is expected to provide necessary stormwater source control at this site.

In addition, the City plans to abandon Outfall 44A by the end of 2014. This will eliminate this basin as a pathway to the river.

7 Conclusion

The City completed source tracing in Basin 44A and determined that major sources of contaminants to the City conveyance system are not present. Planning for outfall abandonment is underway, thus future discharges from Outfall 44A will not occur. The City concludes that it has met the RI/SCM objectives of the IGA and requests a source control decision from DEQ for Basin 44A.

8 References

Anchor et al. 2012. Portland Harbor RI/FS Draft Feasibility Study. Prepared for The Lower Willamette Group by Anchor QEA, LLC, Windward Environmental, LLC, Kennedy/Jenks Consultants, and Integral Consulting, Inc. February 2012.

BES. 2008. Albina Riverlots: City Basin Information and Source Investigation Approach. Technical Memorandum, to K. Tarnow (DEQ) from D. Sanders and L. Scheffler (BES). [Attachment A: City Source Investigations for Basins 43, 44, and 44A, Fall 2008 / Winter 2009 Sampling and Analysis Plan.] December 18, 2008.

BES. 2011. Outfall Basin 44A Source Investigation Report, City of Portland Outfall Project, ECSI No. 2425. City of Portland, Bureau of Environmental Services. March 2011.

DEQ. 2008. Letter to Robert Pamplin, Jr. Re: Portland Harbor Source Control Evaluation at Ross Island Sand and Gravel site at 1208 N. River Street, Portland OR. Keith Johnson, Oregon Department of Environmental Quality. August 19, 2008.

DEQ. 2010. DEQ Site Summary Full Report – Details for ECSI Site ID 1139, Tarr, Inc. DEQ Environmental Cleanup Site Information (ECSI) Database, updated December 2010; accessed February 14, 2013. http://www.deq.state.or.us/lq/ECSI/ecsidetail.asp?seqnbr=1139

DEQ. 2011. Letter to Robert Pamplin, Jr. Re: Source Control Evaluation Request, RIS&G Property at 1208 N. River Street, Portland OR. ECSI No. 5577. Karen Tarnow, Oregon Department of Environmental Quality. June 6, 2011.

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EPA. 2010. Re: Portland Harbor Superfund Site; Administrative Order on Consent for Remedial Investigation and Feasibility Study; Docket No. CERCLA-10-2001-0240. Portland Harbor Feasibility Study Source Tables. Letter from EPA to Mr. Bob Wyatt, Chairman, Lower Willamette Group. November 23, 2010.

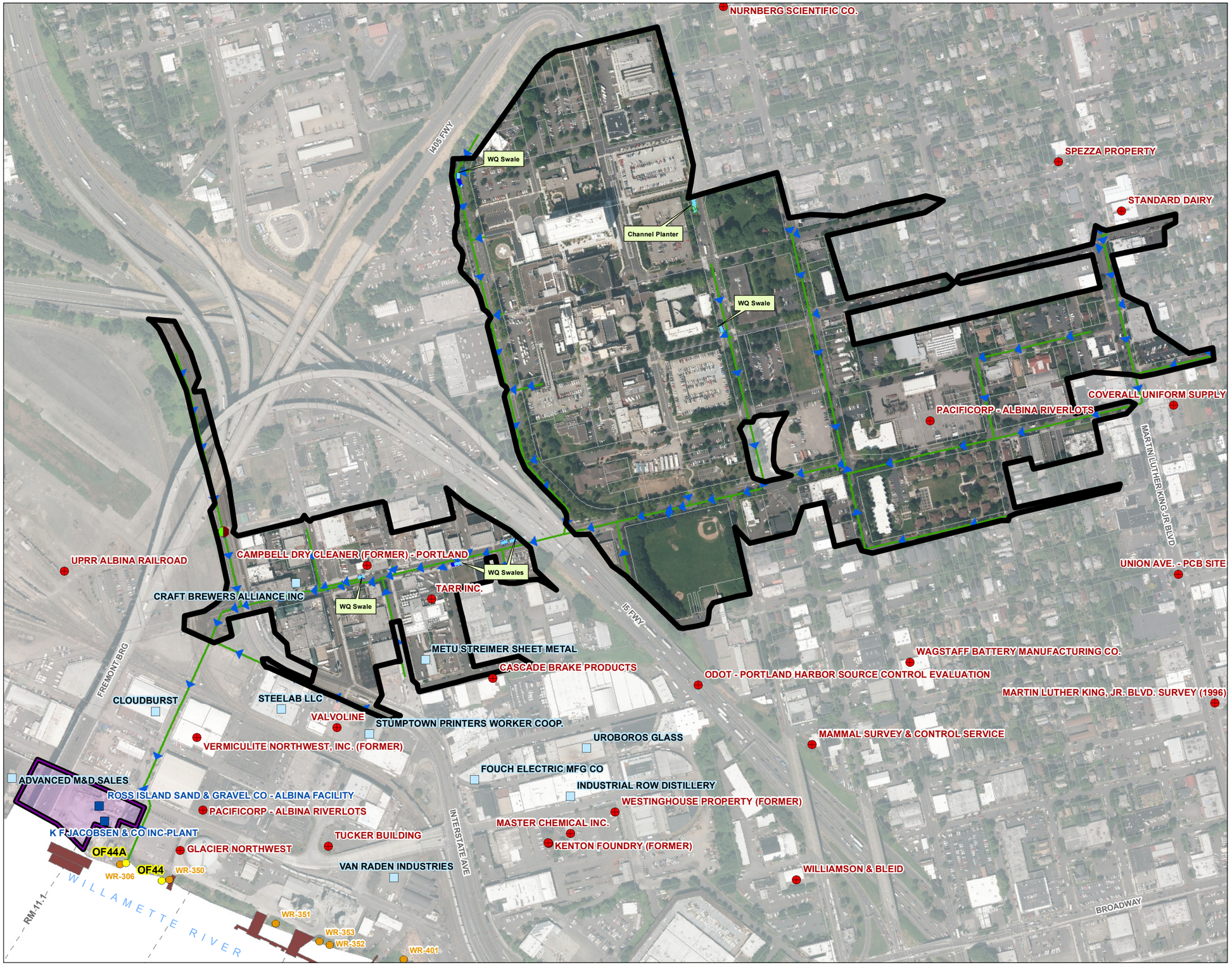
ERM. 2012. Draft Storm Water Source Control Screening Evaluation, Portland Cement Terminal, Portland, Oregon. Prepared for Glacier NW, Inc. by ERM. May 2012.

Integral et al. 2011. Portland Harbor RI/FS, Draft Final Remedial Investigation Report. Prepared for the LWG. Prepared by Integral Consulting Inc., Windward Environmental LLC, Kennedy/Jenks Consultants, and Anchor QEA, LLC. August 29, 2011.

List of Figures

FIGURE 1

Basin 44A
Pre- and Post- Diversion Overview and Conveyance System Source Controls



- Basin 44A, Pre-Diversion
- Basin 44A, Post-Diversion
- DEQ ECSI Site
- NPDES Stormwater Permit
- NPDES No Exposure Certification

Conveyance System

- Storm Line
- Channel Planter
- Water Quality (WQ) Swale
- Sediment Removal Structure
- City Outfall
- Non-City Outfall

All Other Data

- River Mile (RM)
- Dock
- Tax Lot
- Discharges to City Outfall
- Portland Harbor Hydroboundary

N

0 210 420 630
Feet

MAP NOTES:
Date: December 31, 2013
Data Sources: BES, METRO,
Air Photo Taken 2012

ENVIRONMENTAL SERVICES
CITY OF PORTLAND
1120 SW Fifth Avenue, Room 1000
Portland Oregon, 97204-1912

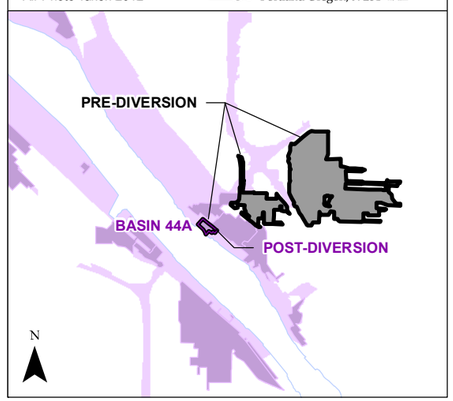
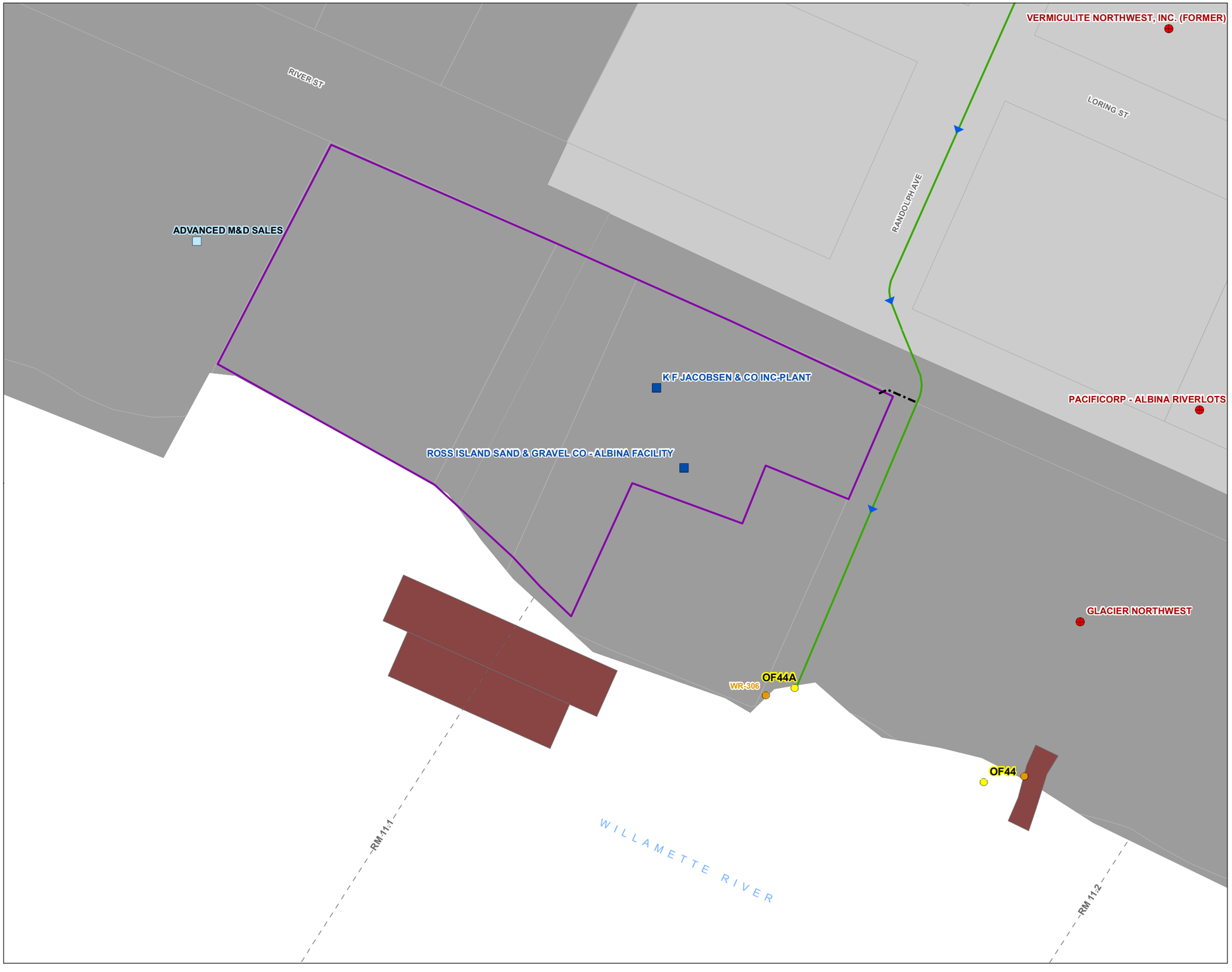


FIGURE 2

Basin 44A Overview



- Basin 44A
- DEQ ECSI Site
- NPDES Stormwater Permit
- NPDES No Exposure Certification

Conveyance System

- Storm Line
- Site Connection
- City Outfall
- Non-City Outfall

Land Use/Zoning

- Heavy Industrial
- Light Industrial

All Other Data

- River Mile (RM)
- Dock
- Tax Lot
- Discharges to City Outfall
- Portland Harbor Hydroboundary

N

0 40 80 120

Feet

MAP NOTES:
Date: January 3, 2013
Data Sources: BES, METRO

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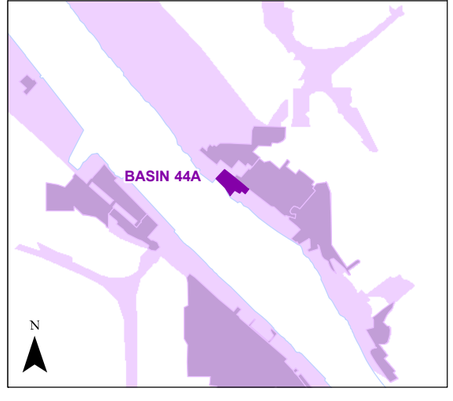
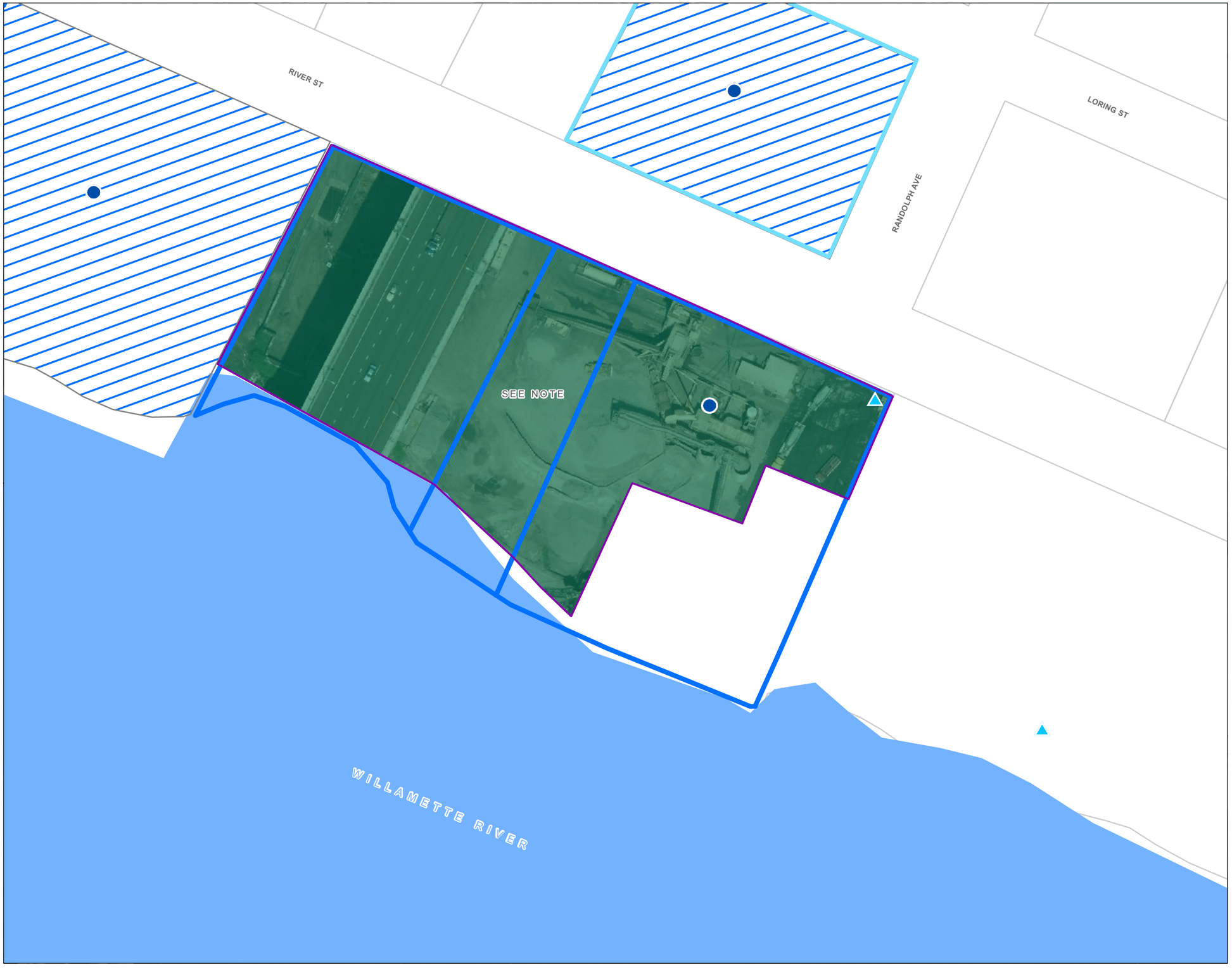


FIGURE 3

Basin 44A
Upland Site Source Controls



Basin 44A
Tax Lot

DEQ Stormwater SCE

SCE not needed or low priority

All Other Features

NPDES Stormwater Discharge Permit
City Discharge Authorization
NPDES No Exposure Certification
Stormwater Treatment Facility
Site Inspection - BES Industrial Stormwater Program
Discharges to City Outfall
Portland Harbor Hydroboundary

NOTE:
The DEQ Milestone Report (DEQ, 2013) indicates only a portion of this site is in the DEQ Cleanup Program. However, based on discussion with DEQ, the entire area within the basin has been designated as not needing an SCE.

N

0 40 80 120
Feet

MAP NOTES:
Date: December 31, 2013
Data Sources: BES, METRO, Air Photo Taken 2012

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