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# **Attachment 3**

May 22, 2019

#### Via Hand Delivery, Original to Follow by First-Class Mail

City of Portland Revenue Division Liens Section, Attn.: Sheree Matias 111 SW Columbia Street, Suite #600 Portland, OR 97201 City of Portland Revenue Division Liens Section P.O. Box 8834 Portland, OR 97201

Re: RE – Remonstrance/Objections – Stormwater Fees Our File No.: ORR3-4

Dear City Council:

This office represents Oil Re-Refining Co. ("ORRCO") and Merit USA, Inc. ("Merit USA") with respect to the North Suttle Road Local Improvement District (the "LID"). We appreciate the opportunity to be heard on the proposed amendments and new estimated assessments to the LID. While ORRCO and Merit USA appreciate the reduction in the amount of the assessment, they would like the City to consider the stormwater management fees paid by ORRCO and Merit USA and respectfully request that the City further mitigate these assessments.

The City is required to implement stormwater programs under its National Pollutant Discharge Elimination System (NPDES) Permit issued by Oregon DEQ pursuant to the Clean Water Act. In June of 1995, the Portland City Council passed a resolution supporting the NPDES MS4 permit application. In that resolution, the Council designated the Bureau of Environmental Services (BES) to implement a Stormwater Management Plan (SWMP) to control pollutant discharges to the storm sewer system. Under the City's Stormwater Management Plan, the City is to operate and maintain components of public rights-of-way, including streets, to remove and prevent pollutants and discharges from the municipal separate storm sewer system.

In addition to its obligation to maintain stormwater components of the public streets, the City has been collecting stormwater fees from property owners for decades. On May 19, 1999, in an effort to reform water, sanitary sewer, and stormwater management charges, the City passed Resolution No. 35796. Notably, Resolution No. 35796 states: "revenues from stormwater fees fund drainage services related to both private property and the



City of Portland Revenue Division May 22, 2019 Page 2

transportation system, and therefore any changes to the stormwater rate structures should continue to generate sufficient resources to comprehensively operate, manage and maintain the drainage system . . ." Clearly, the intent of these fees was to fund drainage services related to the transportation system and to generate revenue sufficient to comprehensively manage and maintain the drainage system.

According to the BES website, \$0.51 of every dollar of stormwater management charges are to "[p]ay debt service of construction bonds. Plan, design, engineer, inspect and manage projects to construct new stormwater management facilities or replace old facilities."

#### How Environmental Services Invests Your Stormwater Management Charges

Each dollar of stormwater management charge pays for the following services:

#### PLAN, DESIGN, CONSTRUCT AND FINANCE STORMWATER FACILITIES - \$0.51

Pay debt service of construction bonds. Plan, design, engineer, inspect and manage projects to construct new stormwater management facilities or replace old facilities.

#### OPERATE AND MAINTAIN STORMWATER FACILITIES, AND TREAT STORMWATER RUNOFF -\$0.22

Repair and maintain stormwater pipes, ditches, culverts, sumps, sedimentation manholes, water pollution control facilities and ponds.

#### **RESTORE WATERSHED AND ENVIRONMENTAL HEALTH - \$0.17**

Administer federal, state and local environmental regulations. Engage citizens in local planning and public education efforts. Identify capital requirements for stormwater management and the restoration of natural habitat. Participate in Portland Harbor Superfund.

# PREVENT POLLUTION AND ASSIST DEVELOPMENTS TO MEET STORMWATER STANDARDS - \$0.10

Inspect and monitor private activities that pose a pollution risk to the environment. Review and approve private development plans.

Despite these payments, ORRCO and Merit USA are unaware of any City improvements related to stormwater management facilities on North Suttle Road. ORRCO and Merit USA agree that N. Suttle Road is in need of repair and appreciate the City's efforts to do so. However, the stormwater management fees property owners such as ORCCO and Merit USA have paid to the City for years were meant to "generate sufficient resources to comprehensively operate, manage and maintain the drainage system." In fact, many of . the property owners along North Suttle Road have spent their own funds to manage the damage resulting from the lack of adequate stormwater facilities along the roadway. Therefore, ORRCO and Merit USA respectfully request that the City further mitigate their assessments based on the amounts paid in stormwater fees. This is an equitable



City of Portland Revenue Division May 22, 2019 Page 3

resolution based on the significant amounts paid over the years to the City in stormwater management fees.

Very truly yours,

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Chelsea J. Glynn

CJG:rlh Enclosures

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Oil Re Refining Co and Merit USA Inc. authorizes Dunn Carney LLP to represent them on the LID on North Suttle Rd. and authorize them to submit a letter to the city on their behalf . Yours truly

**Bill Briggs** 

Bell Briggi

Senior Consultant Oil re-refining co inc . President Merit USA Inc.

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#### City of Portland, Oregon

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

Permit Number: 101314

# **STORMWATER MANAGEMENT PLAN**

Submitted to: Oregon Department of Environmental Quality

April 1, 2011

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City of Portland Stormwater Management Plan April 1, 2011

### **ABBREVIATIONS USED**

ACWA: Oregon Association of Clean Water Agencies

BPS: Bureau of Planning and Sustainability

BDS: Bureau of Development Services (City of Portland)

BES: Bureau of Environmental Services (City of Portland)

**BMP:** Best Management Practice

**CFR:** Code of Federal Regulations

**CIP:** Capital Improvement Program

**CSO:** Combined Sewer Overflow

DEQ: Department of Environmental Quality (State of Oregon)

EPA: Environmental Protection Agency (U.S.)

**ESA:** Endangered Species Act (U.S.)

**IDEP:** Illicit Discharge Elimination Program

**IER:** Interim Evaluation Report

**ILL:** Illicit Discharges Controls

**IND:** Industrial/Commercial Controls

**MEP:** Maximum Extent Practicable

MIP: Maintenance Inspection Program

MOA: Memorandum of Agreement

MON: Environmental and Program Monitoring

MS4: Municipal Separate Storm Sewer System

ND: New Development Standards

NMFS: National Marine Fisheries Service (NMFS)

NOAA: National Oceanic and Atmospheric Administration

NPDES: National Pollutant Discharge Elimination System

NS: Natural Systems

**ODOT:** Oregon Department of Transportation

**OM/O&M:** Operations and Maintenance

**PBOT:** Portland Bureau of Transportation

**PBOT-MO:** Portland Bureau of Transportation Maintenance and Operations

**PFP:** Public Facilities Plan

PI: Public Involvement

**PM**: Program Management

**PWMP**: Portland Watershed Management Plan

SARA: Superfund Amendments and Reauthorization Act (U.S.)

SIC: Standard Industrial Classification

SOM: Stormwater Operations & Maintenance (section of BES)

STR: Structural Controls

**SWMM:** Stormwater Management Manual

SWMP: Stormwater Management Plan

TMDL: Total Maximum Daily Load

**UIC:** Underground Injection Control

# INTRODUCTION

#### **Overview of Stormwater Management Plan**

The City of Portland has prepared this *Stormwater Management Plan* (SWMP) in compliance with requirements of the City of Portland's municipal stormwater permit.<sup>1</sup> The SWMP describes best management practices (BMPs) the City will implement throughout the third permit term (January 31, 2011 through January 30, 2016) to reduce the discharge of pollutants from the municipal separate storm sewer system (MS4) into waters of the state, protect water quality, and satisfy the applicable requirements of the Clean Water Act. By reducing impacts from the MS4 to receiving waters, the BMPs will help achieve and maintain the beneficial uses (such as recreation, cold water fisheries, municipal and industrial water supply, and navigation ) the Oregon Department of Environmental Quality (DEQ) has established for Oregon water bodies.

The NPDES stormwater regulations do not prescribe specific limits; rather, they allow permittees to implement BMPs to improve water quality to the "maximum extent practicable" (MEP), based on local conditions, resources, and priorities.

#### **Permit Area**

The City of Portland's NPDES MS4 stormwater management area includes those areas within Portland's urban services boundary that drain to the MS4. Portland's MS4 area is approximately 15,627 acres. The City's MS4 permit does not cover:

- Stormwater that flows to sumps
- Stormwater that flows to the combined sewer area
- Natural stream systems
- Direct stormwater discharges from private property to natural stream systems (without entering the MS4)
- Areas with no public stormwater infrastructure
- Areas with individual, general, or industrial stormwater permits

## Stormwater Management Program Organization and Coordination

#### **PROGRAM AUTHORIZATION**

The Portland City Council passed a resolution supporting the NPDES MS4 permit application in June 1995. In that resolution, the Council designated the Bureau of Environmental Services (BES) as the lead for the City's implementation of the stormwater program.

#### LEGAL AUTHORITY

The City of Portland maintains legal authority to implement the programs outlined in the SWMP, as initially demonstrated in Part 1 of the City's original NPDES MS4 permit application.

<sup>&</sup>lt;sup>1</sup> The full name of the permit is the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Discharge Permit. It is referred to as the municipal stormwater permit, NPDES permit, or MS4 permit.

#### CITY MANAGEMENT AND COORDINATION

BES's Stormwater Program Manager is responsible for overall program management, compliance reporting, policy development, and coordination within the City of Portland, as well as for coordination with Portland's co-permittee, the Port of Portland.<sup>2</sup> BES staff serve as leads for the BMPs contained in the SWMP. Because the permit is citywide, many City staff outside BES are also involved with stormwater program development, implementation, and reporting.

#### **CO-PERMITTEE COORDINATION**

City staff coordinates with the Port of Portland to share information about program implementation and coordination, BMP effectiveness, monitoring, and other issues related to the permit. This coordination avoids duplication and helps ensure the cost-effective use of resources.

#### **COORDINATION WITH OTHER JURISDICTIONS**

The City and the Port of Portland coordinate with other regional jurisdictions (e.g., the Regional Coalition for Clean Rivers and Streams) to cooperatively address water quality issues. The City coordinates and addresses stormwater issues with other jurisdictions in the state through the Oregon Association of Clean Water Agencies (ACWA).

#### **SWMP Components**

The SWMP includes the following main components, which are further described below:

- Best management practices (BMPs)
- Measurable goals

#### **BEST MANAGEMENT PRACTICES (BMPS)**

BMPs are stormwater pollution control measures that include 1) approaches that prevent pollution (e.g., education programs, erosion control, protection and restoration of natural areas and vegetation, street sweeping, materials storage and handling ) and 2) treatment facilities that remove pollutants from stormwater (e.g., grassy swales, wetland detention systems, and mechanical devices such as oil/water separators).

Table 1 shows Portland's eight BMP categories and the individual BMPs under each category. More detailed information, including specific tasks for each BMP, is included in the BMP sections that follow this Introduction.

Table 2 shows the permit requirements that the BMPs address.

<sup>&</sup>lt;sup>2</sup> Portland and the Port of Portland are responsible for separate stormwater conveyance systems they operate within Portland's urban services boundary.

BMP CATEGORY AND PURPOSE	CITY OF PORTLAND BMPs
<b>Public Involvement (PI)</b> To inform and educate the public about the causes of stormwater pollution, the effects on local streams and rivers, and the need for stormwater management. To encourage active participation in pollution reduction.	<b>PI-1:</b> Implement public information, education, involvement, and stewardship activities that will raise awareness, foster community stewardship, and promote pollution prevention and stormwater management.
<b>Operations and Maintenance (OM)</b> To implement operations and maintenance practices for public streets, sewers, and other facilities to reduce pollutants in discharges from the municipal separate storm sewer system.	<ul> <li>OM-1: Operate and maintain components of the municipal separate storm sewer system (MS4) to remove and prevent pollutants in discharges from the MS4.</li> <li>OM-2: Operate and maintain components of public rights-of-way, including streets, to remove and prevent pollutants in discharges from the municipal separate storm sewer system.</li> <li>OM-3: Operate and maintain other City facilities and infrastructure (not included in OM-1 or OM-2) to remove and prevent pollutants in discharges from the municipal separate storm sewer system.</li> </ul>
<b>Industrial/Commercial Controls (IND)</b> To reduce and control the discharge of pollutants from industrial and commercial facilities to the municipal separate storm sewer system.	<ul> <li>IND-1: Implement the Industrial Stormwater Management Program to control the discharge of pollutants from industrial and commercial facilities to the municipal separate storm sewer system.</li> <li>IND-2: Provide education and technical assistance to reduce industrial and commercial pollutant discharges to the municipal separate storm sewer system.</li> </ul>

# Table 1: Summary of Best Management Practices

# Table 1 (continued)

BMP CATEGORY AND PURPOSE	CITY OF PORTLAND BMPs
<b>Illicit Discharges Controls (ILL)</b> To identify, investigate, and, if appropriate, control/eliminate illicit discharges and non- stormwater discharges to the municipal separate storm sewer system.	<b>ILL-1:</b> Identify, investigate, control, and/or eliminate illicit discharges (illicit connections, illegal dumping, and spills) to the municipal separate storm sewer system. Evaluate and, if appropriate, control non-stormwater discharges to the municipal separate storm sewer system.
<b>New Development Standards (ND)</b> To prevent and mitigate pollutant discharges and other water quality impacts associated with new development and redevelopment during and after construction.	<ul> <li>ND-1: Control erosion, sediment, and pollutant discharges from active construction sites.</li> <li>ND-2: Implement and refine stormwater management requirements for new development and redevelopment projects to minimize pollutant discharges and erosive stormwater flows.</li> </ul>
<b>Structural Controls (STR)</b> To implement structural modifications (constructed facilities) to existing systems/development to reduce pollutants in discharges from the municipal separate storm sewer system.	<b>STR-1:</b> Structurally modify components of the storm drainage system to reduce pollutant discharges. Implement structural retrofits/ improvements to existing development to reduce pollutants in discharges from the municipal separate storm sewer system.
Natural Systems (NS) To help preserve and restore the natural resources and functions that prevent pollutants from entering into and discharging from the municipal separate storm sewer system.	NS-1: Protect and restore natural areas and vegetation to reduce pollutants in discharges from the municipal separate storm sewer system.
<b>Program Management (PM)</b> To ensure effective program management, coordination, and reporting.	<b>PM-1:</b> Conduct program management, coordination, and reporting.

PERMIT SECTION/REQUIREMENTS	<b>BMP(S) WHERE ADDRESSED</b>
A.1 (Prohibit Non-stormwater Discharges)	ILL-1
A.4.a (Illicit Discharge Detection and Elimination): i-xiii	
	ILL-1
A.4.b (Industrial and Commercial Facilities): i-iii	IND-1
A.4.c (Construction Site Runoff Control): i-vi	ND-1
A.4.d (Education and Outreach):	
i, ii, iii, vi	PI-1
iv	ND-2
v	ND-1
vii	OM-1, OM-2, OM-3
viii	ILL-1
A.4.e (Public Involvement and Education)	PI-1
A.4.f Post-Construction Site Runoff: i-v	ND-2
A.4.g (Pollution Prevention for Municipal Operations):	
i	OM-2
ii	OM-3
iii	IND-1
iv	ILL-1
v	OM-3
vi	STR-1
A.4.h (Structural Stormwater Controls Operation and	
Maintenance Activities)	
i, ii (1)	OM-1
i, ii (2)	ND-2
A.6 (Stormwater Retrofit Strategy Development)	PI-1
<b>B.5</b> (Annual Reporting Requirement)	PM-1
D.6	
a	PI-1
b	OM-1
c	OM-1
d	OM-1
e	OM-2
f	OM-3
g	OM-3
ĥ	IND-1
li	IND-2
lj	IND-2
k	ND-1

#### Table 2: Permit Requirements the BMPs Address

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#### **MEASURABLE GOALS**

Measurable goals are identified for each BMP. They define target levels of implementation for the BMP and are quantifiable where possible. Examples include:

- Provide outreach to approximately 15,500 K-12 students annually.
- Conduct dry weather sampling at all major City-owned outfalls at least once annually.
- Maintain the spill response hotline 24 hours a day.
- Construct public facilities to provide treatment for stormwater runoff from approximately 336 acres.

Measurable goals are targets, not fixed requirements, and as such have some flexibility (e.g., they may change as a result of adaptive management).

#### **Relationship of the SWMP to Annual Compliance Reports**

The SWMP is a comprehensive plan that expresses the overall intent and breadth of the City's stormwater management program for the MS4. It includes implementation tasks and, where possible, schedules. In many cases, however, it is difficult to determine implementation details years in advance because so many variables are involved. For that reason, a greater level of detail is included in the annual compliance reports the City (together with the Port of Portland) submits to DEQ by November 1 of each year. The annual compliance reports provide information about BMP activities that have been implemented in the previous fiscal year (July 1 to June 30). They include reporting on the measurable goals identified under each BMP, as well as other activities that are essential elements of the stormwater management program. The annual compliance reports also identify activities planned for implementation in the coming fiscal year. <u>Annual Compliance Reports</u> are available online.

## **For More Information**

Comments, questions, or information requests can be directed to:

Patrice Mango, Stormwater Program Manager City of Portland, Bureau of Environmental Services 1120 SW Fifth Avenue, Room 1000 Portland, OR 97204 Phone: 503-823-5275 E-mail: <u>patrice.mango@portlandoregon.gov</u>

# Category: PUBLIC INVOLVEMENT (PI)

**Purpose:** To inform and educate the public about the causes of stormwater pollution, the effects on local streams and rivers, and the need for stormwater management. To encourage active participation in pollution reduction.

#### **Overview:**

Public involvement is an integral part of Portland's stormwater program. The public must be involved, informed, and educated about stormwater issues and solutions if the program is to be effective. The Public Involvement category has one best management practice (BMP):

• PI-1: Implement public information, education, involvement, and stewardship activities that will raise awareness, foster community stewardship, and promote pollution prevention and stormwater management.

This BMP focuses primarily on the general public. Other education and technical assistance targets specific audiences, such as business and industry. Those activities are conducted as part of other BMPs and included under those BMPs. (See "Other BMP Activities Related to PI-1" below.)

PI-1 is discussed in detail on the following pages.

#### **Pollutants Addressed:**

The pollutants addressed by PI-1 depend on the target audience. Much of the outreach and education does not target specific pollutants, but instead promotes environmental stewardship, pollution prevention, and sustainable stormwater management.

**PI-1:** Implement public information, education, involvement, and stewardship activities that will raise awareness, foster community stewardship, and promote pollution prevention and stormwater management.

# **INTRODUCTION**

**PI-1** includes the following components:

- Information: Messages and materials distributed to the public and media. Public awareness is crucial to effectively fostering public stewardship.
- Education: Activities designed to increase understanding about stormwater/water quality and motivate the public to make behavioral changes.
- **Involvement:** Involving the public in identifying issues and developing solutions; encouraging and empowering Portland citizens to take an active role in the decision-making process.
- Stewardship: Enabling citizens to have an active, hands-on role in protecting water quality.

# STRATEGY

The City has the following strategies in place.

## **Clean Rivers Education Programs**

BES provides free water quality classroom and field science education programs for grades K through 12 within the City of Portland. These hands-on programs teach students about the causes and effects of water pollution and what individuals can do to protect rivers and streams. The programs also provide community service projects (e.g., marking storm drain inlets with "Dump No Waste" messages), teacher workshops, and curriculum resources.

BES leads an Education Advisory Committee that provides feedback and guidance on BES's education programs and activities. The committee includes educators from the Portland region who are concerned with watershed and water quality issues.

## **Community Stewardship Grants Program**

The Community Stewardship Grants Program, in place since 1995, provides up to \$10,000 per project to citizens and organizations to encourage watershed protection. Projects must be within the City of Portland, promote citizen involvement in watershed stewardship, and benefit the public. From 1995 through June 2011, the program allocated over \$948,000 to 198 projects.

### **Regional Coalition for Clean Rivers and Streams**

The Regional Coalition for Clean Rivers and Streams is a group of agencies and municipalities in the Portland/Vancouver metro area dedicated to educating the public about the impacts of stormwater runoff. The coalition develops an annual regionwide public awareness campaign that can reach more than 1.4 million people living in the four-county area. The coalition includes the City of Portland/BES, Clackamas County Service District No. 1 and Surface Water Agency of Clackamas County, Clark County (Washington), Clean Water Services, City of Gresham, City of Vancouver (Washington), Metro, Oregon Department of Environmental Quality (DEQ), Port of Portland, and Multnomah County.

#### Watershed Education and Stewardship

BES plans and implements watershed programs in the Columbia Slough, Johnson Creek, Fanno Creek, Tryon Creek, and Willamette River watersheds. The watershed-based approach stresses comprehensive, multi-objective watershed management through inter-jurisdictional coordination within each watershed. Each program includes public education and stewardship focused on the specific needs of the watershed, including coordination and partnerships with watershed councils and other community groups.

#### **Publications and Signage**

BES distributes educational and informational materials related to stormwater. Examples include water bill inserts, plant posters with stormwater pollution prevention messages, ecoroof question and answer fact sheets, landscape swale posters, a "Stormwater Cycling" brochure and map for a self-guided tour of demonstration projects, erosion control information for street tree plantings, and educational materials for community meetings and events. BES also develops informational signage for specific projects, such as ecoroof installations, swales, and stormwater demonstration projects.

#### **Coordination among City Programs**

MS4 Program staff integrate stormwater-related public information into other BES and City projects and programs (e.g., Endangered Species Act Program, Bureau of Parks and Recreation programs/projects).

# ACTIVITIES FOR 2011-2016

(Not in any order of priority)

 Task 1: Continue Clean Rivers Education programs for grades K-12.

 Assignment: Bureau of Environmental Services

- Task 2: Continue the Community Stewardship Grants program.Assignment: Bureau of Environmental Services
- Task 3: Continue to participate in the Regional Coalition for Clean Rivers and Streams.

   Assignment: Bureau of Environmental Services
- Task 4: Continue to conduct watershed-specific education and stewardship activities.

   Assignment: Bureau of Environmental Services

**Task 5:** Continue to develop and disseminate stormwater-related information; develop signage for stormwater projects; and provide stormwater information online. <u>Assignment</u>: Bureau of Environmental Services

**Task 6:** Continue coordination among City programs to integrate stormwater-related public information.

Assignment: Bureau of Environmental Services

**Task 7:** Conduct citywide focus groups to solicit information about BES's programs and messages. Review results, and adjust programs and messaging as needed.

Assignment: Bureau of Environmental Services

**Task 8**: By January 1, 2012, reconvene the Stormwater Advisory Committee to advise general stormwater management policy and implementation issues, or effectively replace it with another stormwater-related advisory committee that may be more narrowly focused.

Assignment: Bureau of Environmental Services

#### Other BMP Activities Related to PI-1:

• Education and involvement activities targeted at specific audiences, such as business and industry, are conducted as part of other BMPs and are identified under those BMPs (IND-2, ILL-1, ND-1, ND-2).

# **MEASURABLE GOALS**

- Provide outreach to approximately 15,500 K-12 students annually (classroom programs, education field programs).
- Award at least \$50,000 in community stewardship grants annually.
- Involve approximately 10,000 participants in community events, workshops, stewardship projects, and restoration events annually.
- By May 2011, develop and distribute a public education bill insert to over 200,000 water and sewer customers.

# Category: OPERATIONS AND MAINTENANCE (OM)

**Purpose:** To implement operations and maintenance practices for public streets, sewers, and other facilities to reduce pollutants in discharges from the municipal separate storm sewer system.

#### **Overview:**

Operations and maintenance BMPs for City facilities are important in order to remove pollutants (e.g., from storm sewer system components) and prevent pollutant discharges (e.g., from storage areas). In addition, some maintenance activities (e.g., saw-cutting) may have the potential to contribute pollutants to stormwater runoff if not properly managed. This category includes the following three BMPs that apply to public facilities:

- OM-1: Operate and maintain components of the <u>municipal separate storm sewer system</u> (MS4) to remove and prevent pollutants in discharges from the MS4.
- OM-2: Operate and maintain components of <u>public rights-of-way</u>, including streets, to remove and prevent pollutants in discharges from the municipal separate storm sewer system.
- OM-3: Operate and maintain <u>other City facilities and infrastructure</u> (not included in OM-1 or OM-2) to remove and prevent pollutants in discharges from the municipal separate storm sewer system.

<u>Note:</u> This BMP category addresses operations and maintenance for <u>public</u> facilities. Operations and maintenance related to private facilities are addressed by BMP categories IND (Industrial/Commercial Controls) and ND (New Development Standards).

OM-1, OM-2, and OM-3 are discussed in detail on the following pages.

#### **Pollutants Addressed:**

The main pollutants addressed by OM-1, OM-2, and OM-3 are total suspended solids (TSS) and pollutants that bind to TSS, horticultural chemicals, metals, nutrients (phosphorus and nitrogen), petroleum hydrocarbons, oil and grease, and floatables (debris and litter). In addition, OM-3 addresses chlorine from water system flushing.

EXHIBIT 1 Page 17 of 61 **OM-1:** Operate and maintain components of the municipal separate storm sewer system (MS4) to remove and prevent pollutants in discharges from the MS4.

# INTRODUCTION

The MS4 system components managed under this BMP are:

- Separate storm sewer pipes
- Drainage ditches
- Green streets
- Catch basins
- Inlets
- Public stormwater management facilities
- Flow control facilities
- Culverts

This BMP does not include:

- Private onsite stormwater management facilities (which are addressed under BMP ND-2).
- Public sumps (which are addressed by a separate UIC Management Plan).
- Waters of the state (streams, rivers, etc.), which are not part of the MS4 and are the responsibility of the state of Oregon.

# STRATEGY

During the first permit cycle, the City completed an in-depth facility inventory and condition assessment of the MS4 facilities within the City's urban services boundary. The City also did an in-depth review of existing maintenance practices, including crew and equipment needs and maintenance schedules. The City maintains and updates the MS4 facility inventory and maintenance database and continues to evaluate and implement improved maintenance practices to protect water quality.

The City has the following strategies in place for operations and maintenance of the MS4.

#### **Routine Assessment of System Condition**

The Stormwater Operations & Maintenance (SOM) section of BES includes designated staff who evaluate system components. Following evaluation, they write work orders to identify needed maintenance activities and priorities in a given area. The Portland Bureau of Transportation Maintenance and Operations (PBOT-MO) then schedules the applicable maintenance work.

SOM currently inspects:

- 769 public vegetated surface stormwater management facilities (e.g., green streets, swales). Inspection includes measuring sediment accumulation; assessing the condition of pipes, headwalls, and structures; assessing the vegetation at the site; identifying if any invasive plants are present; and identifying any sign of erosion or soil instability. Some facilities require more frequent inspection than others because of susceptibility to weather impacts and the potential for increased site disturbance (e.g., beavers building dams, trees falling, and vandalism, dumping, or theft).
- 464,740 lineal feet of roadside ditches and 98,716 lineal feet of culvert pipe. Inspection includes amount of sediment accumulation, bank stability, and condition of frontage culverts.

#### **Maintenance and Cleaning of System Components**

Most routine maintenance is driven by inspection and condition assessment and based on maintenance action triggers, as described below. The 2008 BES <u>Stormwater Operations and</u> <u>Maintenance Manual</u> describes stormwater management facility operations and maintenance.

- Stormwater management facility maintenance includes sediment removal (with a maintenance trigger of one-third of full capacity for most facilities); structural repairs; protection from beavers; and vegetation management.
- The trigger for cleaning ditches is when sediment is obscuring more than half the culvert that is downstream of the ditch. To reduce post-maintenance erosion, sediment removal from ditches is accompanied by hydroseeding of exposed soil. Cleaning is generally delayed until dry weather.

The remaining facility types are cleaned either in conjunction with the facilities described above (e.g., a catch basin in front of a surface stormwater management facility), based on maintenance schedules, or in response to public complaint.

### **Review and Incorporation of Newly Constructed Public System Components**

All development and construction plans that include surface stormwater management facilities that will revert to public ownership (those that manage stormwater from public rights-of-way) undergo review by stormwater operations and maintenance (O&M) staff, as well as overall plan review by the Bureau of Development Services. After construction, the facilities are turned over to the City for maintenance after a 2-year warranty period and are incorporated into the City's inspection and maintenance schedules.

### **Research and Pilot Testing of New O&M Practices**

Stormwater facility O&M technologies continue to evolve. BES and PBOT-MO staff research and pilot test O&M practices that could improve effectiveness and reduce pollutant discharges. To date, pilot testing has focused on spill control, erosion control, limitation of water use, and product substitution (use of least-hazardous products).

# Staff Training on O&M-related Stormwater Issues and Practices

Stormwater O&M staff receive training on topics that include:

- Biological hazards
- Monitoring and maintenance of constructed wetlands, waterways, and associated uplands
- Native plant restoration
- Sustainable infrastructure
- West Nile virus
- Wetland plant identification
- Habitat usage and species protection
- Materials management

# ACTIVITIES FOR 2011-2016

(Not in any order of priority)

**Task 1:** Continue to conduct routine assessment of MS4 condition. Develop a protocol for prioritizing major public facilities for annual inspection. Inspect all public stormwater management facilities (pollution reduction facilities) once annually.

Assignment: Bureau of Environmental Services

**Task 2:** Continue maintenance and cleaning of system components based on complaints and on inspections/maintenance action triggers.

Assignment: Bureau of Transportation Maintenance and Operations

**Task 3:** Continue to review and incorporate newly constructed system components into the City's inspection and maintenance database and inspection schedules. Enter all newly constructed public stormwater system components into an inspection and maintenance database within six months after construction is completed.

Assignment: Bureau of Environmental Services

**Task 4:** Continue to research and pilot test O&M practices that could reduce pollutant discharges, including changes to existing O&M practices to improve efficiency and effectiveness.

Assignment: Bureau of Environmental Services and Bureau of Transportation Maintenance and Operations

 Task 5: Continue to train staff on O&M-related stormwater issues and practices.

 <u>Assignment</u>: Bureau of Transportation Maintenance and Operations

**Task 6:** Combine best practices requirements of City and ODOT plans into a training handbook for PBOT-MO staff. The handbook will include guidance for maintenance procedural steps, preferred seasonality of work, and materials management. Complete and implement the materials management section of the handbook by January 1, 2012. Complete and implement the remainder of the handbook by January 1, 2015.

Assignment: Bureau of Transportation Maintenance and Operations

#### Other BMP Activities Related to OM-1:

- **OM-2** addresses O&M for public rights-of-way.
- **OM-3** addresses O&M for other City facilities and infrastructure.
- ND-2 addresses O&M for private facilities.
- While OM-1 includes assessment of system conditions, any resulting structural retrofits that are implemented are included under STR-1.

# **MEASURABLE GOALS**

- Develop a training handbook for PBOT-MO staff during the permit term.
- Provide the following maintenance actions over the five-year permit cycle:
  - Clean 31,000 lineal feet of culverts.
  - Repair 10,000 lineal feet of culverts.
  - Clean 250,000 lineal feet of ditches.
  - Clean 38,000 inlets and catch basins.
  - Repair 1,500 inlets and inlet leads.
  - Clean 135 stormwater management facilities/pollution reduction facilities.
  - Repair 40 pollution reduction facilities.

**OM-2:** Operate and maintain components of public rights-of-way, including streets, to remove and prevent pollutants in discharges from the municipal separate storm sewer system.

# INTRODUCTION

The system components managed under this BMP are:

- Paved streets
- Substandard streets (streets not fully improved to City standards)
- Bridges
- Sidewalks
- Utility corridors
- Tree planting strips
- Other right-of-way components

This BMP does <u>not</u> include:

- Private streets
- Components of the storm drainage system (e.g., stormwater management facilities, catch basins, pipes, etc., which are covered under OM-1)
- Facilities owned and operated by other jurisdictions (e.g., county, Oregon Department of Transportation)

# STRATEGY

During the first permit cycle, the City completed an in-depth review and evaluation of operations and maintenance activities in public rights-of-ways. The City continues to conduct research and pilot tests to identify potential improvements and incorporate effective approaches into O&M procedures.

City operations and maintenance within the public rights-of-way includes:

- Street cleaning (sweeping, flushing, leaf collection)
- Paving (grinding, saw-cutting, patching, overlay, crack filling)
- Concrete work (curbs, sidewalks, bridges, stairways, retaining walls)
- Pavement markings and street signage (which involve chemicals, paints, adhesives, etc.)
- Snow and ice control and other emergency responses (e.g., flood response)
- Cleanup of illegal dumping/other wastes
- Vegetation management (e.g., horticultural chemical application, mowing)
- Road shoulder maintenance (e.g., re-gravelling, shallow excavation)

As part of these activities, work procedures are implemented to limit pollutant discharges to the MS4, including:

- Spill control and prevention
- Erosion prevention and sediment control
- Control of other pollutants—e.g., waste generated by grinding or saw cutting
- Pilot testing of new procedures—e.g., for spill control and prevention, erosion control
- Staff training on O&M-related stormwater issues and practices
- Outreach to other City bureaus and local agencies to limit pollutant discharges from O&M practices in public rights-of-way

In permit year 9 (July 1, 2003 through June 30, 2004), NOAA Fisheries Service approved the Limit 10 application [under the Endangered Species Act (ESA) section 4(d) rule] the Portland Bureau of Transportation Maintenance and Operations (PBOT-MO) submitted for routine roadside maintenance. As part of that approval, PBOT-MO committed to follow, with modifications, the best management practices outlined in ODOT's *Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices* as guidance for PBOT-MO's transportation-related maintenance.

# **ACTIVITIES FOR 2011-2016**

(Not in any order of priority)

**Task 1:** During operations and maintenance activities in public rights-of-way, continue to implement work procedures that limit pollutant discharges to the MS4 (e.g., spill control and prevention; erosion prevention and sediment control; control of other pollutants). Continue to use the modified ODOT *Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices* as guidance for maintenance.

Assignment: Bureau of Transportation Maintenance and Operations

**Task 2:** Continue to pilot test alternative methods, products, and practices to reduce pollutant discharges to the MS4. Incorporate effective approaches into O&M procedures. <u>Assignment</u>: Bureau of Transportation Maintenance and Operations

 Task 3: Continue to conduct staff training on O&M-related stormwater issues and practices.

 <u>Assignment</u>: Bureau of Transportation Maintenance and Operations

**Task 4:** Continue outreach to other City bureaus and local agencies to limit pollutant discharges.

 <u>Assignment</u>: Bureau of Transportation Maintenance and Operations

**Task 5:** Combine best practices requirements of City and ODOT plans into a training handbook for PBOT-MO staff. The handbook will include guidance for maintenance procedural steps, preferred seasonality of work, and proper materials management.

Assignment: Bureau of Transportation Maintenance and Operations

**Task 6:** Implement a Street Leaf Removal Program in designated leaf removal districts. Residential streets may be swept from three to six times per year in these areas as an alternative to implementing the Leaf Removal Program.

Assignment: Bureau of Transportation Maintenance and Operations

#### Other BMP Activities Related to OM-2:

- **OM-1** addresses O&M for the municipal separate storm sewer system.
- **OM-3** addresses O&M for other City facilities and infrastructure.

#### **MEASURABLE GOALS**

- Sweep arterials six times per year.
- Develop a training handbook for PBOT-MO staff during the permit term.

**OM-3:** Operate and maintain other City facilities and infrastructure (not included in OM-1 or OM-2) to remove and prevent pollutants in discharges from the municipal separate storm sewer system.

# INTRODUCTION

This BMP addresses operations and maintenance related to:

- City buildings (office buildings, parking structures)
- City properties (e.g., parks, field operations sites)
- Other City infrastructure (e.g., wells, access roads, water reservoirs and tanks, pump stations, marinas, boat docks)

It includes activities such as fleet vehicle washing, storage and use of toxic materials, and general maintenance.

It does not address:

- Private facilities and infrastructure.
- Elements of the municipal separate storm sewer system (included in OM-1).
- Components of public rights-of-way (included in OM-2).

# STRATEGY

The City has the following strategies in place for operations and maintenance of City facilities and infrastructure:

- Integrated Pest Management (IPM) Program: The IPM program is designed to minimize the need for fertilizers, pesticides, and irrigation and is used by multiple City bureaus.
- Salmon-Safe certification: The Bureau of Parks and Recreation was certified in 2004 by Salmon Safe, an independent certification organization, as employing land management practices that minimize harmful impacts on water quality and fish habitat. The bureau examines its maintenance activities as part of annual compliance requirements for continued Salmon Safe certification.
- Pesticide-Free Park Program: The Bureau of Parks and Recreation began this program in 2004 to evaluate and implement pesticide-free management approaches at City parks.
- Multiple City bureaus stipulate contracting provisions (e.g., for maintenance) to minimize stormwater pollutant discharges.
- Potable Water Discharge Program: This program assesses the flow rates and pollutant control measures needed to control discharges from tanks, reservoirs, and hydrants.

- Toxics reduction measures (use, storage, transport, and disposal) used by all bureaus.
- The City's green purchasing program (e.g., use of non-chlorinated paper, hybrid vehicles).
- Cosmetic cleaning (building, equipment, and vehicle washing; graffiti removal), with discharges directed to the sanitary system where appropriate.
- Management of discharges from fire response and non-emergency training (currently discharges to the sanitary system).
- Good housekeeping and reuse/recycling practices at City sites and properties

# **ACTIVITIES FOR 2011-2016**

(Not in any order of priority)

Task 1: Continue to implement the existing elements of the strategy identified above:

- Integrated Pest Management Program
- Salmon Safe certification
- Pesticide-Free Park Program
- Contracting provisions
- Potable Water Discharge Program
- Toxics reduction measures
- Green purchasing program
- Cosmetic cleaning that is appropriately managed
- Management of discharges from fire response and non-emergency training
- Good housekeeping, cleanup, and reuse/recycling practices

Assignment: Relevant City bureaus

**Task 2:** Evaluate current facilities, structures, and activities for potential stormwater impacts. By January 1, 2013, identify, evaluate, and prioritize stormwater pollution prevention opportunities and improvements (e.g., improved materials management) to reduce potential impacts at properties owned or operated by the City of Portland.

Assignment: All City bureaus

**Task 3:** Educate/train bureau staff about stormwater impacts associated with O&M activities and how to minimize these impacts.

Assignment: All City bureaus

**Task 4:** Continue to implement the Integrated Pest Management Program in all parks, and implement pesticide-free parks management and other alternative methods of pest control as resources allow. Annually conduct a minimum of one formal education and outreach activity with each volunteer group that assists with maintaining pesticide-free parks. Maintain pesticide-free parks management at a minimum of three parks.

Assignment: Bureau of Parks and Recreation

**Task 5:** Evaluate the use of alternative equipment, materials, and fuels and of modified practices. <u>Assignment</u>: Bureau of General Services, Bureau of Transportation Maintenance and Operations

#### Other BMP Activities Related to OM-3:

- **OM-1** addresses O&M for the municipal separate storm sewer system.
- **OM-2** addresses O&M for public rights-of-way.
- While OM-3 includes <u>assessment</u> of facility conditions, any resulting structural retrofits that are <u>implemented</u> are included under **STR-1**.

# **MEASURABLE GOALS**

• Inspect, and maintain as necessary, all stormwater and stormwater containment and pollution prevention facilities in City maintenance yards annually.

# Category: INDUSTRIAL/COMMERCIAL CONTROLS (IND)

**Purpose:** To reduce and control the discharge of pollutants from industrial and commercial facilities to the municipal separate storm sewer system.

#### **Overview:**

Some industrial and commercial uses have high potential to contribute pollutants to the storm sewer system. The Industrial/Commercial Controls category includes the following two best management practices (BMPs) that focus on reducing the discharge of pollutants in stormwater runoff from certain commercial and industrial sites through permitting, inspection, and enforcement (IND-1), as well as through outreach and technical assistance (IND-2):

• IND-1: Implement the Industrial Stormwater Management Program to control the discharge of pollutants from industrial and commercial facilities to the municipal separate storm sewer system.

This BMP focuses on regulatory approaches through permitting, inspection, and enforcement. Under IND-1, the City administers industrial stormwater NPDES permits for specific industrial and commercial facilities. The City also issues City discharge authorizations to manage and control discharges from sites that do not require an NPDES permit, but may have discharges detrimental to the storm sewer system or receiving waters.

• IND-2: Provide education and technical assistance to reduce industrial and commercial pollutant discharges to the municipal separate storm sewer system.

This BMP focuses on non-regulatory approaches to discharge control. It addresses permitted industries and those not under a permit.

IND-1 and IND-2 are described in detail on the following pages.

#### **Pollutants Addressed:**

A wide range of pollutants are associated with commercial and industrial activities. The most common of these are metals (zinc, copper, lead, iron, manganese), biochemical oxygen demand (BOD), volatile pollutants, total suspended solids (TSS), toxics that bind to TSS, and oil and grease.

**IND-1:** Implement the Industrial Stormwater Management Program to control the discharge of pollutants from industrial and commercial facilities to the municipal separate storm sewer system.

#### **INTRODUCTION**

In 1994, the City of Portland entered into a memorandum of agreement (MOA) with the Oregon Department of Environmental Quality (DEQ) to administer the NPDES industrial stormwater program for facilities required by federal law to obtain permits for discharges to the City's MS4. In 1999, the MOA was revised to give the City administrative authority over all industrial NPDES discharges within the City's urban services boundary (including direct discharges to water bodies and discharges to other jurisdictions' systems). The MOA was updated in 2010 to include new City responsibilities to work with applicants applying for their first NPDES permit. The City administers site permits and inspects sites for compliance with permit conditions, but DEQ maintains responsibility for enforcing permit conditions and collecting fees.

City Code section 17.39 (Stormwater Discharges) gives the City legal authority to control discharges to the storm sewer system. The code was most recently updated in 2008 to reflect changes in the City's enforcement rules.

The Industrial Stormwater Management Program controls discharges from:

- Commercial/industrial facilities with standard industrial codes (SICs) that are listed in the Federal Register [CFR 122.26(b)(14)(I-ix, xi)] as requiring an industrial 1200Z NPDES stormwater permit.
- Commercial/industrial facilities in the Columbia Slough Watershed that require a 1200COLS permit because facilities may contribute pollutants of concern to the storm drainage system.
- Landfills. (There are 21 closed landfills, mostly for construction waste, within Portland.)
- Industrial facilities subject to Title III of the Superfund Amendments and Reauthorization Act (SARA).
- Any other industrial or commercial facility that poses a risk to the MS4 or receiving waters from stormwater discharges and/or spills and requires a City discharge authorization.

# STRATEGY

#### **Industrial Stormwater Management Program**

The Industrial Stormwater Management Program identifies industrial and commercial facilities that may need permits, using referrals from City staff, field reconnaissance, and review of building permit applications (which identify SIC codes subject to permits). It then conducts site inspections to assess exposure risk. If stormwater exposure exists, the facility must either remove the exposure or obtain a permit that specifies operational and structural requirements, including monitoring, to control discharges.<sup>3</sup> If a facility has a federally or state-listed SIC category, but has no exposure of products to stormwater runoff, no permit is required; the City certifies that no exposure exists, and DEQ issues a no-exposure certification.

City inspection and monitoring activities include:

- Compliance inspections of permitted facilities.
- Review of each permitted facility's monitoring results and annual report.
- Review and technical assistance for development of stormwater management plans at permitted facilities.
- "Sweeps" (inspections of identified facilities) in specific regions, watersheds, or by industry types to identify facilities that may need permits and/or may need to implement source control measures.
- Periodic inspections of other non-permitted commercial/industrial facilities (e.g. facilities with no-exposure certifications).
- Response to complaints and referrals.
- Technical assistance for retrofitting private stormwater drainage systems to maximize infiltration and treatment and minimize the discharge of pollutants at commercial/industrial sites.
- Coordination with the State of Oregon on additional strategies to control pollutants in stormwater runoff from industrial and commercial facilities in drainages with watershed-specific or basin-specific TMDLs (total maximum daily loads) or facilities that have specific Superfund program requirements.

<sup>&</sup>lt;sup>3</sup> The number of permitted facilities fluctuates as industrial tenants and activities change. The NPDES MS4 annual compliance reports provide numbers for each permit year.

#### **ACTIVITIES FOR 2011-2016**

(Not in any order of priority)

**Task 1:** Continue to administer NPDES industrial stormwater permits within Portland's urban services boundary.

Assignment: Bureau of Environmental Services

**Task 2:** Identify industries, operating and closed landfills, TSDs, and SARA Title III facilities that may need permits because of new or changed operations that create potential stormwater exposure.

Assignment: Bureau of Environmental Services

**Task 3:** Revise City Code Title 17.39 to increase the City's ability to enter private properties, require controls of sediment discharges, and require controls to limit the threat of pollutant discharges to the MS4.

Assignment: Bureau of Environmental Services

**Task 4:** Conduct "sweeps" of identified priority areas to determine the need for additional permits. Beginning January 1, 2013, annually conduct an industrial facilities inspection sweep in at least one targeted area.

Assignment: Bureau of Environmental Services

#### Other BMP Activities Related to IND-1:

- **IND-2** addresses education and technical assistance aimed at reducing industrial and commercial pollutant discharges.
- New development and redevelopment are subject to the stormwater management requirements of the City's *Stormwater Management Manual* and are addressed under **ND-2**. The manual also includes pollution control requirements for industrial and commercial facilities with site characteristics or uses that may generate high pollutant concentrations or specific pollutants of concern.

## **MEASURABLE GOALS**

- Inspect all permitted (1200Z, 1200COLS) facilities once per year.
- Review each permitted facility's monitoring and annual report each year.
- Survey 100 percent of newly identified facilities to determine the need for NPDES permits.
- Every 5 years, inspect industries (individual sites) previously identified as having no exposure and not required to obtain a permit.
- Complete revision of City Code Title 17.39 by 2012.
**IND-2:** Provide education and technical assistance to reduce industrial and commercial pollutant discharges to the municipal separate storm sewer system.

# **INTRODUCTION**

Since the early 1990s (when the City's Industrial Pretreatment Program and Industrial Stormwater Management Program began), the City has actively promoted pollution control at the source. This includes education and technical assistance to commercial and industrial businesses to help them implement best management practices and pollution prevention measures. These activities are aimed at permitted industries and those not under a permit.

# STRATEGY

The City has its own pollution prevention programs and also partners with other organizations, as described below.

# **Good Housekeeping BMP Fact Sheets**

The City distributes good housekeeping BMP fact sheets to industrial and commercial facilities that may or may not be required to obtain a permit under the Industrial Stormwater Management Program (see IND-1).

## **Regional Pollution Prevention Outreach (P2O) Team**

The City participates in the Regional Pollution Prevention Outreach (P2O) Team, a multi-agency group of air, water, wastewater, energy, hazardous waste, and solid waste professionals that promotes and implements comprehensive pollution prevention programs. The P2O Team sponsors the Eco-Logical Business Program, which certifies businesses that use environmentally responsible business practices. As of 2010, 40 automotive repair and service shops within the City of Portland have been certified under the program, as well as 15 landscape services firms that work in Portland.

## **BEST Program**

The Bureau of Planning and Sustainability's BEST (Businesses for an Environmentally Sustainable Tomorrow) Program assists industries with green practices that conserve resources and address stormwater and solid waste. Significant projects and practices are recognized through annual BEST awards. Between 1993 and 2010, 134 area businesses have won awards.

## **Education and Technical Assistance**

The City provides education and technical assistance to businesses in the Columbia South Shore Well Field Wellhead Protection Area to help them implement best management practices and pollution prevention measures.

## **Partnerships**

The City works in partnership with trade groups to implement pollution prevention.

# **ACTIVITIES FOR 2011-2016**

(Not in any order or priority)

**Task 1:** Continue to develop and distribute good housekeeping BMP fact sheets and other educational materials to facilities permitted under the Industrial Stormwater Management Program (IND-1) and facilities not covered under the program.

Assignment: Bureau of Environmental Services

- Task 2: Continue participation in the P2O Team and Eco-Logical Business Program.Assignment: Bureau of Environmental Services
- Task 3: Continue the BEST assistance and awards program.Assignment: Bureau of Planning and Sustainability

**Task 4:** Continue education and technical assistance to regulated businesses in the Columbia South Shore Well Field Wellhead Protection Area. Assignment: Water Bureau, Portland Fire & Rescue

Task 5: Continue partnerships with trade groups to implement pollution prevention.Assignment: Bureau of Environmental Services

**Task 6:** Evaluate new business sectors for targeted outreach, technical assistance, trade group partnerships, and/or implementation of the Eco-Logical Business Program. Conduct a minimum of one targeted stormwater education and outreach activity with each of the following groups: Portland Community College, Association of Car Washers, International Society of Arborists (ISA local chapter), and Oregon Association of Nurseryman (OAN).

Assignment: Bureau of Environmental Services

**Task 7:** Evaluate one new business sector for implementation of the Eco-Logical Business Program by January 1, 2013.

Assignment: Bureau of Environmental Services

## Other BMP Activities Related to IND-2:

The following BMPs also include tasks related to industrial and commercial facilities:

- **IND-1** includes implementation of the Industrial Stormwater Management Program to control the discharge of pollutants from industrial and commercial facilities.
- **PI-1** addresses general public outreach and education associated with the NPDES stormwater program.

## **MEASURABLE GOALS**

- Under the Eco-Logical Business Program, certify 10 additional auto shops and 20 additional landscape firms that provide services within the City Portland by 2015.
- Evaluate one new business sector for the Eco-Logical Business Program.

# Category: ILLICIT DISCHARGES CONTROLS (ILL)

**Purpose:** To identify, investigate, and, if appropriate, control/eliminate illicit discharges and non-stormwater discharges to the municipal separate storm sewer system.

## **Overview:**

The City of Portland's activities in this category are included under one best management practice:

• ILL-1: Identify, investigate, control, and/or eliminate <u>illicit discharges</u> (illicit connections, illegal dumping, and spills) to the municipal separate storm sewer system.

Evaluate and, if appropriate, control <u>non-stormwater discharges</u> to the municipal separate storm sewer system.

ILL-1 is described in detail on the following pages.

## **Pollutants Addressed:**

The City's activities under ILL-1 address most pollutants commonly found in urban runoff. The type and amount of pollutants addressed depend on the pollutant source(s). For example, eliminating an illicit wash water discharge would address detergents (surfactants, phosphorous and nitrogen), solids, and oil and grease. Pollutants addressed by controlling non-stormwater discharges (such as discharges from flushing of water systems, pumped groundwater, or air conditioner condensate) include chlorine, phosphorus, and metals.

**ILL-1:** Identify, investigate, control, and/or eliminate **illicit discharges** (illicit connections, illegal dumping, and spills) to the municipal separate storm sewer system. Evaluate and, if appropriate, control **non-stormwater discharges** to the municipal separate storm sewer system.

# **INTRODUCTION**

Illicit discharges include the following:

- <u>Illicit connections</u>. These are piped connections that allow sanitary or other non-stormwater discharges to flow into the stormwater system. An example is a toilet plumbed into the stormwater system instead of the sanitary system.
- <u>Illegal dumping</u>. This includes solid and liquid wastes. Examples include dumping garbage or used motor oil into storm drains.
- <u>Spills</u>. These include accidental or unplanned discharges into the storm drain system. Examples include fluids released from vehicle accidents or leaking storage containers.

Non-stormwater discharges comprise 23 types of discharges that can be grouped under four categories, as follows<sup>4</sup>:

Agency Process Waters (discharges from city, state, or other jurisdictions)

- Water line flushing
- Discharges from potable water sources
- Street wash waters
- Discharges or flows from emergency fire-fighting
- Start-up flushing of groundwater wells
- Potable groundwater monitoring wells
- Draining and flushing of municipal potable water storage reservoirs
- Discharges of treated water from investigation, removal and remedial actions selected or approved by DEQ pursuant to ORS Chapter 465, the state's environmental cleanup law

<sup>&</sup>lt;sup>4</sup> The City's 1995 permit included 19 types of non-stormwater discharges. Beginning with the 2004 permit, four more types (shown in italics) were added, for a total of 23. With the exception of draining and flushing of municipal potable water storage reservoirs, the added discharges are under State regulatory authority and permitted by DEQ or the State Water Resources Department.

Single Site Behaviors (property owner discharges)

- Landscape irrigation
- Irrigation water
- Lawn watering
- Individual residential car washing
- Dechlorinated swimming pool discharges

#### **Building Discharges**

- Foundation drains
- Air conditioning condensate
- Water from crawl space pumps
- Footing drains

### Natural Waters

- Diverted stream flows
- Uncontaminated pumped groundwater
- Rising groundwaters
- Uncontaminated groundwater infiltration
- Springs
- Flows from riparian habitats and wetlands

# STRATEGY

The City has the following strategies in place to address illicit discharges and non-stormwater discharges.

## **Illicit Discharge Elimination Program (IDEP)**

The City's Illicit Discharge Elimination Program (IDEP), initiated in 1994, includes the following elements:

- Identifying and eliminating illicit cross-connections to the system.
- Monitoring the storm drainage system during dry weather to identify and eliminate illicit or non-stormwater discharges of concern.
- Tracking stormwater outfalls added or removed from the system.

## Industrial Stormwater Management Program

Under the Industrial Stormwater Management Program (as described in BMP IND-1), illicit discharges and connections from commercial/industrial facilities may be identified through inspections or by referrals. The program addresses prohibited discharges and other non-stormwater discharges to the storm sewer system through policies, control measures, and/or enforcement actions, as appropriate.

## **Spill Response**

The City's **Spill Response Program** was developed in 1994 to provide immediate response to emergency spills (liquid and solid) and investigate pollution complaints. Staff investigate reports of stormwater pollution and problems in the sewage and drainage collection system, and monitor sewage cleanups. Staff monitor the program's spill response hotline 24 hours a day, 365 days a year and respond to reported spills, slicks, and other unknown discharges. The program also refers problems to other enforcement agencies as appropriate.

The **Regional Spill Response Committee** is a multi-agency committee established in 1995 to consult and debrief on spill response. It also provides staff training and coordination. The committee meets quarterly and is chaired by Portland's Bureau of Environmental Services (BES). Member agencies include:

- City of Portland Bureaus of Environmental Services, Fire, Transportation (Maintenance), and Water
- Oregon Department of Transportation (ODOT)
- State Police
- Oregon Department of Fish and Wildlife
- National Marine Fisheries Service (NOAA Fisheries)
- Clean Water Services
- Clackamas County
- Multnomah County
- Port of Portland

## **Illegal Dumping**

The Bureau of Planning and Sustainability (BPS) manages residential and commercial **solid waste** and recycling programs to prevent illegal dumping of solid and liquid wastes. These programs include curbside recycling, yard debris collection, and bulky waste collection. BPS offers education and outreach programs, such as the Master Recycler Program, to reduce waste and encourage recycling. These programs coordinate with waste collection programs conducted by neighborhood, non-profit, and regional agencies.

The **Spill Response Program** (described above) includes responding to illegal dumping of solid materials (e.g., soil, garbage).

## **Non-Stormwater Discharges**

The City began non-stormwater sampling in 1994. A non-stormwater discharges evaluation report was completed and submitted to DEQ as part of the City's Interim Evaluation Report (IER) in May 2006. The City identified sampling locations or surrogate sampling locations for each type of nonstormwater discharge and analyzed the samples across a suite of common stormwater pollutants. The results were compared to instream and/or groundwater water quality standards to determine if the discharges had the potential to negatively impact beneficial uses of waters of the state. If potential impacts were identified, the City evaluated whether mitigation was practicable for the amount, type, and duration of the applicable discharge. In some cases, City policies or procedures were changed to mitigate or limit discharges or to require certain discharges to be routed to the

EXHIBIT 1 Page 39 of 61 sanitary sewer. Examples include dechlorinating superchlorinated Water Bureau discharges; requiring all new swimming pools to be plumbed to the sanitary system; pretreating pumped groundwater; and managing air conditioning condensate, either by new sanitary connection or pretreatment. The City also educates dischargers about alternative non-stormwater management actions that have less water quality impact.

The 2006 report evaluated the 19 non-stormwater discharge categories identified in the City's 1995 permit. Four additional categories included in the 2004 and 2011 permits have a limited presence within the City's jurisdiction, and the City has limited scope in regulating these state-regulated activities. For that reason, those categories were assessed on a policy basis only and were not fully evaluated with sampling. The City has implemented new policies that address two of these categories (draining/flushing of reservoirs and discharges from environmental cleanup sites).

## **Illicit Discharge Response and Enforcement**

In 2006, the City completed a two-year update of City Code and administrative rules for the City's enforcement program for illicit discharges to stormwater and sanitary systems.

The administrative rules identify the enforcement tools that can be used for violations. These include written warnings, written citations, cease and desist work orders, administrative reviews, voluntary compliance agreements, penalties, termination of permit, and summary abatement by BES.

# **ACTIVITIES FOR 2011-2016**

(Not in any order of priority)

**Task 1:** Continue to implement the existing elements of the Illicit Discharge Elimination Program.

Assignment: Bureau of Environmental Services

**Task 2:** Continue to identify illicit discharges and connections from commercial/industrial facilities through the Industrial Stormwater Management Program.

Assignment: Bureau of Environmental Services

 Task 3: Revise monitoring protocols for sampling related to illicit discharges and spill response.

 <u>Assignment</u>: Bureau of Environmental Services

Task 4: Continue coordination with the Regional Spill Response Committee.Assignment: Bureau of Environmental Services

**Task 5:** Continue the City's Spill Response Program, including the spill response hotline. Continue to train City field staff to identify and refer spills and potential illicit discharges to the hotline and on their roles and responsibilities in preventing discharges.

Assignment: Bureau of Environmental Services

**Task 6:** Continue to implement solid waste programs (curbside recycling, yard debris collection, and bulky waste collection) to prevent illegal dumping.

Assignment: Bureau of Planning and Sustainability

**Task 7:** Continue to limit impacts from non-stormwater discharges to the MS4. <u>Assignment</u>: Bureau of Environmental Services

## Other BMP Activities Related to ILL-1:

The following BMPs also include tasks related to preventing or addressing illicit discharges:

- **PI-1** includes volunteer education and outreach activities, such as marking storm drain inlets with "No Dumping, Drains to Stream."
- Illicit discharges associated with City facilities or rights-of-way are addressed by standard maintenance practices of the City (see **OM-1**, **OM-2**, **and OM-3**).

## **MEASURABLE GOALS**

- Conduct dry weather sampling at all major City-owned outfalls at least once annually.
- Inspect the priority outfalls a minimum of three times a year.
- Expand the IDEP program to include the CSO system below diversion structures, where the outfalls discharge stormwater only and should have no dry-weather flows. Currently, the program addresses all of the westside outfalls and 25 percent of the eastside outfalls. Expand the program to all eastside outfalls by December 2013.
- Maintain the spill response hotline 24 hours a day.

# Category: NEW DEVELOPMENT STANDARDS (ND)

**Purpose:** To prevent and mitigate pollutant discharges and other water quality impacts associated with new development and redevelopment during and after construction.

## **Overview:**

The design and construction of new development and redevelopment can have significant impacts on water quality. If not properly managed, ground-disturbing construction can result in erosion and the discharge of sediment and other pollutants. Without appropriate stormwater management, impervious surfaces created by new development can increase the volume and peak rate of stormwater runoff, which can cause erosion and flooding. Oils and grease, metals, and other pollutants from parking lots, roadways, rooftops, and other impervious surfaces may be transported to streams and rivers by stormwater runoff.

The New Development Standards category includes the following two best management practices (BMPs):

- ND-1: Control erosion, sediment, and pollutant discharges from active construction sites. This BMP addresses erosion, sediment, and pollution control requirements for private property and public works builders/contractors during any ground-disturbing construction.
- ND-2: Implement and refine stormwater management requirements for new development and redevelopment projects to minimize pollutant discharges and erosive stormwater flows.

This BMP addresses stormwater management requirements that developers/builders must incorporate into new development and redevelopment to mitigate stormwater impacts after project completion (for the life of the project). These requirements are primarily implemented through the *Stormwater Management Manual* (SWMM).

ND-1 and ND-2 focus on design and construction standards for new development and redevelopment—specifically, erosion control and stormwater management. Land use and zoning requirements also help prevent/reduce impacts of new development and redevelopment on natural resources; these are included under BMP NS-1 (Natural Systems).

ND-1 and ND-2 are discussed in detail on the following pages.

## **Pollutants Addressed:**

The main pollutants addressed by ND-1 are total suspended solids (TSS) and pollutants (such as metals) that bind to TSS. Construction site controls also reduce the discharge of floatable litter and debris, concrete washwater, bacteria, slurry, and paints.

• ND-2 addresses most pollutants commonly found in urban runoff.

**ND-1:** Control erosion, sediment, and pollutant discharges from active construction sites.

# INTRODUCTION

Five City bureaus manage erosion, sediment, and pollutant control on construction sites:

- The Bureau of Development Services (BDS) administers and enforces City requirements pertaining to erosion, sediment, and pollutant control for private development.
- The public works bureaus (Water, Environmental Services, Transportation, and Parks and Recreation) manage erosion, sediment, and pollutant control for their own public works permit projects.

# STRATEGY

The City has the following strategies in place to address erosion, sediment, and pollutant control.

# Title 10 and Erosion Control Manual

Title 10 of City Code and the City's <u>Erosion and Sediment Control Manual</u> (updated March 2008) are the basis of the City's comprehensive, citywide erosion and construction site pollutant control program. The Title 10 regulations and the manual cover site planning and use of best management practices (BMPs) for any ground-disturbing activity, as well as inspection and enforcement measures.

Title 10 specifies the following applicability and requirements:

- Applies to any ground-disturbing activity, regardless of site size.
- Allows no visible or measurable offsite discharge at any time during construction.
- Requires compliance with the *Erosion and Sediment Control Manual*.
- Requires the same standards for private construction sites and public works permit projects.

The City's public works bureaus review and revise their contract specifications and permit conditions as needed to comply with Title 10 requirements and the most recent *Erosion and Sediment Control Manual*.

# Training and Assistance

The City provides training and assistance on erosion, sediment, and pollutant control requirements to City staff and contractors/permit applicants. Publications, information, and advice are also available to the public online and through BDS's Development Services Center.

# **Enforcement Hotline**

BDS operates a hotline and website for receiving erosion, sediment, and other complaints. After receiving an erosion-related complaint, BDS and the Bureau of Environmental Services (BES) identify and implement an appropriate response, which may include education, technical assistance, or enforcement. The response process applies to permitted and non-permitted construction activities.

# **Construction-Related NPDES Permits**

The City's public works bureaus obtain construction-related NPDES permits (1200C) for each project site over 1 acre in size from the Oregon Department of Environmental Quality (DEQ). In lieu of individual 1200C site permits, the Portland Bureau of Transportation and Bureau of Parks and Recreation hold agency program permits (1200CA permits, which are currently under administrative extension) that cover all development-related activities. Private developers are required to obtain 1200C permits directly from DEQ if the project site is over 1 acre in size.

# **ACTIVITIES FOR 2011-2016**

(Not in any order of priority)

Task 1: Continue to implement the requirements of Title 10 and the Erosion and SedimentControl Manual. Track and analyze enforcement actions to evaluate program effectiveness.Assignment: Bureaus of Development Services, Water, Environmental Services,<br/>Transportation, and Parks and Recreation

Task 2: Review the *Erosion and Sediment Control Manual* and update as needed. Research other manuals, including the DEQ manual, and incorporate relevant/appropriate revisions. <u>Assignment</u>: Bureau of Development Services

**Task 3:** Continue to provide erosion, sediment, and pollutant control training and assistance to City staff and contractors/permit applicants.

Assignment: Bureaus of Development Services, Water, Environmental Services, Transportation, Maintenance, and Parks and Recreation

**Task 4:** Continue to review and revise construction and contract specifications for erosion, sediment, and pollutant control requirements, as needed.

Assignment: Bureaus of Water, Environmental Services, Transportation, and Parks and Recreation

**Task 5:** Document site plan review procedures that ensure that stormwater BMPs are appropriate and address the construction activities being proposed.

Assignment: Bureau of Development Services

**Task 6:** Continue to operate a hotline to receive complaints and respond to erosion, sediment, and pollutant problems.

Assignment: Bureau of Development Services

**Task 7:** Conduct and document erosion control checks during each routine building permit inspection for land-disturbing activities at construction sites requiring a City of Portland permit (e.g., grading and clearing, electrical, mechanical, plumbing).

Assignment: Bureau of Development Services

Other BMP Activities Related to ND-1: None

## **MEASURABLE GOALS**

- Evaluate the *Erosion and Sediment Control Manual* and update as needed (at least once during the 2011-2016 permit cycle); conduct public involvement on updates.
- Inspect public sites with erosion control permits daily during construction.
- Inspect 100 percent of active private development construction sites subject to erosion control requirements. At a minimum, inspections will occur (1) after initial temporary erosion control measures are installed, and (2) near completion of development after permanent erosion control measures are in place. Conduct interim checks as part of routine building permit inspections.

**ND-2:** Implement and refine stormwater management requirements for new development and redevelopment projects to minimize pollutant discharges and erosive stormwater flows.

## INTRODUCTION

The City has legal responsibility (Portland City Charter Title 3.13) to provide stormwater service (implemented through City Code Chapter 17.38) to all new development and redevelopment sites. To accomplish this, the Bureau of Environmental Services (BES) reviews development proposals and the availability/adequacy of storm sewer service.

The City requires new development and redevelopment projects to mitigate stormwater impacts by managing stormwater onsite. The planning and permitting processes for development approval provide the opportunity to incorporate design features that will provide post-construction stormwater management and treatment.

## STRATEGY

The City has the following strategies in place to address stormwater management for new development and redevelopment.

#### **Stormwater Management Manual**

Portland City Code chapter 17.38 gives the City legal authority to limit stormwater runoff flow (volume and rate) and pollution discharges from new development and redevelopment. The City's <u>Stormwater Management Manual</u> (SWMM) identifies stormwater management principles and techniques that help preserve or mimic the natural hydrologic cycle and achieve water quality goals.

The SWMM was adopted by City Council in July 1999, with updates in September 2000, September 2002, September 2004, and August 2008. Public review and comment are solicited during SWMM revision cycles.

The SWMM identifies the following requirements<sup>5</sup> that apply to all projects within the City, whether public or private.<sup>6</sup>

<sup>&</sup>lt;sup>5</sup> These summarized requirements are based on the August 2008 edition of the *Stormwater Management Manual* and could change in subsequent editions.

<sup>&</sup>lt;sup>6</sup> Federal projects are exempt, but often comply.

- Projects that develop or redevelop any amount of impervious surface are required to comply with stormwater infiltration and discharge requirements. Properties with existing development that propose new offsite discharges or new connections to the public system must also meet these requirements. Stormwater must be infiltrated onsite to the maximum extent practicable, based on a stormwater hierarchy described in the SWMM.
- New development or redevelopment projects that meet the SWMM impervious surface square footage trigger are required to comply with pollution reduction and flow control requirements. Properties with existing development that propose new offsite discharges or new connections to the public system must also meet these requirements.
- All projects must comply with operations and maintenance (O&M) requirements identified in the manual.
- Projects with certain site characteristics or uses (e.g. material transfer areas/loading docks, above-ground storage of liquids) must comply with additional structural source control requirements.

BES conducts plan reviews and onsite inspections to ensure that facilities comply with the SWMM and O&M plans.

BES staff continually track, evaluate, and develop new technologies and stormwater management approaches and incorporate them into the SWMM as appropriate. BES also provides training and technical assistance to familiarize City staff and the public with the SWMM's requirements, procedures, and techniques.

## **Maintenance Inspection Program**

The Maintenance Inspection Program (MIP), established in 2003, verifies that facilities required by the SWMM are properly installed, operated and maintained. The program provides technical assistance, with the authority to enforce provisions of City Code, specifically Chapter 17.38. During inspections, MIP staff provide facility-specific O&M guidance to site owners/operators. The program also distributes educational information. An MIP database tracks all O&M plans for private stormwater management facilities required by the SWMM and documents all stormwater management facility inspections.

## ACTIVITIES FOR 2011-2016

(Not in any order of priority)

- Task 1: Continue to implement requirements of the Stormwater Management Manual.

   Assignment: Bureau of Environmental Services
- Task 2: Review and revise the Stormwater Management Manual.

   Assignment: Bureau of Environmental Services

**Task 3:** Continue to track, evaluate, and develop new technologies and stormwater management approaches.

Assignment: Bureau of Environmental Services

Task 5: Continue to inspect newly constructed facilities to ensure they comply with the SWMM, plumbing-related disposal requirements, and approved plans. <u>Assignment</u>: Bureau of Environmental Services

Task 6: Continue to implement the Maintenance Inspection Program to ensure that facilitiesrequired under the SWMM are properly operated and maintained after construction.Assignment: Bureau of Environmental Services

### Other BMP Activities Related to ND-2:

- **OM-1** addresses operations and maintenance for public facilities.
- STR-1 addresses best management practices for existing development.

# **MEASURABLE GOALS**

- Inspect 1,500 private stormwater facilities or 450 properties annually. Use education and enforcement tools to ensure that stormwater management operations and maintenance plans are followed.
- Revise the SWMM during the 2011-2016 permit term.
- Track the number, type, size, drainage area<sup>7</sup> and location of private facilities constructed annually.

**Task 4:** Continue to provide training and technical assistance to City staff and the public. <u>Assignment</u>: Bureau of Environmental Services

<sup>&</sup>lt;sup>7</sup> Drainage area will be tracked for all private stormwater management facilities subject to the SWMM (under an O&M plan).

# Category: STRUCTURAL CONTROLS (STR)

**Purpose:** To implement structural modifications (constructed facilities)<sup>8</sup> to existing systems/development to reduce pollutants in discharges from the municipal separate storm sewer system.

## **Overview:**

While the City's *Stormwater Management Manual* (see ND-2) addresses new development and redevelopment, there is also the need to mitigate impacts from existing development. Measures that are implemented through STR-1 to address existing development are critical to the success of the City's overall stormwater management program.

The City of Portland's activities in this category are included under one best management practice:

• STR-1: Structurally modify components of the storm drainage system to reduce pollutant discharges. Implement structural retrofits/improvements to existing development to reduce pollutants in discharges from the municipal separate storm sewer system.

This BMP is implemented by public and private entities to reduce pollutant discharges from public and private properties.

STR-1 is described in detail on the following pages.

## **Pollutants Addressed:**

The City's activities under this BMP address most pollutants commonly found in urban runoff.

<sup>&</sup>lt;sup>8</sup> Structural modifications include constructed facilities such as swales, wetlands, ponds, piped systems, filter strips, landscaped stormwater planters, infiltration basins, manufactured unit-type facilities, porous pavement, detention basins, disconnected downspouts, ecoroofs, and removal of impervious surfaces. Even if these facilities are vegetated, they are considered structural if they involve any construction activity. (NS-1 addresses activities that involve only natural areas and vegetation, without any construction.)

**STR-1:** Structurally modify components of the storm drainage system to reduce pollutant discharges. Implement structural retrofits/improvements to existing development to reduce pollutants in discharges from the municipal separate storm sewer system.

## INTRODUCTION

STR-1 addresses structural modifications/improvements to:

- Storm sewer system components such as pipes, inlets, ditches, and stormwater management facilities (SMFs)
- Existing rights-of-way and roads
- Other existing public and private development

## STRATEGY

The City has the following strategies in place.

## **Retrofits of Existing Storm Drainage System**

During routine operations and maintenance (see BMP OM-1), City bureaus (including Environmental Services, Parks and Recreation, Water, and Transportation) identify opportunities and needs to retrofit the existing storm drainage system to improve stormwater management. Examples include ditch-to-swale retrofits and the addition of water quality management to flow control facilities.

## **Portland Watershed Management Plan**

The 2005 *Portland Watershed Management Plan* (PWMP) is a citywide strategy to identify opportunities and actions to improve the conditions of Portland's urban watersheds. It encompasses the five watersheds within Portland's jurisdiction:

- Willamette River
- Johnson Creek
- Tryon Creek
- Fanno Creek
- Columbia Slough

Implementation of the PWMP will identify and prioritize watershed projects, including sitespecific stormwater system retrofits (e.g., construction of stormwater management facilities; effective impervious area reduction).

## **BES System Plan**

During the first permit cycle, the City updated its *Public Facilities Plan* (PFP), which identifies major public infrastructure needs for the City, including deficiencies in the stormwater system. The City has retrofitted a number of drainage basins with stormwater management facilities that control flow and reduce pollutant discharges. The PFP also addresses stormwater improvements associated with the implementation of the City's combined sewer overflow (CSO) program, basement flooding program, and infiltration and inflow (I&I) program. The PFP, along with other bureau plans, identify and prioritize projects for potential funding through the capital improvement program (CIP).

During the second permit cycle, BES began updating the PFP, which has been renamed the *BES* System Plan. The BES System Plan will be a comprehensive facilities planning document that comprises four elements: combined system, sanitary system, stormwater system, and wastewater treatment system. The Stormwater System Plan element will look at capacity, condition, service needs, water quality, and stream impacts.

## **Green Streets**

In April 2007, City Council passed a resolution to promote and incorporate the use of Green Streets to manage stormwater, benefit neighborhood livability, improve the function of the rightof-way, provide habitat corridors, and promote connectivity between Portland neighborhoods. The resolution directs City bureaus to cooperatively plan and implement Green Streets as an integral part of the City's maintenance, installation, and improvement of infrastructure located in the public right-of-way.

## **Technical Assistance, Incentives, and Grants Programs**

The City has technical assistance, incentives, and grants programs that result in onsite retrofits or improvements to existing development. These can vary as funding and priorities evolve. Current programs include:

- Community Stewardship Grants Programs (see BMP PI-1 for description)
- Environmental Protection Agency (EPA) grants
- Sustainable Stormwater Management Program
- Clean River Rewards program to promote private stormwater management

# **ACTIVITIES FOR 2011-2016**

(Not in any order of priority)

**Task 1:** Continue to implement retrofits to the existing storm drainage system, as identified during routine operations and maintenance.

Assignment: Bureaus of Environmental Services, Parks, Water, and Transportation

Task 2: Continue to develop the Stormwater System Plan element of the BES System Plan.Assignment: Bureau of Environmental Services

**Task 3:** As part of the *Portland Watershed Management Plan* strategy, continue to identify and assess watershed projects that reduce pollutants in discharges from the storm drainage system. <u>Assignment</u>: Bureau of Environmental Services

Task 4: Continue the use of Green Street approaches.

Assignment: Bureaus of Environmental Services, Transportation

**Task 5:** Continue technical assistance, incentives, and grants programs that result in onsite retrofits/improvements.

Assignment: Bureaus of Environmental Services, Water, Transportation, Planning and Sustainability

### Other BMP Activities Related to STR-1:

- ND-1 and ND-2 address best management practices for <u>new development</u> and <u>redevelopment</u> during and after construction.
- **OM-1 and OM-3** address the initial assessment of system and facility conditions through routine operations and maintenance, which may result in retrofits addressed under this BMP.
- This BMP addresses activities that involve constructed facilities, while NS-1 addresses activities that involve only natural areas and vegetation (without any constructed structure) to reduce pollutant discharges.

# **MEASURABLE GOALS**

- Construct the following public facilities to provide treatment for stormwater runoff from approximately 336 acres:
  - Construct the NE 148<sup>th</sup> Avenue stormwater management facility by FY 2014-15.
  - Construct stormwater management facilities in the NE 122<sup>nd</sup> Ave subbasin by December 2012 (Columbia Slough Watershed).
  - Convert 5,000 linear feet of roadside ditches to swales or porous shoulder (Tryon Creek and Fanno Creek watersheds) during the permit term.
  - Construct stormwater management facilities along SW Beaverton-Hillsdale Highway and SW Barbur Blvd. and in commercial and multi-family residential areas (Tryon Creek and Fanno Creek watersheds) during the permit term.

Track the number, type, drainage area, and location of public facilities constructed annually.

# Category: NATURAL SYSTEMS (NS)

**Purpose:** To help preserve and restore the natural resources and functions<sup>9</sup> that prevent pollutants from entering into and discharging from the municipal separate storm sewer system.

#### **Overview:**

Impervious surfaces (such as roads, parking lots, roofs, and sidewalks) constitute approximately 30 percent of the City's total area. The loss of riparian and upland vegetation in urban areas diminishes natural stormwater management provided by vegetation, such as slowing flow, filtering pollutants, and providing shade. Preserving and restoring vegetation, streamside buffers, and pervious areas can help restore these critical functions.

The City of Portland's activities in this category are included in one best management practice:

• NS-1: Protect and restore natural areas and vegetation to reduce pollutant discharges from the municipal separate storm sewer system.

This BMP is implemented by public and private entities, often in partnership.

NS-1 is described in detail on the following pages.

### **Pollutants Addressed:**

The main pollutants addressed by NS-1 are nutrients (phosphorus and nitrogen), total suspended solids (TSS) and pollutants that bind to TSS, herbicides and pesticides.

<sup>&</sup>lt;sup>9</sup> This BMP addresses activities that protect, conserve, and restore natural resources areas and vegetation. Activities that involve <u>constructed</u> facilities, such as swales, wetlands, and planter strips, are under STR-1. As used here, natural systems can include non-native vegetation such as ornamental trees, shrubs, and lawns. While the preference is to preserve, restore, and, if needed, mitigate for the loss of relatively undisturbed areas of native vegetation, these other types of vegetation can also provide important stormwater management functions, such as flow reduction and filtration and reduction of pollutants.

**NS-1:** Protect and restore natural areas and vegetation to reduce pollutant discharges from the municipal separate storm sewer system.

# INTRODUCTION

The City works to protect and restore natural areas and vegetation in numerous ways. These include overall watershed-level planning; regulatory measures; incentives; land acquisition and protection; and partnerships with other agencies, organizations, and private parties.

# STRATEGY

The City has the following strategies in place to protect and restore natural areas and vegetation.

## Land Acquisition and Protection

The City pursues opportunities for land acquisition and protection through:

- Johnson Creek Willing Seller Program.
- Acquisition and management of natural areas by the Bureau of Parks and Recreation and BES.
- Partnership with Metro to purchase or provide conservation easements for resource areas and properties.

From the beginning of the first permit in 1995 through June 2010, over 3,179 acres of open space within the City of Portland have been acquired, including Metro open space acquisitions.

The City manages a total of over 10,500 acres of open space, resource areas, and park land using Integrated Pest Management (IPM). (See OM-3.)

## Land Use and Zoning Tools

The Portland Bureau of Planning and Sustainability has primary responsibility for updating the City's *Comprehensive Plan* (currently being revised and renamed the *Portland Plan*); the Bureau of Development Services has primary responsibility for administering and enforcing it. The following City land use and zoning codes and plans address the natural resource conservation and protection goals of the *Comprehensive Plan*.

## **ENVIRONMENTAL OVERLAY ZONES**

Portland established environmental overlay zones (e-zones) and regulations in 1988 to protect and conserve significant natural resources and the benefits they provide, including water quality and public health and safety. E-zones typically cover streams, wetlands, and other water bodies; upland forests and other significant habitats; and steep slopes. There are two types of e-zones:

The **environmental protection (p) overlay zone** provides stringent protection for the highestvalue urban natural resources. Typically, development in the protection zone is allowed only when there is a public need and benefit. Within the Portland city limits, this zone covers about 9,800 acres.

The **environmental conservation(c) overlay zone** conserves important natural resources by limiting tree removal and the amount of land area that can be disturbed by development. Regulations include setback standards for development to maintain specified distances from streams, wetlands, and the p-zone. Within the Portland city limits, this zone covers about 10,000 acres.

#### PORTLAND PLAN

The *Portland Plan* is an update to the City's 1980 *Comprehensive Plan* and 1988 *Central City Plan*. It will be a citywide guide to the physical, economic, social, cultural, and environmental development of Portland over the next 30 years. The *Portland Plan* is being developed with community input.

#### **RIVER PLAN**

The *River Plan* is a multi-objective plan for the land along the Willamette River. It is an update of the *Willamette Greenway Plan* (zoning code and design guidelines that serve as Portland's compliance with State Planning Goal 15 and were last updated in 1987).

#### **PLAN DISTRICTS**

Plan district provisions address concerns unique to an area and may supersede base zone or overlay zone requirements. Certain plan districts have unique water quality protection features, such as limiting the amount of impervious area on sites in some areas or establishing specific environmental zoning regulations.

#### **CODE ENFORCEMENT**

The City has an active code enforcement program for compliance with land use code and other zoning and building code regulations. Violations are addressed by education, technical assistance, and permit review.

## **Portland Watershed Management Plan**

The 2005 *Portland Watershed Management Plan* (PWMP) is a citywide strategy to identify opportunities and actions to improve the conditions of Portland's urban watersheds. It encompasses the five watersheds within Portland's jurisdiction:

- Willamette River
- Johnson Creek
- Tryon Creek
- Fanno Creek
- Columbia Slough

The PWMP will assess opportunities to protect existing vegetation or plant new areas and will identify priority areas for land acquisition or protection.

## Watershed Revegetation Program

The purpose of the Watershed Revegetation Program is to restore and maintain native vegetation. The program works to improve water quality and native habitat by removing non-native invasive plants; reintroducing native vegetation; reducing erosion and pollutants through biofiltration and bioengineering techniques; and restoring and creating wetland habitat. Since its inception in 1996 through June 2010, the program has planted over 3 million native trees and shrubs on public and private property.

## **Tree Planting and Natural Area Restoration**

The City works in partnership with other organizations, such as Friends of Trees, watershed councils, and neighborhood groups, to support and coordinate tree planting and natural area restoration programs for volunteers.

## **Tree Code Revision**

In February 2011, the City completed an update and consolidation of regulations regarding tree protection, tree removal, and tree planting for public and private properties, including rights-of-way. These updated regulations, schedule to become effective in 2013, are intended to improve the quantity and quality of Portland's tree canopy. Guidance information will be developed to educate property owners and building and landscape professionals about City regulations and tree care.

### **Technical Assistance, Incentives, and Grants Programs**

The City has technical assistance, incentives, and grants programs to protect and restore natural areas and vegetation. These can vary as priorities and funding evolve.

## **Urban Forestry Management Plan**

The Urban Forestry Management Plan is the City's guide to the care and management of Portland's urban forest. Plan implementation includes identification of tree-deficient areas; tree maintenance, planting, and preservation; community education and stewardship; and technical assistance programs. The plan was last updated in 2004.

## **ACTIVITIES FOR 2011-2016**

(Not in any order of priority)

 Task 1: Continue to pursue opportunities for land acquisition and protection.

 Assignment: Bureau of Environmental Services and Bureau of Parks & Recreation

**Task 2:** Continue to develop, implement, and enforce land use and zoning tools to protect and conserve natural resources and functions.

Assignment: Bureau of Planning and Sustainability and Bureau of Development Services

**Task 3:** Continue to update the *River Plan* (South Reach and Central Reach) to protect and conserve natural resources along the Willamette River.

Assignment: Bureau of Planning and Sustainability

**Task 4:** Implement the City tree code regulations and develop guidance information for use by the public.

Assignment: Bureau of Planning and Sustainability and Bureau of Development Services

**Task 5:** As part of the watershed planning and implementation process, continue to assess and implement watershed projects that restore, preserve, and protect natural areas and vegetation.

Assignment: Bureau of Environmental Services, Bureau of Parks and Recreation, Bureau of Planning and Sustainability

**Task 6:** Continue to restore and maintain native vegetation through the Watershed Revegetation Program.

Assignment: Bureau of Environmental Services

**Task 7:** Continue to work with other organizations to support and coordinate tree planting and natural area restoration programs for volunteers.

Assignment: Bureau of Environmental Services and Bureau of Parks & Recreation

**Task 8:** Continue technical assistance, incentives, and grants programs that result in protection and restoration of natural areas and vegetation.

Assignment: Bureau of Environmental Services

Task 9: Continue to implement the Urban Forest Management Plan.Assignment: Bureau of Parks & Recreation

**Task 10**: Complete the *Portland Plan* (an update of the City's *Comprehensive Plan*), including natural resources/stormwater management approaches.

Assignment: All City Bureaus, led by Planning and Sustainability

### **Other BMP Activities Related to NS-1:**

• This BMP addresses activities that protect, conserve, and restore natural areas and vegetation. **STR-1** addresses activities that involve constructed facilities (such as swales, constructed wetlands, and planter strips) to reduce pollutant discharges.

## **MEASURABLE GOALS**

- Plant 20,000 trees, and initiate revegetation work on 70 acres by the end of the permit cycle.
- Acquire 50 acres of land by the end of the permit cycle.
- Update the Portland Plan (an update to the City's Comprehensive Plan) by December 2013.

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# Category: PROGRAM MANAGEMENT (PM)

Purpose: To ensure effective program management, coordination, and reporting.

### **Overview:**

The *Stormwater Management Plan* (SWMP) is far-reaching and complex. A key focus of the City is to provide sound program management, coordination, and reporting to ensure effective implementation of the SWMP and compliance with permit conditions. This effort involves multiple City bureaus, the City's co-permittee (the Port of Portland), and other jurisdictions.

The City's activities in this category are included under one best management practice:

#### • PM-1: Conduct program management, coordination, and reporting activities.

PM-1 is discussed in more detail on the following pages.

## **Pollutants Addressed:**

This BMP does not in itself reduce pollutants; rather, it facilitates pollutant reduction by ensuring that the *Stormwater Management Plan* is effectively implemented.

# INTRODUCTION

BES administers and manages the NPDES MS4 permit and SWMP. The Director of BES provides oversight and certifies compliance deliverables on behalf of the City.

## STRATEGY

The City has the following strategies in place to ensure effective program management, coordination, and reporting.

## **City Management and Coordination**

BES's Stormwater Program Manager is responsible for overall project management, compliance reporting, policy development, and coordination within the City of Portland, as well as for coordination with the City's co-permittee (the Port of Portland). Because the permit is citywide, staff from many City bureaus outside BES are also involved with stormwater program development, implementation, and reporting.

## **Co-Permittee Coordination**

City staff coordinate with Portland's co-permittee, the Port of Portland, to share information about program implementation and coordination, BMP effectiveness, monitoring, and other issues related to the permit. This coordination avoids duplication and helps ensure the cost-effective use of resources.

## **Coordination with Other Jurisdictions**

The City coordinates and addresses stormwater issues with other jurisdictions in the state through the Oregon Association of Clean Water Agencies (ACWA).

## **Annual Compliance Report**

The City of Portland and its co-permittee, the Port of Portland, submit <u>Annual Compliance Reports</u> to the Oregon Department of Environmental Quality (DEQ) by November 1 of each year. The purpose of the reports is to convey clear, succinct program information for the previous fiscal year (July 1 - June 30), in compliance with the annual reporting requirements of the permit. The reports also provide other interested parties with an overview of the SWMP's implementation status. In addition, the reports identify activities that are planned for implementation in the coming fiscal year.

# **ACTIVITIES FOR 2011-2016**

(Not in any order of priority)

**Task 1:** Continue to provide overall program management through BES and to work with other City bureaus as necessary to implement the SWMP. Assignment: Bureau of Environmental Services

- Task 2: Continue to coordinate with the Port of Portland.Assignment: Bureau of Environmental Services
- **Task 3:** Continue to coordinate with other jurisdictions.

   Assignment: Bureau of Environmental Services
- Task 4: Continue to submit annual compliance reports.Assignment: Bureau of Environmental Services

#### **Other BMP Activities Related to PM-1:**

Project management provides oversight and reporting on all other BMPs.

# **MEASURABLE GOALS**

• Submit annual reports by November 1 of each year.

## **Environmental Services**

#### working for clean rivers

Phone: 503-823-7740 Fax: 503-823-6995 MAILING ADDRESS: 1120 SW 5th Ave, Room 1000, Portland, OR 97204 More Contact Info (http://www.portlandoregon.gov//bes/article/87768)

# Where does your rate money go?

#### How Environmental Services Invests Sanitary Sewer User Fees

Each dollar of the sanitary sewer user fee pays for the following services:

#### FINANCE CONSTRUCTION PROJECTS - \$0.50

Pay debt service on construction bonds used to previously construct city sanitary sewer facilities, and funds some current projects with cash. Major project areas include facilities to halt combined sewer overflows into the Willamette River ("The Big Pipe Project"), rehabilitation and replacement of aging sewer pipes and pump stations, and the expansion and upgrade of sewage treatment facilities.

OPERATE AND MAINTAIN SANITARY SEWER FACILITIES AND WASTEWATER TREATMENT PLANTS - \$0.38 Repair and maintain sewer pipes, pump stations and treatment plant facilities. Operate two treatment plants. Safely dispose of treated wastewater and sewer solids.

#### PROTECT THE HEALTH AND SAFETY OF THE PUBLIC AND THE ENVIRONMENT - \$0.07

Administer federal, state and local environmental regulations. Support local planning and public education efforts in City watersheds. Inspect and monitor private activities that pose a pollution risk to the environment. Review and approve private development plans. Participate in Portland Harbor Superfund.

PLAN, DESIGN AND MANAGE CONSTRUCTION OF SANITARY SEWER FACILITIES - \$0.05 Plan, design, engineer, inspect and manage projects to construct new sanitary sewer facilities and replace old facilities.

# How Environmental Services Invests Your Stormwater Management Charges

Each dollar of stormwater management charge pays for the following services:

#### PLAN, DESIGN, CONSTRUCT AND FINANCE STORMWATER FACILITIES - \$0.51

Pay debt service of construction bonds. Plan, design, engineer, inspect and manage projects to construct new stormwater management facilities or replace old facilities.

OPERATE AND MAINTAIN STORMWATER FACILITIES, AND TREAT STORMWATER RUNOFF - \$0.22 Repair and maintain stormwater pipes, ditches, culverts, sumps, sedimentation manholes, water pollution control facilities and ponds.

#### **RESTORE WATERSHED AND ENVIRONMENTAL HEALTH - \$0.17**

Administer federal, state and local environmental regulations. Engage citizens in local planning and public education efforts. Identify capital requirements for stormwater management and the restoration of natural habitat. Participate in Portland Harbor Superfund.

PREVENT POLLUTION AND ASSIST DEVELOPMENTS TO MEET STORMWATER STANDARDS - \$0.10 Inspect and monitor private activities that pose a pollution risk to the environment. Review and approve private development plans.

#### NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) DISCHARGE PERMIT

Oregon Department of Environmental Quality 811 SW Sixth Ave., Portland OR 97204-1390 Telephone: 503-229-5630

Issued pursuant to Oregon Revised Statute 468B.050 and the Federal Clean Water Act

ISSUED TO: City of Portland Port of Portland

#### SOURCES COVERED BY THIS PERMIT:

This permit covers all existing and new discharges of stormwater from the Municipal Separate Storm Sewer System (MS4) within the City of Portland Urban Services Boundary.

COUNTY: Multnomah

#### RECEIVING WATERBODIES: Basin(s): Willamette River, Columbia River Sub-basin(s): Lower Willamette River, Columbia Slough, Tualatin River Stream(s): Columbia River, Columbia Slough, Fanno Creek, Balch Creek, Johnson Creek, and Tryon Creek

WASTE LOAD ALLOCATIONS: A Total Maximum Daily Load (TMDL) that includes wasteload allocations for urban stormwater has been established for the Willamette River Basin, Columbia River Basin, Tualatin River Subbasin, and the Columbia Slough. Waste load allocations are addressed in Schedule D of this permit.

#### EPA REFERENCE NO.: ORS108015

This permit is issued in response to Application Number 972521 received on September 2, 2008.

Date

Annette Liebe, Surface Water Management Section Manager

#### PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the co-permittee is authorized to discharge municipal stormwater to waters of the state in conformance with the requirements and conditions set forth in the attached schedules. Where conflict exists between specific conditions (found in Schedules A-D) and general conditions (Schedule F), the specific conditions supersede the general conditions.

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#### **SCHEDULE A**

Controls and Limitations for Stormwater Discharges from Municipal Separate Storm Sewer Systems

#### 1. Prohibit Non-stormwater Discharges

The co-permittees must effectively prohibit non-stormwater discharges into the MS4 unless such discharges are otherwise permitted under Subsection A.4.a.xii., another NPDES permit or other applicable state or federal permit, or are otherwise exempted or authorized by the Department.

#### 2. Reduce Pollutants to the Maximum Extent Practicable

Each co-permittee must reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP). Compliance with this permit and implementation of a stormwater management program, including the Department-approved Stormwater Management Plan (SWMP), establishes this MEP requirement, unless or until the Department reopens the permit as provided in Oregon Administrative Rule (OAR) 340-045-0040 and 0050 to require additional controls.

#### 3. Implement the Stormwater Management Plan

The co-permittees must continue to implement and assess the effectiveness of its Departmentapproved SWMP. The SWMP must guide each co-permittee in the implementation of its stormwater management program.

- a. The SWMPs and any Department-approved amendments thereto, are hereby incorporated into the permit by reference. The applicable SWMP is as follows:
  - i. For the City of Portland: The SWMP is the proposed SWMP submitted with the NPDES permit re-application and amendment received by the Department on August 13, 2010, the addition of the special conditions specified in Schedule D.6., and any subsequent changes made to the SWMP in accordance with the conditions of this permit.
  - ii. For the Port of Portland: The SWMP is the proposed SWMP submitted with the NPDES



permit re-application and amendment received by the Department on September 20, 2010, the addition of the special conditions specified in Schedule D.6., and any subsequent changes made to the SWMP in accordance with the conditions of this permit.

- b. Each co-permittee is responsible for compliance within its jurisdiction as identified in this permit, and is not responsible for compliance outside of its jurisdiction.
- c. The SWMP must be electronically available through direct incorporation into the copermittee's website or other similar method approved by the Department.

#### 4. Stormwater Management Plan Requirements

Each co-permittee must implement a SWMP that outlines the practices, techniques or provisions associated with protecting water quality and satisfying requirements of this permit and includes measurable goals for the stormwater program elements identified in subsections a-h. The measurable goals must identify actions the permittee will undertake to implement best management practices (BMPs), and include, where appropriate, the frequency, timeline and/or location where the BMP actions will occur.

- a. Illicit Discharge Detection and Elimination: Co-permittees must continue to implement a program to detect, remove, and eliminate illicit discharges to the MS4. The program must:
  - i. Prohibit, through ordinance or other regulatory mechanism, illicit discharges into the copermittee's MS4.
  - ii. Include documentation in an enforcement response plan or similar document by November 1, 2011 describing the enforcement response procedures the co-permittee will implement when an illicit discharge investigation identifies a responsible party.
  - iii. Develop or identify pollutant parameter action levels that will be used as part of the field screening. The action levels will identify concentrations for identified pollutants that, if exceeded, will require further investigation, including laboratory sample analyses, to identify the source of the illicit discharge. The pollutant parameter action levels and rationale for using the action levels must be documented in an enforcement response plan or similar document, and reported to the Department by November 1, 2011.
  - iv. Conduct annual dry-weather inspection activities during the term of the permit. By July 1, 2012, the dry-weather inspection activities must include annual field screening of identified priority locations documented by the co-permittee. Priority locations must, where possible, be located at an accessible location downstream of any source of suspected illegal or illicit activity or other location as identified by the co-permittee. Priority locations must be based on an equitable consideration of hydrological conditions, total drainage area of the location, population density of the location, traffic density, age of the structures or buildings in the area, history of the area, land use types, personnel safety, accessibility, historical complaints or other appropriate factors as identified by the co-permittee. The dry-weather field screening activities must occur



EXHIBIT 3 Page 3 of 35 after an antecedent dry period of at least 72-hours. The dry-weather field screening activities must be documented and include:

- 1. General observations, including visual presence of flow, turbidity, oil sheen, trash, debris or scum, condition of conveyance system or outfall, color, odor and any other relevant observations related to the potential presence of non-storm water or illicit discharges.
- 2. Field Screening If flow is observed, and the source is unknown, a field analysis must be conducted to determine the cause of the dry-weather flow. The field analysis must include sampling for pollutant parameters that are likely to be found based upon the suspected source of discharge or by other effective investigatory approaches or means to identify the source or cause of the suspected illicit discharge. Where appropriate, field screening pollutant parameter action levels identified by the permittee must be considered. Suspected sources of discharge include, but are not limited to, sanitary cross-connections or leaks, spills, seepage from storage containers, non-stormwater discharges or other residential, commercial, industrial or transportation-related activities.
- 3. Laboratory Analysis If general observations and field screening indicate an illicit discharge and the presence of a suspected illicit discharge cannot be identified through other investigatory methods, the co-permittee must collect a water quality sample for laboratory analyses for ongoing discharges. The water quality sample must be analyzed for pollutant parameters or identifiers that will aid in the determination of the source of the illicit discharge. The types of pollutant parameters or identifiers may include, but are not limited to genetic markers, industry-specific toxic pollutants, or other pollutant parameters that may be specifically associated with a source type.
- v. Identify response procedures to investigate portions of the MS4 that, based on the results of general observations, field screening, laboratory analysis or other relevant information, such as a complaint or referral, indicates the likely presence of an illicit discharge. The response procedures must reflect the goal to eliminate the illicit discharge in an expeditious manner, as specified in subsection vii. below.
- vi. Maintain a system for documenting illicit discharge complaints or referrals, and suspected illicit discharge investigation activities.
- vii. Once the source of an illicit discharge is determined, the co-permittee must take appropriate action to eliminate the illicit discharges, including an initial evaluation of the feasibility to eliminate the discharge, within 5 working days. If the co-permittee determines that the elimination of the illicit discharge will take more than 15 working days due to technical, logistical or other reasonable issues, the co-permittee must develop and implement an action plan to eliminate the illicit discharge in an expeditious manner. The action plan must be completed in 20 working days of determining the source of an illicit discharge. In lieu of developing and implementing an individual



action plan for common types of illicit discharges, the co-permittee may document and implement response procedures, a response plan or similar document. The action plan, response procedures, response plan or similar document must include a timeframe for elimination of the illicit discharge as soon as practicable.

- viii. Describe and implement procedures to prevent, contain, respond to and mitigate spills that may discharge into the MS4. Spills, or other similar illicit discharges, that may endanger human health or the environment must be reported in accordance with all applicable federal and state laws, including proper notification to the Oregon Emergency Response System.
- ix. In the case of a known illicit discharge that originates within the co-permittee's MS4 regulated area and that discharges directly to a storm sewer system or property under the jurisdiction of another municipality, the co-permittee must notify the affected municipality as soon as practicable, and at least within one working day of becoming aware of the discharge.
- x. In the case of a known illicit discharge that is identified within the co-permittee's MS4 regulated area, but is determined to originate from a contributing storm sewer system or property under the jurisdiction of another municipality, the co-permittee must notify the contributing municipality or municipality with jurisdiction as soon as practicable, and at least within one working day of identifying the illicit discharge.
- xi. Maintain maps identifying known co-permittee-owned MS4 outfalls discharging to waters of the State. The dry-weather screening priority locations must be specifically identified on maps by July 1, 2012. If the co-permittee identifies the need to modify these maps, the maps must be updated in digital or hard-copy within six months of identification.
- xii. Unless the following non-stormwater discharges are identified in a particular case as a significant source of pollutants to waters of the State by the permittee or the Department, they are not considered illicit discharges and are authorized by this permit: water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated groundwater infiltration; uncontaminated pumped ground water; discharges from potable water sources; start up flushing of groundwater wells; potable groundwater monitoring wells; draining and flushing of municipal potable water storage reservoirs: foundation drains; air conditioning condensate; irrigation water; springs; water from crawl space pumps; footing drains; lawn watering; individual residential car washing; charity car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; street wash waters; discharges of treated water from investigation, removal and remedial actions selected or approved by the Department pursuant to Oregon Revised Statute (ORS) Chapter 465; and, discharges or flows from emergency fire fighting activities. If any of these non-stormwater discharges under the co-permittee's jurisdiction is a significant source of pollutants, the permittee must develop and require implementation of appropriate BMPs to reduce the discharge of pollutants associated with the source.



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- b. Industrial and Commercial Facilities: The co-permittee must continue to implement a program to reduce pollutants in stormwater discharges to the MS4 from facilities the co-permittee identified as being subject to a Department-issued industrial stormwater NPDES permit, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986, or facilities that have been identified as contributing a significant pollutant load to the MS4. The co-permittee must:
  - i. Screen existing and new industrial facilities to assess whether they have the potential to be subject to an industrial stormwater NPDES permit or have the potential to contribute a significant pollutant load to the MS4.
  - ii. Within 30 days after the facility is identified, notify the industrial facility and the Department that an industrial facility is potentially subject to an industrial stormwater NPDES permit.
  - iii. Implement an updated strategy to reduce pollutants in stormwater discharges to the MS4 from industrial and commercial facilities where site-specific information has identified a discharge as a source that contributes a significant pollutant load to the MS4. The strategy must include a description of the rationale for identifying commercial and industrial facilities as a significant contributor, and establish the priorities and procedures for inspection of and implementation of stormwater control measures. This strategy must be implemented by January 1, 2013, and applied within one calendar year from the date a new source contributing a significant pollutant load to the MS4 has been identified.
- c. Construction Site Runoff Control: Co-permittees must continue to implement a program to reduce pollutants in stormwater runoff to the MS4 from construction activities. The program must:
  - i. Include ordinances or other enforceable regulatory mechanisms that require erosion prevention and sediment controls to be designed, implemented, and maintained to prevent adverse impacts to water quality and minimize the transport of construction-related contaminants to waters of the State. The construction site runoff control program ordinances or other enforceable regulatory mechanism must apply to construction activities that result in a land disturbance of 500 square feet or greater.
  - ii. Require construction site operators to develop erosion prevention and sediment control site plans, and to implement and to maintain effective erosion prevention and sediment control best management practices.
  - iii. Require construction site operators to prevent or control non-stormwater waste that may cause adverse impacts to water quality, such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste.
  - iv. Describe site plan review procedures to ensure that stormwater BMPs are appropriate and



January 31, 2011
address the construction activities being proposed. At a minimum, construction site erosion prevention and sediment control plans for sites disturbing one acre or greater must be consistent with the substantive requirements of the State of Oregon's 1200-C permit site erosion prevention and sediment control plans.

- v. Co-permittees must perform on-site inspections in accordance with documented procedures and criteria to ensure that the approved erosion prevention and sediment control plan is properly implemented. Inspections of construction sites must include disturbed areas of the site, material and waste storage areas, stockpile areas, construction site entrances and exits, sensitive areas, discharge locations to the MS4, and, if appropriate, discharge locations to receiving waters. Inspections must be documented, including photographs and monitoring results as appropriate.
- vi. Describe in an enforcement response plan or similar document the enforcement response procedures the co-permittee will implement. The enforcement response procedures must ensure construction activities are in compliance with the ordinances or other regulatory mechanisms.
- d. Education and Outreach: Co-permittees must implement an education and outreach program designed to achieve measurable goals based on target audiences, specific stormwater quality issues in the community, or identified pollutants of concern. The program must:
  - i. Continue to implement a documented public education and outreach strategy that promotes pollutant source control and a reduction of pollutants in stormwater discharges. The strategy must identify targeted pollutants of concern, the targeted audience, specific education activities, and the entity or individual responsible for implementation. The public education and outreach strategy may incorporate cooperative efforts with other MS4 regulated permittees or efforts by other groups or organizations provided a mechanism is developed and implemented to track the public education and outreach efforts within the MS4 regulated area and the results of such efforts are reported annually.
  - ii. Provide educational materials to the community or conduct equivalent outreach activities describing the impacts of stormwater discharges on water bodies and the steps or actions the public can take to reduce pollutants in stormwater runoff.
  - iii. Provide public education on the proper use and disposal of pesticides, herbicides, fertilizers and other household chemicals.
  - iv. Provide public education on the proper operation and maintenance of privately-owned or operated stormwater quality management facilities.
  - v. Provide notice to construction site operators concerning where education and training to meet erosion prevention and sediment control requirements can be obtained.



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- vi. Conduct or participate in an effectiveness evaluation to measure the success of public education activities during the term of this permit. The effectiveness evaluation must focus on assessing changes in targeted behaviors. The results of the effectiveness evaluation must be used in the adaptive management of the education and outreach program, and reported to the Department no later than November 1, 2014.
- vii. Include training for co-permittee employees involved in MS4-related activities, as appropriate. The training should include stormwater pollution prevention and reduction from municipal operations, including, but not limited to, parks and open space maintenance, fleet and building maintenance, new municipal facility construction and related land disturbances, design and construction of street and storm drain systems, discharges from non-emergency fire fighting-related training activities, and stormwater system maintenance.
- viii. Promote, publicize and facilitate public reporting of illicit discharges through the use of newspapers, newsletters, utility bills, door hangers, radio public service announcements, videos, televised council meetings, brochures, signs, posters or other effective methods.
- e. Public Involvement and Participation: Co-permittees must implement a public participation approach that provides opportunities for the public to effectively participate in the development, implementation and modification of the co-permittee's stormwater management program. The approach must include provisions for receiving and considering public comments on the monitoring plan due to the Department June 1, 2011, annual reports, SWMP revisions, and the TMDL pollutant load reduction benchmark development.
- f. Post-Construction Site Runoff: Co-permittees must continue to implement their postconstruction stormwater pollutant and runoff control program.
  - i. By January 1, 2014, the post-construction stormwater pollutant and runoff control program applicable to new development and redevelopment projects that create or replace 500 ft<sup>2</sup> of impervious surface must meet the following conditions:
    - 1) Incorporate site-specific management practices that target natural surface or predevelopment hydrologic functions as much as practicable. The site-specific management practices should optimize on-site retention based on the site conditions;
    - 2) Reduce site specific post-development stormwater runoff volume, duration and rates of discharges to the municipal separate storm sewer system (MS4) to minimize hydrological and water quality impacts from impervious surfaces;
    - 3) Prioritize and include implementation of Low-Impact Development (LID), Green Infrastructure (GI) or equivalent design and construction approaches; and,
    - 4) Capture and treat 80% of the annual average runoff volume, based on a documented local or regional rainfall frequency and intensity.



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- ii. The co-permittee must identify, and where practicable, minimize or eliminate ordinance, code and development standard barriers within their legal authority that inhibit design and implementation techniques intended to minimize impervious surfaces and reduce stormwater runoff (e.g., Low Impact Development, Green Infrastructure). Such modifications to ordinance, code and development standards are only required to the extent they are permitted under federal and state laws. The co-permittee must review ordinance, code and development standards for modification, minimization or elimination, and appropriately modify ordinance, code or development standard barriers by January 1, 2014. If an ordinance, code or development standard barrier is identified at any time subsequent to January 1, 2014, the applicable ordinance, code or development standard barrier is identified at any time subsequent to January 1, 2014, the applicable ordinance, code or development standard must be modified within three years.
- iii. To reduce pollutants and mitigate the volume, duration, time of concentration and rate of stormwater runoff, the co-permittee must develop or reference an enforceable postconstruction stormwater quality management manual or equivalent document by January 1, 2014 that, at a minimum, includes the following:
  - 1) A minimum threshold for triggering the requirement for post-construction stormwater management control and the rationale for the threshold.
  - 2) A defined design storm or an acceptable continuous simulation method to address the capture and treatment of 80% of the annual average runoff volume.
  - 3) Applicable LID, GI or similar stormwater runoff reduction approaches, including the practical use of these approaches.
  - 4) Conditions where the implementation of LID, GI or equivalent approaches may be impracticable.
  - 5) BMPs, including a description of the following:
    - a. Site-specific design requirements;
    - b. Design requirements that do not inhibit maintenance; and,
    - c. Conditions where the BMP applies.
  - 6) Pollutant removal efficiency performance goals that maximize the reduction in discharge of pollutants.
- iv. The co-permittee must review, approve and verify proper implementation of postconstruction site plans for new development and redevelopment projects applicable to this section. The Port of Portland may address this permit requirement by documenting that all internal Port of Portland development projects meet the Post-Construction Site Runoff performance standards required in this subsection.
- v. Where a new development or redevelopment project site is characterized by factors limiting use of on-site stormwater management methods to achieve the post-construction site runoff performance standards, such as high water table, shallow bedrock, poorly-drained or low permeable soils, contaminated soils, steep slopes or other constraints, the



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Post-Construction Stormwater Management program must require equivalent pollutant reduction measures, such as off-site stormwater quality management. Off-site stormwater quality management may include off-site mitigation, such as using low impact development principles in the construction of a structural stormwater facility within the sub-watershed, a stormwater quality structural facility mitigation bank or a payment-in-lieu program.

- vi. A description of the inspection and enforcement response procedures the co-permittee will follow when addressing project compliance issues with the enforceable post-construction stormwater management performance standards.
- g. Pollution Prevention for Municipal Operations: The co-permittee must continue to implement a program to reduce the discharge of pollutants to the MS4 from properties owned or operated by the co-permittee for which the permittee has authority, including, but not limited to, parks and open spaces, fleet and building maintenance facilities, transportation systems and fire-fighting training facilities. The co-permittee must conduct, at a minimum, the following program activities:
  - i. Operate and maintain public streets, roads and highways in a manner designed to minimize the discharge of stormwater pollutants to the MS4, including pollutants discharged as a result of deicing activities;
  - ii. Implement a management program to control and minimize the use and application of pesticides, herbicides and fertilizers on co-permittee-owned properties;
  - iii. By January 1, 2013, inventory, assess, and implement a strategy to reduce the impact of stormwater runoff from municipal facilities that treat, store or transport municipal waste, such as yard waste or other municipal waste and are not already covered under a 1200 series NPDES, a DEQ solid waste, or other permit designed to reduce the discharge of pollutants;
  - iv. Limit infiltration of seepage from the municipal sanitary sewer system to the MS4;
  - v. Implement a strategy to prevent or control the release of materials related to fire-fighting training activities; and,
  - vi. Assess co-permittee flood control projects to identify potential impacts on the water quality of receiving water bodies and determine the feasibility of retrofitting structural flood control devices for additional stormwater pollutant removal. The results of this assessment must be incorporated and considered along with the results of the Stormwater Retrofit Assessment required by this permit.
- h. Stormwater Management Facilities Operation and Maintenance Activities:
  - i. By January 1, 2013, the co-permittee must inventory and map stormwater management facilities and controls, and implement a program to verify that stormwater management facilities and controls are inspected, operated and maintained for effective pollutant



removal, infiltration and flow control. At a minimum, the program must include the following:

- 1. Legal authority to inspect and require effective operation and maintenance;
- 2. A strategy to inventory and map public and private stormwater management facilities as provided under Schedule A.4.h.ii.; and,
- 3. Public and private stormwater facility inspection and maintenance requirements for stormwater management facilities that have been inventoried and mapped as provided under Schedule A.4.h.ii.
- ii. As part of the Stormwater Management Facilities Inspection and Maintenance program, the co-permittee must implement a strategy that guides the long-term maintenance and management of all co-permittee-owned and identified privately-owned stormwater structural facilities. At a minimum, the strategy must describe the following:
  - Co-permittee-owned or operated stormwater management facilities

     a. Inventory and mapping process;
    - b. Inspection and maintenance schedule;
    - c. Inspection, operation and maintenance criteria and priorities;
    - d. Description of inspector type and staff position or title; and,
    - e. Inspection and maintenance tracking mechanisms.
  - 2. Privately-owned or operated stormwater management facilities
    - a. Procedures for and types of stormwater facilities that will be inventoried and mapped. At a minimum, the inventory and mapping must include the following:
      - *i*. Private stormwater management facilities for new development and redevelopment projects constructed under the co-permittee's post-construction management manual or equivalent document after February 1, 2011.;
      - *ii.* Private stormwater management facilities identified by the co-permittee and used to estimate the pollutant load reduction as part of the TMDL benchmark evaluation; and,
      - *iii.* Any major private stormwater management facilities or structural controls.
    - b. Inspection criteria, rationale, priorities, frequency and procedures for inspection of private stormwater facilities that have been inventoried and mapped;
    - c. Required training or qualifications to inspect private stormwater facilities;
    - d. Reporting requirements; and,



- e. Inspection and maintenance tracking mechanism.
- 5. Hydromodification Assessment: The co-permittee must conduct an initial hydromodification assessment and submit a report by November 1, 2014 that examines the hydromodification impacts related to the co-permittee's MS4 discharges, including erosion, sedimentation, and alteration to stormwater flow, volume and duration that may cause or contribute to water quality degradation. The report shall describe existing efforts and proposed actions the co-permittee has identified to address the following objectives:
  - a. Collect and maintain information that will inform future stormwater management decisions related to hydromodification based on local conditions and needs;
  - b. Identify or develop strategies to address hydromodification information or data gaps related to waterbodies within the co-permittee's jurisdiction;
  - c. Identify strategies and priorities for preventing or reducing hydromodification impacts related to the co-permittee's MS4 discharges; and,
  - d. Identify or develop effective tools to reduce hydromodification.
- 6. Stormwater Retrofit Strategy Development: The co-permittee must develop a stormwater quality retrofit strategy identified in a plan that applies to developed areas identified by the co-permittee as impacting water quality and that are underserved or lacking stormwater quality controls.
  - a. The stormwater retrofit strategy must be based on a co-permittee-defined set of stormwater quality retrofit objectives and a comprehensive evaluation of a range of stormwater quality retrofit control measures and their appropriate use. The co-permittee-defined objectives must incorporate progress towards applicable TMDL wasteload allocations. Development of the stormwater retrofit strategy must allow for public comment and consider public input.
  - b. The co-permittee must develop and submit a stormwater retrofit plan to the Department by November 1, 2014 that the co-permittee will use to guide the implementation of its stormwater retrofit strategy. The stormwater retrofit plan must describe or reference the following:
    - i. Stormwater retrofit strategy statement and summary, including objectives and rationale;
    - ii. Summary of current stormwater retrofit control measures being implemented, and current estimate of annual program resources directed towards stormwater retrofits;
  - iii. Identification of developed areas or land uses impacting water quality that are high priority retrofit areas;
  - iv. Consideration of new stormwater control measures;



- v. Preferred retrofit structural control measures, including rationale;
- vi. A retrofit control measure project or approach priority list, including rationale, identification and map of potential stormwater retrofit locations where appropriate, and an estimated timeline and cost for implementation of each project or approach.
- c. By November 1, 2013, each co-permittee must identify one stormwater quality improvement project, at a minimum, to be initiated, constructed or implemented during the permit term. The project must target the reduction of applicable TMDL pollutant parameters. The project must be associated with a Capital Improvement Project or other municipal retrofit project or strategy.
- 7. Implementation Schedule: The following implementation schedule provides a summary of due dates for the new permit conditions identified in Schedule A.

PERMIT CONDITION	SUMMARY OF IMPLEMENDATION SCHEDULE ACTIVITIES	DUEDATE
Illicit Discharge Detection and Elimination – A.4.a.	1. Document enforcement response procedures	November 1, 2011
	2. Develop or identify pollutant parameter action levels	November 1, 2011
	3. Identify and map dry-weather screening priority locations	July 1, 2012
Industrial and Commercial Facilities – A.4.b	1. Implement industrial and commercial facility inspection and stormwater control program	January 1, 2013
Education and Outreach – A.4.d.	1. Conduct or participate in effectiveness evaluation	November 1, 2014
Post-Construction Site Runoff – A.4.f.	<ol> <li>Implement updated post-construction site runoff program</li> </ol>	January 1, 2014
Pollution Prevention for Municipal Operations – A.4.g.	1. Inventory and assess municipal operations	January 1, 2013
Structural Stormwater Controls Operation and Maintenance Activities – A.4.h.	1. Implement structural stormwater controls operation and maintenance program	January 1, 2013
Hydromodification Assessment – A.5.	<ol> <li>Conduct hydromodification assessment and submit report</li> </ol>	November 1, 2014
Stormwater Retrofit Strategy Development – A.6.	1. Develop stormwater retrofit strategy and submit stormwater retrofit plan	November 1, 2014
	2. Identify stormwater quality improvement project	November 1, 2013
	3. Construct or implement stormwater quality improvement project	Permit expiration date



### **SCHEDULE B**

#### **Monitoring and Reporting Requirements**

- 1. MONITORING PROGRAM Each co-permittee must continue to implement a monitoring program to support adaptive stormwater management and the evaluation of stormwater management program effectiveness in reducing the discharge of pollutants from the MS4.
  - a. The monitoring program must incorporate the following objectives:
    - i. Evaluate the source(s) of the 2004/2006 303(d) listed pollutants applicable to the copermittee's permit area;
    - ii. Evaluate the effectiveness of Best Management Practices (BMPs) in order to help determine BMP implementation priorities;
    - iii. Characterize stormwater based on land use type, seasonality, geography or other catchment characteristics;
    - iv. Evaluate status and long-term trends in receiving waters associated with MS4 stormwater discharges;
    - v. Assess the chemical, biological, and physical effects of MS4 stormwater discharges on receiving waters; and,
    - vi. Assess progress towards meeting TMDL pollutant load reduction benchmarks.
  - b. The monitoring program must include environmental monitoring that incorporates the requirements identified in Table B-1. The requirements in Table B-1 become effective with the approval of the monitoring plan in accordance with Schedule B.2.d., and no later than July 1, 2011.



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Table B-1 Environmental Monitoring				
Monitoring Type	Monitoring Location(s)	Monitoring Frequency	Pollutant Parameter Analyte(s)	
Instream Monitoring	Sixteen (16) sites; probabilistically selected; city-wide	Pour (4) events/year	Field; Conventional; Metals; Nutrients	
Continuous Instream Monitoring	Three (3) continuous monitoring stations	Ongoing	Temperature	
Stormwater Monitoring	Fifteen (15) sites; probabilistically, selected; city-wide	Three (3) events/year	Field; Conventional; Metals; Nutrients	
Stormwater Monitoring - Pesticide	Fifteen (15) sites; probabilistically selected; city-wide	Three (3) events/permit term	Pesticides	
Stormwater Monitoring – Mercury	Two (2) sites	Two (2) events/year; one summer event and one winter event.	Mercury	
Macro- invertebrate Monitoring	Sixteen (16) sites; probabilistically selected; city-wide	One (1) event/year	N/A	

1) The monitoring frequency reflects the required number of sample events per monitoring location.

2) Additional pesticide pollutant parameters that must be considered for purposes of stormwater monitoring – pesticide include any pesticides currently used by the co-permittees within their jurisdictional areas and the following: <u>Insecticides</u>: Bifenthrin, Cypermethrin or Permethrin, Imidacloprid, Fipronil, Malathion, Carbaryl; <u>Herbicides</u>: Triclopyr, 2,4-D, Glyphosate & degradate (AMPA), Trifluaralin, Pendimethalin; and, <u>Fungicides</u>: Chlorothalonil, Propiconazole, Myclobutanil.

- 3) The Macroinvertebrate monitoring must follow a generally accepted macroinvertebrate monitoring methodology (e.g., DEQ Benthic Macroinvertebrate Protocol for Wadeable Rivers and Streams). The methodology must be documented in the monitoring plan.
- 4)  $BOD_5$  are only required to be monitored in streams with an established TMDL.

5) Monitoring and analysis for mercury and methyl mercury must be conducted in accordance with DEQ's December 23, 2010 "Mercury Monitoring Requirements for Willamette Basin Permittees" memo. After two years of monitoring, the copermittee may request in writing to the Department that the mercury and methyl mercury monitoring be eliminated. The monitoring may be eliminated only after written approval by the Department. EPA Method 1669 ultra clean sampling protocol must be used to collect samples. Monitoring for total and dissolved mercury must be performed according to USEPA method 1631B with a quantitation limit of 0.5 ng/L. Monitoring for total and dissolved methyl mercury must be performed according to USEPA method 1630 with a quantitation limit of 0.05 ng/L.

Pollutant parameter(s) identified in each analyte category in Table B-1 are as follows:

Field	Conventional	<u>Nutrients</u>	Metals (Total Recoverable
Dissolved Oxygen	Escherichia coli (E. coli)	Nitrate (NO <sub>3</sub> )	<u>&amp; Dissolved)</u>
Ha	Hardness	Ammonia Nitrogen (NH <sub>3</sub> -N)	Copper
Temperature	Total Organic Carbon (TOC)	Total Phosphorus (TP)	Lead
Conductivity	Total Suspended Solids (TSS)	Ortho-Phosphorus (O-PO <sub>4</sub> )	Zinc
	()		Pesticides
		Mercury (Total & Dissolved)	2,4-D
		Mercury	Pentachlorophenol
		Methyl Mercury	



- 2. MONITORING PLAN The co-permittee must develop and implement an approved monitoring plan by July 1, 2011. Prior to submission of the monitoring plan to the Department, the co-permittee must provide an opportunity to receive comments from the public. The monitoring plan must be submitted to the Department for review no later than June 1, 2011, and incorporate the following elements:
  - a. Identifies how each monitoring objective identified in Schedule B.1.a. is addressed and the sources of information used. The co-permittee may use Stormwater Management Plan measurable goals, environmental monitoring activities, historical monitoring data, stormwater modeling, national stormwater monitoring data, stormwater research or other applicable information to address the monitoring objectives.
  - b. Describes the role of the monitoring program in the adaptive management of the stormwater program.
  - c. Describes the relationship between environmental monitoring and a long-term monitoring program strategy.
  - d. Describes the following information for each environmental monitoring project/task:
    - i. Project/task organization
    - ii. Monitoring objectives, including:
      - a. Monitoring question and background;
      - b. Data analysis methodology and quality criteria; and,
      - c. Assumptions and rationale;
    - iii. Documentation and record-keeping procedures;
    - iv. Monitoring process/study design, including monitoring location, description of sampling event or storm selection criteria, monitoring frequency and duration, and responsible sampling coordinator;
    - v. Sample collection methods and handling/custody procedures;
    - vi. Analytical methods for each water quality parameter to be analyzed;
    - vii. Quality control procedures, including quality assurance, the testing, inspection, maintenance, calibration of instrumentation and equipment; and,
    - viii. Data management, review, validation and verification.
  - e. The monitoring plan may be modified without prior Department approval if the following conditions are met. For conditions not covered in this section, the co-permittee must provide the Department with a 30-day notice of the proposed modification to the monitoring plan, and receive written approval from the Department prior to implementation



of the proposed modification. If the Department does not respond to the permittee within 30 days, the permittee may proceed with implementation of the proposed modification without written approval.

- i. The co-permittee is unable to collect or analyze any sample, pollutant parameter, or information due to circumstances beyond the co-permittee's control. These circumstances may include, but are not limited to, abnormal climatic conditions, unsafe or impracticable sampling conditions, equipment vandalism or equipment failures that occur despite proper operations and maintenance; or,
- ii. The modification does not reduce the minimum number of data points, which are a product of monitoring location, frequency, and length of permit term, or eliminate pollutant parameters identified in Table B-1.
- f. Modifications to the monitoring plan in accordance with Schedule B.2.e. must be documented in the subsequent annual report by describing the rationale for the modification, and how the modification will allow the monitoring program to remain compliant with the permit conditions.
- 3. SAMPLING AND ANALYSIS The co-permittee must exercise due diligence in collecting and analyzing all environmental monitoring samples required by this permit. All monitoring must be conducted in accordance with design and procedures identified in Schedule B.2.d.
  - a. In-stream monitoring
    - i. A minimum of 50 percent of the water quality sample events must be collected during the wet season (October 1 to April 30).
    - ii. Each unique sample event must occur at a minimum of 14 days apart.
  - b. Stormwater monitoring
    - i. All water quality samples must be collected during a storm event that is greater than 0.1 inch of rainfall.
    - ii. When possible, samples must be collected after an antecedent dry period of a minimum of 24 hours.
    - iii. The intra-event dry period must not exceed 6 hours, unless a 24-hr flow-weighted composite sample collection method is employed.
    - iv. Sample Collection Method: A flow-weighted composite sample must be collected during stormwater runoff producing events that represent the local or regional rainfall frequency and intensity, including event types that may be expected to yield high pollutant loads/concentrations.

1.A time-composite sampling method or grab sampling method may be used for an environmental monitoring type, project or task, if the monitoring plan



identifies the infeasibility of the flow-weighted composite sampling method or flow-weighted composite sampling is scientifically unwarranted based upon the development of plan requirements identified in Schedule B.2.d. For time composite sampling or grab sampling to be considered valid for the purpose of this permit requirement, the rationale for the use of these alternative sampling methods and sampling procedures must be described in the monitoring plan.

- 2. The flow-weighted sampling method requirement is not applicable to the collection of samples for the pollutant parameters requiring the grab sampling method, such as bacteria, oil & grease, pH or volatiles or for samples collected for purposes of insecticide, herbicide and fungicide monitoring.
- 3.Grab samples may be collected during any part of a storm event which produces sufficient runoff for sampling. The grab samples must be collected in a manner to minimize any potential bias in the results.
- v. Flow or rainfall data must be collected, estimated or modeled for each stormwater monitoring event. If flow or rainfall is modeled or estimated, the procedure must be described in the monitoring plan.
- c. Samples must be analyzed in accordance with EPA approved methods listed in the most recent publication of 40 CFR 136. Sample analysis for total and dissolved mercury and methyl mercury must adhere to the methods referenced in DEQ's December 23, 2010 "Mercury Monitoring Requirements for Willamette Basin Permittees" memo. The analysis must utilize appropriate Quality Assurance/Quality Control protocols, such as routinely analyzing replicates, blanks, laboratory control samples and spiked samples, and quantitation limits appropriate for the sampling objective. Field analytical kits are acceptable if the kits use a method approved under 40 CFR 136. This requirement does not apply to illicit detection and discharge elimination field screening activities conducted by the co-permittee as required by Schedule A.4.a.iv. Use of alternative test procedures must be done in accordance with 40 CFR 136.
- d. If an approved analytical method is not identified in 40 CFR 136, the co-permittee may use a suitable analytical method if the method is described in the monitoring plan, and submitted to the Department for review and approval prior to use.
- e. Analyzed samples must comply with preservation, transportation and holding time recommendations cited in 40 CFR 136, in the most recent edition of Standard Methods for the Examination of Water and Wastewater, a DEQ management directive, or as applicable to the analytical method if no approved analytical method in 40 CFR 136 or the most recent edition of Standard Methods for the Examination of Water and Wastewater exists.
- f. Analytical data must be available to the Department in a useable electronic format.
- 4. COORDINATED MONITORING Environmental monitoring conducted to meet a permit condition in Table B-1 may be coordinated among co-permittees or conducted on behalf of a co-



permittee by a third party. Each co-permittee is responsible for environmental monitoring in accordance with Schedule B requirements. The co-permittee may utilize data collected by another permittee, a third party, or in another co-permittee's jurisdiction to meet a permit condition in Table B-1 provided the co-permittee establishes an agreement prior to conducting coordinated environmental monitoring.

- 5. ANNUAL REPORTING REQUIREMENT The co-permittee must submit, by November 1 of each year, an annual report for the time period July 1 of the previous year through June 30 of the same year. One printed copy and an electronic copy must be submitted to the appropriate Department regional office. An electronic copy must also be made available on the co-permittee's website and/or other similar method approved by the Department. Each co-permittee is responsible for the portion of the annual report applicable to its jurisdiction. Each annual report must contain:
  - a. The status of implementing the stormwater management program and each SWMP program element, including progress in meeting the measurable goals identified in the SWMP.
  - b. Status or results, or both, of any public education program effectiveness evaluation conducted during the reporting year and a summary of how the results were or will be used for adaptive management.
  - c. A summary of the adaptive management process implementation during the reporting year, including any proposed changes to the stormwater management program (e.g., new BMPs) identified through implementation of the adaptive management process.
  - d. Any proposed changes to SWMP program elements that are designed to reduce TMDL pollutants to the MEP.
  - e. A summary of total stormwater program expenditures and funding sources over the reporting fiscal year, and those anticipated in the next fiscal year.
  - f. A summary of monitoring program results, including monitoring data that are accumulated throughout the reporting year and any assessments or evaluations conducted.
  - g. Any proposed modifications to the monitoring plan that are necessary to ensure that adequate data and information are collected to conduct stormwater program assessments.
  - h. A summary describing the number and nature of enforcement actions, inspections, and public education programs, including results of ongoing field screening and follow-up activities related to illicit discharges.
  - i. An overview, as related to MS4 discharges, of concept planning, land use changes and new development activities that occurred within the Urban Growth Boundary (UGB) expansion areas during the previous year, and those forecast for the following year, including the number of new post-construction permits issued, and an estimate of the total new and replaced impervious surface area related to new development redevelopment projects that



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commenced during the reporting year.

- j. In addition to the elements listed under Schedule B.5.a. through B.5.i., the annual report submitted by November 1, 2014 must include:
  - i. The TMDL Pollutant Load Reduction Evaluation as described in Schedule D.3.c.
  - ii. The Wasteload Allocation Attainment Assessment as described in Schedule D.3.b.
  - iii. The 303(d) evaluation as described in Schedule D.2.
- 6. MS4 PERMIT RENEWAL APPLICATION PACKAGE At least 180 days prior to permit expiration, the co-permittee must submit a permit renewal application package to support their proposed modifications to the SWMP for the renewed permit. One printed copy and an electronic copy must be submitted to the appropriate DEQ regional office. An electronic copy must also be made available on the co-permittee's website or other similar method approved by the Department. The application package must include an evaluation of the adequacy of the proposed SWMP modifications in reducing pollutants in discharges from the MS4 to the MEP. The application package must contain:
  - a. Proposed program modifications including the modification, addition or removal of BMPs incorporated into the SWMP, and associated measurable goals.
  - b. The information and analysis necessary to support the Department's independent assessment that the co-permittee's stormwater management program addressed the requirements of the existing permit. Co-permittees must also describe how the proposed management practices, control techniques, and other provisions implemented as part of the stormwater program were evaluated using a co-permittee-defined and standardized set of objective criteria relative to the following MEP general evaluation factors:
    - i. Effectiveness program elements effectively address stormwater pollutants.
    - ii. Local Applicability program elements are technically feasible considering local soils, geography, and other locale specific factors.
    - iii. Program Resources program elements are implemented considering availability to resources and the co-permittees stormwater management program priorities.
  - c. An updated estimate of total annual stormwater pollutant loads for applicable TMDL pollutants or applicable surrogate parameters, and the following pollutant parameters: BOD<sub>5</sub>, COD, nitrate, total phosphorus, dissolved phosphorus, cadmium, copper, lead and zinc. The estimates must be accompanied by a description of the procedures for estimating pollutant loads and concentrations, including any modeling, data analysis and calculation methods.
  - d. A proposed monitoring program objectives matrix and proposed monitoring plan including the information required in Schedule B.2.d. for each proposed monitoring project/task.
  - e. A description of any service area expansions that are anticipated to occur during the following permit term and a finding as to whether or not the expansion is expected to result in a substantial increase in area, intensity or pollutant loads.



- f. A fiscal evaluation summarizing program expenditures for the current permit cycle and projected program allocations for next permit cycle.
- g. Updated MS4 maps, including the service boundary of the MS4, projected changes in land use and population densities, projected future growth, location of co-permittee-owned operations, facilities, or properties with storm sewer systems, and the location of facilities issued an industrial NPDES permit that discharge to the MS4.
- h. If applicable, the established TMDL pollutant load reduction benchmarks, as required in Schedule D.3.d.



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#### SCHEDULE C Compliance Conditions and Dates

Compliance conditions and dates are not included at this time.

#### SCHEDULE D Special Conditions

#### 1. Legal Authority

Each co-permittee must maintain adequate legal authority through ordinance(s), interagency agreement(s) or other means to implement and enforce the provisions of this permit.

#### 2. 303(d) Listed Pollutants

- a. The requirements of this section apply to receiving waters listed as impaired on the 303(d) list without established TMDL waste load allocations to which the co-permittee's MS4 discharges. The co-permittee must:
  - i. Review the applicable pollutants that are on the 2004/2006 303(d) list, or the most recent USEPA list if approved within three years of the issuance date of this permit, that are relevant to the co-permittee's MS4 discharges by November 1, 2014. Based on a review of the most current 303(d) list, evaluate whether there is a reasonable likelihood for stormwater from the MS4 to cause or contribute to water quality degradation of receiving waters.
  - ii. Evaluate whether the BMPs in the existing SWMP are effective in reducing the 303(d) pollutants. If the co-permittee determines that the BMPs in the existing SWMP are ineffective in reducing the applicable 303 (d) pollutants, the co-permittee must describe how the SWMP will be modified or updated to address and reduce these pollutants to the MEP.
  - iii. By November 1, 2014, submit a report summarizing the results of the review and evaluation, and that identifies any proposed modifications or updates to the SWMP that are necessary to reduce applicable 303(d) pollutants to the MEP.

#### 3. Total Maximum Daily Loads (TMDLs)

- a. Applicability: The requirements of this section apply to the co-permittee's MS4 discharges to receiving waters with established TMDLs or to receiving waters with new or modified TMDLs approved by EPA within three years of the issuance date of this permit. Established TMDLs are noted on page 1 of this permit. Pollutant discharges for those parameters listed in the TMDL with applicable wasteload allocations (WLAs) must be reduced to the maximum extent practicable through the implementation of BMPs and an adaptive management process.
- b. Wasteload Allocation Attainment Assessment: The co-permittee must complete an assessment of WLA attainment, including identifying information related to the type and extent of BMPs necessary to achieve pollutant load reductions associated with an established TMDL WLA and the financial costs and other resources that may be associated with the implementation, operation and maintenance of BMPs. The results of the assessment must be



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submitted to the Department by November 1, 2014.

- c. TMDL Pollutant Load Reduction Evaluation: Progress towards reducing TMDL pollutant loads must be evaluated by the co-permittee through the use of a pollutant load reduction empirical model, water quality status and trend analysis, and other appropriate qualitative or quantitative evaluation approaches identified by the co-permittee. The results of this TMDL pollutant load reduction evaluation must be described in a report and submitted to the Department by November 1, 2014. The report must contain the following:
  - i. The rationale and methodology used to evaluate progress towards reducing TMDL pollutant loads.
  - ii. An estimate of current pollutant loadings without considering BMP implementation, and an estimate of current pollutant loadings considering BMP implementation for each TMDL parameter with an established WLA. The difference between these two estimated loads is the pollutant load reduction.
  - iii. A comparison of the estimated pollutant loading with and without BMP implementation to the applicable TMDL WLA.
  - iv. A comparison of the estimated pollutant load reduction to the estimated TMDL pollutant load reduction benchmark established for the permit term, if applicable.
  - v. A description of the estimated effectiveness of structural BMPs.
  - vi. A description of the estimated effectiveness of non-structural BMPs, if applicable, and the rationale for the selected approach.
  - vii. A water quality trend analysis, as sufficient data are available, and the relationship to stormwater discharges for receiving waterbodies within the co-permittee's jurisdictional area with an approved TMDL. If sufficient data to conduct a water quality trend analysis is unavailable for a receiving waterbody, the co-permittee must describe the data limitations. The collection of sufficient data must be prioritized and reflected as part of the monitoring project/task proposal required in Schedule B.6.d.
  - viii. A narrative summarizing progress towards the applicable TMDL WLAs and existing TMDL benchmarks, if applicable. If the co-permittee estimates that an existing TMDL benchmark was not achieved during the permit term, the co-permittee must apply their adaptive management process to reassess the SWMP and current BMP implementation in order to address TMDL pollutant load reduction over the next permit term. The results of this reassessment must be submitted with the permit renewal application package described in Schedule B.6.; and,
  - ix. If the co-permittee estimates that TMDL WLAs are achieved with existing BMP implementation, the co-permittee must provide a statement supporting this conclusion.
- d. Establishment of TMDL Pollutant Reduction Benchmarks: A TMDL pollutant reduction benchmark must be developed for each applicable TMDL parameter where existing BMP implementation is not achieving the WLA. An updated TMDL pollutant reduction benchmark must be submitted with the permit renewal application at least 180 days prior to expiration of this permit, as follows:
  - i. The TMDL pollutant load reduction benchmark must reflect:
    - 1. Additional pollutant load reduction necessary to achieve the benchmark estimated for



the current permit term, if not achieved per Schedule D.3.c.iv.; and,

- 2. The pollutant load reduction proposed to achieve additional progress towards the TMDL WLA during the next permit term.
- ii. The TMDL pollutant load reduction benchmark submittal must include the following:
  - 1. An explanation of the relationship between the TMDL wasteload allocations and the TMDL benchmark for each applicable TMDL parameter;
  - 2. A description of how SWMP implementation contributes to the overall reduction of the TMDL pollutants during the next permit term;
  - 3. Identification of additional or modified BMPs that will result in further reductions in the discharge of the applicable TMDL pollutants, including the rationale for proposing the BMPs; and,
  - 4. An estimate of current pollutant loadings that reflect the implementation of the current BMPs and the BMPs proposed to be implemented during the next permit term.

#### 4. Adaptive Management

Each co-permittee must follow an adaptive management approach to assess annually and modify, as necessary, any or all existing SWMP components and adopt new or revised SWMP components to achieve reductions in stormwater pollutants to the MEP. The adaptive management approach must include routine assessment of the need to further improve water quality and protection of beneficial uses, review of available technologies and practices, review of monitoring data and analyses required in Schedule B, review of measurable goals and tracking measures, and evaluation of resources available to implement the technologies and practices. The co-permittee must submit a description of the process for conducting this adaptive management approach during the permit term by November 1, 2011.

#### 5. SWMP Revisions

The co-permittee may revise their SWMP during the permit term in accordance with the following procedures:

- i. Adding BMPs, controls or requirements to the SMWP may be made at any time. The copermittee must provide notification to the Department prior to implementation, and submit a summary of such revisions to the Department in the subsequent annual report.
- ii. Reducing, replacing or eliminating BMP components, controls or requirements from the SWMP require submittal of a written request to the Department at least 60 days prior to the planned reduction, replacement, and/or elimination. The co-permittee's request must provide information that will allow the Department to determine within 60 days if the nature or scope of the SWMP is substantially changed, and include the following:
  - 1. Proposed reduction, replacement or elimination of the BMP(s), control, or requirement and schedule for implementation.
  - 2. An explanation of the need for the replacement, reduction or elimination.
  - 3. An explanation of how the replacement or reduction is expected to better achieve the goals of the stormwater management program or how the elimination is a result of the satisfactory completion of the BMP component, control or requirement.



- iii. The co-permittee must not implement a reduction, replacement or elimination of a BMP until approved by the Department. If a request is denied, the Department must send the co-permittee a written response providing a reason for the decision.
- iv. Adding, reducing, replacing or eliminating BMPs in the SWMP are considered permit revisions, and such revisions are minor or major permit modifications. Revisions that substantially change the nature and scope of the BMP component, control or requirement will be considered a major permit modification. Revisions requested by the permittee or initiated by the Department will be made in accordance with 40 CFR §§124.5, 122.62, or 122.63, and OAR 340-045-0040 and 0055.
- v. Revisions initiated by the Department will be made in writing, set forth the time schedule for the co-permittee to develop the revisions, and offer the co-permittee the opportunity to propose alternatives to meet the objective of the requested revisions.

### 6. SWMP Measurable Goals

The following conditions must be incorporated into the City of Portland SWMP by April 1, 2011:

- a. **BMP PI-1 Task 8**: By January 1, 2012, reconvene the Stormwater Advisory Committee to advise general stormwater management policy and implementation issues or effectively replace with another stormwater-related advisory committee that may be more narrowly focused.
- b. **BMP OM-1 Task 1**: Amend to include the following: Inspect all public stormwater management facilities once annually. This amendment will replace the first bullet point under OM-1 measurable goals.
- c. BMP OM-1 Task 3: Amend to include the following: Enter all newly constructed public stormwater system components into an inspection and maintenance database within six (6) months of the completion of construction.
- d. **BMP OM-1 Task 6**: Amend to include the following: Complete and implement the materials management section of the Portland Bureau of Transportation (PBOT) training guide by January 1, 2012. Complete and implement the remainder of the PBOT training guide by January 1, 2015.
- e. **BMP OM-2 Task 6**: Implement a Street Leaf Removal Program in designated leaf removal districts. Residential streets may be swept between 3-6 times per year in these areas as an alternative to implementing the Leaf Removal Program.
- f. BMP OM-3 Task 2: Replace the second sentence to include the following: By January 1, 2013, identify, evaluate, and prioritize stormwater pollution prevention opportunities and improvements (e.g., improved materials storage, use, or transportation) to reduce potential impacts at properties owned or operated by the City of Portland.
- g. **BMP OM-3 Task 4**: Amend to include the following: Annually conduct a minimum of one formal education and outreach activity with each volunteer group that assists with maintaining Pesticide-Free Parks. Pesticide-free parks management must be maintained at a minimum of three (3) parks.
- h. **BMP IND-1 Task 4**: Amend to include the following: Beginning January 1, 2013, annually conduct an industrial facilities inspection "sweep" in at least one targeted area.
- i. BMP IND-2 Task 6: Amend to include the following: Conduct a minimum of one targeted



stormwater education and outreach activity with each of the following groups: Portland Community College, Association of Car Washers, International Society of Arborists (ISA local chapter), and Oregon Association of Nurseryman (OAN).

- j. BMP IND-2 Task 7: Amend to include the following: Evaluate one new business sector for implementation of the Eco-Logical Business Program by January 1, 2013. This amendment will replace the second bullet point under IND-2 measurable goals.
- k. **BMP ND-1 Task 7**: Conduct and document erosion control checks during each routine building permit inspection for land disturbing activities at construction sites requiring a City of Portland permit (e.g., grading and clearing, electrical, mechanical, plumbing).

The following conditions must be incorporated into the Port of Portland SWMP by April 1, 2011:

- 1. **BMP Table 7-2 Implement an Inspection Program for Pollutant Source Areas Task 2:** Ensure implementation of appropriate control measures to minimize pollutant loading from priority facilities in an expeditious manner.
- m. **BMP Table 7-7 Limit Landscape Maintenance Activities Impact on Stormwater Task 2:** Annually review the Port's program to control pesticides, herbicides and fertilizers, and update as appropriate.
- n. BMP Table 7-8 Implement a Program for the Tracking and Maintenance of Private Structural Controls Task 1: Develop an inventory and mechanism for tracking private structural controls on tenant properties by December 31, 2012.

#### 7. Implementation Schedule

The following implementation schedule provides a summary of due dates for the permit conditions identified in Schedule B & Schedule D.

PERMITICONDITION	SUMMARY OF IMPLEMENTATION SCHEDULE ACTIVATES	DUE DATE
Monitoring Plan and	1. Submit monitoring plan	June 1, 2011
Environmental Monitoring – B.1.b, B.2 & Table B-1	<ol> <li>Implement an approved monitoring plan</li> </ol>	July 1, 2011
Annual Report B.5	1. Submit annual report	November 1 - annually
Permit Renewal Application Package – B.6	1. Submit permit renewal package	180 days prior to permit expiration



303(d) List Evaluation – D.2	1. Submit 303(d) list evaluation report	November 1, 2014
Total Maximum Daily Load (TMDL) D.3	1. Submit Wasteload Allocation Attainment Assessment	November 1, 2014
	2. Submit TMDL Pollutant Load Reduction Evaluation	November 1, 2014
	3. Submit TMDL Pollutant Load Reduction Benchmark	180 days prior to permit expiration
Adaptive Management – D.4	<ol> <li>Submit Adaptive Management Approach</li> </ol>	November 1, 2011
SWMP Measurable Goals – D.6	1. Incorporate SWMP Measurable Goal conditions	April 1, 2011

#### **Definitions:**

- a. Adaptive Management: A structured, iterative process designed to refine and improve stormwater programs over time by evaluating results and adjusting actions on the basis of what has been learned.
- b. Antecedent dry period: The period of dry time between precipitation events greater than 0.1 inch of precipitation.
- c. Best Management Practices (BMPs): The schedule of activities, controls, prohibition of practices, maintenance procedures and other management practices designed to prevent or reduce pollution. BMPs also include treatment requirements, operating procedures and practices to control stormwater runoff.
- d. Dry-weather field screening pollutant parameter action levels: Pollutant concentrations or concentration ranges used by a co-permittee to identify an illicit discharge may be present and further investigation is needed.
- e. Green Infrastructure (GI): A comprehensive approach to water quality protection defined by a range of natural and built systems and practices that use or mimic natural hydrologic processes to infiltrate, evapotranspirate, or reuse stormwater runoff on the site where the runoff is generated.
- f. Illicit Discharge: Any discharge to a municipal separate storm sewer system that is not composed entirely of stormwater except discharges authorized under Section A.4.a.xii., discharges permitted by a NPDES permit or other state or federal permit, or otherwise authorized by the Department.
- g. Impervious Surface: Any surface resulting from development activities that prevents the infiltration of water or results in more runoff than in the undeveloped condition. Common impervious surfaces include: building roofs, traditional concrete or asphalt paving on walkways, driveways, parking lots, gravel roads, and packed earthen materials.
- h. Low Impact Development (LID): A stormwater management approach that seeks to mitigate the impacts of increased runoff and stormwater pollution using a set of planning,



design and construction approaches and stormwater management practices that promote the use of natural systems for infiltration, evapotranspiration, and reuse of rainwater, and can occur at a wide range of landscape scales (i.e., regional, community and site).

- i. Maximum Extent Practicable (MEP): The statutory standard that establishes the level of pollutant reductions that operators of regulated MS4s must achieve. This standard is considered met if the conditions of the permit are met.
- j. Measurable Goals: BMP objectives or targets used to identify progress of SWMP implementation. Measurable goals are prospective and, wherever possible, quantitative. Measurable goals describe *what* the co-permittee intends to do and *when* they intend to do it.
- k. Redevelopment: A project on a previously developed site that results in the addition or replacement of impervious surface.
- 1. **Replace or Replacement:** The removal of an impervious surface that exposes soil followed by the placement of an impervious surface. Replacement does not include repair or maintenance activities on structures or facilities taken to prevent decline, lapse or cessation in the use of the existing impervious surface as long as no additional hydrologic impact results from the repair or maintenance activity.
- m. Stormwater Management Program: A comprehensive set of activities and actions, including policies, procedures, standards, ordinances, criteria, and best management practices established to reduce the discharge of pollutants from the Municipal Separate Storm Sewer System to the Maximum Extent Practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.
- n. **Time of Concentration:** Travel time for a drop of water to travel from most hydrologically remote location in a defined catchment to the outlet for that catchment where remoteness relates to time of travel rather than distance.
- o. TMDL Pollutant Load Reduction Benchmark (TMDL benchmark): An estimated total pollutant load reduction target for each parameter or surrogate, where applicable, for waste load allocations established under an EPA-approved TMDL. A benchmark is the anticipated pollutant load reduction goal to be achieved during the permit cycle through the implementation of the stormwater management program and BMPs identified in the SWMP. A benchmark is used to measure the effectiveness of the stormwater management program in making progress toward the waste load allocation, and is a tool for guiding adaptive management. A benchmark is not a numeric effluent limit; rather it is an estimated pollutant reduction target that is subject to the maximum extent practicable standard. Benchmarks may be stated as a pollutant load range based upon the results of a pollutant reduction empirical model.
- p. Water Quality Trend Analysis: A statistical analysis of in-stream water quality data to identify improvement or deterioration.



q. Waters of the State: Lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters) that are located wholly or partially within or bordering the state or within its jurisdiction.



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#### SCHEDULE F NPDES Permit General Conditions for Municipal Separate Storm Sewer Systems

#### SECTION A. STANDARD CONDITIONS

#### 1. Duty to Comply with Permit

The co-permittees must comply with all conditions of this permit. Failure to comply with any permit condition is a violation of the Clean Water Act and Oregon Revised Statutes (ORS) 468B.025, and 40 Code of Federal Regulations (CFR) §122.41(a), and grounds for an enforcement action. Failure to comply is also grounds for the Department to modify, revoke, or deny renewal of a permit.

#### 2. Penalties for Water Pollution and Permit Condition Violations

- a. ORS 468.140 allows the Department to impose civil penalties up to \$10,000 per day for violation of a term, condition, or requirement of a permit. Additionally 40 CFR §122.41(a) provides that any person who violates any permit condition, term, or requirement may be subject to a federal civil penalty not to exceed \$32,500 per day for each violation.
- b. Under ORS 468.943 and 40 CFR §122.41(a), unlawful water pollution, if committed by a person with criminal negligence, is punishable by a fine of up to \$25,000 imprisonment for not more than one year, or both. Each day on which a violation occurs or continues is a separately punishable offense.
- c. Under ORS 468.946, a person who knowingly discharges, places, or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape or be carried into the waters of the state is subject to a Class B felony punishable by a fine not to exceed \$200,000 and up to 10 years in prison. Additionally, under 40 CFR §122.41(a) any person who knowingly discharges, places, or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape into the waters of the state is subject to a federal civil penalty not to exceed \$100,000, and up to 6 years in prison.

#### 3. Duty to Mitigate

The co-permittees must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permittee must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

#### 4. Duty to Reapply

If any or all of the co-permittees wish to continue an activity regulated by this permit after the expiration date of this permit, the co-permittee must apply to have the permit renewed. The application must be submitted at least 180 days before the expiration date of this permit.

The Department may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.



#### 5. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

- a. Violation of any term, condition, or requirement of this permit, a rule, or a statute
- b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge
- d. The permittee is identified as a Designated Management Agency or allocated a waste load under a Total Maximum Daily Load (TMDL)
- e. New information or regulations
- f. Modification of compliance schedules
- g. Requirements of permit reopener conditions
- h. Correction of technical mistakes made in determining permit conditions
- i. Determination that the permitted activity endangers human health or the environment
- j. Other causes as specified in 40 CFR §§122.62, 122.64, and 124.5

The filing of a request by the co-permittee for a permit modification, revocation or reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition. The permittee must comply with all terms, conditions of the permit pending approval.

6. Toxic Pollutants

The co-permittee must comply with any applicable effluent standards or prohibitions established under Oregon Administrative Rules (OAR) 340-041-0033 for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights and Other Legal Requirements

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, or authorize any injury to persons or property or invasion of any other private rights, or any infringement of federal, tribal, state, or local laws or regulations.

#### 8. <u>Permit References</u>

Except for effluent standards or prohibitions established under OAR 340-041-0033 for toxic pollutants and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

#### 9. Permit Fees

The co-permittee must pay the fees required by OAR 340-045-0070 to 0075.

The co-permittee must pay annual compliance fees by the last day of the month prior to when the permit was issued. For example, if the permit was issued or last renewed in April, the due date will be March 31st. If the payment of annual fees is 30 days or more past due, the permit registrant must pay 9% interest per annum on the unpaid balance. Interest will accrue until the fees are paid in full. If the Department does not receive payment of annual fees when they are



due, the Department will refer the account to the Department of Revenue or to a private collection agency for collection.

#### SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The co-permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the permittees only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Need to Halt or Reduce Activity Not a Defense

It must not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit.

3. <u>Removed Substances</u>

Solids or other pollutants removed in the course of maintaining the MS4 must be disposed of in such a manner as to prevent any pollutant from such materials from entering waters of the state, causing nuisance conditions, or creating a public health hazard.

### SECTION C. MONITORING AND RECORDS

1. <u>Representative Sampling</u>

Sampling and measurements taken as required under this Permit must be representative of the volume and nature of the monitored discharge. All samples must be taken at the monitoring points specified in this permit, and must be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points may not be changed without notification to and the approval of the Department.

2. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in this permit or subsequent permit actions.

3. Penalties of Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit may, upon conviction, be punished by a fine of not more than \$10,000 per violation, imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both.

4. Additional Monitoring by the Co-permittees



If the co-permittees monitor any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR part 136 or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in annual reports required by Schedule B. Such increased frequency must also be indicated.

5. <u>Retention of Records</u>

The co-permittees must retain records of all monitoring information, including: all calibration, maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Department at any time.

#### 6. Records Contents

Records of monitoring information must include:

- a. The date, exact place, time, and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.
- 7. Inspection and Entry

The co-permittees must allow the Department representative upon the presentation of credentials to:

- a. Enter upon a co-permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location within the MS4.

### SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permittee must comply with OAR chapter 340, division 52, "Review of Plans and Specifications" and 40 CFR §122.41(1)(l). Except where exempted under OAR chapter 340, division 52, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers may be commenced until the plans and specifications are submitted to and approved by the Department. The permittee must give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility.



#### 2. Anticipated Noncompliance

The co-permittees must give advance notice to the Department of any planned changes in the permitted facility or activities that may result in noncompliance with permit requirements.

#### 3. Transfers

This permit may be transferred to a new co-permittee(s) provided the transferee(s) acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit may be transferred to a third party without prior written approval from the Department. The Department may require modification, revocation, and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act (see 40 CFR §122.61; in some cases, modification or revocation and reissuance is mandatory). The co-permittees must notify the Department when a transfer of property interest takes place that results in a change of co-permittee(s).

#### 4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

#### 5. Duty to Provide Information

The co-permittees must furnish to the Department within a reasonable time any information that the Department requests to determine compliance with this permit. The co-permittees must also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When a co-permittee becomes aware that it has failed to submit any relevant facts or has submitted incorrect information in a permit application or any report to the Department, it must promptly submit such facts or information.

#### 6. Signatory Requirements

All applications, reports or information submitted to the Department must be signed and certified in accordance with 40 CFR §122.22.

### 7. Falsification of Information

Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed \$100,000 per violation and up to 5 years in prison. Additionally, according to 40 CFR \$122.41(k)(2), any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or non-compliance must, upon conviction, be punished by a federal civil penalty not to exceed \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.



#### SECTION E. DEFINITIONS

- 1. CFR means Code of Federal Regulations.
- 2. Clean Water Act or CWA means the Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483 and 97-117; 33 U.S.C. 1251 et seq.
- 3. Department means Department of Environmental Quality.
- 4. Director means Director of the Department of Environmental Quality.
- 5. *Flow-Weighted Composite Sample* means a sample formed by collection and mixing discrete samples taken periodically and based on flow.
- 6. *Grab Sample* means an individual discrete sample collected over a period of time not to exceed 15 minutes.
- 7. *Illicit Discharges* means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.
- 8. *Major Outfall* means a municipal separate storm sewer outfall that discharges from a single pipe with an inside diameter 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive stormwater from lands zoned for industrial activities (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).
- 9. mg/L means milligrams per liter.
- 10. *mL/L* means milliliters per liter.
- 11. MS4 means a municipal separate storm sewer system.
- 12. *Municipal Separate Storm Sewer* (MS4) means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):
  - a. Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State Law) having jurisdiction over disposal of sewage, industrial wastes, stormwater or other wastes, including special districts under State Law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian Tribal organization, or a designated and approved management agency under §208 of the CWA that discharges to waters of the United States;
  - b. Designed or used for collection or conveying stormwater;
  - c. Which is not a combined sewer; and
  - d. Which is not part of a Publicly Owned Treatment Works (POTW) as defined by 40 CFR §122.2.
- 13. *Outfall* means a point source as defined by 40 CFR §122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.
- 14. *Permit* means the NPDES municipal separate storm sewer system (MS4) permit specified herein, authorizing the permittees listed on Page 1 of this permit to discharge from the MS4.
- 15. Stormwater means stormwater runoff, snowmelt runoff, and surface runoff and drainage.
- 16. Year means calendar year except where otherwise defined.



#### **Resolution No. 35796**

Develop recommendations for reforming water and sewer rates, and direct the Bureau of Environmental Services and the Water Bureau to perform necessary work. (Resolution)

WHEREAS, the water and sewer infrastructure of the City of Portland is aging and in need, of improvements;

WHEREAS, the City of Portland has agreed to reduce the amount of combined sewer overflow to the Willamette River and the Columbia Slough;

WHEREAS, the City of Portland is planning for the future of the water supply for the residents of the City and its customers;

WHEREAS, the costs for improvements to the water and sewer systen1s are in excess of \$1 billion and currently must be paid by the systems' ratepayers;

WHEREAS, Portland residents and businesses have voiced concerns about the fairness and affordability of current water and sewer rates;

WHEREAS, the City has an interest in promoting water conservation;

WHEREAS, customers should have a greater ability to control the size of their water and sewer bills through the conservation of water;

WHEREAS, opportunities exist to improve the rate structure for water and sewer services, and that an improved rate structure can promote better customer awareness, understanding, and support; and

WHEREAS, revenues from stOllll water fees fund drainage services related both to private property and the transportation system, and therefore any changes to the stormwater rate structures should continue to generate sufficient resources to comprehensively operate, manage and maintain the drainage system;

NOW THEREFORE BE IT RESOLVED that the commissioners in charge of the Bureau of Environmental Services and the Water Bureau will make specific recommendations to the City Council for reforming water and sewer bills by October 15th, 1999; and be it.

FURTHER RESOLVED that the Bureau of Environmental Services will have, by September 15th, 1999, recommendations for reforming the system of rates for stormwater management, including the development of estimated rate impacts to different classes of customers; and be it

FURTHER RESOLVED that the Water Bureau and the Bureau of Environmental Services will perform, by September 15th, 1999, analyses of different alternatives for promoting water conservation and affordability including, but not limited to, reducing or eliminating service charges; and the estimated impacts on of these rate alternatives on different classes of customers; and be it

FURTHER RESOLVED that, by September 15th, 1999, as part of the analysis of water conservation efforts, the Water Bureau will have reviewed its current conservation program in order t6 recommend both price and non-price related opportunities for customer conservation and cost reductions; and be it

FURTHER RESOLVED that the Water Bureau and the Bureau of Environmental Services will report back to Council within 30 days of the adoption of this resolution on the development of a public information and involvement plan; and be it

FURTHER RESOLVED that the Water Bureau shall develop, by September 15th, 1999, a report on its technical ability to implement within its billing system the rate reform recommendations of the Commissioners in charge of the Bureau of Environmental Services and the Water Bureau; and be it

FURTHER RESOLVED that the Portland Office of Transportation will work with the Water Bureau and the Bureau of Environmental Services in both the review of stormwater fee structures and in the development of recommendations for public and City Council consideration; and be it

FURTHER RESOLVED that the Water Bureau shall format the new system for water and sewer bills so that all account service charges will be displayed as one charge, shown independently of water use or sewer use charges; and be it

FURTHER RESOLVED that the Bureau of Environmental Services, the Water Bureau, and the Utility Review Team of the Office of Finance and Administration will work in concert with the Portland Utilities Review Board in the development of rate reform alternatives; and be it

FURTHER RESOLVED that the Portland Utilities Review Board is asked to be prepared to provide input and recommendations on these options to the City Council by September 15th, 1999.

Adopted by the Council: May 19, 1999

GARY BLACKMER Auditor of the City of Portland

Bγ Rath Uson

## ORRCO



Rectory

Recology's Suttle Road Recovery Facility prior to reconstruction and expansion (2010)



ORRCO's facility prior to remediation and wetland restoration (2010).



The Recology facility after undergoing major redesign and expansion, including significant improvements to stormwater management



Wetland prior to remediation and restoration. Tires and invasive species such as Reed Canary Grass and Himalayan Blackberry were prevalent.



The western swale along Recology's property was constructed to receive the stormwater runoff from the facility and discharge it to the restored wetland.



ORRCO's panhandle following the remediation and cap, with the restored wetlands in the background.

# Suttle Road Showcase:

Recology and ORRCO Development, Site Remediation and Wetland Restoration Project





### **DEQ Approved Remediation**

ORRCO remediated their contaminated panhandle fill materials (i.e., foundry sands), and contaminated wetland sediment to prevent adverse impacts to ecological receptors that inhabit the wetland. Contaminants of Potential Environmental Concern from upland (panhandle) soils, panhandle bank soils, and wetland sediments were lead and zinc. Potential exposure pathways for ecological receptors that inhabit the wetlands are via contaminated groundwater, surface water, and/or soil/sediment. To address contamination at the site, ORRCO completed the following DEQ-approved remediation activities:

- · Approximately 2,150 cubic yards of panhandle and wetlands materials with concentrations of lead, zinc, and chromium above DEQ ecological screening level values (SLVs) (i.e., hot spots), as defined in the DEQ Record of Decision (ROD), were removed and transported off-site for disposal.
- · Fill soils that encroached onto adjacent parcels and did not exceed SLVs for lead, zinc, and chromium were excavated back to the ORRCO property and covered with clean soil and planted with upland species.
- · Fill soils and sediment that exceed RBCs, but do not exceed SLVs, were placed on the panhandle for subsequent capping. The capping prevents on- or off-site stormwater from infiltrating through contaminated panhandle fill materials and into the wetlands, and potentially mobilizing contaminants in the panhandle fill that could impact surface waters. The panhandle was capped with impermeable materials and asphalt. Stormwater treatment system design details are described in the Stormwater Treatment Section.
- Wetlands were restored by backfilling excavations with clean soils appropriate for wetlands, and restoring the wetland surface with native wetland plant species.





## **Stormwater Improvements**

The stormwater portion of this project was a joint effort between Oil Re-Refining Company (ORRCO) and Recology.

The remedy for clean up of the ORRCO site hinged upon the proper management of stormwater from the site to prevent contamination from being carried into the wetlands. For Recology, the stormwater system eliminated the use of an existing underground injection control system which was undersized for the facility.

ORRCO's stormwater flows across the asphalt cap and is captured in a large vault which removes the sediments and oil. The water then flows through a long bioswale that uses plant matter to remove other pollutants, including metals, before the water flows into the wetlands. Recology's stormwater flows through a series of catch basins and swales before entering into a sedimentation vault. From this vault the water flows into a treatment vault equipped with Contech Stormwater Filter canisters. From there, it flows into a large swale along Recology's western property boundary, and finally into a long vegetated bioswale for final polishing before entering the wetlands.

ORRCO and Recology partnered to complete the City of Portland's land use approval process for the project, which included a full environmental review. Each property owner then obtained their own 1200-COLS discharge permit.



## Wetland Restoration

Prior to initiating the ORRCO site remedy, the wetland area consisted of a monoculture of reed canary grass with small patches of cattails. In the southern portion of the wetland, contaminated fill had encroached on the wetland owned by the railroad. When the contaminated sediments were removed, this effort restored much of the historical wetland. Following the removal effort, a foot of clean topsoil was installed to replace the excavated sediments.

The restored portion of the wetland was planted over with 9,000 plugs of wetland plant species and seeded with a wetland grass seed mixture in late October 2012. Due to the early and heavy Fall rains, the area because inundated within a week after planting, which resulted in most of the plants and seeds floating out of the new soil. The area has since been replanted and seeded, and irrigation applied to ensure growth prior to this year's Fall rains. This initial growth period should allow the plants to anchor into the soil. The plant species used were selected based on their tolerance for inundation. Prior to replanting the wetland, numerous volunteer cottonwoods, spike rush, water plantain, cattails and knotweed were observed.

Recology's southern property slope and the ORRCO panhandle slopes provide a wetland buffer zone. Prior to the ORRCO site remedy and the development of Recology's property, these slopes were nearly covered with Himalayan Blackberry. In 2012, the blackberries were removed to allow for re-grading of the slopes to their current configuration. The slopes were covered with a foot of topsoil and planted with native upland species, which were selected for the local environment. These buffer zones are irrigated to ensure good survival of the planted trees and shrubs.

#### Observed Wildlife Species using the area:

#### Birds

Canada Geese • Mallards • Cinnamon teal • Marsh Wren Great Blue Herons . Rough-wing Swallows Violet-green Swallows • Rufus Hummingbird Red-wing Black Birds . Song sparrow American goldfinch Mammals

Otter Amphibians Pacific Treefrog · Bullfrog Reptiles Western Pond turtle Garter snake

