#### Completion Summary for City of Portland Outfall Basin M-2

## 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 M-2.

This Completion Summary includes a weight-of-evidence evaluation to demonstrate that source identification is complete and a summary of source controls (implemented or planned) that will control future contaminant discharges to the Willamette River.

Basin M-2 is located on the east side of the Willamette River in the Mocks Bottom area, near the east bank of the Swan Island Lagoon. Industrial development in this area was fairly recent (roughly the mid-1960s to mid-1990s) and sites typically paved operational areas during initial development, so this area does not have a similar history of legacy contamination that has been observed in some of the older industrial areas in the harbor. Evaluation of inriver sediment data did not indicate that the outfall is a significant pathway for contaminants to the Swan Island Lagoon. However, given the sensitive nature of the lagoon, the City investigated the basin dry-weather flow pathway and analyzed basin stormwater data to verify that additional source tracing was not needed.

Two DEQ Cleanup Program sites are located within the basin; DEQ determined that both sites are a low priority for completing stormwater source control evaluations. The City concludes that no further City source investigation is warranted in this basin, and that the current and future source control programs in the basin are expected to provide necessary source control for Outfall M-2 discharges. Therefore, the City has met the remedial investigation (RI)/source control measure (SCM) objectives for Basin M-2.

# 2 Introduction

This Completion Summary presents a weight-of-evidence evaluation of whether further source investigation is needed in Basin M-2, 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 M-2 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 M-2 discharges to the Swan Island Lagoon on the east side of the Willamette River at approximately River Mile 8.8. The drainage area for the Basin M-2 conveyance system is approximately 135 acres. Figure 1 shows the location of the outfall and drainage basin boundary and provides an overview of the associated stormwater conveyance system.

Additional detail on the Outfall M-2 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).

#### 3.2 Land Use and Potential Upland Sources

Basin M-2 is located within the Mocks Bottom industrial area. Tax lots in the Mocks Bottom area tend to be larger than in the older industrial areas, paved, and dominated by buildings, parking, and loading areas. Land use in the entire basin is light industrial (see Figure 1) with a majority of the properties being used for transportation-related activities (e.g., warehouse and trucking operations).

Sites identified as potential sources include the two sites in the basin that are in the DEQ Cleanup Program, as listed in DEQ's Environmental Cleanup Site Information (ECSI) database. Table 1 lists these sites and indicates the associated contaminants of interest (COI) and the status of stormwater pathway evaluations. DEQ has identified both sites as low priorities for conducting stormwater pathway evaluations. Contaminated soils were investigated and removed at the GI Trucking site; and at the Lynden Farms site, buildings were demolished and soils have been capped.

DEQ Cleanup Program Site	Site COIs <sup>(1)</sup>	Site Stormwater Pathway Evaluations <sup>(2)</sup>
GI Trucking (ECSI #1840)	Diesel and bunker oil <sup>(3)</sup>	Need for Source Control Evaluation to be Determined/ Low Priority
Lynden Farms (ECSI #4461)	Heavy oil, PCBs <sup>(4)</sup>	Need for Source Control Evaluation to be Determined/ Low Priority

Table 1. DEQ Cleanup Program Sites in Basin M-2

Notes:

DEQ = Oregon Department of Environmental Quality; ECSI = Environmental Cleanup Site Information; PCBs = polychlorinated biphenyls; COIs = contaminants of interest

(1) Because sites are not listed in Appendix Q (Source Control Inventory Tables) of the Portland Harbor RI/FS Draft Feasibility Study (FS) (Anchor et al., 2012) or Table 4.2-2 of the Portland Harbor RI/FS Draft Final Remedial Investigation Report (Integral et al., 2011), site COIs represent those listed in the DEQ ECSI database.

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

(3) Source: DEQ ECSI database (DEQ, 1996).

(4) Source: DEQ ECSI database (DEQ, 2009).

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. Table 2 lists sites within the basin that currently hold, or historically had, NPDES permits to discharge to the Basin M-2 conveyance. Figure 1 presents sites with current stormwater NPDES permits. Note that the City operates under an NPDES Municipal Separate Storm Sewer System (MS4) stormwater permit that also covers basin drainage areas.

Address	Company	Permit Type	Time Period
5910 N Cutter	Oregon Transfer Company	Non-contact Cooling water (100J)	2000 – Present
	Roadway Package Service (RPS)	Stormwater (1200-Z)	1998 - 2000
6447 N Cutter	FedEx Ground Package System Inc.	Stormwater (1200-Z)	2000 - 2008
6840 N Cuttor	Columbia Distributing Co.	Stormwater (1200-Z)	1998 -2012
0040 IN Cutter	Coho Distributing-Swan Island	Stormwater (1200-Z)	2012 - Present
6220 N Basin	Dallas & Mavis Forwarding Co., Inc.	Stormwater (1200-T)	1994 - 1996
		Stormwater (1200-Z)	1997 - 1998
	Active USA, Inc.	Stormwater (1200-Z)	2002 - 2003
	Auto Truck Transport USA LLC	Stormwater (1200-Z)	2003 – Present
	Action European	Stormwater (1200-T)	1993 - 1996
6100 N Basin	Action Express	Stormwater (1200-Z)	1998 - 2002
0100 IN Dasin	SAIA Motor Freight Line, Inc.	Stormwater (1200-Z)	2002 - 2010
	TP Freight	Stormwater (1200-Z)	2010 - Present
6135 N Basin	Lynden Farms	Stormwater (1200-F)	1992 - 1996
		Stormwater (1200-Z)	1997 - 1998
5820 N Basin	C I. Truching Commence	Stormwater (1200-T)	1993 - 1996
	G.i. Hucking Company	Stormwater (1200-Z)	1999 - 2010
	SAIA Motor Freight	Stormwater (1200-Z)	2010 – Present

Table 2. Current<sup>(1)</sup> and Historical NPDES Permit Coverage in Basin M-2

Notes:

NPDES = National Pollutant Discharge Elimination System

(1) Current permits are indicated in bold.

#### 3.3 Outfall Setting

Outfall M-2 discharges to an area of potential concern (AOPC 17b-Slip) identified by the U.S. Environmental Protection Agency (EPA) based on elevated concentrations of PCBs, pesticides, phthalates, PAHs, metals, and other contaminants in river sediment (EPA, 2010). In addition to Outfall M-2, four other City outfalls (Outfalls M-1, M-3, S-1, and S-2) and more than 50 non-City outfalls discharge to AOPC 17b-Slip.

Swan Island Lagoon is a sheltered off-channel area that generally is protected from natural disturbances, but anthropogenic disturbances, such as propwash, likely resuspends material into the water column. The pattern of sediment concentrations adjacent to the outfall may be influenced by more far-field sources (i.e., contaminated sediment from other portions of the lagoon resuspended and deposited in this area).

# 4 Basin Screening and Source Investigations

The City identified Basin M-2 as a Priority 4 for source tracing based on the lack of elevated contaminant concentrations in the vicinity of Outfall M-2 (CH2M HILL, 2004); Priority 4 basins are considered the lowest priority for identifying sources. However, given the sensitive nature of the lagoon, the City investigated the basin dry-weather flow pathway (BES, 2006) and also analyzed basin stormwater data to verify that source tracing was not needed (BES, 2010).

The dry-weather flow investigation did not indicate that major sources of metals were present in the basin via this pathway (BES, 2006). In 2007, as part of its stormwater screening evaluation (BES, 2010), the City collected stormwater samples from the downstream end of the basin (i.e., representing all collective discharges to the system). Additionally, the Lower Willamette Group (LWG) collected sediment trap and stormwater samples in 2007 in the upper northeastern branch of the basin to evaluate stormwater discharges from light industrial land uses. 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 M-2 (BES, 2010).

Table 3 lists investigations and evaluations completed by the City and others in the Basin M-2 conveyance system.

Data Collection Period	Party	Purpose	Documentation
2000	City	Compile basin background information to identify potential sources.	Preliminary Evaluation of City Outfalls (Eastshore) (BES, 2000)
2002	City	Evaluate inriver sediment data near City outfalls to prioritize basins for source tracing.	Programmatic Source Control Remedial Investigation Work Plan (CH2M HILL, 2004)
2005	City	Investigate dry-weather flow entering the City's stormwater conveyance system.	City Outfall Basin M-2 Dry- Weather Flow Sampling Technical Memorandum (TM) (BES, 2006)
2007	Lower Willamette Group (LWG)	Collect harborwide stormwater and sediment trap data to develop land use stormwater loading estimates for input to the inriver fate and transport model.	Portland Harbor RI/FS Round 3A and 3B Stormwater Data Report. Prepared for the LWG (Anchor and Integral, 2008)
2007	City	Evaluate LWG sediment trap data from Basin M-2 and compare the LWG results with sediment trap data collected by the City from Basin M-1.	Outfall Basin M-1 Sediment Trap Solids Investigation TM (BES, 2008)
2007	City	Evaluate stormwater data from City outfalls to identify additional source tracing needs.	Stormwater Evaluation Report, City of Portland Outfall Project (BES, 2010)

Table 3. Investigations in the Basin M-2 Stormwater Conveyance System

The City's investigation and data evaluation did not identify any major sources of contaminants in Basin M-2.

# **5** Completion of Source Identification

The lines of evidence evaluated to confirm that source tracing objectives have been met with regard to Basin M-2 include (1) results of source investigation activities conducted in the basin (and upland site information) and (2) land use at remaining upland areas not undergoing DEQ Cleanup Program investigation or redevelopment. Findings from this evaluation are summarized below.

- *Source Investigation Results*: The City's dry-weather flow investigation (BES, 2006) and stormwater screening evaluation (BES, 2010) did not identify any analytes as potentially warranting further source tracing in Basin M-2.
- Upland Investigation Coverage and Land Use: All of the land use in Basin M-2 is light • industrial (see Figure 1) and primarily consists of transportation-related activities, including trucking, warehousing, and parking. Figure 2 displays the spatial extent of upland site investigation and other programmatic controls (see key to figures provided at beginning of this Appendix). As shown in Figure 2, approximately half the sites in the basin have been designated by DEQ as either not needing or as a low priority for completing a stormwater source control evaluation, and/or are covered under NPDES industrial stormwater regulations. Land use at sites not covered by DEQ Cleanup or Water Quality Programs consists largely of parking areas and warehouse uses, with minimal industrial exposures to stormwater. Most sites have been inspected by the City for industrial stormwater exposures and have been provided technical assistance as needed to implement best management practices. Current and future industrial activities that are exposed to stormwater will be addressed by the DEQ NPDES Program; non-industrial activities are not a known or suspected major source of contaminants to the City stormwater conveyance system.

Based on these lines of evidence, the City concludes that the Basin M-2 source investigation is complete and there are no major contaminant sources in the basin.

# 6 Basin Source Controls

Source control for major and minor sources in Basin M-2 includes ongoing City and DEQ programs that are described in the Municipal Report. Source controls implemented in Basin M-2 are summarized in this section and displayed in Figure 2.

One type of programmatic source control is the elimination of stormwater exposures to industrial activities. Table 4 lists sites that hold (or historically held) an NPDES no exposure certification.

Address	Company	NEC Time Period
5926 N Basin	Marine Propulsion Services, Inc.	2000 - 2010
	Vigor Machine	2010 – Present
5914 N Basin	Project PM LLC	2011 – Present
5938 N Basin	Stack Metallurgical Services, Inc.	2000 – Present
5910 N Cutter	Oregon Transfer Company	2004 – Present
6000 N Cutter	Meridian Automotive Systems	2001 - 2006
6040 N Cutter	Oxis International, Inc.	2000 - 2010
	Northwest Paper Box	2010 – Present

Table 4. Sites with No Exposure Certification (NEC) in Basin M-2<sup>(1)</sup>

Notes:

(1) Current NECs are indicated in bold.

Table 5 summarizes additional site-specific, programmatic, and conveyance system source controls for Basin M-2

Table 5.	<b>Basin M-2 Source</b>	Controls
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Site/Area	Source Controls	Implementation Timeframe	
Source Control Measures (SCM) at DEQ Cleanup Program Sites			
GI Trucking (ECSI #1840)	Contaminated soils removed.	1993	
Lynden Farms (ECSI #4461)	Former facility demolished and site capped with pavement.	1999 - 2000	
Other (Programmatic Source Controls) <sup>(1)</sup>			
Lynden Farms, Federal Express, Coho Distributing	Stormwater Management Manual Requirements	Ongoing	
Andersen Construction Company, FedEx Ground Package System Inc., Stack Metallurgical Services Inc., Professional Service Industries, Inc.	City Discharge Authorization <sup>(2)</sup>	Ongoing	
See listing in Table 2	NPDES 1200-Z Stormwater Permit Requirements	Ongoing	
See listing in Table 4	NPDES No Exposure Certifications	Ongoing	

Notes:

NPDES = National Pollutant Discharge Elimination System; DEQ = Oregon Department of Environmental Quality

(1) Programmatic source controls are described in the Municipal Report.

(2) Additional site-specific stormwater pollution controls required and implemented under City Code.

Other municipal programs (e.g., periodic inspection of and technical assistance to non-NPDES sites, illicit discharge monitoring, street sweeping, etc.) likely provide additional source control benefits in the basin and will help to address minor sources for which specific control measures have not been required. City programs that control current and future contaminant discharges to the conveyance system are described in the Municipal Report.

## 7 Conclusion

Based on the information summarized above, there are no major pollutant sources in Basin M-2. The City therefore concludes that future discharges from Outfall M-2 are unlikely to represent a significant source of contaminants to the river. However, given the sensitive nature of the lagoon, the City will continue to look for opportunities with existing and future City stormwater programs to reduce suspended solids loading from the basin to the river. The City has met the RI/SCM objectives of the IGA and requests a source control decision from DEQ for Basin M-2.

## 8 References

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## **List of Figures**

Figure 1: Basin M-2 Overview

Figure 2: Basin M-2 Upland Site Source Controls



