PORT OF PORTLAND

National Pollution Discharge Elimination System (NPDES)
Municipal Separate Storm Sewer System (MS4) Permit

STORMWATER MANAGEMENT PROGRAM DOCUMENT

Permit Number: 101314

Port of Portland
7200 NE Airport Way
Portland, OR 97218

November 1, 2022

Revised October 3, 2023

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Abbreviations

ANG	Oregon Air National Guard
ARFF	Aircraft Rescue Fire Fighting
ATC	Airtrans Center
BMPs	best management practices
CAS	Cascade Station
City	City of Portland
CSWC	Columbia Slough Watershed Council
DEQ	Oregon Department of Environmental Quality
DSM	Design Standards Manual (Port of Portland)
FOD	foreign object debris
GI	Green Infrastructure
IDDE	Illicit Discharge Detection and Elimination
IGA	Intergovernmental Agreement
IPM	Integrated Pest Management
LA	Load Allocation
LID	Low Impact Development
MEP	Maximum Extent Practicable
MFM	Marine Facilities Maintenance (Marine's general maintenance group)
MS4	Municipal Separate Storm Sewer System
MS4 Permit	NPDES Permit No. 101314
MX	PDX Maintenance
NPDES	National Pollutant Discharge Elimination System
O&M	Operation & Maintenance
PC	Port Center
PDX	Portland International Airport
PIC	Portland International Center
Port	Port of Portland
SOP	Standard Operating Procedure
SWMP	Stormwater Management Program
SWPCP	Stormwater Pollution Control Plan
TMDL	Total Maximum Daily Load
TP	Total Phosphorus
TSS	Total Suspended Solids
USB	Urban Services Boundary
WLA	Waste Load Allocation
WPCF	Water Pollution Control Facility

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Section 1: SWMP Overview

Under the federal Clean Water Act and Oregon Revised Statute 468B.050, the Oregon Department of Environmental Quality (DEQ) regulates stormwater runoff from Port of Portland (Port) property through a renewed National Pollution Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit No. 101314, effective October 1, 2021, (MS4 Permit).

This Stormwater Management Program (SWMP) Document describes activities related to implementation of the Port's NPDES MS4 Permit conditions. The SWMP Document describes the specific tasks, or best management practices (BMPs), that the Port will conduct to prevent and reduce stormwater pollution to the maximum extent practicable (MEP) to protect water quality and satisfy the requirements of the Port's NPDES MS4 Permit and the Clean Water Act.

This 2022 version of the Port's SWMP Document was developed based on a review and evaluation of the Port's stormwater management program, including activities and accomplishments implemented during the previous permit term. The Port used an adaptive management process to assess and modify BMPs, if necessary, to achieve reductions in stormwater pollutants to the MEP. This SWMP Document update was based on consideration of available technologies and practices; SWMP measurable goals and tracking measures; and Port resources available to implement programs.

BMPs are evaluated each year during preparation of the NPDES MS4 Annual Report. The annual reports include the status of implementing each BMP and any proposed modifications or adaptations to the program.

The majority of the SWMP activities are described in Section 3, which includes summary tables of the Port's BMPs. Other sections of the SWMP Document include the following information:

- Section 2 provides the covered permit area and co-permittee information, describes the relationship between the MS4 Permit and Total Maximum Daily Load obligations, provides a link to the SWMP Document Reference Library, and details the Port's legal authority to implement stormwater management programs.
- Section 3 describes SWMP BMPs, implementation tasks, implementation dates, and reference documents.
- Section 4 describes the Port's joint Monitoring Plan with the City of Portland, and the MS4 Permit reporting requirements.

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Section 2: SWMP Background

The Port of Portland (Port) is a co-permittee with the City of Portland (City) on the Portland Municipal Separate Storm Sewer System (MS4) National Pollution Discharge Elimination System (NPDES) Permit No. 101314 (MS4 Permit). As co-permittees, the City and the Port must each ensure implementation of all applicable provisions of their specific Stormwater Management Programs (SWMPs) and the associated Monitoring Program. Applicable provisions are those related to requirements, programs, and operation of an MS4 over which the co-permittees have jurisdiction or control.

This section describes the Port's portion of the MS4 Permit area, their MS4 Permit responsibilities, and their coordination with the City as co-permittees.

2.1 Port of Portland Permit Area

The Port owns approximately 5,476 acres of land within the City's Urban Services Boundary (USB). Port property is divided into three primary Business Lines under the Operations Division, plus a fourth area that is comprised of undeveloped property:

1. Aviation
2. Marine
3. Industrial Development
4. Undeveloped Property

Within the City's USB, the Port's Aviation Business Line consists of the Portland International Airport (PDX) while the Marine Business Line includes Marine Terminals 4, 5, and 6 (T4, T5, and T6). The Industrial Development Business Line is comprised of Terminal 2 (T2) and the following industrial parks:

1. Swan Island (SI)
2. Port Center (PC)
3. Rivergate (RG)
4. Cascade Station (CAS)
5. Portland International Center (PIC)
6. Airtrans Center (ATC)

Figure 1-1 illustrates the location of Port property covered by the MS4 Permit. It further delineates those properties leased to tenants and additionally covered by a Port or tenant-managed Industrial Stormwater Permit (i.e., a DEQ-issued 1200-Z or Individual NPDES Stormwater Permit).

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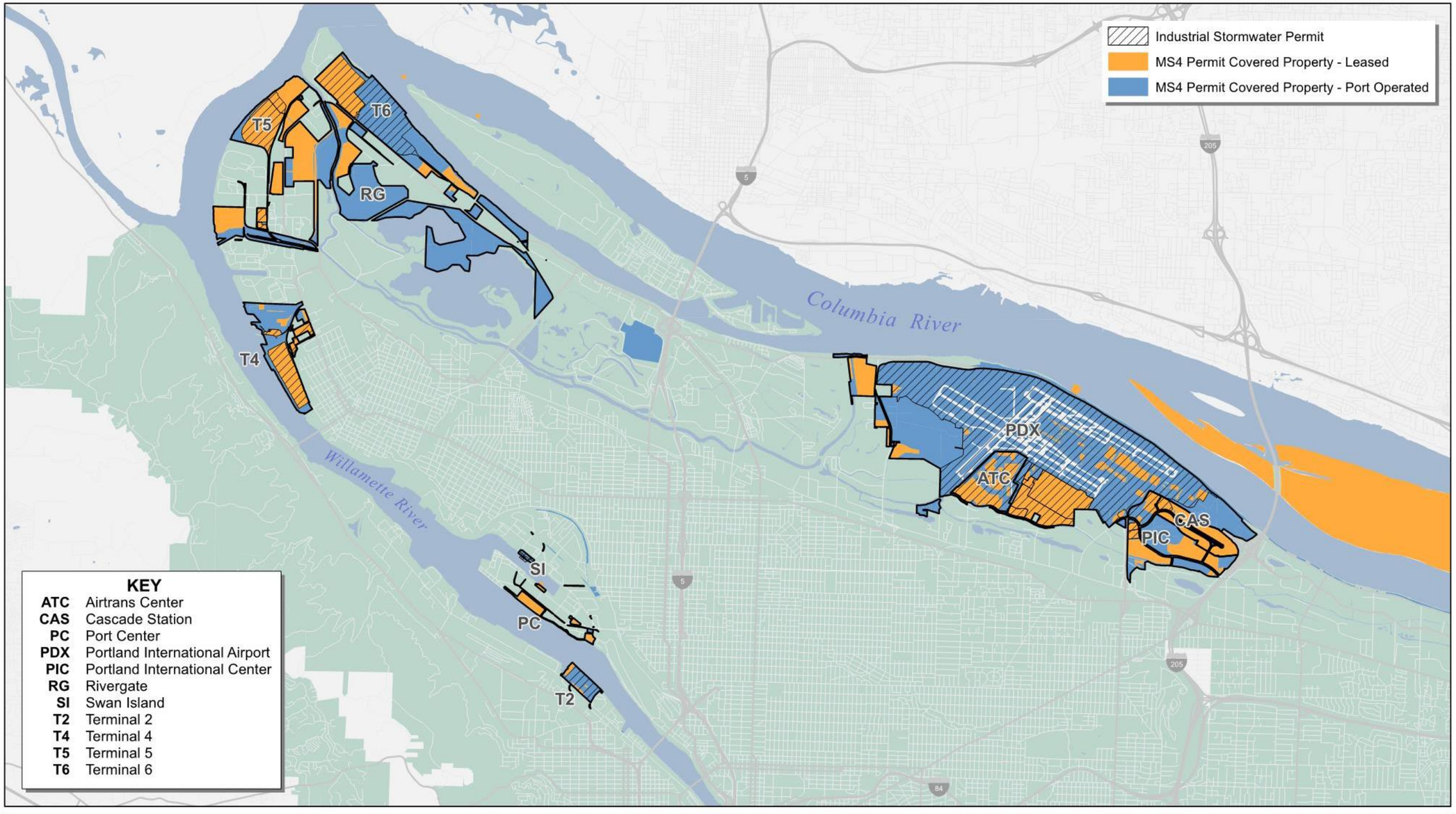

Figure 1-1. Port of Portland MS4 Permit Area

2.2 MS4 Permit Areas

2.2.1 Aviation-Portland International Airport (PDX)

PDX comprises an area of approximately 2,803 acres and is located in northeast Portland between the Columbia River and the Columbia Slough. The facility is owned and operated by the Port; numerous aviation-related tenants also operate at PDX.

Stormwater runoff from PDX discharges into the Columbia Slough through a series of pipes, open channels, and nine major outfalls. These stormwater discharges are permitted under the Individual PDX NPDES Waste and Stormwater Discharge Permit No. 101647 (Individual NPDES permit) issued and administered by the Oregon Department of Environmental Quality (DEQ). This Individual NPDES permit is structured to specifically address the Columbia Slough Total Maximum Daily Load (TMDL) parameters which include dissolved oxygen, pH, nutrients, bacteria, and toxics. Stormwater can also be pumped to the Columbia River through a de-icing treatment system. These discharges are also covered under the Port's Individual NPDES permit.

Currently, the Oregon Air National Guard (ANG) and Yoshida Foods International each have 1200-Z permits for their operations at PDX. Other PDX tenants whose operations trigger the need for a stormwater permit can either obtain their own 1200-Z permit or, if their stormwater comingles with stormwater from other PDX industrial operations, become a co-permittee with the Port on the Port's Individual NPDES permit. In addition to the Individual NPDES permit, PDX holds a NPDES 1200-CA (Construction Discharge) permit, a Water Pollution Control Facilities (WPCF) 1700-B Wastewater permit, and a Pretreatment permit issued by the City for discharges to the sanitary system. The pretreatment permit covers the following areas:

- Heating, ventilation, and air conditioning waste streams
- Firefighting activities
- Maintenance activities
- Wash water generated by the Quick Turn-around Facility (a high-volume vehicle wash facility)
- De-icing discharges

2.2.2 Marine Facilities

The Port has three marine terminals (T4, T5, and T6) managed by the Port's Marine Business Line and one marine terminal managed by the Port's Industrial Development Business Line (T2). The terminals collectively occupy approximately 1,009 acres along the Willamette River (T2, T4, and T5), and the Columbia River/Columbia Slough (T6). These terminals handle the shipping, receiving, and temporary storage of finished goods, agricultural products, and raw materials.

Stormwater runoff from T6 discharges into both the Columbia River and Columbia Slough and is covered by 1200-Z permits held by both the Port and individual tenants. The Port obtained a 1200-Z permit for the Port-operated area of T6 in August of 2017. The Port also holds a 1200-Z permit for T2, a portion of which is leased to tenants. Multiple properties located at T4 and T5 are leased to tenants, and several of these tenants hold their own 1200-Z permits or Individual NPDES permits issued by DEQ and administered by the City.

The Navigation facility is managed by the Port's Navigation Department and is located on Swan Island adjacent to the Willamette River. The facility is used to support dredging operations including storage and maintenance of equipment used for dredging operations. Stormwater runoff from the Navigation facility discharges directly to the Willamette River or indirectly via a conveyance system

comprised of catch basins and pipes that discharge into the City's MS4. The Navigation facility is covered by a 1200-Z permit obtained in 2017.

2.2.3 Industrial Development

As listed previously, the Port's Industrial Development Business Line manages six Port-owned industrial parks–Swan Island, Rivergate, Cascade Station, Port Center, Air Trans Center, and the Portland International Center (PIC). As of September 2021, these properties totaled approximately 1,460 acres. Several industrial park tenants hold 1200-Z or Individual NPDES permits issued by DEQ and administered by the City.

2.2.4 Undeveloped Properties

The Industrial Development Business Line also manages approximately 1,935 acres (as of September 2021) of undeveloped property within the City's USB. This does not include West Hayden Island, which is within the unincorporated USB and does not receive City services. Stormwater management activities for undeveloped properties discharging into the Port's MS4 are conducted under the MS4 Permit.

2.3 Summary of Port Permit Responsibility and Coordination with Co-Permittees

The Port's MS4 Permit responsibility is influenced primarily by the following two factors: First, the City is a co-permittee on the MS4 Permit. The City generally conducts MS4 Permit related activities on a city-wide basis with some activities overlapping with the Port's MS4 service area. As a result, the Port and City coordinate on meeting select MS4 Permit requirements through an Intergovernmental Agreement (IGA) to avoid duplication of effort. Specifically, planning and implementation of controls for new development, stormwater facility inspections, and stormwater monitoring are generally conducted by the City on behalf of the Port within the Port's MS4 service area. An exception would be related to the implementation of controls for new development or re-development where the Port applies their own Design Standards Manual at PDX and Terminal 6 Port operated areas.

Second, the Port is unique in that its land use is primarily industrial, with no residential areas, and with large-scale parcels located throughout select areas of the city. As described in Section 2.2, some of the Port's operating areas (marine terminals, airport facilities, and/or industrial parks) are also regulated under 1200-Z or Individual NPDES permits and their associated Stormwater Pollution Control Plans (SWPCPs). In addition, DEQ regulates stormwater discharges associated with the Port's capital improvement construction activities performed on Port property pursuant to the Port's 1200-CA permit.

Many of the requirements outlined in DEQ-issued 1200-Z and Individual NPDES permits, and the respective best management practices (BMPs) required pursuant to the associated SWPCPs, are similar to requirements outlined in Schedule A of the MS4 Permit, specifically for activities related to operations and maintenance, certain illicit discharge elimination activities, spill response, and industrial monitoring. Therefore, operating areas with 1200-Z or Individual NPDES permits already meet many of the MS4 Permit requirements related to the above activities. In addition, some of the requirements in the Port's 1200-CA permit overlap with MS4 Permit requirements for erosion control.

Table 2-1 lists MS4 Permit requirements and responsibilities and describes how each requirement is met. Responsibility descriptions for each MS4 Permit requirement are divided into two categories:

- Port MS4 Permit service areas that **do not** have 1200-Z or Individual NPDES permits, and
- Port MS4 Permit service areas where the Port, or its tenants, **have** 1200-Z or Individual NPDES permits.

Areas where MS4 Permit requirements are covered and addressed by 1200-CA, 1200-Z or Individual NPDES permit requirements are shaded gray in the table. The table was developed to clarify the complex relationship between the Port's management of stormwater BMPs within the City's USB, the City's overlapping stormwater management activities, and DEQ's regulation of stormwater on Port properties through industrial or construction NPDES permits.

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Table 2-1. Port of Portland 2021 MS4 Permit Requirements and Responsibilities

MS4 Permit SWMP Requirements	MS4 Service Areas Not Covered Under NPDES 1200-Z or Individual Stormwater Permits		MS4 Service Areas Covered Under NPDES 1200-Z or Individual Stormwater Permits	
	Tenants	Port Operations	Tenants	Port Operations
Schedule A.3.a Public Education and Outreach				
i. Implement a documented public education and outreach program.	PEO-1: Implement Public Education Measures to Protect Stormwater Quality			
ii. Provide educational material to the community or conduct equivalent outreach activities.	PEO-1: Implement Public Education Measures to Protect Stormwater Quality PEO-2: Implement a Tenant Stormwater Education Program	N/A	PEO-1: Implement Public Education Measures to Protect Stormwater Quality PEO- 2: Implement a Tenant Stormwater Education Program	N/A
	PEO-1: Implement Public Education Measures to Protect Stormwater Quality			
iii. Identify target audiences and priority pollution reduction topics.	PEO-1: Implement Public Education Measures to Protect Stormwater Quality			
Schedule A.3.b Public Involvement and Participation				
i. Publicly Accessible SWMP Website	PI-1: Implement SWMP Website Updates			
ii. Provide stewardship opportunities.	PI-2: Implement a Public Participation Approach for SWMP Implementation			
iii. Describe public involvement programs, including metrics and tracking measures.	PI-1: Implement SWMP Website Updates PI-2: Implement a Public Participation Approach for SWMP Implementation			
Schedule A.3.c Illicit Discharge Detection and Elimination				
i. Maintain maps showing major MS4 outfalls, conveyance system, structural stormwater controls, chronic illicit discharges, and priority dry weather screening sites.	ILL-2: Conduct Dry-Weather Field Screening			
ii. Prohibit through ordinance or other regulatory mechanism, illicit discharges	ILL-1: Implement the IDDE Program			
iii. Describe and implement enforcement response procedures	ILL-1: Implement the IDDE Program ILL-3: Implement Spill Response Program			
iv. Implement a program to detect and eliminate illicit discharges	ILL-1: Implement the IDDE Program		Activities address employee reporting and are covered under 1200-Z or Individual NPDES permits. ILL-3: Implement Spill Response Program ILL-1: Implement the IDDE Program	
v. Conduct annual dry weather screenings	ILL-2: Conduct Dry-Weather Field Screening			
vi. Conduct IDDE trainings	TRN -1: MS4 Permit Training			
Schedule A.3.d Construction Site Runoff Control				
i. Ordinance and/or other regulatory mechanism that requires erosion and sediment controls	Covered by the City's erosion control ordinance and program; may also be covered under DEQ's 1200-C Construction Stormwater General Permit program.	Covered by the Port's DEQ issued 1200-CA Permit, and the City's erosion control program and related contract specifications.	Covered by the City's erosion control ordinance and program; may also be covered under DEQ's 1200-C permit program.	Covered by the Port's DEQ issued 1200-CA Permit, and the City's erosion control program and related contract specifications.
ii. Require construction site operators to develop site plans and implement erosion and sediment control BMPs				
iii. Require review of erosion and sediment control plans				
iv. Conduct construction site inspections				
v. Implement and maintain enforcement response procedures				
vi. Construction runoff control training and education				
Schedule A.3.e Post-Construction Site Runoff for New Development and Redevelopment				
i. Adopt an ordinance that applies to sites that create or replace 1,000 SF of impervious surface	Covered by the City's Stormwater Management Manual (SWMM) and associated implementation program and ordinance with the exception of PDX, Terminal 6, and designated properties around the airfield which are covered by PC-1: Port-Specific Post-Construction Site Runoff Controls, and associated training in TRN-1			
ii. Prioritize the use of Low Impact Development (LID) and Green Infrastructure (GI)				
iii. Develop and implement an enforceable post-construction SWMM to include prioritizing onsite retention				
iv. Develop a Water Quality Benefit Offset Program				
v. Standardized procedure for the review and approval of structural stormwater control plans for new development and redevelopment projects				
vi. Implement a strategy to ensure that all public and private stormwater controls discharging to the MS4 are operated and maintained to the Maximum Extent Practicable (MEP)				
vii. Post-construction training of staff responsible for performing post-construction site plan reviews, administering the post-construction program requirements, and performing/evaluating O&M practices				

Note: Rows that have a grey background indicate that the activity is covered by 1200-Z or Individual NPDES permits or through an IGA with the City.

Table 2-1. Port of Portland 2021 MS4 Permit Requirements and Responsibilities

MS4 Permit SWMP Requirements	MS4 Service Areas Not Covered Under NPDES 1200-Z or Individual Stormwater Permits		MS4 Service Areas Covered Under NPDES 1200-Z or Individual Stormwater Permits	
	Tenants	Port Operations	Tenants	Port Operations
Schedule A.3.f Pollution Prevention and Good Housekeeping for Municipal Operations				
i. Develop and implement an O&M strategy for both co-permittee-owned controls and controls owned and operated by other non-MS4 and non-NPDES entities discharging to the MS4	*See A.3.e.vi–Long Term Operation and Maintenance.*			
ii. Implement a program to inspect, maintain, and clean MS4 and related structures	OM-1: Stormwater System Cleaning and Maintenance			
iii. Conduct O&M activities	OM-1: Stormwater System Cleaning and Maintenance OM-2: Minimize Water Quality Impacts Associated with Landscape Management Practices OM-3: Coordinate with the Local Fire Department to Minimize Pollutant Discharge from Firefighting Training Activities			
iv. Maintain coverage for applicable facilities under DEQ's NPDES Industrial Stormwater General Permit	Covered under NPDES industrial stormwater permits.			
v. Implement a Winter Maintenance and Operations Program	OM-5: Winter Weather Management [1]			
vi. Implement a program to control the use and application of pesticides and fertilizers	OM-2: Minimize Water Quality Impacts Associated with Landscape Management Practices			
vii. Implement a Litter Control Program	OM-6: Litter Control			
viii. Material Disposal Program	OM-1: Stormwater System Cleaning and Maintenance			
ix. Address water quality in flood control, transportation, and other infrastructure planning	The City conducts planning for public flood control, transportation and other infrastructure except for at PDX. PDX has its own master plan that addresses water quality.			
x. Training on Pollution Prevention during O&M activities	TRN-1: MS4 Permit Training			
Schedule A.3.g Industrial and Commercial Facilities				
i. Screen existing and new industrial stormwater permitting	The City conducts screening for existing and new facilities to assess NPDES permitting needs.		The City conducts screening of existing and new facilities to assess NPDES permitting needs. IND-1: Screen Existing and New Industrial and Commercial Facilities at PDX.	
ii. Reduce pollutants from industrial and commercial facilities	IND-1: Screen Existing and New Industrial Facilities IND-2: Address High Pollutant Source Facilities		These areas are already covered by an industrial stormwater NPDES permit.	
iii. Train staff on evaluating industrial and commercial trainings	TRN-1: MS4 Permit Training			
Schedule A.3.h Infrastructure Retrofit and Hydromodification Assessment Update				
i. Complete Hydromodification Assessment	RET-1: Infrastructure Retrofits			

Note: Rows that have a grey background indicate that the activity is covered by 1200-Z or Individual NPDES permits or through an IGA with the City.

[1] OM-4: GIS System and Asset Management Database is a BMP that is implemented to meet tracking measure requirements and is not covered in this table. See Element #6 in Section 3.

2.4 Relationship to TMDLs

In addition to the MS4 Permit requirements, the Port is also subject to TMDL regulations under the Clean Water Act. TMDLs serve as plans for restoring impaired or polluted waters. They identify the maximum amount of a specific pollutant that a body of water can receive while still meeting water quality standards. In Oregon, DEQ identifies Load Allocations for nonpoint sources of pollution and Waste Load Allocations for point sources. Municipal stormwater discharges are regulated as point sources if they are covered by a NPDES MS4 permit. The Port is a designated management agency for the following TMDLs:

- Columbia Slough: DDT/DDE, dieldrin, dioxin, PCBs, dissolved lead, phosphorus, dissolved oxygen, pH, chlorophyll a, bacteria and temperature (note: the mercury and temperature TMDLs for the Columbia Slough are addressed in the Willamette Basin TMDL)
- Lower Willamette Subbasin: mercury, bacteria, and temperature

Point sources of pollutants and associated Waste Load Allocations are regulated through the NPDES permitting program and nonpoint sources are managed by TMDL Implementation Plans. The MS4 Permit addresses the Port's TMDL obligations under Schedule D.3, which states:

> *DEQ incorporated performance measures in Schedule A.3.c, d, e, and f to address water quality impairments and EPA-approved or issued TMDL allocations issued to date. Compliance with the permit's terms and conditions is presumed to be in compliance with TMDL Waste Load Allocations (WLAs) issued before the effective date of this permit…*
>
> *Port NPDES MS4 Permit, Schedule D.3.a*

With one exception (temperature), this SWMP presents the Port's plan to control pollutant runoff to address TMDL WLAs for the parameters listed above. Schedule D.3.b also requires the Port to develop and submit a mercury minimization assessment with the annual report due November 1, 2022, that documents the BMPs implemented to reduce the amount of solids discharged into and from the MS4. The predominant source of mercury in stormwater is considered to be associated with solids. To address this requirement, BMPs outlined in this SWMP Document include references to the targeted TMDL pollutants including solids (i.e., Total Suspended Solids [TSS]) as a surrogate for mercury. Schedule D.3.c requires the Port to conduct a TMDL pollutant load reduction evaluation and Schedule D.3.d requires that the Port establish pollution load reduction benchmarks for relevant TMDL pollutants in conjunction with the MS4 Permit renewal application.

The MS4 Permit and associated SWMP Document describe and address point sources of pollutants and associated TMDL WLAs. The Port must also conduct activities to address nonpoint sources of TMDL pollutants (e.g., temperature). The Port's Willamette River Basin TMDL Implementation Plan (September 2022) addresses pollution reduction strategies for nonpoint sources of pollutants. The Willamette River TMDL Implementation Plan was prepared as a complement to the SWMP and is included in the SWMP Document Reference Library (see Section 2.8).

2.5 Stormwater Program Overview

The activities outlined in this SWMP Document are performed by multiple Port departments. This section presents an overview of the Port's participating departments and organizational structure and provides an outline of the SWMP organization in relation to MS4 Permit requirements.

Environmental Operations is the lead group responsible for planning, tracking, and overall implementation of this SWMP. The following departments/groups also participate in stormwater program implementation:

- Aircraft Rescue Fire Fighting (ARFF)
- Engineering
- Construction Services
- Marine Facilities Maintenance (MFM)
- PDX Maintenance (MX)
- Properties

2.6 SWMP Organization

The SWMP is organized into the major stormwater program categories included in the MS4 Permit (see Table 2-2). Within each stormwater program category, this SWMP Document outlines BMPs to address the MS4 Permit requirements to reduce the discharge of pollutants to the maximum extent practicable. The BMPs are organized with numbering and titles based on the permit's program categories.

The BMPs listed in Table 2-2 are only those that address the explicit requirements of the SWMP as described in Schedule A.3 of the 2021 NPDES MS4 Permit. Additional activities within the Port's stormwater program that do not specifically align with the MS4 Permit requirements may not be included in this document.

Table 2-2. Stormwater Program Organizational Categories

Category Title	MS4 Permit Requirement	BMP Naming Abbreviation
Public Education and Outreach	Schedule A.3.a	PEO
Public Involvement and Participation	Schedule A.3.b	PI
Illicit Discharge Detection and Elimination	Schedule A.3.c	ILL
Construction Site Runoff Control	Schedule A.3.d	Not applicable
Post Construction Site Runoff for New Development and Redevelopment	Schedule A.3.e	PC
Pollution Prevention and Good Housekeeping for Municipal Operations	Schedule A.3.f	OM
Industrial and Commercial Facilities	Schedule A.3.g	IND
Infrastructure Retrofit and Hydromodification Assessment Update	Schedule A.3.h	RET
MS4 Permit Training	Schedule A.3.c.vi Schedule A.3.d.vi Schedule A.3.e.vii Schedule A.3.f.x Schedule A.3.g.iii	TRN

The BMPs include measurable goals and tracking measures that will be used to report progress to DEQ on an annual basis. The reporting period encompasses July 1–June 30 of each year, with reports on activities due annually to DEQ by November 1.

2.7 SWMP Development

Since the Port received its first MS4 Permit from DEQ in 1995, the Port's SWMP has been revised to align with each reissuance of the MS4 Permit and meet the respective Permit renewal requirements. With each revision, the Port conducts an evaluation to identify areas where modifications to the SWMP are appropriate. Existing BMPs are reviewed by those responsible for implementing them to propose modifications that could be expected to enhance BMP effectiveness. BMP revisions are reviewed internally to ensure that commitments and activities are accurate and achievable.

In 2022, the Port conducted a detailed evaluation of the existing SWMP using a gap analysis strategy to compare the Port's 2011 SWMP to the 2021 MS4 Permit requirements. The evaluation also included a review of the Port's annual reports and stormwater program documents and ordinances, and considered input from Port staff responsible for implementing each BMP. Based on the Port's experience, some BMPs were streamlined to reflect work previously completed and other BMPs were adjusted to better reflect current Port operations. New BMPs were identified to increase program effectiveness and accommodate new MS4 Permit requirements. Measurable goals and tracking measures were developed or adjusted (if needed) for each BMP.

2.8 SWMP Document Reference Library

Stormwater program implementation requires numerous codes, ordinances policies, procedures, guidance manuals, checklists, forms, mapping, and other related documents. Throughout this SWMP Document the relevant supporting documents are noted within each program category or BMP. The referenced documents have been compiled into a SWMP Document Reference Library located on the Port's Stormwater Management page of their public website. At the effective date of this SWMP Document, these documents may be accessed at the following link:

https://www.portofportland.com/Environment/MS4DocLibrary

In accordance with the MS4 Permit requirements, as mentioned in Section 2.4, the Port also prepares a report of stormwater program activities completed each year. The reports are posted on the Port's stormwater program website for public access and review.

2.9 Legal Authority to Implement the SWMP

The Port has legal authority to implement programs outlined in the SWMP through ordinance, permits, and contracts.

The Port has statutory authority to enact ordinances to regulate stormwater systems that it owns, operates, maintains, or controls. On March 11, 1992, the Port Commission adopted Ordinance 361, which provided the Port with legal authority over specific activities conducted by persons occupying land owned by the Port (e.g., tenants, vendors, contractors). Ordinance 361 prohibits such persons from making, causing, or allowing an illicit discharge into a storm sewer owned or operated by the Port. Section 4 of the Ordinance requires written permission from the Port before connecting to a Port storm sewer.

Section 5 of Ordinance 361 authorizes the Port to perform the following activities:

- Inspect the land and storm sewers for violations of the ordinance or applicable law that governs the conveyance or disposal of stormwater.
- Control the contribution of pollutants to storm sewers owned or operated by the Port.

- Control the quality of stormwater discharged from the sites of industrial activity on land owned by the Port.
- Control the discharge to storm sewers owned or operated by the Port of pollutants from spills, dumping, or the disposal of materials other than stormwater.

In addition to Ordinance 361, the Port has legal authority to control the contribution of pollutants to the municipal storm sewer system through contracts with its tenants. The lease agreements require the lessee to comply with the Port's MS4 permit. Some properties also have industrial stormwater permits and lease agreements also include requirements to comply with these permit conditions. Through these regulatory and contractual mechanisms, the Port is working with tenants and users of Port facilities to implement and evaluate BMPs that control the contribution of pollutants to the Port's MS4.

Section 3: SWMP Control Measures

This Stormwater Management Program (SWMP) Document is organized into the nine major stormwater program elements listed below. The nine major elements correspond to those requirements outlined in the National Pollution Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit No. 101314 (MS4 Permit) i.e., Schedule A.3, (a-h). An additional element was added to address all MS4 Permit-related training requirements.

SWMP Best Management Practices (BMPs)

Element #1: Public Education and Outreach

Element #2: Public Involvement and Participation

Element #3: Illicit Discharge Detection and Elimination

Element #4: Construction Site Runoff Control

Element #5: Post-construction Site Runoff

Element #6: Pollution Prevention and Good Housekeeping for Municipal Operations

Element #7: Industrial and Commercial Facilities

Element #8: Infrastructure Retrofit and Hydromodification Assessment

Element #9: Port's MS4 Training Strategy

For each of the SWMP elements above, this section includes one table that lists the best management practices (BMPs) that correspond to the individual components of the Schedule A.3 MS4 Permit requirements; and a second table that includes the BMP implementation activities, measurable goals, tracking measures and TMDL pollutants addressed.

Element #1 Public Education and Outreach

Public education and outreach are an integral component of a successful stormwater pollution prevention program. Increasing public knowledge on local water quality issues is key to obtaining public support and ownership for stormwater programs. The Port partners with multiple agencies and non-profits, including the Columbia Slough Watershed Council (CSWC) and Oregon Environmental Council to support public outreach and education focused on stormwater.

Table 3-1 lists the Port's BMPs to address the requirements for Schedule A.3.a.

Table 3-1. Public Education and Outreach

Schedule A.3.a Permit Requirements	Applicable BMPs	
	PEO-1	PEO-2
i. Education and Outreach Program	■	
ii. Stormwater Education Activities	■	■
iii. Priority Audiences and Topics	■	
iv. Tracking and Assessment	■	■

The following public education and outreach-centered BMPs are described in BMP Table 3-2:

- PEO-1: Implement Public Education Measures to Protect Stormwater Quality
- PEO-2: Implement a Tenant Stormwater Education Program

Applicable MS4 Permit provisions related to Element #1 are outlined under Schedule A.3.a.

While the City conducts stormwater-related public education and outreach city-wide, the Port conducts a variety of public education and outreach programs to address stormwater issues that are significant and more specific to the Port and its tenants.

For each BMP listed above, Table 3-2 provides a description, implementation schedule, measurable goals, annual tracking measures, and a list of TMDL pollutants addressed. Measurable goals and tracking measures will be evaluated annually to assess the impact of the BMPs and to inform future education and outreach activities.

Table 3-2. Public Education and Outreach BMPs

BMP	Permit Requirement	BMP Implementation	Measurable Goals	Tracking Measures	TMDL Stormwater Pollutants Addressed

PEO-1: Implement Public Education Measures to Protect Stormwater Quality	A.3.a.i
	A.3.a.ii
	A.3.a.iii
	A.3.a.iv
		BMP Description: The Port implements a public education strategy and conducts a variety of outreach activities to educate the public and employees on the protection of stormwater quality. The Port's primary target audience for public outreach is the industrial and commercial tenants. Such educational activities include participation in media campaigns.
		The Port's cooperative public education efforts with other groups or agencies include the CSWC and Oregon Environmental Council. Port staff serve on the CSWC board and currently provide an annual monetary sponsorship.
		BMP Implementation Tasks:
		• Implement the Port's public education and outreach BMP including the following tasks and priority topics:
		  • Continue participation in KPTV Public Outreach Campaign (July–June)
		  • Continue to include stormwater education materials at Port sponsored outreach events and post on the Port's SWMP website for target audience.
		  • Provide target audience with education materials with priority topics to address: 1) proper disposal of waste materials; 2) proper application of fertilizer, pesticides; 3) Reducing spills into waterways.
		  • Continue to attach the "Dump No Waste, Drains to Stream" decals to catch basins associated with all new Port construction annually at PDX. Continue to paint this message at marine terminals. Expand this program to all Port properties during the Permit term. This program helps address the interconnection between catch basins/storm drains and local creeks/surface waters.
		  • During inspections conducted under BMP–"Implement Inspections of Significant Pollutant Source Areas", and BMP–"Implement a Stormwater System Cleaning and Maintenance Program", identify catchbasins where it would be relevant and appropriate to apply "Dump No Waste, Drains to Stream" decals and apply decals.
		Reference Document: None.
		Responsibility: Environmental Operations
		Implementation Schedule: Ongoing
			• Provide stormwater education materials at outreach events.
			• Provide target audiences education materials.
			• Post stormwater education materials on the Port's SWMP website.
			• Participate in the KPTV Annual Campaign.
			• Continue "Dump No Waste, Drains to Stream" Decal Program
				• Track events where stormwater educational materials were made available.
				• Track participation in KPTV Annual Campaign.
				• Track Decal Program.
					• TSS
					• TP
					• Dissolved lead
					• Bacteria
					• Total mercury

Table 3-2. Public Education and Outreach BMPs

BMP	Permit Requirement	BMP Implementation	Measurable Goals	Tracking Measures	TMDL Stormwater Pollutants Addressed
PEO-2: Implement a Tenant Stormwater Education Program	A.3.a.ii	BMP Description: The Port's primary target audience is the industrial and commercial tenants. Outreach efforts directed to tenants in MID and PDX can assist in the reduction of pollutant discharges from municipal separate storm sewers. Port staff will provide a variety of stormwater education and outreach materials to tenants as needed and include stormwater education in tenant leases (*Section 7.0 of the "Airport Facility Lease" document addresses Environmental Management*). Such educational materials may include educational information on pesticide, herbicide, and fertilizer management and information related to appropriate spill response procedures. BMP Implementation Tasks: • Maintain an inventory of all active tenants or lease holders. • Provide stormwater educational materials in new tenant leases. Reference Document: N/A Responsibility: Environmental Operations Implementation Schedule: Ongoing	• Compile/update a leasehold inventory annually that has included stormwater educational materials. • Provide stormwater education materials related to structural and non-structural/source control BMPs to tenants in new leases over the permit term.	• Verify the completion and/or update of a leasehold inventory. • Track stormwater education materials provided to tenants.	• TSS • TP • Dissolved lead • Bacteria • Total mercury

Element #2 Public Involvement and Participation

The public provides valuable input and assistance to the Port's stormwater pollution prevention program. The goal of the public involvement and participation program is to effectively involve a diverse cross-section of people who can participate in stormwater pollution prevention activities. The public involvement efforts will be closely tied with the public education and outreach efforts that form another component of Port's stormwater program. An active and involved community is crucial to the success of the stormwater management program because it provides:

- Opportunities for the public to participate effectively in the implementation of the program leading to ownership and community support of the stormwater programs.
- Cross-connections with other community and government groups involved in stormwater and sustainability related work.
- Valuable input from a wide audience with diverse perspectives and expertise.

Table 3-3 outlines the Port's BMPs to address the requirements for Schedule A.3.b.

Table 3-3. Public Involvement and Participation

Schedule A.3.b Permit Requirements	Applicable BMPs		
	PI-1	PI-2	PEO-1
i. Publicly Accessible Website	■		
ii. Stewardship Opportunity		■	■
iii. Tracking and Assessment	■	■	■

The following public involvement and participation-centered BMPs are described in BMP Table 3-4:

- PI-1: Implement SWMP Website Updates
- PI-2: Implement a Public Participation Approach for SWMP Implementation

A supporting BMP that will assist in meeting the requirements of this permit language can be found in the following subsection:

- PEO-1: Implement Public Education Measures to Protect Stormwater Quality (**Element #1**)

Applicable MS4 Permit provisions related to Element #2 are outlined under Schedule A.3.b. While the City conducts stormwater-related public involvement activities on a city-wide basis, the Port conducts selected Port-specific public involvement activities to provide opportunities for the public to effectively participate in the development of the Port's SWMP control measures.

For each BMP listed above, Table 3-4 provides a description, implementation schedule, measurable goals, annual tracking measures, and a list of TMDL pollutants addressed. Measurable goals and tracking measures will be evaluated annually to assess the impact of the BMPs and to inform future public involvement activities.

Table 3-4. Public Involvement and Participation BMPs

BMP	Permit Requirement	BMP Implementation	Measurable Goals	Tracking Measures	TMDL Stormwater Pollutant Addressed
PI-1: Implement SWMP Website Updates	A.3.b.i A.3.b.iii	BMP Description: Maintain and promote a publicly accessible website containing information on the SWMP Document and Implementation; and educational materials. BMP Implementation Tasks: • Post a reporting mechanism for public complaints or reports of illicit discharges. • Include links to final reports, plans and other documents relevant to the MS4 programs, as well as drafts of documents requiring public comment. • Provide links to ordinances, policies and/or guidance documents related to construction, and commercial/industrial stormwater management control programs. • List contact information for relevant staff, including phone numbers, mailing address, and email addresses. Reference Document: The Port's SWMP website. Responsibility: Environmental Operations Implementation Schedule: Ongoing	Update and maintain the Port's existing SWMP website.	Document SWMP Website updates in the Annual Report.	N/A
PI-2: Implement a Public Participation Approach for SWMP Implementation	A.3.b.ii A.3.b.iii	BMP Description: Identify appropriate stewardship opportunities for the public to be involved in related to implementation of the Port's MS4 program and implement these projects over the permit term. BMP Implementation Tasks: • Determine what projects are appropriate for public involvement. • Make the public aware of the selected involvement opportunities via the Port's website, and the CWSC. • Implement selected projects and document public involvement. • Continue to participate in local school's career days. Reference Document: N/A Responsibility: Environmental Operations Implementation Schedule: Ongoing	Document what projects and events are identified as public involvement opportunities, including the Port's stewardship opportunities.	Describe any projects implemented where the public has opportunity to participate and the extent of public involvement for each.	• TSS • TP • Dissolved lead • Bacteria • Total mercury

Element #3 Illicit Discharge Detection and Elimination

The Environmental Protection Agency's stormwater regulations define an illicit discharge as any discharge to an MS4 that is not composed entirely of stormwater unless exempt by the Permit. Illicit discharges to the storm sewer from industrial facilities, commercial businesses, and residences can be a significant source of water pollution. Deteriorating piping in the sanitary sewer and storm drain systems may also be a source of pollution if sanitary sewage seeps into the stormwater system.

The goal of the Illicit Discharge Detection and Elimination (IDDE) Program is to detect and eliminate illegal discharges and illicit connections to the storm drain system. The Port accomplishes this through the following programs: an IDDE Program including ordinance requirements and enforcement procedures, MS4 mapping, a Dry Weather Field Screening Program, a Spill Response Program, and staff training. Additional information on the IDDE Program can be found in the "IDDE Work Instruction" , Spill and Illicit Discharge Response Plans, Design Standards Manual (DSM), and Ordinance 361 (see the Port's website https://www.portofportland.com).

Table 3-5 outlines the Port's BMPs to address the requirements for Schedule A.3.c.

Table 3-5. Illicit Discharge Detection and Elimination

Schedule A.3.c Permit Requirements	Applicable BMPs				
	ILL-1	ILL-2	ILL-3	TRN-1	OM-4
i. MS4 Map		■			■
ii. Ordinance and/or Other Regulatory Mechanisms	■				
iii. Enforcement Procedures	■		■		
iv. Program to Detect and Eliminate Illicit Discharges	■		■		
v. Dry-Weather Field Screening Program		■			
vi. Illicit Discharge Detection and Elimination Training and Education				■	
vii. Tracking and Assessment	■	■	■		■

The following IDDE-centered BMPs are described in BMP Table 3-6:

- ILL-1: Implement the IDDE Program
- ILL-2: Conduct Annual Dry-Weather Field Screening
- ILL-3: Implement the Spill Response Program

Supporting BMPs that will assist in meeting the requirements of this permit language can be found in the following subsections:

- OM-4: GIS System and Asset Management Database (**Element #7**)
- TRN-1: MS4 Permit Training (**Element #9**)

Applicable MS4 Permit provisions related to Element #3 are outlined under Schedule A.3.c.

For each BMP listed above, Table 3-6 provides a description, implementation schedule, measurable goals, annual tracking measures, and a list of TMDL pollutants addressed. Measurable goals and tracking measures will be evaluated annually to assess the impact of the BMPs and to inform future IDDE priority areas and activities.

Table 3-6. Illicit Discharge Detection and Elimination BMPs

BMP	Permit Requirement	BMP Implementation	Measurable Goals	Tracking Measures	TMDL Stormwater Pollutant Addressed
ILL-1: Implement the IDDE Program	A.3.c.ii A.3.c.iii A.3.c.iv A.3.c.vii	BMP Description: • Through Ord. 361, the Port has the authority to eliminate illicit discharges throughout its property including those associated with tenants on Port property. • Environmental Operations staff implements and enforces documented IDDE procedures. BMP Implementation Tasks: • Implement the Port's updated "Work Instruction: IDDE Program" with new response timelines. • Continue to enforce Ord. 361 to prohibit non-stormwater discharges into the MS4. • Continue to implement documented IDDE procedures. PDX Environmental and Marine Environment staff implement an updated document of IDDE procedures. See Element #9 for required training. Reference Document: The Port's updated "Work Instruction: IDDE Program" is included in the SWMP Document Library. Responsibility: Environmental Operations Implementation Schedule: Ongoing	Continue IDDE program implementation and enforcement.	• Track the status of any updates to the illicit discharge detection and elimination procedures. • Track the number, type, location, and resolution of any illicit discharge investigations conducted.	• TSS • TP • Dissolved lead • Bacteria • Total mercury
ILL-2: Conduct Dry-Weather Field Screening	A.3.a.i A.3.a.v A.3.a.vii	BMP Description: The Port conducts annual field screening activities during dry-weather conditions (between July and Sept.) at all Port-owned priority outfall locations. Activities are conducted according to documented procedures. If necessary, in accordance with dry-weather field screening activities, the Port updates their GIS files annually related to existing outfall and priority outfall locations. BMP Implementation Task: • Update and maintain an MS4 map of outfall locations, conveyance system, stormwater controls, chronic illicit discharges and dry-weather priority screening sites. Annually, as necessary, update Port data files related to outfall locations in accordance with dry-weather field screening activities. • Review and update dry weather screening prioritization criteria and include results in the review of the third-year annual report. If necessary, update SWMP Document to reflect new criteria and procedures. • Conduct annual dry-weather field screening activities at all priority outfall locations within 72 hrs of an antecedent dry period. In general, these activities include the following: 1. Document general observations of flow, turbidity, oil sheen, trash, debris or scrum, condition, color, odor, and other relevant observations of any non-stormwater or illicit discharges. 2. Field screening and analysis if flow is observed. 3. Utilize pollutant parameter action levels as part of field screening. 4. If source cannot be identified, collect water quality samples and conduct laboratory analysis for ongoing discharges. See Element #9 for required training. Reference Document: Post MS4 Maps to the SWMP Document Library. The dry weather field screening protocols are included in the SWMP Document Library. Responsibility: Environmental Operations Implementation Schedule: Ongoing with a review and update of the dry weather screening prioritization criteria by Nov. 1, 2023.	• Maintain MS4 map. • Review and update dry weather screening criteria. • Inspect priority outfalls annually and follow dry weather field screening procedures.	• Track the number and location of priority outfalls inspected during dry-weather field screening activities. • Summarize dry-weather field screening inspection results and indicate outfalls requiring sampling or follow-up activities, including water quality sample results. • Indicate outcome and resolution of inspection activities conducted.	• TSS • TP • Dissolved lead • Bacteria • Total mercury

Table 3-6. Illicit Discharge Detection and Elimination BMPs

BMP	Permit Requirement	BMP Implementation	Measurable Goals	Tracking Measures	TMDL Stormwater Pollutant Addressed
ILL-3: Implement the Spill Response Program	A.3.a.iii A.3.a.iv A.3.a.viii	BMP Description: Spill prevention and response procedures for areas covered by individual industrial stormwater permits are included in the facility's SWPCPs, required as part of the DEQ-issued 1200-Z or Individual NPDES permits. As a result, spill response activities for these areas are not reported under the MS4 Permit. [2] The Port also implements a Spill Response Program for all Port properties in accordance with provisions outlined in the Port's Spill Response Procedures. Spills are reported to the PDX Communication Center who notifies on-call Port Environmental staff who will in turn dispatch an on-call emergency response contractor to cleanup and contain the spill as needed. Port Environmental staff completes the necessary reporting requirements including notification of Oregon Emergency Response System and the National Response Center, when appropriate. Spills occurring at marine terminals are first reported to Marine Security who then notifies the PDX Communication Center. BMP Implementation Tasks: • Continue to implement the Port's spill response procedures and update as necessary. • Continue to implement a reporting program for potential illicit discharges by maintaining spill notification signs throughout Port property and online information regarding reporting mechanisms. Reference Document: The Port's Spill Response procedures are included on the Port's Stormwater Management website[3]. Responsibility: Environmental Operations Implementation Schedule: Ongoing	Implement the Port's Spill response procedures.	• Track the number of spill complaints received. • Track the number, location, and type of spills of a reportable quantity for which a spill response was conducted.	• TSS • TP • Dissolved lead • Bacteria • Total mercury

[2] Technical Report: (azureedge.net)
StrmWtr-PDX-SPCC.pdf (portofportland.com)

[3] StrmWtr-FactSheet-SpillResponse.pdf (azureedge.net)

Element #4 Construction Site Runoff Control

The goal of construction site runoff control programs is to prevent sediment and other construction related materials from leaving construction sites through the implementation of properly selected and installed BMPs, education on erosion prevention and sediment control principals, site inspections, and enforcement.

The City's erosion control program, as outlined in their Erosion Control Manual, is applied city-wide and also applies to areas within the Port's MS4 Permit jurisdiction. At a minimum, all construction sites with ground disturbing activities are required to comply with the City's Title 10 Erosion and Sediment Control Regulations. Construction sites with qualifying ground disturbing activities are required to obtain a City-issued Site Development Permit which includes specific erosion control BMP requirements. Additionally, construction sites disturbing 1 acre or more are required to obtain a 1200-C general permit from DEQ. As an agent of DEQ, the City administers the 1200-C permit for projects occurring within their MS4 Permit jurisdiction.

The Port's capital improvement construction projects are covered by its 1200-CA permit, issued and administered by DEQ. The Port incorporates both City and 1200-CA permit erosion control BMPs, as appropriate, into project specifications and contracts to ensure compliance.

Construction projects at PDX are covered by the "Portland International Airport Rules" and the "Storm Water System Enforcement Rules." In 2023, the Port's "Storm Water System Enforcement Rules" were updated to include enforcement procedures regarding construction site stormwater discharges. Both documents are available in the SWMP Document Library.

Element #5 Post-Construction Site Runoff Control

New development and redevelopment of urban areas may impact the quality and quantity of stormwater discharges. Stormwater that flows through developed areas has the potential to carry pollutants such as sediment, nutrients, metals, bacteria, hydrocarbons, and litter to surface waters degrading water quality. Degraded water quality negatively impacts aquatic organisms and habitat and threatens human health. An increase in impervious area results in a decrease in pervious area altering the quantity of stormwater that can infiltrate into the ground, increasing the flow rate and quantity of stormwater discharged to receiving waters. An increase to the quantity and flow rate of stormwater discharge can cause increased pollutant loading, streambank scouring, channel incising, and downstream flooding, which could lead to a loss of aquatic habitat and damage to property.

The NPDES MS4 Permit requires a site performance standard based on a Numeric Stormwater Retention Requirement. The site performance standard should target natural surface or predevelopment hydrologic function and encourage a retention first approach to stormwater control designs. Green Stormwater Infrastructure (GI) and Low Impact Development (LID) strategies work to reduce pollution by retaining and treating stormwater near where it falls. The permit requires that LID and GI are prioritized, and that barriers to LID and GI are identified, minimized, or eliminated.

The Port identified the need to develop Port-specific post-construction standards that consider facility and site-specific requirements and operational constraints for select areas of PDX and Terminal 6. As a result, the Port developed and adopted its own Design Standards Manual (DSM) on November 2013 (last updated 2017) that apply to these areas.

The Port's Ordinance 361 and DSM will be evaluated and updated as needed during the MS4 Permit term to ensure compliance with current permit requirements. Where LID/GI controls that infiltrate or otherwise retain stormwater onsite are infeasible, extended filtration shall be required.

Table 3-7 outlines the Port's BMPs to address the permit requirements for Schedule A.3.e.

Table 3-7. Post-Construction Site Runoff for New Development and Redevelopment

Schedule A.3.e Permit Requirements	Applicable BMPs			
	PC-1	OM-1	OM-4	TRN-1
i. Ordinance and/or Other Regulatory Mechanisms	■			
ii. Prioritization of Low Impact Development & Green Infrastructure	■			
iii. Post-Construction Stormwater Management Requirements	■			
iv. Water Quality Benefit Offset Programs	■			
v. Post-Construction Site Runoff Plan Review	■			
vi. Long-Term Operation and Maintenance (O&M)		■	■	
vii. Training and Education				■
viii. Tracking and Assessment	■	■	■	■

The post-construction site runoff for new development and redevelopment-centered BMP is described in BMP Table 3-8:

- PC-1: Post-Construction Site Runoff Controls

The supporting BMPs that will assist in meeting the requirements of this permit language can be found in the following subsections:

- OM-1: Stormwater System Cleaning and Maintenance (**Element #6**)
- OM-4: GIS System and Asset Management Database (**Element #6**)
- TRN-1: MS4 Permit Training (**Element #9**)

Applicable MS4 Permit provisions related to Element #5 are outlined under Schedule A.3.e.

Table 3-8 provides a description, implementation schedule, measurable goals, annual tracking measures, and a list of TMDL pollutants addressed for the BMP listed above. Measurable goals and tracking measures will be evaluated annually to assess the impact of the BMP and to inform post-construction activities.

Table 3-8. Post-Construction Site Runoff for New Development and Redevelopment BMPs

BMP	Permit Requirement	BMP Implementation	Measurable Goals	Tracking Measures	TMDL Stormwater Pollutant Addressed
PC-1: Port-Specific Post-Construction Runoff Controls	A.3.e.i A.3.e.ii A.3.e.iii A.3.e.iv A.3.e.v A.3.e.vi A.3.e.vii	BMP Description: For select areas of PDX and T6, development/redevelopment projects address the permit post construction requirements through the Port's DSM, last updated in 2017. The City's Stormwater Management Manual for post-construction development standards are applied to all other areas except those covered by the DSM (PDX and T6). BMP Implementation Tasks: • Implement the DSM for development and redevelopment in areas where the DSM applies. Airport-specific standards will be consistent with Federal Aviation Administration and airport operations requirements. • Conduct a gap analysis review and update the DSM to ensure compliance with the Permit, including review of the LID strategy. Reference Document: The Port's IGA is included in the SWMP Document Library. The Port's DSM is included on the Port's website under "Design Standards and Manuals"[4]. Responsibility: Environmental Operations, Engineering Implementation Schedule: Ongoing with LID Strategy completed by Nov. 1, 2023, and DSM update completed by Nov. 1, 2024.	• Continue to implement the Port's-wide post-construction development/ redevelopment standards in areas where they apply. • Conduct a gap analysis of the DSM and update the DSM as needed.	• Track IGA adoption. • Track the number of development applications reviewed and approved for compliance with the stormwater regulations. • Track the number, type, and drainage area of stormwater facilities installed to address post-construction requirements.	• TSS • TP • Dissolved lead • Bacteria • Total mercury

[4] https://cdn.portofportland.com/pdfs/Stormwater_Design_Standards_Manual.pdf

Element #6 Pollution Prevention and Good Housekeeping for Municipal Operations

The goal of the pollution prevention program is to reduce the discharge of pollutants to receiving waters by properly operating and maintaining Port facilities and implementing good housekeeping BMPs. Port operations include a wide variety of activities conducted to maintain Port owned property and facilities. These activities have the potential to contribute pollutants—such as sediment, pesticides, nutrients, metals, bacteria, and litter—into the MS4 and receiving waters. The Port implements a variety of pollution prevention and good housekeeping BMPs to protect water quality from potential impacts associated with municipal operations.

Table 3-9 outlines the Port's BMPs implemented to address requirements listed in Schedule A.3.f. Applicable provisions are also outlined under Schedule A.3.f of the NPDES Permit.

Table 3-9. Pollution Prevention and Good Housekeeping for Municipal Operations

Schedule A.3.f Permit Requirements	Applicable BMPs								
	OM-1	OM-2	OM-3	OM-4	OM-5	OM-6	IND-1	TRN-1	PEO-1
i. Operation & Maintenance Strategy for Existing Controls	See A.3.vi–Long-Term O&M								
ii. Inspection, Maintenance, and Cleaning of the MS4	■								
iii. Pollution Prevention in Facilities and Operations	■	■	■						■
iv. Co-permittee-owned NPDES Industrial Stormwater Permit Facilities	Covered under NPDES Industrial Stormwater Permits								
v. Winter Operations and Maintenance Program					■				
vi. Requirements for Pesticide and Fertilizer Applications		■						■	
vii. Litter Control						■			
viii. Materials Disposal	■								
ix. Address Water Quality in Flood Control, Transportation, and Other Infrastructure Planning	The City conducts planning for public flood control, transportation and other infrastructure projects except at PDX. PDX has its own Stormwater Master Plan that addresses water quality (June 2015).								
x. Operations & Maintenance Staff Training							■		
xi. Tracking and Assessment	■	■	■	■	■	■	■	■	■

The following pollution prevention and good housekeeping BMPs for municipal operations are described in BMP Table 3-10:

- OM-1: Stormwater System Cleaning and Maintenance
- OM-2: Minimize Water Quality Impacts Associated with Landscape Management Practices
- OM-3: Coordinate with the Local Fire Department to Minimize Pollutant Discharge from Firefighting Training Activities
- OM-4: GIS System and Asset Management Database
- OM-5: Winter Weather Management
- OM-6: Litter Control

The supporting BMPs that assist in meeting the requirements of this permit language can be found in the following subsections:

- PEO-1: Implement Public Education Measures to Protect Stormwater Quality (**Element #1**)
- IND-1: Screen Existing and New Industrial Facilities (**Element #7**)
- TRN-1: Employee Training (**Element #9**)

For each BMP listed above, Table 3-10 provides a description, implementation schedule, measurable goals, annual tracking measures, and a list of TMDL pollutants addressed.

The Port has limited responsibility with regard to roadway maintenance, as the City conducts activities affecting the right-of-way throughout the City's USB. The Port is responsible for maintaining roadways located within Port-owned property, adjacent to PDX. This includes Airport Way, Airtrans Way, Air Cargo Rd, NE 82nd Ave, Frontage Rd, Courier Ct., and Airway Circle within the Port's jurisdictional boundary.

Table 3-10. Pollution Prevention and Good Housekeeping for Municipal Operation BMPs

BMP	Permit Requirement	BMP Implementation	Measurable Goals	Tracking Measures	TMDL Stormwater Pollutants Addressed
OM-1: Stormwater System Cleaning and Maintenance	A.3.f.ii A.3.f.ii A.3.f.viii A.3.f.xi	BMP Description: The Port has a program for inspecting, maintaining and cleaning the MS4 and related structures every 5 yrs. The Port maintains records of the inspection and cleaning activities. BMP Implementation Tasks: • The Port inspects and cleans all catch basins (as necessary) annually in Port-managed Marine Business Line areas. • The Port implements a stormwater system features inspection and maintenance program. • Marine-operated water quality treatment facilities are inspected at least on a quarterly basis and cleaned as needed to maintain proper operation. • Aviation-owned water quality treatment facilities (except for quiescent ponds) are cleaned on an annual basis. The ponds are cleaned on a 3-yr rotating basis. • The Port tracks all their inspection and cleaning activities, including total number of catch basins cleaned, tons of waste removed from catch basins, water quality facilities inspected and maintained, and linear feet of pipe cleaned. • The Port sweeps Port-managed areas of the marine terminals at minimum annually and more frequently as needed. • The Port sweeps landside roadways and parking areas within Port owned property adjacent to PDX at a minimum twice weekly and more frequently as needed • The Port sweeps the maintenance facility and select areas of the airfield daily. • The Port decants material collected from street sweeping and storm system cleaning in water-tight drop boxes (Decant Water Collection Boxes) that drain to an approved sanitary sewer discharge point. Reference Document: PDX Weekly Sweeping Schedule Responsibility: MFM, PDX Maintenance (MX), Environmental Operations, Air Craft Rescue Fire Fighting (ARFF) Implementation Schedule: Ongoing as outlined above	• Inspect catch basins in the Port managed Marine Business Line areas. • Maintain marine and aviation operated water quality treatment facilities. • Sweep Port-managed, accessible areas of the marine terminals annually. • Sweep Airport Way, Frontage Road, and the PDX employee parking lots a minimum of once per week. • Sweep Maintenance Facility and Airfield routinely.	• Track sweeping frequency at the marine terminals. • Track sweeping frequency at Airport Way, Frontage Road and the PDX employee parking lots. • Report the amount of materials removed from catch basins. Materials will include those collected from catch basins and other structural devices.	• TSS • TP • Dissolved lead • Bacteria • Total mercury
OM-2: Minimize Water Quality Impacts Associated with Landscape Maintenance Practices	A.3.f.iii A.3.f.vi	BMP Description: The Port has a program to control the use and application of pesticides, herbicides, and fertilizers on Port property (with the exception of the airfield). This program includes responsibilities for MID Properties Maintenance, MFM, and PDX Maintenance (MX) regarding landscape activities. As necessary, the program will be updated to meet permit requirements. BMP Implementation Tasks: • Apply pesticides and fertilizers, using an Integrated Pest Management (IPM) approach to minimize impacts to stormwater. Responsibility: MID Properties Maintenance, MX, MFM • Review the Port's program to control pesticides, herbicides and fertilizers annually, and update as appropriate. • Maintain an inventory of pesticides used on Port property and update annually. Reference Document: The Port's IPM Program is included in the SWMP Document Library. Responsibility: MFM, MX, Environmental Operations Implementation Schedule: Ongoing	Annually update the Port's pesticide use inventory.	Track annual pesticide use.	N/A

Table 3-10. Pollution Prevention and Good Housekeeping for Municipal Operation BMPs

BMP	Permit Requirement	BMP Implementation	Measurable Goals	Tracking Measures	TMDL Stormwater Pollutants Addressed
OM-3: Coordinate with the Local Fire Department to Minimize Pollutant Discharge from Firefighting Training Activities	A.3.f.iii A.3.f.xi	BMP Description: PDX and the Oregon Air National Guard (ANG) have their own fire departments. No other fire districts train on Port property. PDX has a designated fire training facility. When actual fires are simulated, foam is not used during training, and runoff is directed to an oil/water separator and holding tanks where it is recycled for use in future training exercises. When training does not include actual fires, potable water is used. The ANG operates under a DEQ issued NPDES permit. BMP Implementation Tasks: • PDX fire training activities will continue to implement current protocols for handling runoff to prevent water quality impacts. • Stormwater educational related material will be provided to the PDX fire department on a regular basis. Reference Document: None Responsibility: Environmental Operations Implementation Schedule: Ongoing.	• Provide educational materials to local fire district, as needed.	Track stormwater related educational materials and/or training provided to the fire department.	• TSS • TP • Dissolved lead • Bacteria • Total mercury
OM-4: GIS System and Asset Management Database	A.3.c.i A.3.f.i	BMP Description: All Port storm system maps are available to operations and administrative personnel through the Port GIS interphase located on Navigator (the Port's intranet). The Port GIS system is updated regularly. BMP Implementation Tasks: • Create tracking system for illicit discharges to track repeat illicit discharges over time in the MS4 map. • Develop outfall inventory with locations, unique identifier, and receiving water information for each outfall. Add and maintain outfall inventory with collection area characteristics to MS4 map. • Add municipal structural stormwater facilities to GIS database within 1 year of construction completion. • Add priority locations for dry weather screening to GIS database for MS4 map. Reference Document: MS4 Maps are included on the SWMP Document Library. Responsibility: Environmental Operations Implementation Schedule: Ongoing	• Maintain MS4 Maps as described in the BMP implementation task. • Maintain MS4 Maps in the SWMP Document Library. • Update mapping discrepancies that are observed.	• Track the location and drainage area of new public and private water quality facilities as applicable. • Track the number of outfalls in the GIS inventory. • Track the number of municipal structural stormwater facilities in the GIS inventory.	N/A

Table 3-10. Pollution Prevention and Good Housekeeping for Municipal Operation BMPs

BMP	Permit Requirement	BMP Implementation	Measurable Goals	Tracking Measures	TMDL Stormwater Pollutants Addressed
OM-5: Winter Weather Management	A.3.f.v	BMP Description: The Port's winter weather management activities related to public roads apply to the Port's jurisdictional boundary at PDX only. These roadways include Airport Way, Frontage Rd, Airtrans Way, Air Cargo Rd., Courier Ct., Airway Cir. and NE 82nd. The Port typically contracts out snow removal activities (i.e., plowing) for these roads. Snow removal is initiated if the forecasted snow is greater than 0.5 inch. The contractor conducts plowing. Sand is not used on these roadways. If chemical deicers are needed, Airport Maintenance (MX) crews will apply them. Chemical deicers are applied when forecasted temperatures are <32 ˚F with moisture present on the roadways. For elevated surfaces, chemical deicers are applied when forecasted temperatures are <36 ˚F. If snow accumulation continues, de-icers are applied following plowing. Potassium acetate is applied for pretreatment and throughout most storms. If forecasted precipitation is >1 inch, or conditions dictate (freezing rain, rain, wet snow), sodium acetate may be applied. Sodium acetate is stored in a covered maintenance storage building at PDX. Potassium acetate is stored in above ground storage tanks within secondary containment at PDX. BMP Implementation Tasks: 1. When chemical de-icers are applied to public roads in the Port's jurisdiction, application equipment will be calibrated by weight and volume to apply de-icers at the suggested rates per manufacturer's requirements to avoid over application. Reference Document: None. Responsibility: MX Implementation Schedule: Ongoing as needed.	N/A	Track the number of winter storms, of materials used, and the quantities and locations of materials used.	N/A
OM-6: Litter Control	A.3.f.vii A.3.3f.viii	BMP Description: The Port conducts litter pickup and vegetation management activities to ensure performance of all stormwater system features and protect the airfield. PDX airfield is heavily patrolled for FOD (foreign object debris) that can be ingested into jet engines. The Port also as a Corrective Action Plan (CAP) system which is an internal system for reporting observed issues such as illegal dumping and homeless camps. Following an internal report through the CAP system, someone is assigned to address the issue and provide clean up services. BMP Implementation Tasks: 1. Continue to implement the Corrective Action Plan (CAP) system for responding to reports of dumping. 2. Continue litter pickup and vegetation management activities at PDX to ensure performance of all stormwater system features and protect the airfield. Reference Document: CAP system for reporting and tracking. Responsibility: MFM, MX, Environmental Operations, Properties Implementation Schedule: Nov. 1, 2023	Continue to implement the CAP system.	N/A.	• TSS • TP • Dissolved lead • Bacteria • Total mercury

Element #7 Industrial and Commercial Facilities

Within the Port's MS4 jurisdiction, the City of Portland screens existing and new commercial and industrial facilities with respect to NPDES stormwater permitting needs. The City also inspects the facilities that are subject to the DEQ-issued 1200-Z, and Individual NPDES permits. These responsibilities are outlined in the Port/City IGA. Some facilities at PDX become co-permittees on the Port's Individual NPDES permit, and the Port screens and inspects these facilities.

Table 3-11 outlines the Port's BMPs to address the permit requirements for Schedule A.3.g. with applicable provisions outlined under Schedule A.3.g of the NPDES permit.

Table 3-11. Industrial and Commercial Facilities

Schedule A.3.g Permit Requirements	Applicable BMPs		
	IND-1	IND-2	TRN-1
i. Screening for Industrial Stormwater Permitting	■		
ii. Strategy to Reduce Pollutants from Industrial and Commercial Facilities	■	■	
iii. Commercial & Industrial Facility Inspection Staff Training			■
iv. Tracking and Assessment	■	■	■

The following industrial and commercial facilities-centered BMPs are described in BMP Table 3-12:

- IND-1: Screen Existing and New Industrial and Commercial Facilities at PDX
- IND-2: Address High Pollutant Source Facilities

The supporting BMP that will assist in meeting the requirements of this permit language can be found in the following section:

- TRN-1: Employee Training (**Element #9**)

Applicable MS4 Permit provisions related to Element #7 are outlined under Schedule A.3.g.

For each BMP listed above, Table 3-132 provides a description, implementation schedule, measurable goals, annual tracking measures, and a list of TMDL pollutants addressed. Measurable goals and tracking measures will be evaluated annually to assess the impact of the BMPs and to inform future industrial and commercial facilities requirements and training.

Table 3-12. Industrial and Commercial Facility BMPs

BMP	Permit Requirement	BMP Implementation	Measurable Goals	Tracking Measures	TMDL Stormwater Pollutants Addressed
IND-1: Screen Existing and New Industrial and Commercial Facilities at PDX	A.3.g.i A.3.g.ii A.3.g.iv	BMP Description: Significant areas within the Port of Portland are already covered by an existing DEQ-issued 1200-Z or Individual NPDES permit. Such areas include PDX, select Port-operated marine terminals, and select tenant properties. Screening of existing and new industrial facilities primarily applies to existing and new tenants occupying property not otherwise subject to an industrial stormwater permit. The City conducts the screening for facilities needing 1200-Z or Individual NPDES permits in the Port's jurisdiction. The Port also screens new tenants operating within the perimeter fence of PDX and requires them to become co-permittees on the Port's Individual NPDES permit or obtain their own 1200-Z permit. BMP Implementation Tasks: Coordinate with the City over the permit term to track their results of screening industrial facilities (outside of PDX) in the Port's MS4. Reference Document: N/A Responsibility: Environmental Operations, Properties Implementation Schedule: Ongoing	N/A	• Track leaseholds that have an industrial permit in the Port's MS4 area. • Track new co-permittees on the PDX Individual NPDES permit.	
IND-2: Address High Pollutant Source Facilities	A.3.g.ii A.3.g.iv	BMP Description: The Port's property includes a variety of industrial and commercial facilities both with and without 1200-Z or Individual NPDES industrial stormwater permits. The Port has a strategy of conducting inspections of priority facilities without permits if deemed necessary, and facilities that are covered by the PDX Individual permit. The City conducts the inspections for 1200-Z and Individual NPDES stormwater permitted facilities. The Port has a list of the priority facilities that will be updated annually that have the potential to contribute substantial pollutant loading to the MS4. Priority facilities are inspected annually based on an evaluation of several criteria outlined in the Port's documented procedures. BMP Implementation Tasks: • Continue to implement the Port's specific "Municipal Stormwater Permit Industrial Facility Inspection Program" that addresses 1) Facility types or activities to prioritize for inspections. 2) Inspection procedures, documentation standards, and frequency of inspections. 3) Process to assess and track whether industrial and commercial facilities are in compliance with ordinances related to discharge to the MS4. • Review and as necessary update the industrial/commercial facilities strategy and post on the Port of Portland website for at least 30 days prior to submission to DEQ as required by November 1, 2023. Reference Document: Upon completion, the Port's updated industrial and commercial strategy will be included in the SWMP Document Library. Responsibility: Environmental Operations Implementation Schedule: Ongoing with a Nov. 1, 2023 update.	• Update Industrial/ • Commercial Facilities Strategy. • Conduct annual inspections at priority facilities.	• Report on the status of updating the Industrial/Commercial Facilities Strategy. • Track the number of facilities inspected annually. • Track improvements made to priority facilities as a result of inspections.	• TSS • TP • Dissolved lead • Bacteria • Total mercury

Element #8 Infrastructure Retrofit and Hydromodification Assessment Update

The Port's prior 2011 MS4 Permit required the development of a hydromodification assessment and a stormwater retrofit strategy. As a result, the Port developed the following two reports, both published in 2014:

- Hydromodification Assessment
- Stormwater BMP Retrofit Plan

The 2021 MS4 Permit requires permittees to assess outcomes related to these reports and provide updates to describe further actions planned.

Based on the available data, the Port's Hydromodification Assessment concluded that Port MS4 discharges do not contribute to hydromodification impacts. The Stormwater BMP Retrofit Plan identified potential measures for stormwater quality treatment options to address candidate retrofit areas. As a result, the Element #8 BMP focuses on the Port's Stormwater BMP Retrofit Plan.

Table 3-13 outlines the new BMP that the Port developed to address the permit requirements for Schedule A.3.h.

Table 3-13. Infrastructure Retrofit and Hydromodification Assessment Update

Schedule A.3.h Permit Requirements	Applicable BMPs
	RET-1
i. Document Hydromodification Assessment and Retrofit Plan outcomes and updates	■

The infrastructure retrofit-centered BMP is described in BMP Table 3-14:

- RET-1: Infrastructure Retrofits

Applicable MS4 Permit provisions related to Element #8 are outlined under Schedule A.3.h.

Table 3-14 provides a description, implementation schedule, measurable goals, annual tracking measures, and a list of TMDL pollutants addressed for the BMP listed above. Measurable goals and tracking measures will be evaluated annually to assess the impact of the BMPs and to inform future stormwater retrofit activities.

Table 3-14. Infrastructure Retrofit and Hydromodification Assessment Update BMPs

BMP	Permit Requirement	BMP Implementation	Measurable Goals	Tracking Measures	TMDL Stormwater Pollutants Addressed
RET-1: Infrastructure Retrofits	A.3.h.i	BMP Description: • The Port's 2014 Hydromodification Report states that the majority of the Port's MS4 stormwater discharges directly to the Willamette and Columbia Rivers and the Columbia Slough. • The report states there is no current risk from Port runoff to cause hydromodification impacts. • The Port's 2014 Stormwater BMP Retrofit Plan identifies retrofit measures designed to help improve water quality. BMP Implementation Tasks: • No further work is needed regarding hydromodification impacts. • Conduct an assessment of progress in implementing the retrofit plan and consider updates as needed related to new goals and priorities and planned projects. • Continue to implement retrofit measures identified in the Stormwater BMP Retrofit Plan. Reference Document: The Port's Hydromodification Report and Stormwater BMP Retrofit Plan are included in the SWMP Document Library. Responsibility: Environmental Operations Implementation Schedule: Submit the assessment to DEQ by Nov. 1, 2023.	• Provide DEQ with an assessment with outcomes related to the creation of the Port's Retrofit Strategy. • Maintain inventory of complete retrofit projects during the permit term.	Track retrofit activities.	• TSS • TP • Dissolved lead • Bacteria • Total mercury

Element #9 Port's MS4 Training Strategy

This SWMP Document section presents the Port's multi-year and multi-topic training strategy to address stormwater education for Port staff. The Port's 2021 MS4 Permit requires training for Port staff in several stormwater-related categories as listed below.

- Illicit discharge detection and elimination
- Construction site runoff controls
- Post-construction site stormwater management
- Pollution prevention and good housekeeping for municipal operations
- Industrial and commercial facilities stormwater management

Newly hired staff are trained in the environmental duties associated with the duties of their new position during onboarding. Existing staff receive refresher training in the environmental related duties of their position annually. All staff are trained on updated or changed procedures throughout the permit term as changes occur.

The MS4 Permit includes the following training requirements as shown in the italicized text below. In some cases, language for the listed Permit requirements has been condensed.

Table 3-15 outlines the Port's strategy for conducting the required stormwater training for Port staff.

Schedule A.3.c.vi–Illicit Discharge Detection and Elimination Training and Education. *Illicit Discharge Detection and Elimination Training and Education The co-permittees must ensure that all persons responsible for investigating and eliminating illicit discharges and illicit connections into the MS4 are appropriately trained to conduct such activities. All staff directly responsible for conducting dry weather screening activities or responding to reports of illicit discharges and spills into the MS4 must be properly trained to conduct such activities, and training strategies and frequencies for staff must be documented and described or referenced in the SWMP Document.*

Schedule A.3.e.vii–Long-Term Operation and Maintenance Training and Education. *The co-permittees must ensure that staff responsible for performing post-construction runoff site plan reviews, administering the post-construction program requirements, and performing O&M practices or evaluating compliance with long-term O&M requirements, are trained or otherwise qualified to conduct such activities, and training strategies and frequencies for staff must be described or referenced in the SWMP Document.*

Schedule A.3.f.x–Pollution Prevention and Good Housekeeping for Municipal Operations: O&M Staff Training. *The co-permittees must continue to ensure that staff responsible for evaluating O&M practices, evaluating compliance with long-term O&M requirements, or ensuring pollution prevention at facilities and during operations are trained or otherwise qualified to conduct such activities. Training strategies and frequencies for staff must be described in the SWMP Document*

Schedule A.3.g.iii–Commercial & Industrial Facility Inspection Staff Training. *The co-permittees must ensure that staff responsible for inspecting and evaluating Commercial and Industrial facilities, evaluating compliance with municipal ordinances related to discharges to the MS4, or ensuring pollution prevention at facilities through inspections and/or provision of educational materials on stormwater management, are trained or otherwise qualified to conduct such activities, and training strategies, and frequencies for staff must be described in the SWMP Document.*

Table 3-15. Municipal Staff Training Strategy

BMP	Category	MS4 Permit Reference	Stormwater Training Topic	Target Groups	Frequency/Years for Training	Resources and Needs
TRN-1: MS4 Permit Training	Illicit Discharge Detection and Elimination (IDDE)	A.3.c.vi	Identifying and reporting illicit discharges (including procedures for enforcement and follow-up actions)	• Aviation maintenance • Marine maintenance • Marine security • Navigation • ARFF • Construction services	New hire and annually	Update internal PDX MX Environmental Training based on Port's IDDE response SOP
		A.3.c.vi A.3.d.vi	Dry weather screening procedures, documentation, reporting, and follow-up actions	• Aviation maintenance • Marine maintenance • Marine security • Navigation • ARFF • Construction services	New hire and annually	Update internal PDX MX Environmental Training based on Port's Dry weather screening SOP
	Construction Site Runoff Controls Post-Construction Site Stormwater Management	A.3.d.vi A.3.e.vii	Best practices and new technologies for erosion prevention and sediment control	• Aviation maintenance • Marine maintenance • Navigation • Construction services • Engineering	New hire and annually	Annual Port Erosion and Sediment Control Training
			Proposed or adopted changes to stormwater design standards and stormwater related land use policies.	• Planning • Engineering	Once in permit term	Internal training
	Post-Construction Site Stormwater Management Pollution Prevention and Good Housekeeping for Municipal Operations	A.3.e.vii A.3.e.vii A.3.f.x	Port site inspection processes and documentation procedures (including violations enforcement processes).	Environmental Operations	Annually	• Internal training based on Port's site inspection SOP or inspection checklist • Add this training to the PDX MX Environmental Training
			O&M best practices for stormwater management facilities.	• Aviation maintenance (include maintenance planners (they schedule and document work) • Marine maintenance (include maintenance planners)	Annually	• Online training via internal (Cornerstone) training system • Joint agency workshop or professional group presentation • Vendor training • Site specific training for treatment facilities and O&M. • Add this training to the PDX MX Environmental Training

Table 3-15. Municipal Staff Training Strategy

BMP	Category	MS4 Permit Reference	Stormwater Training Topic	Target Groups	Frequency/Years for Training	Resources and Needs
TRN-1: MS4 Permit Training (continued)	Pollution Prevention and Good Housekeeping for Municipal Operations	A.3.f.x	Inspection, cleaning, and documentation/tracking procedures for MS4 related structures (catchbasins, storm drains inlets, pipes)	• Environmental operations • Marine maintenance • Aviation maintenance	Once in permit term	Update internal PDX MX Environmental Training based on Port's SOP and schedule for MS4 maintenance
	Pollution Prevention and Good Housekeeping for Municipal Operations Industrial and Commercial Facilities	A.3.f.x A.3.g.iii	Stormwater pollution prevention and good housekeeping practices for field operations	• Aviation maintenance • Marine maintenance • Marine security • Navigation • ARFF • Construction services	Once in permit term	Update internal PDX MX Environmental Training based on Port's municipal pollution prevention plan or SOPs
			FACILITY stormwater pollution prevention plan and best practices	• Aviation maintenance • Marine maintenance • Marine security • Navigation • ARFF • Construction services	Once in permit term	Update internal PDX MX Environmental Training based on the Port's SWPPP
			Integrated pest management and proper application of pesticides and fertilizers	• Aviation maintenance • Marine maintenance • Navigation	Annually	All staff who apply pesticide must have a Commercial Pesticide Applicator License which requires training, testing, and continuing education
	Industrial and Commercial Facilities	A.3.g.iii	Industrial/Commercial facility inspection procedures	• Environmental operations	Annually	Update Internal PDX MX Environmental Training based on the Port's Industrial and Commercial Facilities Strategy

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Section 4: Monitoring and Reporting

As part of the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit (MS4 Permit) requirements, permittees are required to develop and implement a stormwater monitoring program.

The NPDES stormwater monitoring program includes two components: Program Monitoring and Environmental Monitoring. Each component is summarized below.

- **Program monitoring** includes tracking and assessment of programmatic activities, as described in the individual permittee's SWMPs. Tracking and assessment is conducted through the use of measurable goals and tracking measures.
- **Environmental monitoring** includes the actual collection and analysis of stormwater/surface water samples. Pursuant to an intergovernmental agreement, the Port of Portland (Port) and the City of Portland (City) participate in a joint monitoring program conducted by the City to meet the environmental monitoring requirements of the permit. The joint MS4 Monitoring Plan (2022) is included in the SWMP Document Library.

In accordance with the MS4 Permit requirements, the Port submits reports annually to the Oregon Department of Environmental Quality (DEQ) on November 1 to evaluate the Port's progress towards implementing the SWMP control measures. The tracking measures outlined in each BMP table presented in Section 3 of this SWMP Document are used to assess the effectiveness of the BMPs and inform future priorities and actions.

Records of data and information used in the development and implementation of the SWMP will be retained by the Port for 5 years (or until the permit is renewed or a new permit is issued), whichever period of time is longer. Annual reports are posted on the Port's website and are made available to the public and to DEQ upon request.

Attachment A: Revision Log – Port of Portland 2022 SWMP

Table A-1. Revision Log – Port of Portland 2022 SWMP				
Revision Date	Permit Requirement	Description	An analysis of why the new action is an appropriate alternative from the standpoint of effectiveness, feasibility and/or cost (Schedule A.2.f.ii.(A))	Expectations on the effectiveness of the replacement action or activity (Schedule A.2.f.ii.(B))
October 3, 2023	Schedule A.3.d.v	Updated Element #4 to include a reference to the Port's new construction site runoff enforcement procedures.	NA	NA

Note: This Revision Log documents adaptive management modifications to the SWMP in accordance with Schedule A.2.f. of the NPDES MS4 Permit.