

Completion Summary for City of Portland Outfall Basin 19A

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 a number of 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 19A.

Basin 19A is located on the west side of the Willamette River in the Guilds Lake Industrial Area. The basin does not include any upland sites and consists almost entirely of approximately 1.7 acres of paved rights-of-way, surrounded by sites in the DEQ Cleanup Program. Evaluation of inriver sediment data near Outfall 19A (which discharges in close proximity to City Outfall 19) indicated the presence of sediment contamination adjacent to and upstream of the outfall. Given the characteristics of Basin 19A, the City's source investigation focused on evaluating whether contaminated erodible soils at adjacent sites may be a major source to the basin.

The City concludes that major contaminant sources are not present in the basin, no additional City source tracing is warranted, and future discharges from the basin are not likely to represent a significant source of contaminants to the Willamette River. Implementation of source control measures (SCM) under DEQ Cleanup Program oversight at sites adjacent to the basin and ongoing existing programmatic SCMs, such as street sweeping, are sufficient for ensuring that current and future discharges from Outfall 19A are protective of the river. Therefore, the City has met the remedial investigation (RI)/SCM objectives for Basin 19A.

2 Introduction

This Completion Summary presents a weight-of-evidence evaluation of whether further source investigation is needed in Basin 19A, 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 19A, the City has met the joint RI/SCM objectives of the August 13, 2003, intergovernmental agreement (IGA) between the City and DEQ.

This report is included in Appendix A of the *Municipal Stormwater Source Control Report for Portland Harbor* (Municipal Report), 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 19A discharges on the west side of the Willamette River near River Mile 8.4. The outfall drains approximately 1.7 acres of NW Front Avenue and NW Kittridge Avenue and driveway aprons to adjacent industrial sites located within the Guilds Lake Industrial Area. Figure 1 shows the location of the outfall and drainage basin boundary and provides an overview of the associated stormwater conveyance system and surrounding sites. The outfall and associated stormwater system were constructed in their current configuration in 1982. According to City records, no industries are, or have been, connected to the system.

Additional detail on the Outfall 19A stormwater conveyance system and associated drainage basin is included in the *Programmatic Source Control Remedial Investigation Work Plan for the City of Portland Outfalls Project* (CH2M HILL, 2004) and *Outfall Basin 19A Stormwater and Solids Investigation, Technical Memorandum No. OF19A-1* (BES, 2011).

3.2 Land Use and Potential Upland Sources

Basin 19A consists almost entirely of paved rights-of-way within an area zoned for industrial use. While no facilities are connected to the basin, six industrial sites listed in DEQ's Environmental Cleanup Site Information (ECSI) database are adjacent to the Basin 19A boundary, including three with driveways that may convey sheet flow to catch basins along NW Front Avenue. These upland facilities were identified as potential sources to the Basin 19A conveyance system (e.g., via vehicle drag-out of contaminated erodible soil or overland runoff). Table 1 lists these sites and indicates the associated contaminants of interest (COI), status in the DEQ Cleanup Program and the status of stormwater pathway evaluations. All six DEQ Cleanup Program sites adjacent to the basin have conducted or currently are conducting stormwater pathway evaluations under DEQ oversight.

Table 1. DEQ Cleanup Program Sites Adjacent to Basin 19A

DEQ Cleanup Site	Site COIs ⁽¹⁾	Site Stormwater Pathway Evaluations ⁽²⁾
Calbag Metals/O'Neill Transfer & Storage Company (ECSI #2454)	Cadmium, lead, mercury, zinc, PCBs, and phthalates	Source Control Evaluation In Progress
Hampton Tree Farms, Inc. (ECSI #5761) ⁽³⁾	VOCs, SVOCs, PAHS, TPH, PCBs, metals, phthalates	Source Control Evaluation In Progress
Gunderson Inc. (ECSI #1155)	Metals, butyltins, PCBs, phthalates, TPH	Source Control Evaluation In Progress
Kittridge Distribution Center (ECSI #2442)	Cadmium, lead, mercury, zinc, PCBs, VOCs, and TPH	Source Control Decision / No Further Action Issued
Lakeside Industries (ECSI #2372)	VOCs, PAHs, TPH, metals	Source Control Evaluation In Progress
Shaver Transportation Company (ECSI #2377)	None	Source Control Decision / No Further Action Issued

Notes:

PAHs = polycyclic aromatic hydrocarbons; PCBs = polychlorinated biphenyls; VOCs = volatile organic compounds; SVOCs = semivolatile organic compounds; TPH = total petroleum hydrocarbons.

(1) COIs identified in Table 4.4-1 of the *Portland Harbor RI/FS Remedial Investigation Report* (Integral Consulting and others, 2011).

(2) Source: Table 1 of the *Milestone Report, Upland Source Control at the Portland Harbor Superfund Site* (DEQ, 2013).

(3) Site was formerly listed under Front LP Properties (ECSI #1239).

As there are no facilities with piped connections to the Basin 19A stormwater conveyance system, there are no sites that hold, or historically held, National Pollutant Discharge Elimination System (NPDES) permits to discharge to the Basin 19A conveyance system. Note that the City has an NPDES Municipal Separate Storm Sewer System (MS4) stormwater permit that also covers the basin drainage area.

3.3 Outfall Setting

Outfall 19A discharges to an area of potential concern (AOPC 18), identified by the U.S. Environmental Protection Agency (EPA) based on elevated concentrations of PCBs, pesticides, and other contaminants in river sediment (EPA, 2010). In addition to Outfall 19A, one other City outfall (Outfall 19) and nine non-City outfalls discharge to AOPC 18; Outfall 19A also is immediately downstream of AOPC 19 and the affiliated outfalls.

Outfall 19A is located in an embayment where tugboats and barges are docked and several overwater structures are present. Redeposition of contaminated sediment may occur as propwash disturbs and resuspends material into the water column. This setting makes it difficult to identify specific contaminant pathways to the river based on the nearby inriver sediment data alone.

4 Basin Screening and Source Investigations

The City identified Basins 19/19A¹ as a Priority 1 for source tracing based on elevated contaminant concentrations in the vicinity of Outfall 19 (CH2M HILL, 2004). Priority 1 basins are considered the highest priority for identifying sources. However, because Basin 19A is small and includes no upland sites, the City recategorized the basin to Priority 4 (i.e., outfall not likely a significant pathway for contaminant migration) and focused subsequent City source investigations for this Priority 1 grouping on Basin 19 (GSI, 2006).

The City collected stormwater data representative of the whole basin during the 2009/2010 storm season to verify that major sources to the system were not present. Based on the evaluation of these data and using a conservative screening approach, no analytes were identified as potentially warranting further source tracing in Basin 19A (BES, 2011). However, concentrations of PCBs and certain metals were somewhat higher than expected, given the small basin size and lack of upland sites within the basin boundary. Therefore, the City also collected inline solids and erodible soils samples from the NW Front Avenue right-of-way adjacent to the Calbag Metals/O’Neill Transfer site to determine whether offsite migration of known site contaminants (PCBs and copper) may have a complete pathway to Basin 19A inlets. Results of the catch basin solids and erodible surface soils sampling indicated that offsite migration (e.g., vehicle drag-out, overland runoff, and/or fugitive dusts) from this site may be a source of contaminants to Basin 19A catch basins. This information was provided to DEQ to incorporate into the site stormwater pathway investigation, and the City determined that no further source tracing was needed.

Investigations and evaluations completed by the City in the Basin 19A conveyance system are listed in Table 2.

Table 2. Investigations in the Basin 19A Stormwater Conveyance System

Data Collection Period	Purpose	Documentation
2000	Compile basin background information to identify potential sources.	Preliminary Evaluation of City Outfalls (Westshore) (BES, 2000)
2002	Evaluate inriver sediment data near City outfalls to prioritize basins for source tracing.	Programmatic Source Control Remedial Investigation Work Plan (CH2M HILL, 2004)
2006	Compile existing information to focus source tracing activities based on evaluation of observed contaminants and identified sources.	Phase I Report for City of Portland Priority 1 Basins (GSI, 2006)
2009 - 2010	Collect and evaluate stormwater samples from the outfall for basin purposes, and collect inline solids and erodible soils samples from the NW Front Avenue right-of-way to evaluate potential offsite migration from the adjacent Calbag site to Basin 19A inlets.	City Outfall Basin 19A Stormwater and Solids Investigation (TM No. OF 19A-1) (BES, 2011)

The City’s investigation work did not identify any major sources of contaminants to Basin 19A.

¹ Basins 19 and 19A were grouped together because of their close proximity to one another and because spatial distribution of inriver sediment data and redeposition effects in the cove did not allow for determination of relative source potential (CH2M HILL, 2004).

5 Completion of Source Identification

The lines of evidence evaluated to confirm that source tracing objectives have been met with regard to Basin 19A include (1) basin characteristics, (2) stormwater screening results, and (3) the extent of coverage of adjacent sites under the DEQ Cleanup Program. Findings from this evaluation are summarized below.

- *Basin Characteristics:* Basin 19A is small (1.7 acres), contains no upland sites, and consists almost entirely of paved rights-of-way.
- *Stormwater Screening Results:* Stormwater samples representative of discharges from the whole basin were analyzed for a broad suite of contaminants to screen for the potential presence of major sources. Concentrations do not indicate the presence of major sources in the basin (BES, 2011).
- *Upland Investigation Coverage:* All sites adjacent to Basin 19A (the only identified potential major sources) are either active in the DEQ Cleanup Program or already have been remediated under DEQ oversight (see Figure 1). Investigations are anticipated to evaluate whether offsite migration of contaminants to Basin 19A is occurring (e.g., via overland flow, vehicle drag-out, and/or fugitive dusts).

Based on these lines of evidence, the City concludes that Basin 19A source investigation is complete and there are no major contaminant sources to the basin.

6 Basin Source Controls

The City and DEQ collaborated under their respective authorities to identify control mechanisms for all potential sources to the basin. Source control for minor sources to Basin 19A includes ongoing City and DEQ programs (e.g., street sweeping) that are described in the Municipal Report, and SCMs completed (or being determined) at contaminated sites adjacent to the basin under DEQ Cleanup Program agreements (see Figure 1). After completion, the implementation of additional stormwater source control measures at adjacent active DEQ Cleanup Program sites (see Table 1) likely will further reduce concentrations of PCBs, copper, and other contaminants entering the Basin 19A stormwater conveyance system via erodible soil-related pathways.

Several adjacent industrial sites have NPDES No Exposure Certifications, based on limited industrial exposures to stormwater (see Figure 1). In addition, adjacent sites with NPDES 1200-Z permits will be required to control vehicle drag-out under DEQ's new 1200-Z permit, resulting in additional site source controls in the vicinity of the basin.

7 Conclusions

The City completed a source evaluation of Basin 19A, and no major sources of contaminants to the City conveyance system are present. Therefore, future discharges from Outfall 19A are unlikely to represent a significant source of contaminants to the river. The City concludes that it has met the RI/SCM objectives of the IGA and requests a source control decision from DEQ for Basin 19A.

8 References

- BES. 2000. Preliminary Evaluation of City Outfalls. Portland Harbor Study Area. Notebook 2: Westshore Stormwater and CSO Outfalls. City of Portland, Bureau of Environmental Services. December 2000.
- BES. 2011. Outfall Basin 19A Stormwater and Solids Investigation, Technical Memorandum No. OF19A-1. City of Portland, Bureau of Environmental Services. November 22, 2011.
- CH2M HILL. 2004. Programmatic Source Control Remedial Investigation Work Plan of the City of Portland Outfalls Project. Prepared by CH2M HILL for the City of Portland Bureau of Environmental Services. March 19, 2004.
- DEQ. 2013. Milestone Report, Upland Source Control at the Portland Harbor Superfund Site. Oregon Department of Environmental Quality. January 2013.
- 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.
- GSI. 2006. Phase I Report for City of Portland Priority 1 Basins. Prepared for the City of Portland Bureau of Environmental Services Portland Harbor Program by Groundwater Solutions, Inc. May 2006.
- Integral et al. 2011. Portland Harbor RI/FS, 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 19A Overview and Adjacent Upland Site Source Controls

FIGURE 1
Basin 19A
Overview and Adjacent
Upland Site Source Controls



- Basin 19A
- DEQ ECSI Site
- NPDES Stormwater Permit
- NPDES No Exposure Certification
- Conveyance System**
 - Storm Line
 - Catch Basin
 - City Outfall
 - Non-City Outfall
- DEQ Stormwater SCE**
 - SCEs implemented or pending
- All Other Data**
 - River Mile (RM)
 - Tax Lot
 - Discharges to City Outfall
 - Portland Harbor Hydroboundary



MAP NOTES:
 Date: December 31, 2013
 Data Sources: BES, METRO

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