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2024 MS4 Permit Shared Stormwater Management Program Document

for

Clackamas County

Clackamas Water Environment Services

City of Happy Valley

City of Rivergrove

July 2024

CLACKAMAS COUNTY

CLACKAMAS WATER ENVIRONMENT SERVICES

HAPPY VALLEY, OR EST. 1965

City of Rivergrove

On the Cover:
An extended dry detention pond manages residential stormwater runoff from the Sunshine Ridge subdivision in Happy Valley. The facility discharges to a tributary of Sieben Creek in the Clackamas River Watershed.

Acknowledgements

2024 revised MS4 Permit Shared Stormwater Management Program Document

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Introduction

The 2024 MS4 Permit Shared Stormwater Management Program Document (Shared SWMP Document) describes the permitted stormwater management program of four of 12 co-permittees of the Clackamas County Group National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system permit (MS4 Permit). The group of four co-permittees that make up the participants of the Shared SWMP Document includes: Clackamas County, Clackamas Water Environment Services, the City of Happy Valley, and the City of Rivergrove.

Throughout the Shared SWMP Document, the four co-permittees participating in the Shared SWMP Document are referred to as the "SWMP Document Participants."

This 2024 Shared SWMP Document replaces the 2022 Shared SWMP Document.

The Shared SWMP Document acts as a resource for the public to learn about the SWMP Document Participants' efforts to reduce pollutants discharged by the storm sewer systems, an informative guide for staff, and a compliance measure for the MS4 Permit.

Clackamas County Group MS4 Permit No. 101348

The Clackamas County Group MS4 Permit (MS4 Permit) is issued by Oregon Department of Environmental Quality (DEQ) and covers all existing and new discharges of stormwater from the Municipal Separate Storm Sewer Systems (MS4s) within the service boundaries of the incorporated cities or within the service areas of Water Environment Services and Oak Lodge Services District that are within the Portland Metro Area's Urban Growth Boundary (UGB). The most recent version of the MS4 Permit was issued on September 15, 2021, with an effective date of October 1, 2021, which was then modified by DEQ on May 5, 2023. The MS4 Permit regulates discharges from the co-permittees' storm sewers to waters of the state under the federal Clean Water Act's NPDES program. The MS4 Permit authorizes discharges from the following 12 co-permittees:

- Clackamas County
- City of Gladstone
- City of Happy Valley (Happy Valley)
- City of Johnson City
- City of Lake Oswego
- City of Milwaukie
- City of Oregon City
- City of Rivergrove (Rivergrove)
- City of West Linn
- City of Wilsonville
- Oak Lodge Water Services District (OLWS)
- Clackamas Water Environment Services (WES)

Each co-permittee is required, by MS4 Permit Schedule A.2.c. (Stormwater Management Program Document) to develop and maintain a SWMP Document which describes in detail how the co-permittees implement the required control measures in the MS4 Permit and reduce the discharge of pollutants from its MS4 to the maximum extent practicable.

Permit Expiration and Renewal

The 2012-2017 term of the MS4 Permit expired on February 28, 2017, and was administratively extended. Co-permittees were required to develop new Stormwater Management Plans and submit them with their permit renewal packages. A group of five co-permittees collaborated to develop the 2017 *Draft MS4 Permit Shared Stormwater Management Plan* to jointly meet the project requirements of the MS4 Permit. The participants of the Shared Stormwater Management Plan included: Clackamas County, Clackamas County Service District No. 1, Surface Water Management Agency of Clackamas County, the City of Happy Valley, and the City of Rivergrove.

After the expiration of the 2012 MS4 Permit and before the issuance of the 2021-2026 MS4 Permit, two of the Shared Stormwater Management SWMP Document Participants (Clackamas County Service District No. 1 and Surface Water Management Agency of Clackamas County) were incorporated into the Water Environment Services Partnership, which is an inter-governmental entity organized under ORS 190 (WES Partnership). Clackamas WES, a Dept. of Clackamas County, administers the WES Partnership. This organizational change is described in more detail in the SWMP Document Participant Geographic Coverage Section.

The MS4 Permit requires co-permittees to develop and maintain SWMP Documents, which describe in detail how the co-permittees implement the required control measures and reduce the discharge of pollutants. This Shared Stormwater Management Program Document is the collective effort of Clackamas County, the City of Happy Valley, the City of Rivergrove, and Clackamas WES. Co-permittees must follow an adaptive management approach to assess and modify, as necessary, any or all SWMP components and to adopt new or revised SWMP components. The MS4 Permit outlines the steps to modify the SWMP Documents through the Annual Reporting process.

Throughout the Shared SWMP Document, the phrase “MS4 Permit term” refers to the five-year term that began October 1, 2021.

Permitted Area Geographic Coverage

The MS4 Permit covers all existing and new discharges of stormwater from MS4s within the service boundaries of the 12 co-permittees within the Portland Metro UGB. The four SWMP Document Participants’ service boundaries, as well as the entire Permitted Area, are shown in the Figure 1.

Throughout the Shared SWMP Document, the term “Permitted Area” refers to the entire coverage area of the MS4 Permit’s 12 co-permittees.

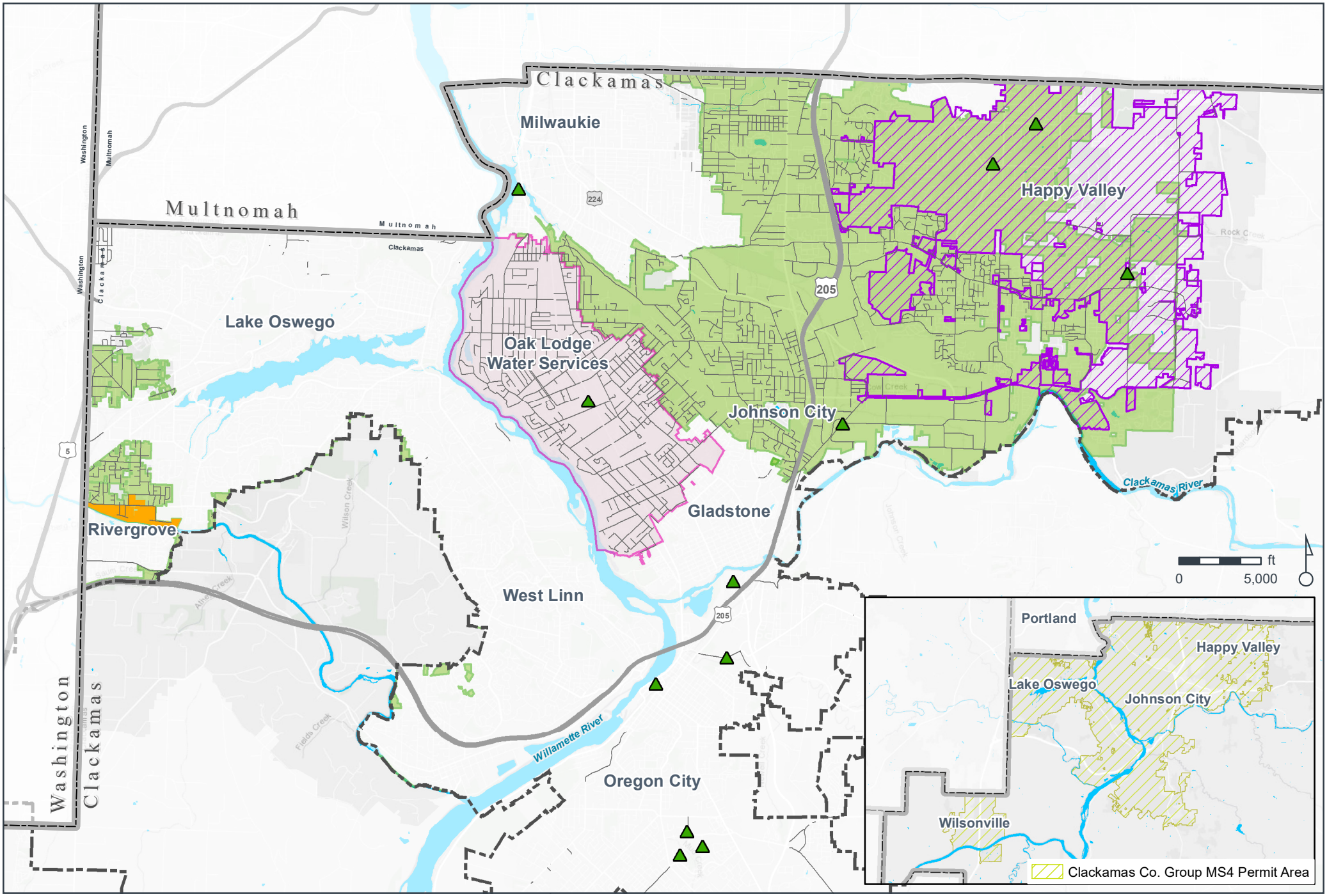


FIGURE 1

SWMP DOCUMENT PARTICIPANT APPLICABILITY (COVERAGE)

2022 SHARED STORMWATER MANAGEMENT PROGRAM DOCUMENT

Legend

- Counties
- Metro UGB

SWMP Document Participants

- Happy Valley
- Oak Lodge Water Services
- Rivergrove

- WES Service Areas
- Selected Municipal Facilities & Parks
- County-maintained ROW

DATE: 7/19/2022

CLACKAMAS WATER ENVIRONMENT SERVICES

Otak

NOTE: THIS DATA IS NOT A SURVEY AND IS MEANT FOR PLANNING PURPOSES ONLY. DATA IS PROVIDED BY ESRI, WES, AND METRO RLIS.

SWMP Document Participant Geographic Coverage

Water Environment Services (WES) Service Areas

Clackamas WES is an independent municipal entity organized under ORS 190 which is authorized to provide specific services within specified boundaries in Clackamas County. Clackamas WES is an independent stormwater and sanitary sewer service district that was created from three former Clackamas County service districts: Tri-City Service District, Clackamas County Service District No. 1, and the Surface Water Management Agency of Clackamas County.

Rate Zone #1

Rate Zone #1 covers the area of the former Tri-City Service District. WES does not provide surface water management services in Rate Zone #1 and this area is not included in the geographic coverage of the Shared SWMP Document.

Rate Zone #2

Rate Zone #2 includes sanitary sewer and surface water management services in Clackamas County in the former area of Clackamas County Service District No. 1. Within the Portland-Metro UGB, Rate Zone #2 covers approximately 25 square miles of unincorporated county and the urbanized portion of the City of Happy Valley (many rural portions of the City aren't yet in the Clackamas WES service area). It serves approximately 75,000 people.

Portions of Rate Zone #2 are in the Clackamas River Watershed, while other portions are in the Kellogg and Johnson Creek watersheds, and the remaining portion drains to stormwater injection devices such as drywells, which discharge their flow into the earth.

Rate Zone #3

Rate Zone #3 provides surface water management services to the City of Rivergrove and portions of unincorporated Clackamas County draining to the Tualatin River and to stormwater injection devices such as drywells. Clackamas WES does not provide sanitary sewer services in Rate Zone #3. Most of this area is rural, but a densely urbanized section of Rate Zone #3 is situated in and around Rivergrove; the portion of the City of Rivergrove which is inside Clackamas County is in Rate Zone #3. The area is composed of several non-contiguous sub- units.

Rate Zone #3, which includes over 10,000 acres, is in the Tualatin River Watershed.

The geographic coverage of the Shared SWMP Document is limited to the approximately 500 acres of Rate Zone #3 which is within the UGB and which drain to the Tualatin River or a tributary (the lands inside the UGB which drain into stormwater injection devices are not addressed by this document).

SWM Service Areas

WES provides surface water management services in Rate Zones #2 and #3, which are collectively known as the SWM Service Areas.

Oak Lodge Water Services (OLWS) District

OLWS operates a large drinking water, sanitary sewer, and surface water service district that serves about 30,000 people within urbanized unincorporated Clackamas County inside the UGB. OLWS's surface water discharges are covered by the MS4 Permit; however, OLWS is not a SWMP Document

Participant in the Shared SWMP Document. OLWS maintains and submits their own SWMP Document.

Clackamas County's service area includes many miles of transportation rights-of-way (ROW) within OLWS. The County's MS4 within OLWS is jointly managed as per a Memorandum of Understanding between Clackamas County and Oak Lodge Sanitary District (now incorporated into OLWS) signed in July 2013. Therefore, activities of OLWS are referenced in the Shared SWMP Document but are not described in detail. Readers may see the OLWS's SWMP for more information about MS4 Permit implementation in the district.

Clackamas County Transportation Rights-of-Way (ROW)

Clackamas County's MS4 is often within the ROW of County-maintained roads. Approximately 400 curb miles of County-maintained ROW extend through the entire Permitted Area. All County-maintained ROWs within the Permitted Area are included in the Shared SWMP Document, even when they are outside the three other SWMP Document Participants' service areas. The County's obligations as a co-permittee may be met by other co-permittees by agreement.

Throughout the Shared SWMP Document, references to County-maintained ROW include only those portions within the Permitted Area.

City of Rivergrove

Rivergrove is a small city (population 604 in 2020, according to the census) which is almost entirely contained within the WES service boundary. The tiny portion of Rivergrove which is in Washington County is not included in the Shared SWMP Document.

City of Happy Valley

The urbanized portion of Happy Valley is within WES Rate Zone #2. The rural, non-urban portion of Happy Valley is outside of WES Rate Zone #2. As non-urban properties of Happy Valley develop and require sanitary sewer service or surface water service, the properties annex to WES Rate Zone #2. Since both the urban and non-urban areas of Happy Valley are within the Portland UGB, all areas are included in the Shared SWMP Document.

Happy Valley's transportation ROWs are also covered by the Shared SWMP Document.

County and Municipal Properties

Any property that is located within the Permitted Area and is either owned or operated directly by Clackamas County, WES (see below), Rivergrove, or Happy Valley is included in the geographic coverage of the Shared SWMP Document.

Other Storm Sewer and Storm Disposal Systems Excluded from the Shared SWMP Document

The Shared SWMP Document does not apply to lands, buildings, facilities, and roads that are drained by:

- Stormwater injection devices (drywells, for example), or
- Storm sewer systems owned by others, such as the State of Oregon or a corporation, unless the other storm sewer system discharges into a surface-discharging storm sewer system owned or operated by one of the SWMP Document Participants.

Shared SWMP Document Responsibilities

SWMP Document Participants share responsibility for compliance with MS4 Permit Schedule A.3 as described in the Shared SWMP Document. Compliance relies on coordination, cooperation, and sharing among the SWMP Document Participants. The Shared SWMP Document identifies the SWMP Document Participant(s) responsible for implementing each activity by reason of geographic jurisdiction, expertise, or agreement.

Water Environment Services

WES is an independent municipal entity managed by Clackamas County's Water Environment Services Dept. that provides collection and treatment of wastewater and surface water management services for Clackamas County communities. WES provides surface water management services and operates the MS4s in the former geographic areas of Clackamas County Service District No. 1 (now Clackamas WES Rate Zone #2) and the Surface Water Management Agency of Clackamas County (now Clackamas WES Rate Zone #3) in partnership with the three other SWMP Document Participants.

Broadly, WES is responsible for most compliance activities within Rate Zone #2 and Rate Zone #3, including in Happy Valley and Rivergrove, and is also responsible for many activities on County ROW in the districts. WES also takes the lead for the types of BMPs that are not easily tied to a geographic area, such as education, outreach, and public involvement.

Clackamas County Department of Transportation and Development

The vast majority of Clackamas County's MS4 is located within the County's ROW and is operated by Clackamas County Department of Transportation and Development (DTD). DTD is a department of Clackamas County responsible for maintaining and improving the County road system; for operating the County's roadway drainage system, both inside and outside the Permitted Area; and for planning, zoning, plan review, permitting, and code enforcement throughout the County in unincorporated areas.

DTD is responsible for many compliance activities associated with County ROW in the Permitted Area. DTD is responsible for maintaining a memorandum of understanding with OLWS to jointly manage the County's MS4 within OLWS.

DTD also operates some of the municipal facilities throughout the Permitted Area that are subject to requirements of the MS4 Permit.

Happy Valley

Happy Valley has a total area of approximately eight square miles and a population of approximately 23,733, according to the 2020 census.

WES takes responsibility for many stormwater-related compliance activities in Happy Valley, with important contributions from the City. Happy Valley takes responsibility for a few compliance activities within the city limits and all compliance activities within city limits that fall outside of the WES service area.

Rivergrove

Rivergrove has a total area of 0.16 square miles and a population of approximately 604. A small portion of the City extends into nearby Washington County. Rivergrove is a contributor in implementing some compliance activities, but most requirements in Rivergrove are met by WES and DTD.

Other Clackamas County Departments

Other Clackamas County departments, such as Facilities Management, North Clackamas Parks and Recreation District, and Business and Community Services operate a small number of discrete storm sewer systems serving County properties and parks within the Permitted Area. For example, the Facilities Management Department manages the storm sewer systems which serve the County's Red Soils campus along Beavercreek Road in Oregon City.

Document Organization

The Shared SWMP Document largely follows the organization of the nine Stormwater Management Program Control Measures laid out in Schedule A.3 of the MS4 Permit and addresses them in eight BMP categories. Mapping related activities are consolidated in a BMP category not found in the MS4 Permit. The Infrastructure Retrofit and Hydromodification Assessment control measure requirements of the MS4 Permit are located in the Stormwater System Operations and Maintenance BMP of the Shared SWMP Document. Activities addressing the Pollution Prevention and Good Housekeeping for Municipal Operations requirements of the MS4 Permit are addressed in two BMP categories: Pollution Prevention for Municipal Operations and Stormwater Systems Operations and Maintenance.

Each BMP category includes a regulatory overview and Best Management Practice (BMP) Activities that the SWMP Document Participants will use to comply with the MS4 Permit requirements. The organization within the document of each BMP category is described below.

BMP Category Names

BMP categories are named with a unique identifier (Table 1). BMPs are numbered sequentially within each category (see Figure 2).

Table 1. BMP Names

Acronym	BMP Category
ED	Education and Outreach
PP	Public Participation
IDDE	Illicit Discharge Detection and Elimination
MAP	MS4 Mapping
EPSC	Construction Site Runoff Control
POST	Post-Construction Site Runoff
PREV	Pollution Prevention for Municipal Operations
COMM	Industrial and Commercial Facilities
MAINT	Stormwater System Operations and Maintenance

Figure 2. Example of sequentially numbered BMPs

BMPs

- **MAP-1 Develop Mapping Strategy**
- **MAP-2 Inventory and Map MS4 Infrastructure**
- **MAP-3 Track and Map Locations of Concern**
- **MAP-4 MS4 Mapping Evaluation**

Regulatory Overview

Each BMP category includes a brief summary of the regulatory requirements in the 2021 Stormwater Permit and a table that links each requirement to at least one BMP (see Figure 3).

Figure 3. Example of Regulatory Requirements Table

Requirement Summary for Industrial and Commercial Facilities

Schedule	Requirement	BMPs			
		COMM-1	COMM -2	COMM -3	COMM -4
A.3.g.i	Screening for Industrial Stormwater Permitting	■			
A.3.g.ii	Strategy to Reduce Pollutants from Industrial and Commercial Facilities ❶		■		
A.3.g.iii	Commercial & Industrial Facility Inspection Staff Training			■	
A.3.g.iv	Tracking and Assessment	■	■	■	■
B.4.b. and c.	Evaluation of SWMP for Permit Renewal				■

The full text of the requirement that each BMP is addressing can be found in the 2021 MS4 Permit.

❶ See ED-2 for source control education and outreach and IDDE-3 for Enforcement Response Procedures.

Best Management Practices

The MS4 Permit Schedule D.4 defines BMPs as "schedules of activities, prohibition of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs are also treatment requirements operating procedures, and practices to control runoff, spillage, or leads, sludge, or waste disposal, or drainage from raw material storages. For the purposes of this permit, BMPs are synonymous with structural and non-structural stormwater controls and include the schedule of activities, controls, prohibition of practices, maintenance procedures and other management practices designed to prevent or reduce pollution."

BMPs describe the specific ways in which SWMP Document Participants propose to comply with the MS4 Permit Schedule A.3. Each BMP includes the following:

- The BMP's purpose;
- A checklist showing the geographic area(s) where the BMP is applied;
- A checklist showing which SWMP Document Participant(s) are generally responsible for implementing the BMP;
- Background providing more information about the BMP;
- A detailed description of the individual tasks within the BMP (BMP activities);
- A responsibilities matrix with specific roles for each BMP activity; and
- The measurable goals and tracking measures for evaluating the BMP.

Each of these components is described in greater detail below.

Purpose

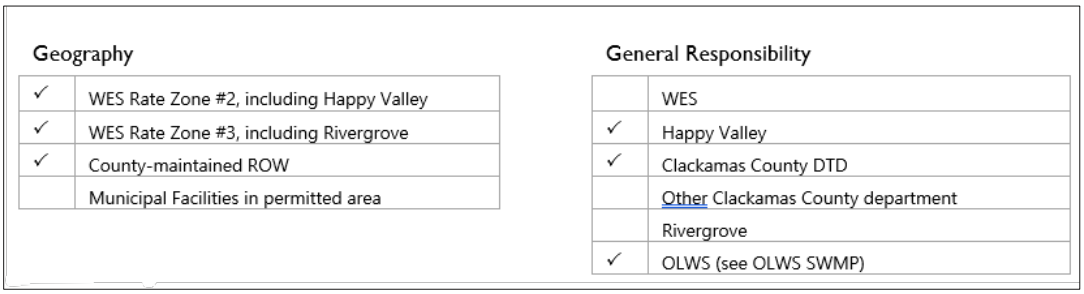
The Purpose is a description that includes the intent of the BMP activity and information about how the SWMP Document Participants will address the requirements of the permit.

Geography and General Responsibility Checklists

Each BMP uses two checklists to indicate where the BMP takes place and which SWMP Document Participant is involved in implementing it (see Figure 4). A checkmark indicates when a geography or SWMP Document Participant is selected.

Although not a SWMP Document Participant, OLWS is included in the general responsibility checklist. When OLWS is marked as responsible, the reader may refer to OLWS's SWMP to find out more.

Figure 4. Example Geography and General Responsibility Checklists



Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in permitted area

General Responsibility

	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

Each BMP includes a background section that provides information about what SWMP Document Participants are already doing or will do to meet the regulatory requirements during the MS4 Permit term.

BMP Activities

This section describes the specific activities the SWMP Document Participants will engage in during the MS4 Permit term. The BMP activities may also reference existing or planned documents, which provide authority or give additional program details.

A BMP may describe continuous BMP activities or those that happen once or only occasionally during the MS4 Permit term. Some BMPs are carried out differently in each geographic area. To differentiate these nuances, each BMP is divided into sequentially numbered BMP activities (see Figure 5).

Figure 5. Example of sequentially numbered BMP activities

BMP Activities

- ED-2.1 EROSION CONTROL OUTREACH
- ED-2.2 PRIVATE STORMWATER FACILITY OPERATIONS AND MAINTENANCE OUTREACH
- ED-2.3 SOURCE CONTROL OUTREACH AND TECHNICAL ASSISTANCE
- ED-2.4 PESTICIDE, HERBICIDE, AND FERTILIZER TECHNICAL ASSISTANCE AND TRAINING

Each BMP activity is characterized by frequency and status as described in Tables 2 and 3.

Table 2. BMP Activity Frequency

Frequency	Definition
Annual	A time-limited or otherwise discrete activity that happens once a year.
Ongoing	A program or activity that, once started, goes continuously or is carried out frequently due to frequent need.
Periodic	An activity that is revisited intermittently (e.g., update a plan every 2-3 years).
One-time	An activity that will be done once during the MS4 Permit term (e.g., developing a strategy or a plan).

Table 3. BMP Activity Status

Status	Definition
Ongoing	The activity began prior to the SWMP Document submittal and is already underway.
Future	The activity will be initiated in the future relative to the date of the Shared SWMP Document.

Responsibilities Matrices

Each BMP activity includes a responsibilities matrix, which shows assigned responsibilities for implementing the BMP (see Table 4).

Table 4. Responsibility Descriptions

Symbol	Definition	Description
P	Performs Task	Performs the actual work.
C	Consulted	Delivers foundational information and/or decisions needed to perform the work; likely is a significant stakeholder in the work.
S	Supports	Provides direct assistance needed to perform the work (labor, running reports).
I	Informed	Needs to be informed of the progress or results of the work (receives a report, receives a submittal).

Each row is a discrete action. Each column identifies which SWMP Document Participant's department or division is responsible for the action. Each cell is populated by a letter indicating the level of responsibility for carrying out the action (see Figure 6).

Figure 6. Example Responsibilities Matrix

Responsibilities for Pollution Prevention in Roadway Operations

Responsibilities Matrix	DTD Transportation Maintenance	Happy Valley Street Maintenance	WES Watershed Protection
Sweep County-maintained roads	P		I
Sweep City streets		P	I
Control pollutants in County roadway operations	P		I
Control pollutants in City street operations		P	I

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

Each BMP includes at least one measurable goal and each goal's associated tracking measures to evaluate the success of the BMP. Each goal is given a unique sequential identification linked to the

BMP name and BMP activity. Tracking measures will be reported to DEQ annually with the SWMP Document Participants' MS4 Annual Report.

Figure 7. Example Measurable Goals and Tracking MeasuresFigure 7 gives example goals and tracking measures and indicates how to calculate the tracking measures. These examples represent the various types of goals and measures included in the Shared SWMP Document.

Figure 7. Example Measurable Goals and Tracking Measures

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
POST-4.1	Perform final SWM construction site inspection on 100% of residential development sites each year.	• Annual number of final SWM construction site inspections performed on residential development sites. • Annual number of residential development sites that complete construction. • Annual percentage of final SWM construction site inspections performed residential development sites.
POST-4.2	Perform final SWM construction site inspection on 100% of subdivision and partition sites each year.	• Annual number of final SWM construction site inspections performed on subdivision and partition development sites. • Annual number of subdivision and partition development sites that complete construction. • Annual percentage of final SWM construction site inspections performed on subdivision and partition development sites.
POST-4.3	Perform final SWM construction site inspection on 100% of commercial development sites each year.	• Annual number of final SWM construction site inspections performed on commercial development sites. • Annual number of commercial development sites that complete construction. • Annual percentage of final SWM construction site inspections performed on commercial development sites.

Terms, Abbreviations, and Acronyms

The following terms, abbreviations, and acronyms are used in the Shared SWMP Document. A definitions section is also provided at the back of the document.

Terms, Abbreviations, and Acronyms	
1200-Z permit	NPDES Industrial Stormwater General Permit, issued by Oregon DEQ
Accela	Municipal work management platform
BCC	Clackamas County Board of County Commissioners
BMP	Best Management Practice
CCC	Clackamas County Code
CFD#1	Clackamas Fire District No. 1
CIP	Capital Improvement Project
Clackamas County Group permit	NPDES MS4 discharge permit No. 101348
COMM	Industrial and Commercial Facilities BMPs
cMMS	Computerized Maintenance Management System
CWA	Clean Water Act
DEQ	Oregon Department of Environmental Quality
DTD	Clackamas County Department of Transportation and Development
ED	Education and Outreach BMPs
EPA	United States Environmental Protection Agency
EPSC	Erosion Prevention and Sediment Control BMPs
ESCP	Erosion and Sediment Control Plans
FTE	Full Time Equivalent
GI	Green Infrastructure
GIS	Geographic Information System
GPS	Global Positioning System
Happy Valley	City of Happy Valley
IDDE	Illicit Discharge Detection and Elimination BMPs
IPM	Integrated Pest Management
IVM	Integrated Vegetation Management
LID	Low Impact Development
LID/GI	Low Impact Development and Green Infrastructure
LIDA	Low Impact Development Approaches
MAINT	Stormwater System Operations and Maintenance BMPs
MAP	MS4 Mapping BMPs
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
MS4 Permit	Clackamas County Group MS4 Permit No. 101348
MS4 Permit Term	The five-year term of the Clackamas County Group Permit effective October 1, 2021
NGSS	Next Generation Science Standards
NPDES	National Pollutant Discharge Elimination System permit program
NSRR	Numeric Stormwater Retention Requirement
OAR	Oregon Administrative Rules
ODOT	Oregon Department of Transportation
OERS	Oregon Emergency Response System
OLWS	Oak Lodge Water Services
ORS	Oregon Revised Statutes
Permitted area	Entire coverage area of the Clackamas County Group MS4 Permit No. 101348
POST	Post-Construction Site Runoff BMPs
POTW	Publicly Owned Treatment Works
PP	Public Participation BMPs
PPALs	Pollutant Parameter Action Levels
PREV	Pollution Prevention for Municipal Operations BMPs

Terms, Abbreviations, and Acronyms	
RCSW	DTD's Resource Conservation & Solid Waste group
RIMS	Roadway Inventory Management System
Rivergrove	City of Rivergrove
ROW	Right-of-Way, Rights-of-Way
SCAP	Storm Drain Cleaning Assistance Program
SFR	Single-family Residential
Shared SWMP Document	The 2022 MS4 Permit Shared Stormwater Management Program Document for Clackamas County, WES, Happy Valley, and Rivergrove (this document)
SIC	Standard Industrial Classification
SOP	Standard Operating Procedure
State	State of Oregon
STEM	Science, Technology, Engineering, and Math
SWM	Stormwater Management
SWMP	Stormwater Management Program, as required by MS4 Permit Schedule A.3
SWMP Document Participants	The four co-permittees of the Clackamas County Group Permit that participate in the Shared SWMP Document
SWM Plan	Stormwater management plan, as required by SWMP Document Participants for the construction plan review and approval of stormwater management controls on development and redevelopment sites
WES SWM Service Areas	Areas where WES provide stormwater management services, currently Rate Zones #2 and #3.
TMDL	Total Maximum Daily Load
UGB	Urban Growth Boundary
WES	Water Environment Services
WHEP	Watershed Health Education Program

Education and Outreach (ED)

Regulatory Overview

The MS4 permit requires SWMP Document Participants to address public education and outreach; this section has been organized to include requirements from multiple schedules of the permit. These BMPs respond to MS4 Permit requirements to conduct public education and outreach activities. These requirements are intended to increase public knowledge of stormwater impacts on receiving waterbodies and the actions that can reduce pollutants in stormwater runoff. The public education and outreach program also supports other aspects of the stormwater management program to:

- increase understanding of specific stormwater quality issues and which pollutants, products, and behaviors contribute to problems,
- communicate and demonstrate how to minimize or reduce pollutant discharges in stormwater runoff,
- encourage participation in the protection and enhancement of local waterways and wildlife including preventing illicit discharges, and
- facilitate reporting of illicit discharges and spills.

Requirement Summary for Education and Outreach

Schedule	Requirement	BMPs		
		ED-1	ED-2	ED-3
A.2.f	Review and Modification of the SWMP Document			■
A.3.a.i	Education and Outreach Program ❶	■	■	
A.3.a.ii	Stormwater Education Activities	■	■	
A.3.a.iii	Priority Audiences and Topics ❶ ❷ ❸	■	■	
A.3.a.iv	Tracking and Assessment	■	■	■
B.4.b. and c.	Evaluation of SWMP for Permit Renewal			■

The full text of the requirement that each BMP is addressing can be found in the 2021 MS4 Permit.
❶ See PP-1 for the public website with illicit discharge reporting instructions.
❷ See IDDE-5, EPSC-4, POST-5, PREV-8, COMM-3, and MAINT-7 for SWMP Document Participant staff training.
❸ See POST-2 for low impact development and green infrastructure approaches, COMM-2 for commercial and industrial facility pollution prevention, PREV-3 regarding pesticide and fertilizer BMPs, PREV-4 regarding BMPs for litter control and recycling programs, and MAINT-4 for private storm system inspections.

BMPs

ED-1 Stormwater Public Education and Outreach Strategy

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.a.i, A.3.a.ii, A.3.a.iii, and A.3.a.iv. The purpose of this BMP is to promote pollutant source control among members of the public through education and outreach activities. The Stormwater Public Education and Outreach Strategy will guide the SWMP Document Participants' activities to reach specific education and outreach goals and to coordinate activities to ensure coverage and reduce redundancy.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County departments
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

On behalf of all SWMP Document Participants, WES updates and maintains an Education Matrix, most recently updated June 7, 2021, to document the stormwater public education and outreach strategy. The Education Matrix describes outreach programs that are intended to reduce pollutants in stormwater discharges through knowledge and behavior change. The Education Matrix identifies targeted audiences, pollution reduction topics, and specific education activities.

Other Outreach

The SWMP Document Participants engage in a range of other water quality-focused education and outreach activities as part of their stormwater programs. These activities often target broad segments of the population or broad watershed health knowledge rather than the specific stormwater quality issues and audiences associated with the MS4 Permit requirements. As a result, they serve a key purpose in educating the public, but do not target specific educational goals. These activities include the Watershed Health Education Program (WHEP), social media campaigns telling the story of the surface water program, partnerships with other water quality organizations, and cooperation with regional watershed councils.

WES implements WHEP, which provides water quality-focused curriculum and science instruction for the public, including adults and school children in grades K-12. The goal of the school-age education program is to engage, inspire, and educate students to protect and restore watershed health and to influence the larger community. The program also supports broader science, technology, engineering, and math (STEM) and Next Generation Science Standards (NGSS) educational goals.

Social media campaigns use video and interactive activities to build support for watershed protection. These campaigns tell the story of the surface water program and encourage public engagement (such as inviting the public to upload photos). The campaigns may target specific education and outreach goals or may have a more general intent of increasing the audience's knowledge of and connection to local watersheds.

Partnerships with other organizations increase the impact of education and outreach funds and activities. The SWMP Document Participants partner with the watershed councils in the region and other public agencies in the Portland-Vancouver metropolitan area as part of the Regional Coalition for Clean Rivers and Streams. This organization allows members to coordinate education and outreach activities. This coordination extends the reach of agencies' messages to connected watersheds and improves message consistency across the region. The SWMP Document Participants participate with nonprofits and other public agencies in other regional partnerships, such as the Clean River Coalition, Tualatin Basin Public Awareness Committee, and others.

BMP Activities

ED-1.1 – IMPLEMENT THE STORMWATER PUBLIC EDUCATION AND OUTREACH STRATEGY

TYPE: ONGOING

STATUS: ONGOING

On an ongoing basis, SWMP Document Participants will implement the latest version of the strategy. Each SWMP Document Participant will contribute to implementing at least one outreach activity during the MS4 Permit term. Activities will take place throughout the year to maintain public awareness of issues, and activities will be timed to address seasonal topics when appropriate.

SWMP Document Participants' Communications and Community Relations departments will continue to maintain stormwater information on their websites. WES will continue to create public service announcements and to publish articles in County news publications. WES Watershed Protection and its education contractors will continue to implement the WHEP. WES Watershed Protection and Field Operations and DTD RCSW will continue to include stormwater messages in business outreach efforts.

ED-1.2 – UPDATE THE STORMWATER PUBLIC EDUCATION AND OUTREACH STRATEGY

TYPE: PERIODIC

STATUS: ONGOING

On behalf of SWMP Document Participants, WES will update the Strategy as needed.

Any updates will incorporate SWMP Document Participants' ongoing outreach activities that are not currently documented in the SWMP Document, add education goals, address and prioritize target audiences and required pollution reduction topics, and assign responsibilities to each SWMP Document Participant. Other updates will include developing new goals responsive to newly identified issues and improvements to activities targeting the existing goals.

In developing goals, WES will consider pollutants of concern identified in the 2015 *TMDL Pollutant Load Reduction Evaluation* and the *303(d) Evaluation* dated 2015 or the latest versions adopted by WES, as well as any new issues identified by staff in the previous year. If new goals are developed, WES will identify relevant audiences and activities to achieve each goal. SWMP Document Participant staff members will also evaluate progress on existing goals and determine what changes, if any, need to be made to existing activities including targeting new audiences.

Organizations engaged in stormwater pollutant reduction outreach in the region include, but are not limited to:

- Clackamas River Water Providers
- Clackamas Soil and Water Conservation District
- Watershed Councils
- OLWS
- Cities
- Clackamas Community College John Inskeep Environmental Learning Center

- Partner groups such as the Regional Coalition of Clean Rivers and Streams, the Clean Rivers Coalition, Oregon Association of Clean Water Agencies, and the Tualatin Basin Public Awareness Committee.

Responsibilities for Updating and Implementing the Stormwater Public Education and Outreach Strategy

Responsibilities Matrix	Clackamas County Public and Government Affairs	WES Watershed Protection	WES Field Ops	DTD RCSW
Maintain WES website	P	C		
Maintain DTD website	P			
Implement WHEP	P	P		
Conduct business outreach	S	P	P	P
Prepare news articles	P	C		
Create PSAs	P			
Update Public Education and Outreach Strategy	P	P		C/S

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
ED-1.1-a	During the MS4 Permit term, include educational goals targeting audiences and topics in the Strategy.	• Running total of target audiences included in the Public Education and Outreach Strategy.
ED-1.1-b	Each year complete at least 80% of planned written communication outputs (e.g., newsletters, websites, and pamphlets) described in the Strategy.	• Annual number of written communication outputs completed. • Annual number of planned written communication outputs. • Annual percentage of written communication outputs completed.
ED-1.1-c	Each year hold or co-sponsor at least three in-person public education opportunities (e.g., training, seminars, and kids' programs).	• Annual number of in-person education opportunities.
ED-1.2	Update the Strategy as needed.	• Date(s) the plan was updated.

ED-2 Outreach to Priority Audiences

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.a.i, A.3.a.ii, A.3.a.iii, and A.3.a.iv. The purpose of this BMP is to conduct targeted outreach to key stakeholders and audiences with a greater ability to change behaviors and reduce adverse impacts on receiving waters. SWMP Document Participants identify priority audiences and topics in the Public Education and Outreach Strategy (see ED-1); the activities in this BMP are ongoing and planned.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County departments
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

The SWMP Document Participants conduct outreach to specific audiences with a greater potential to cause or reduce adverse impact on receiving waters. These audiences include construction site operators, commercial and industrial business owners/operators, operators of private stormwater facilities, and municipal employees who maintain landscaping at municipal facilities and buildings in the Permitted Area.

For construction site operators, the SWMP Document Participants make available the *Erosion Prevention and Sediment Control Planning and Design Manual* (EPSC Planning and Design Manual) on the WES website. The manual includes design details, which are also available in PDF file format on the WES website. Erosion control education and training for construction site operators is voluntary. SWMP Document Participants offer guidance and information.

The 1200-Z Stormwater Discharge General Permit regulates stormwater discharges from industrial facilities that may reach Oregon waterways. The SWMP Document Participants regulate industrial or commercial properties that are not eligible for the 1200-Z permit through the MS4 Permit. During the 2012-2017 MS4 Permit term, WES developed the *Strategy for the WES Industrial/Commercial Stormwater Program in the City of Happy Valley and in the portions of SWMACC and CCSD#1 which are regulated by the MS4 permit*, which was last updated on June 28, 2013. The strategy includes a program of source control inspections and technical assistance to improve the operators' pollution prevention practices.

Owners and operators of private stormwater facilities serving industrial, commercial, churches and other religious institutions, multi-family residential properties, and subdivisions are obligated to inspect and maintain their facilities. Many of these private operators have signed stormwater facility maintenance agreements with WES describing these obligations. WES currently offers minimal guidance to private facility owners on the operation and maintenance of their facilities. Some guidance is provided in the Storm Drain Cleaning Assistance Program (SCAP) mailers (see MAINT-5.1).

SWMP Document Participants maintain landscapes and control vegetation on a variety of municipal properties and roads located throughout the Permitted Area. To guide vegetation and pest control activities, SWMP Document Participants follow either the 2012 *Integrated Pest Management Plan for the Surface Water Management Agency of Clackamas County, Clackamas County Service District No. 1, and the City of Happy Valley* (IPM Plan), the *Clackamas County Integrated Vegetation Management Plan*, dated 2000, (IVM Plan), or an equivalent plan.

BMP Activities

ED-2.1 EROSION CONTROL OUTREACH

TYPE: ONGOING

STATUS: ONGOING

SWMP Document Participants will continue to offer the *EPSC Planning and Design Manual* on their websites.

SWMP Document Participants will continue to offer information on their websites and in their permit lobbies about state NPDES construction site discharge permits (1200-C and 1200-CN), which are required by DEQ for some construction sites.

Happy Valley and WES will introduce their building site inspector and offer to review specific EPSC information during pre-construction meetings for subdivision, partition, and commercial/industrial construction projects, as well as for their own CIPs. DTD will review EPSC requirements at pre-construction meetings for County CIPs.

WES will maintain a list of local and regional training opportunities for construction site erosion control and pollution prevention. WES will distribute the list to other SWMP Document Participants. All SWMP Document Participants will post the list to their websites.

Responsibilities for Erosion Control Outreach

Responsibilities Matrix	WES Development Review	DTD Permit Lobby	Happy Valley Building Division	Happy Valley Engineering Division	DTD Transportation Construction
Offer Erosion Prevention and Sediment Control Planning and Design Manual on website	P	P	P	P	
Offer EPSC brochures, flyers, and 1200-C info in permit lobbies	P	P	P		
Annually update EPSC training opportunities	P	C/S	C/S		
Publish EPSC training opportunities on websites		P	P		
Provide EPSC information at pre-construction meetings	P	S		P	P

P = Performs Task, C = Consulted, S = Supports, I = Informed

ED-2.2 PRIVATE STORMWATER FACILITY OPERATIONS AND MAINTENANCE OUTREACH

TYPE: ONE-TIME

STATUS: FUTURE

WES will offer private stormwater facility maintenance guidance on the WES website and during inspections. WES also provides information on inspection and maintenance standards through the Storm Drain Assistance Program (SCAP) (see MAINT-4).

WES will create private stormwater facility maintenance handouts to guide operators of private stormwater facilities. Handouts will describe an inspection schedule and maintenance tasks based on the SWMP Document Participants' inspection and maintenance strategies and schedules (see MAINT-2). Handouts will be posted to SWMP Document Participants' websites, advertised with SCAP notices, and handed out during private stormwater facility inspections (see MAINT-4).

WES will promote the Clean Water Services online Private Water Quality Facility Maintenance Program and explore opportunities to partner on offering additional education options. WES will invite operators through the SCAP program notices (see MAINT-4) or other outreach.

Responsibilities for Private Stormwater Facility Operations and Maintenance Outreach

Responsibilities Matrix	WES Watershed Protection	Clackamas County Public and Government Affairs	WES Field Operations	DTD Resource Conservation and Solid Waste
Prepare stormwater facility maintenance handouts	P	S	C	
Post handouts to website		P		
Distribute handouts during inspections	P		S	P
Include links to handouts in SCAP notices	P	I		

P = Performs Task, C = Consulted, S = Supports, I = Informed

ED-2.3 SOURCE CONTROL OUTREACH AND TECHNICAL ASSISTANCE

TYPE: ONGOING

STATUS: ONGOING

WES will identify and reach out to businesses and to City and County municipal property operators that have a potential to spill oil, hazardous substances, or other materials to the MS4.

Spill prevention outreach to businesses will be integrated into the DTD Resource Conservation and Solid Waste (RCSW) program's Leaders in Sustainability Certification. The program, which supports businesses seeking to adopt and strengthen sustainable best practices, will provide voluntary inspections and pollution prevention education markers for storm drains. WES Watershed Protection will work with RCSW to integrate additional spill prevention activities in the program.

WES will create spill prevention messages for distribution through various types of interactions with businesses. The spill prevention messages will be included in contacts with businesses under COMM-2.2, Implement the Industrial and Commercial Facilities Strategy, and MAINT-4, Regulated Private Storm System Inspection and Maintenance. WES will combine stormwater source control inspections of priority facilities with other inspections when feasible.

There is no responsibilities matrix for this BMP activity.

ED-2.4 PESTICIDE, HERBICIDE, AND FERTILIZER TECHNICAL ASSISTANCE AND TRAINING

TYPE: ONGOING

STATUS: ONGOING

On behalf of SWMP Document Participants, WES will provide one meeting per permit term to check in with key personnel from Happy Valley, Rivergrove, WES and Clackamas County who maintain landscaping at parks, municipal facilities and buildings in the Permitted Area.

There is no responsibilities matrix for this BMP activity.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
ED-2.1	Annually update erosion trainings on website.	• Date of website update with trainings.
ED-2.2-a	Create private stormwater facility maintenance handouts during the MS4 Permit term.	• Date handouts created.
ED-2.2-b	Hold one maintenance workshop during the MS4 Permit term.	• Date of workshop. • Number of owner/operators invited to workshop. • Number of attendees at workshop.
ED-2.3	Incorporate spill prevention outreach into DTD RCSW.	• Date spill prevention language incorporated into RCSW certification
ED-2.4	Hold one IPM check-in meeting for SWMP Document Participant staff during the MS4 Permit term.	• Date of meeting.

ED-3 Evaluation of Education and Outreach Activities

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.2.f, A.3.a.iv, B.4.b, and B.4.c. The purpose of assessing education and outreach activities is to:

- Assist with the adaptive management of the education and outreach program, and
- Support DEQ's independent assessment of the SWMP Document Participant's stormwater management program.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County departments
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

DEQ requires SWMP Document Participants to follow an adaptive management approach to assess and modify, as necessary, any or all existing SWMP components and adopt new or revised SWMP components. Modifications that add elements to the approved SWMP may be made at any time and described in the Annual Report for that year. Modifications to delete, adjust, or replace elements in

the approved SWMP with an alternate action or activity may be made at any time and must be supported by documentation submitted with the subsequent annual report that must include:

- An analysis of why the new action is an appropriate alternative from the standpoint of effectiveness, feasibility, and/or cost; and
- Expectations on the effectiveness of the replacement action or activity.

In addition, the SWMP Document Participants will submit a permit renewal application package that must support any proposed modifications to programs and stormwater control measures. This application package must evaluate the adequacy of the programs described in the SWMP Document for effectiveness, feasibility, and cost.

BMP ACTIVITIES

ED-3.1 EVALUATION OF EDUCATION AND OUTREACH ACTIVITIES

TYPE: ONE-TIME

STATUS: FUTURE

During the MS4 Permit term, SWMP Document Participants will evaluate the education and outreach activities conducted as per the SWMP Document. The SWMP Document Participants will develop a standard set of objective criteria relative to effectiveness, local applicability, and program resources to adaptively manage the education and outreach activities, and the SWMP Document Participants will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the SWMP Document Participants stormwater management programs. The evaluation will be planned to meet the Permit renewal application package timeline. The criteria and plan may be developed independently or jointly by the SWMP Document Participants, and the criteria and plan may include only education and outreach activities or combine education and outreach activities with other Permit required evaluation topics.

There is no responsibilities matrix for this BMP activity.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
ED-3.1	Evaluate the SWMP Document Participants' Education and Outreach activities by April 3, 2026.	• Date evaluation results included in permit renewal package.

Public Participation (PP)

Regulatory Overview

The MS4 permit requires SWMP Document Participants to address public involvement and participation. This section has been organized to include requirements from multiple schedules of the permit. The MS4 Permit requires the SWMP Document Participants to give the public opportunities to participate in the maintenance, further development, and/or adaptive management of their stormwater management programs. Requirements include a publicly accessible website and stewardship opportunities to foster public involvement.

Requirement Summary for Public Participation				
Schedule	Requirement	BMPs		
		PP-1	PP-2	PP-3
A.2.f	Review and Modification of the SWMP Document			■
A.3.b.i	Publicly Accessible Website	■		
A.3.b.ii	Stewardship Opportunity		■	
A.3.a.iii	Tracking and Assessment	■	■	■
A.3.c.iv. (A)	Illicit Discharge Complaints or Reports	■		
A.3.g.ii	Industrial/Commercial Facilities Strategy Public Comment	■		
B.1.c	Monitoring Plan Public Comment	■		
B.3	Annual Report Posting to website	■		
B.4	MS4 Permit Renewal Application Package on website	■		
B.4.b. and c.	Evaluation of SWMP for Permit Renewal			■

The full text of the requirement that each BMP is addressing can be found in the 2021 MS4 Permit.

BMPs

PP-1 Publicly Accessible Website

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.b.i, A.3.a.iii, A.3.c.iv(A), A.3.g.ii, B.1.c, B.3, and B.4. The purpose of the BMP is to provide up-to-date information to residents, property owners, developers, and other stakeholders affected by the Shared SWMP Document. The website will provide information on the SWMP Document, the SWMP Document Participants' SWMP implementation, contact information, and educational materials.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County departments
✓	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

Each SWMP Document Participant will provide opportunities for the public to participate in the development of its stormwater management program. WES will lead the public participation

outreach for the Shared SWMP Document during the current permit term, and the SWMP Document Participants will each provide information about it through their normal public communications channels. The SWMP Document Participants will use digital and print communications as well as events to give the public opportunities to participate in the development of the Shared SWMP Document.

During the MS4 Permit term, the SWMP Document Participants will post the Shared SWMP Document on their websites.

BMP Activities

PP-1.1 – PUBLICLY ACCESSIBLE WEBSITE

TYPE: ONGOING

STATUS: ONGOING

The most current Shared SWMP Document will be available throughout the MS4 Permit term on the WES and Clackamas County websites, coordinated by Clackamas County Public and Government Affairs.

The SWMP Document Participants also publish current information to allow the public to provide feedback and to comply with or assist with the SWMP implementation including:

- A phone number and webpage the public can use to report illicit discharges;
- Links to ordinances and documents related to the stormwater management programs;
- The most recent MS4 Permit Annual Report; and,
- Contact information for relevant staff.

The SWMP Document Participants will provide opportunities for public participation by publishing draft documents for public comment on their websites. The documents will be posted and available for public comment for a minimum of 30 days, and comments must be considered prior to final issuance.

There is no responsibilities matrix for this BMP.

PP-1.2 – FACILITATE ILLICIT DISCHARGE REPORTING

TYPE: ONGOING

STATUS: ONGOING

WES will continue to publicize the available illicit discharge reporting methods to increase the likelihood that members of the public who witness an illicit discharge (which includes spills) will report it. WES will include messages about preventing and identifying illicit discharges in other planned outreach activities or publications, and DTD and Happy Valley will participate in these efforts (see ED-1).

Prompt public reporting of illicit discharges is an important tool for finding and controlling pollutant discharges to the MS4. The following options are available to the public to report illicit discharges and spills:

- WES' non-emergency reporting hotline
    - During business hours: 503-742-4567
    - After hours: 503-655-8211
- Electronic report from WES homepage: https://www.clackamas.us/wes/reportaproblem.html
- Spill and leak information on WES webpage: https://www.clackamas.us/wes/spills-and-leaks
- Happy Valley Public Works non-emergency response number: 503-783-3800.
- Happy Valley Report-a-Concern website: http://www.happyvalleyor.gov/report-a-concern/
- Spills or illicit discharges that constitute an emergency can be reported by calling 911.
- The Oregon Emergency Management Division operates the Oregon Emergency Response System (OERS): 800-452-0311.

Reports to the WES hotline and website are processed in accordance with the *Summary of Spill Response & Reporting Procedures,* scheduled to be updated December 2022 (see IDDE-2).

Responsibilities for Facilitating Illicit Discharge Reporting

Responsibilities Matrix	WES Watershed Protection	Clackamas County Public and Government Affairs	Happy Valley Public Works
Conduct public outreach to encourage illicit discharge reporting	C/S	P	S

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PP-1.1-a	Post MS4 Permit renewal documents to WES website by April 3, 2026.	• Date documents posted.
PP-1.1-b	Post MS4 Annual Report to each SWMP Document Participant's website by Dec. 5 each year.	• Date(s) MS4 Annual Report posted to each SWMP Document Participant's website each year.
PP-1.1-c	Post draft documents for public comment for at least 30 days	• Title of each document and starting and ending date of document postings on website.
PP-1.1-d	Consideration of comments received during public comments periods.	• Summary of comments received and how they were addressed prior to final issuance for each document that was available for public comment.
PP-1.1-e	Post reports, plans, and other documents to the website.	• Title of each document and date of posting.
PP-1.1-f	Annual review of website for current information and accuracy.	• Date of completed review.
PP-1.2	Conduct at least one IDDE reporting publicity campaign during the MS4 Permit term.	• Running total of IDDE reporting publicity campaigns to date.

PP-2 Public Stewardship

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.b.ii and A.3.a.iii. The purpose of this BMP is to encourage the public to take an active role in managing stormwater and protecting receiving waters. These activities provide environmental education that includes opportunities for

participants to connect with local ecosystems and tools to raise awareness, reduce their use of natural resources, and assist in the recovery or preservation of ecosystems.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
	Clackamas County DTD
	Other Clackamas County departments
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

The SWMP Document Participants conduct a variety of public education and outreach activities that actively engage the public in managing stormwater and protecting receiving waters. The Public Education and Outreach Strategy summarizes target audiences and methods for engagement. Additionally, WES offers grants through the RiverHealth Stewardship Program to support community groups, businesses, and property owners who want to improve the health of watersheds in WES service areas. The objective of the program is to improve watershed health by:

- Enhancing streamside vegetation by replacing invasive species with native species and/or increasing stream buffer width,
- Reducing pollutants and volume of runoff from paved surfaces,
- Using Low-Impact Development Approaches (LIDA) to manage stormwater,
- Educating those who work and live in the surface water districts served by WES on what they can do to improve water quality, and
- Providing opportunities for historically underserved and excluded communities to benefit from watershed health education and partner opportunities.

The grants support a variety of activities that restore habitat, manage invasive plant species, organize community volunteer events, provide watershed science education, and remove trash from waterways while enhancing water quality. Funding for RiverHealth Stewardship Grants comes from surface water revenue.

BMP Activities

PP-2.1 PUBLIC STEWARDSHIP

The SWMP Document Participants will continue to conduct and fund public education and outreach activities that incorporate stewardship. WES will continue to fund the RiverHealth Stewardship Program and offer grants to support community groups, businesses, and property owners who want to improve the health of watersheds, pending budget approval each year.

Responsibilities Matrix	WES Watershed Protection	Clackamas County Public and Government Affairs
Post grant applications to website	C/S	P
Collect and review grant applications	P	
Award grants	P	

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PP-2.1-a	Each year budget for and award stewardship grants to community groups, businesses, and property owners to improve the health of watersheds in the Permit area.	• Annual number of and value of grants awarded. • Purpose, outcomes, and number of participants for each grant awarded.
PP-2.1-b	Each year hold or co-sponsor at least one volunteer activity with an education component.	• Annual number of volunteer activities with an education component.

PP-3 Evaluation of Public Participation Activities

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.2.f, A.3.a.iii, B.4.b, and B.4.c. The purpose of assessing public participation activities is to:

- Assist with the adaptive management of the public participation program, and
- Support DEQ's independent assessment of the SWMP Document Participant's stormwater management program.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County departments
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

DEQ requires SWMP Document Participants to follow an adaptive management approach to assess and modify, as necessary, any or all existing SWMP components and adopt new or revised SWMP components. Modifications that add elements to the approved SWMP may be made at any time and described in the Annual Report for that year. Modifications to delete, adjust, or replace elements in the approved SWMP with an alternate action or activity may be made at any time and must be supported by documentation submitted with the subsequent annual report that must include:

- An analysis of why the new action is an appropriate alternative from the standpoint of effectiveness, feasibility, and/or cost; and
- Expectations on the effectiveness of the replacement action or activity.

In addition, the SWMP Document Participants will submit a permit renewal application package that must support any proposed modifications to programs and stormwater control measures. This application package must evaluate the adequacy of the programs described in the SWMP Document for effectiveness, feasibility, and cost.

BMP Activities

PP-3.1 EVALUATION OF PUBLIC PARTICIPATION ACTIVITIES

TYPE: ONE-TIME

STATUS: FUTURE

During the MS4 Permit term, SWMP Document Participants will evaluate public involvement and participation activities. The SWMP Document Participants will develop a standard set of objective criteria relative to effectiveness, local applicability, and program resources to adaptively manage the public involvement and participation activities, and the SWMP Document Participants will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the SWMP Document Participants stormwater management programs. The evaluation will be planned to meet the Permit renewal application package timeline. The criteria and plan may be developed independently or jointly by the SWMP Document Participants, and the criteria and plan may include only public involvement and participation activities or combine public involvement and participation activities with other Permit required evaluation topics.

There is no responsibilities matrix for this BMP activity.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PP-3.1	Evaluate the SWMP Document Participants public participation activities by April 3, 2026.	• Date evaluation results included in permit renewal package.

Illicit Discharge Detection and Elimination (IDDE)

Regulatory Overview

The MS4 permit requires SWMP Document Participants to address illicit discharge detection and elimination. This section has been organized to include requirements from multiple schedules of the permit. The MS4 Permit requires SWMP Document Participants to prohibit, detect, and respond to illicit discharges to the MS4. An illicit discharge is a discharge to the MS4 not entirely composed of stormwater, with some authorized exceptions (see MS4 Permit Schedule A.1.d). Requirements include dry weather inspections, control of illicit discharges, and a spill prevention program. Requirements related to mapping of the MS4, including an outfall inventory and location of dry weather screening locations, are addressed in the MS4 Mapping (MAP) BMP.

Requirement Summary for Illicit Discharge and Elimination

Schedule	Requirement	BMPs					
		IDDE-1	IDDE-2	IDDE-3	IDDE-4	IDDE-5	IDDE-6
A.2.f	Review and Modification of the SWMP Document						■
A.3.c.ii	Ordinance and/or Other Regulatory Mechanisms	■					
A.3.c.iii	Enforcement Procedures			■			
A.3.c.iv	Program to Detect and Eliminate Illicit Discharges ❶		■				
A.3.c.v	Dry Weather Screening Program ❷				■		
A.3.c.vi	Illicit Discharge Detection and Elimination Training and Education					■	
A.3.c.vii	Tracking and Assessment	■	■	■	■	■	■
B.4.b. and c.	Evaluation of SWMP for Permit Renewal						■

The full text of the requirement that each BMP is addressing can be found in the 2021 MS4 Permit.

❶ See ED-1 and ED-2 for public education and outreach activities relating to reducing illicit discharges and PP-1 for maintaining a website that includes reporting instructions for illicit discharge complaints.

❷ See MAP-2 for the MS4 Map and location of priority field screen locations and any chronic illicit discharges.

BMPs

IDDE-1 Illicit Discharge Legal Authority

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.c.ii and A.3.c.vii. The purpose of this BMP is to establish and maintain the SWMP Document Participants' authority to prohibit, investigate, and control illicit discharges, including the authority to conduct enforcement actions against dischargers. Illicit discharges are any discharges to an MS4 that are not composed entirely of stormwater, except for discharges authorized in Schedule A.1.d.ii of the MS4 Permit, discharges permitted by another NPDES permit, or discharges otherwise authorized by DEQ.

Geography

✓	WES Rate Zone #2including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

The elected officials of Clackamas County adopt policies, rules, and regulations that prohibit illicit discharges into the WES and DTD MS4s. Roads with surface-discharging drainage systems are part of the MS4.

WES Rules and Regulations (WES Rules) prohibits illicit discharge into the MS4 managed by WES. The Rules and Regulations apply to all properties with a service connection to the MS4 in the SWM Service Areas. For Permitted Areas outside of the WES SWM Service Areas, the remaining SWMP Document Participants coordinate response enforcement depending on where the illicit discharge originates from and if it impacts a street surface or a stormwater facility or sewer. All SWMP Document Participants have code authority to address nuisances and prohibit discharge of wastes and materials. For example, DTD has the authority to prohibit discharge of wastes and materials in the County ROW through Clackamas County Code (CCC) 10.03.080, which prohibits illegal dumping. Happy Valley Municipal Code Chapter 8.08.100 prohibits pollution of a body of water, stream, or drainage ditch.

BMP Activities

IDDE-1.1 – REVIEW AND UPDATE LEGAL AUTHORITY

TYPE: ONE-TIME

STATUS: FUTURE

County Rights-of-Way

DTD will maintain the authority to prohibit illicit discharges in the County ROW through Clackamas County Code. DTD will review its authority one time during the MS4 Permit term.

WES

WES will maintain the authority to prohibit illicit discharges through its *WES Rules*. WES will review its authority one time during the MS4 Permit term.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
IDDE-1.1-a	Review and update legal authority as necessary to prohibit illicit discharges to County ROW by Dec. 1, 2024.	• Date legal authority reviewed. • Date legal authority updated, if necessary.
IDDE-1.1-b	Review and update legal authority as necessary to prohibit illicit discharges to MS4s in WES by Dec. 1, 2024.	• Date legal authority reviewed. • Date legal authority updated, if necessary.

IDDE-2 Illicit Discharge Response

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.c.iv and A.3.c.vii. The purpose of this BMP is to reduce the discharge of pollutants to the MS4 by responding to illicit discharges of pollutants to the MS4 and receiving waters. Illicit discharges include accidental spills of oil, hazardous substances, sewage, or other pollutants. Accidental spills at businesses, municipal facilities, or on roadways can enter the MS4 and discharge to receiving waters. Illicit discharge response is triggered by any report of a suspected illicit discharge to the MS4. Spill response focuses on containing and mitigating spills that may discharge to the MS4.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

Illicit discharge response is triggered by any report of a suspected illicit discharge, regardless of how the report is received: a complaint received from the public, a report from another co-permittee or agency, discovery during the annual dry-weather inspections (see IDDE-4), discovery during routine maintenance of stormwater facilities and storm sewers (see MAINT-2 and MAINT-3), or during other routine work. Additionally, illicit discharge response encompasses spill response and incident response. Spills may be reported to SWMP Document Participants by the public, emergency responders, or municipal field crews.

WES primarily conducts illicit discharge response within the WES SWM (surface water management) service area. WES currently implements a spill response program described in the *Summary of Spill Response and Reporting Procedures (Spill Response SOP)*, currently scheduled for update and adoption by December 1, 2022.

DTD, WES, and Happy Valley each provide immediate spill response in their jurisdictions. When the spill is an emergency, Clackamas Fire District No. 1 or other emergency responders provide the initial incident management and response.

Spills of oil, hazardous substances, or sewage onto a street or into the drainage system are also illicit discharges. Happy Valley Public Works and DTD Transportation Maintenance personnel who encounter a spill during their work will report them to WES and take immediate action based on the *Spill Response SOP*. If a spill is cleaned up within 24 hours and reported to state and federal agencies as required, then WES will track the spill as an illicit discharge and may not investigate or respond further.

Spill prevention is addressed as part of education and outreach (see ED-2.3, Source Control Outreach and Technical Assistance) and industrial and commercial facilities (see COMM-2.2, Implement the Industrial/Commercial Facilities Strategy). Illicit discharge enforcement is addressed in IDDE-3.

BMP Activities
IDDE-2.1 – RESPOND TO ILLICIT DISCHARGES (INCLUDING SPILLS)

TYPE: ONGOING

STATUS: ONGOING

Reports of potential illicit discharges may be received by any of the SWMP Document Participants, and the initial response to an illicit discharge will depend on who discovered the illicit discharge and how the SWMP Document Participants are notified. Reports may come from:

- A complaint received from the public,
- A report from another co-permittee or agency,
- Emergency responders,
- Discovery during the annual dry-weather inspections (see IDDE-4),
- Discovery during routine maintenance of stormwater facilities and storm sewers (MAINT-2, and MAINT-3),
- Discovery during routine stormwater inspections (see MAINT-4) or Industrial Pretreatment inspections for sanitary sewer discharges, or
- Discovery during other routine work and by municipal field crews.

If a spill has occurred, the initial responder will begin implementing the *Spill Response SOP.* The initial responder (WES, Happy Valley, or DTD) will report "reportable" illicit discharges and spills to OERS if OERS hasn't been notified yet. If an illicit discharge originates from or flows to an adjacent MS4, the initial responder or WES will notify adjacent MS4 operators within one working day of becoming aware of the discharge or sooner if able to do so.

When a SWMP Document Participant receives a complaint or referral for mishandling pollutants that does not involve an illicit discharge, WES may schedule a source control inspection and provide technical assistance to prevent spills or illicit discharges (see COMM-2).

<u>Illicit Discharge Removal</u>

Once an illicit discharge is confirmed and the source is located, WES, DTD, or Happy Valley will immediately evaluate steps to remove the discharge.

SWMP Document Participants will control the illicit discharge as soon as possible, typically within an hour of discovery for a simple illicit discharge. For discharges, including spills, which constitute a threat to human health, welfare, or the environment, the SWMP Document Participants must respond within 24 hours of discovery or report, or as soon as possible after becoming aware of it if notified during weekends or after hours. SWMP Document Participants will call for emergency response from Clackamas Fire District No. 1 or other emergency responders, as necessary. For all other reports of illicit discharges, WES will respond within an average of two working days, and no greater than four working days. WES will conduct an initial investigation or evaluation within five working days or refer the complaint to the appropriate agency.

SWMP Document Participants will clean up non-hazardous illicit discharges or spills within fifteen working days of discovery of the illicit discharge.

If elimination of the discharge will take more than 15 working days, SWMP Document Participants will develop and begin implementing an action plan within 20 working days of discovery of the illicit discharge.

If the elimination of the illicit discharge involves the repair or replacement of the SWMP Document Participants wastewater or storm sewer conveyance systems or other capital improvements, the SWMP Document Participants will remove the source of the illicit discharge within three years of the date of its identification.

See IDDE-3 for a description of illicit discharge enforcement activities.

Responsibilities for Illicit Discharge Response

Responsibilities Matrix	WES Source Control	WES Watershed Protection	WES Field Ops	DTD Transpo Maint	Happy Valley Public Works	Clackamas County Facilities Mgmt., Sheriff, Other Depts.	Discharger ❷	Other Agencies / Public ❷	OR DEQ ❷
Report suspected illicit discharges❶	P	P	P/I	P	P		P	I	I
Investigate reports of suspected illicit discharges	P	P	P	S	P				I
Roadway spill response		C/S	P	P	P		P	I	I
Private property discharge to MS4 spill response	P	P	P	C/S	C/S		P	I	I
Spill reporting to agencies	P	P	P	P	P	P		I	I
Notify WES Field Ops of spill	P	P	I	P	P	P			
Notify adjacent MS4 operators	P	P	P	P/I	P/I	P/I			
Evaluate steps to remove discharge	C	C	P	P	P			I	
Develop removal action plan, if necessary		C	P	P	P		S		
Track spills in cMMS or spreadsheet	C/S	P	P	P	P	C			

P = Performs Task, C = Consulted, S = Supports, I = Informed

❶ *SWMP Document Participants will contact the National Response Center and the Oregon Emergency Response System when required by federal or state law or when directed by a standard operating procedure or plan for spill response.*
❷ *These entities do not participate directly in this SWMP Document and are not required to comply with the SWMP Document. SWMP Document Participants are not responsible for the actions of these entities. SWMP Document Participants implement its activities through enforceable authority, standards, contract language, plan review, inspection, and enforcement.*

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
IDDE-2.1-a	Each year investigate and confirm 100% of reports of suspected illicit discharges within 24 hours.	• Annual number of illicit discharges investigated within 24 hours. • Annual number of reported suspected illicit discharges. • Annual percentage of illicit discharges investigated within 24 hours.
IDDE-2.1-b	Each year evaluate removal of 100% confirmed illicit discharges within five working days of determining the source of the discharge.	• Annual number of illicit discharges evaluated for removal within five working days. • Annual number of confirmed illicit discharges (not including spills cleaned up within 24 hours). • Annual percentage of illicit discharges evaluated for removal within five working days.
IDDE-2.1-c	Each year halt 100% of illicit discharges within 15 working days after the source has been confirmed.	• Annual number of illicit discharges removed within 15 working days. • Annual number of confirmed illicit discharges (not including spills cleaned up within 24 hours). • Annual percentage of illicit discharges removed within 15 working days.
IDDE-2.1-d	Each year report 100% of reportable spills on public roadways or in the MS4 to state and federal authorities within required reporting timelines.	• Annual number of reportable spills on public roadways or in the MS4 reported within required timelines. • Annual number of reportable spills on public roadways or in the MS4. • Annual percentage of reportable spills on public roadways or in the MS4 reported within required timelines.

IDDE-3 Illicit Discharge Enforcement Procedures

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.c.iii and A.3.c.vii. The purpose of this BMP is to provide documented enforcement procedures following response to illicit discharges, including spills.

Geography

✓	WES Rate Zone #2including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

WES currently implements the April 2024 WES *Enforcement Response Plan,* which provides enforcement guidance to ensure a consistent response to illicit discharges. See IDDE-2 for illicit discharge response activities.

Each SWMP Document Participant that owns and operates an MS4 maintains enforcement authority for discharges to their MS4s (see IDDE-1). In addition, each SWMP Document Participant

works with other agencies that have enforcement authority relevant to the required resolution of an illicit discharge, including spills.

BMP Activities

IDDE-3.1 – IMPLEMENT ILLICIT DISCHARGE ENFORCEMENT PROCEDURES

TYPE: ONGOING

STATUS: ONGOING

Once an illicit discharge is confirmed and the source is located, WES, DTD, or Happy Valley will immediately evaluate steps to remove the discharge.

In cases where the source of an illicit discharge has not been immediately identified and controlled by the initial responders, SWMP Document Participants will implement the *IDDE Program Enforcement Response Plan*. WES will investigate complaints and reports of illicit discharges within WES service areas on behalf of SWMP Document Participants. Within WES service areas, WES will conduct investigations. If sampling is necessary, WES will support the investigation with sampling and analysis. For complaints and reports of illicit discharges in the Permitted Area outside WES' Surface Water Management (SWM) Service Areas, SWMP Document Participants will coordinate enforcement depending on where the illicit discharge originates from and if it impacts a street surface or a stormwater facility or sewer.

If a responsible party is identified, a SWMP Document Participant can choose to initiate enforcement. The discharger will be required to stop and clean up the discharge. WES may contact the site owner or responsible party and provide technical assistance or enforcement to address or control the discharge. Based on the amount and type of pollutant discharged, whether the discharge was intentional or accidental, if known, and whether the discharge could have been prevented, SWMP Document Participants may conduct further enforcement actions. SWMP Document Participants may take steps to control the discharge in an emergency.

The SWMP Document Participants will document all complaints or reports of illicit discharges into and from the MS4 and all associated investigation activities. Complaint tracking information from each year will be summarized in the following Annual Report.

SWMP Document Participants may require or apply any of the following control options, when appropriate for the discharge:

- Removing an illicit connection to the storm sewer from sanitary sewer system pipe, floor drainpipe, or other illicit connection;
- Implementing operational source control BMPs (e.g., cease use of soap when washing vehicles; wash vehicles indoors);
- Directing discharge to dry land or sanitary sewer, if permitted;
- Construction of a water quality facility (e.g., oil/water separator);
- Capturing and hauling wastewater off-site for proper disposal; or
- Applying for a discharge permit from DEQ.

WES

Within the WES service areas, WES will implement the *IDDE Program Enforcement Response Plan*, which documents WES's authority, appropriate levels of enforcement, and enforcement steps. The discharger will be required to stop and clean up the discharge. WES will contact the site owner or responsible party and provide technical assistance or enforcement to address or control the discharge. Based on the amount and type of pollutant discharged, whether the discharge was intentional or accidental, if known, and whether the discharge could have been prevented, WES may conduct further enforcement actions. WES may take steps to control the discharge in an emergency. In situations where the resolution of the illicit discharge will require a permit, WES will work with Clackamas County Code Enforcement, the Septic Department, the Building Code Department, or DTD as appropriate to resolve in a timely manner. For example, a failed septic system/cesspool may require a new septic system or a public sanitary sewer system connection to resolve or a cross connection would require a plumbing permit to resolve.

Activities conducted under the Industrial/Commercial Strategy that address MS4 Permit Schedule A.3.g and result in an enforcement action will utilize the same updated enforcement procedures. See COMM-2 for the Industrial and Commercial Strategy.

Permitted Area Outside of WES

In the rare case when an illicit discharge to a SWMP Document Participant's MS4 occurs outside of the WES SWM Service Area and requires enforcement, DTD or Happy Valley will control the discharge as soon as possible. DTD or Happy Valley will conduct enforcement activities consistent with County Code or Happy Valley Municipal Code. DTD will involve County Code Enforcement when abatement or litigation is necessary to resolve the discharge, and the Building Codes Department will manage the permitting process. Similarly, Happy Valley will work with their Building, Public Works, and Code Enforcement Departments to implement enforcement activities.

Responsibilities for Illicit Discharge Enforcement

Responsibilities Matrix	WES Source Control	WES Watershed Protection	WES Field Ops	DTD Transpo Maint	Happy Valley Street Maint	Code Enf, Septic Dept, Building Dept	Discharger ❶	OR DEQ ❶
Oversee elimination by discharger		I	P	P	P	P	I	I
Eliminate discharge (Discharger)		I	C	C	C		P	I
Eliminate discharge (SWMP Document Participant)	P	P	P	P	P		I	I
Enforcement	P	I	S	S	P	P	I	I
Notify DEQ	P	P	P	P	P		P	I
Track reports, investigations, and enforcement in cMMS	P	P	P	S	S			

P = Performs Task, C = Consulted, S = Supports, I = Informed

❶ *These entities do not participate in this SWMP Document and are not required to comply with it. SWMP Document Participants are not responsible for the actions of these entities. Information is provided for the reader's convenience.*

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
IDDE-3.1	Track 100% of enforcement actions initiated in that MS4 Permit year and their resolution.	• Annual number of enforcement actions initiated in that MS4 Permit year that were resolved by the discharger. • Annual number of enforcement actions initiated in that MS4 Permit year that were abated by a SWMP Document Participant. • Annual number of enforcement actions initiated in that MS4 Permit year that paid a civil penalty. • Annual number of enforcement actions.

IDDE-4 Dry Weather Inspections

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.c.v and A.3.c.vii. The purpose of this BMP is to detect illicit discharges and other polluted non-stormwater flows in the MS4 so they can be controlled to reduce the release of pollutants to receiving waters. Dry-weather inspections are used for detecting illicit discharges because discharges are more noticeable during dry weather, when stormwater discharges are not present and pollutant concentrations are not diluted by stormwater runoff.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
	Happy Valley
	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

WES currently maintains a list of priority locations for dry weather IDDE inspections in its district. WES inspects some of these locations once a year during the dry season and after an antecedent dry period of at least 72-hours. The purpose of these dry-weather inspections is to proactively locate illicit discharges which might be present in our MS4. When an illicit discharge is identified, staff track it upstream, if possible, through the storm sewer system to the source, where it is then controlled. WES most recently updated the prioritization location criteria rationale in December 2023. This BMP has been revised as of July 1, 2024 to capture these changes in time for implementation during the Summer 2024 dry weather IDDE inspection season.

WES maintains Pollutant Parameter Action Levels (PPALs) as described in a 2012 letter to DEQ (*Rationale for Pollutant Parameter Action Levels Used During Dry-Weather Storm Sewer System Field Screening at Priority Locations*, October 2012). Discharges with visible water quality issues or measurements exceeding the PPALs are traced to their source and controlled.

BMP Activities

IDDE-4.1 – MAINTAIN AND UPDATE LIST OF PRIORITY LOCATIONS

TYPE: PERIODIC

STATUS: ONGOING

WES will maintain and update the list of priority locations for dry-weather inspections. From the 1990s to December 2023, this list included all major outfalls and a few minor outfalls based on an analysis of risk of potential for illicit discharges, accounting for factors listed in the MS4 Permit Schedule A.3.c.v.

The current MS4 Permit – which was renewed on October 1, 2021, and then modified on May 5, 2023 – includes a requirement to *"…review and update the prioritization criteria for dry weather screening locations…"* which are used by the Illicit Discharge Detection & Elimination (IDDE) monitoring program. These dry weather screening/monitoring locations are known as Priority Locations. The MS4 Permit says this review and update must have been completed prior to Dec. 1, 2023 and this requirement (Schedule A.3.c.v.) has been fully complied with.

This BMP contains the updated information which is needed to update the revised dry weather IDDE inspection program. This 2024 SWMP Document BMP replaces the one which had been present in the 2022 SWMP Document.

This 2024 BMP has the following Measurable Goal: All known MS4-Permitted storm sewer systems in the WES SWM service area shall be monitored once in 10 years. For many years, WES has monitored Priority Locations in more than 40 MS4-Permitted storm sewer systems each July 1st to June 30th year. Each of these 40+ storm sewer systems was selected based on a careful consideration of all relevant factors, including but not limited to the land use of the drainage area (e.g. Industrial) and the diameter of the outfall. Although many illicit discharges have been found at these locations since 1999, it has been several years since any new illicit discharges have been found at any of these existing Priority Locations.

As a result, a significant change to the IDDE Priority Location dry weather monitoring system has been implemented beginning on July 1, 2024: WES has set a new Measurable Goal to conduct dry-weather field screening inspections in 10% of all of the known MS4-Permitted storm sewer systems in the WES SWM service area each July 1st to June 30th year. If this goal is reached, all of the known MS4-Permitted storm sewer systems – those which are owned and/or operated by Clackamas WES, Clackamas County, and the Cities of Rivergrove and Happy Valley – will receive one dry-weather inspection during a 10 year period.

In January 2023, WES staff generated an inventory which showed that Clackamas WES, Clackamas County and the Cities of Rivergrove and Happy Valley combined own and/or operate 654 known surface-discharging, MS4-Permitted storm sewer systems in the WES SWM service area. Because Priority Locations were inspected in 43 of these storm sewer systems during the July 1, 2023 to June 30, 2024 year (year 1), inspecting the remaining 611 MS4s over the next 9 years would require monitoring about 68 MS4s per year in order to reach the goal of inspecting all known, existing MS4 Permitted storm sewer systems in the WES SWM service area during a 10 year period. This Jan. 2023 inventory shall serve as the starting point for generating the inventory which shall be used over the next 9 years.

<u>Geography:</u>
To save time during inspections, it is recommended that the 68 or so Priority Location inspections conducted in any given July 1st to June 30th year be in the same geographic area.

<u>Flexibility When Selecting a Priority Location within a MS4:</u>

Because resources are not available to "field verify" these Priority Locations ahead-of-time, beginning in July 2024, the person(s) conducting the Priority Location inspections has full authority to be flexibile, and use their best judgement, when choosing the storm sewer system's Priority Location. The Priority Location can be the outfall, or the 1st or 2nd or even 3rd manhole up from the outfall, or a flow-through catch basin (if one is present) which is near and up from the outfall. Although it is typically ideal to select the outfall for the Priority Location, because it receives drainage from the entire storm sewer system, the effort and time required to access and find the outfall (e.g. cut weeds/brush in steeply sloped areas) can be excessive. Note that an unsafe condition will prevent WES staff from conducting a Priority Location inspection in an MS4.

MS4-Permitted Outfalls which Directly Drain Vegetated Ponds and Swales:
When vegetated stormwater management ponds and swales are being monitored for illicit discharges, the outfall shouldn't be chosen for the Priority Location, because it drains the pond or swale and the pollutants from any illicit discharge which may be present are more difficult to detect at the outfall (for example, dilution by standing water in the pond). In these instances, the inlet pipe or pipes to the pond or swale should be chosen for the Priority Location(s).

Priority locations will be mapped in a GIS (see MAP-2). They will also be shared with maintenance staff responsible for inspection, maintenance, and cleaning of the MS4 (see MAINT-2 and MAINT-3), as required by MS4 Permit Schedule A.3.c .v.

IDDE-4.2 – INSPECTIONS AND ANALYSIS

TYPE: ANNUAL

STATUS: ONGOING

WES will conduct an annual dry-weather inspection at Priority Location to try to detect illicit discharges. WES Source Control will inspect priority locations during the Willamette Valley's seasonal dry period (summer and early fall) and after a minimum of 72 hours has passed since any measurable rain (0.1 inch) has fallen. Inspectors will use visual assessment techniques and hand-held water quality monitoring equipment. Each inspection at a Priority Location will be documented in Lucity. Data to be collected will include: Inspector name; Date and time of visit; Presence or absence of water flow; Indicators of an illicit discharge or other non-stormwater discharge (such as odors, colors, solids) if present; Action taken, if any (sampling, upstream investigation); If flow is present, the measured water quality data (such as water temperature, pH, salinity); Other data, such as photographs, as appropriate.

When the inspection reveals dry weather flow, staff will immediately use hand-held analytical equipment to determine if the flow exceeds the PPALs. If necessary to confirm and identify the discharge, samples will be collected and sent to WES' in-house accredited laboratory, or to a third-party accredited laboratory. When the on-site analysis reveals a potential illicit discharge, WES Source Control will immediately investigate upstream to locate the discharge. If it is located, staff will control the discharge immediately, if possible.

Suspected illicit discharges and those that are confirmed through immediate investigation or later analysis will be referred to WES Watershed Protection staff and/or WES Field Operations staff for follow-up (see IDDE-2). Allowed non-stormwater discharges discovered by WES Source Control during dry weather inspections will be tracked in a database for future reference (currently Lucity).

Non-stormwater discharges allowed by MS4 Permit Schedule A.1.d.ii include pavement washing, excess irrigation flows, dechlorinated water from a swimming pool, and other types of discharges.

Responsibilities for Dry-Weather Inspections

Responsibilities Matrix	WES Source Control	WES Watershed Protection	WES Information Management	WES Field Operations
Maintain PPALs	I	P		
Update priority locations based on audit of outfall locations (see BMP MAP-2) and new analysis	I	P	S	
Conduct dry-weather inspections	P			C/S
Laboratory analysis (if needed)	P			I
Refer confirmed and suspected illicit discharges to WES Field Ops for response *(this initiates BMP IDDE-2)*	P	I		I
Submit inspection forms	P	I		I
Track inspections	P	P		

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
IDDE-4.2-a	Each year, conduct an inspection at a Priority Location in 10% of the MS4-permitted MS4s in the WES SWM Service Area	• Annual number of priority locations inspected. • Number of MS4-permitted MS4s in the WES SWM Service Area in most recent list. • Annual percentage MS4s inspected. • Running total of percentage of knowns MS4s inspected during the 10 years from year 1 (2023-2024) to year 10 (2032-2033)
IDDE-4.2-b	Each year refer 100% of confirmed (and unconfirmed) illicit discharges discovered through dry weather inspection to WES Field Operations or WES Watershed Protection within one working day.	• Annual number of confirmed and unconfirmed illicit discharges referred to WES Field Operations or WES Watershed Protection within one working day. • Annual number of illicit discharges discovered through dry weather inspections at Priority Locations. • Annual percentage of confirmed and unconfirmed illicit discharges referred to WES Field Operations or WES Wateshed Protection within one working day.

IDDE-5 IDDE Staff Training

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.c.vi and A.3.c.vii. The purpose of this BMP is to ensure that all staff members who are responsible for investigating and eliminating illicit discharges and illicit connections into the MS4 are appropriately trained.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD

✓	Municipal Facilities in Permitted Area

✓	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

The SWMP Document Participants must continue to implement a program to detect and eliminate illicit discharges to the MS4. In addition, the SWMP Document Participants must continue to implement procedures to prevent, contain, and respond to spills, as well as seepage from sanitary sewer system, which may discharge into the MS4 in accordance with all applicable federal and state laws, including proper notification to the Oregon Emergency Response System (OERS). An illicit discharge is any discharge to an MS4 that is not composed entirely of stormwater. Illicit discharges may involve hazardous materials or occur in hazardous locations and situations. Staff training is necessary to ensure the safety of staff members and the public, the prompt elimination of illicit discharges, and compliance with applicable federal and state laws.

BMP Activities

IDDE-5.1 – DETERMINE TRAINING NEEDS

TYPE: ONE-TIME

STATUS: FUTURE

One time during the Permit term, SWMP Document Participants will evaluate staff training and education needs and document the required training and education for staff members responsible for investigating and eliminating illicit discharges and illicit connections into the MS4. The SWMP Document Participants will document the required training and education frequencies in a training and education strategy. The strategy may be developed independently or jointly by the SWMP Document Participants, and the strategy may include only IDDE tasks or combine IDDE with other Permit required staff training topics. There is no responsibilities matrix for this BMP activity.

IDDE-5.2 – Conduct Training

TYPE: ONGOING

STATUS: ONGOING

The SWMP Document Participants will conduct the training documented in the strategy based on the identified frequencies as well as provide training for new employees as needed. Completed training will be documented by the SWMP Document Participants and reported in the annual report. There is no responsibilities matrix for this BMP activity.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
IDDE-5.1	Evaluate and document staff training and education needs one time during the MS4 Permit term.	• Date staff training and education strategy published.
IDDE-5.2	Provide training documented in the staff training and education strategy.	• Number of employees who receive training and education and type received.

IDDE-6 Evaluation of IDDE Activities

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.2.f, A.3.c.vii, B.4.b, and B.4.c. The purpose of assessing IDDE activities is to: I) Assist with the adaptive management of the IDDE

program, and II) Support DEQ's independent assessment of the SWMP Document Participant's stormwater management program.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

DEQ requires SWMP Document Participants to follow an adaptive management approach to assess and modify, as necessary, any or all existing SWMP components and adopt new or revised SWMP components. Modifications that add elements to the approved SWMP may be made at any time and described in the Annual Report for that year. Modifications to delete, adjust, or replace elements in the approved SWMP with an alternate action or activity may be made at any time and must be supported by documentation submitted with the subsequent annual report that must include:

- An analysis of why the new action is an appropriate alternative from the standpoint of effectiveness, feasibility, and/or cost; and
- Expectations on the effectiveness of the replacement action or activity.

In addition, the SWMP Document Participants will submit a permit renewal application package that must support any proposed modifications to programs and stormwater control measures. This application package must evaluate the adequacy of the programs described the SWMP Document for effectiveness, feasibility, and cost.

BMP Activities

IDDE-6.1 EVALUATION OF IDDE ACTIVITIES

TYPE: ONE-TIME

STATUS: FUTURE

During the MS4 Permit term, SWMP Document Participants will evaluate the IDDE activities conducted as per the SWMP Document. The SWMP Document Participants will develop a standard set of objective criteria relative to the effectiveness, local applicability, and program resources to adaptively manage the IDDE activities, and the SWMP Document Participants will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the SWMP Document Participants stormwater management programs. The evaluation will be planned to meet the Permit renewal application package timeline. The criteria and plan may be developed independently or jointly by the SWMP Document Participants, and the criteria and plan may include only IDDE activities or combine IDDE with other Permit required evaluation topics. There is no responsibilities matrix for this BMP activity.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
IDDE-6.1	Evaluate IDDE activities by April 3, 2026.	• Date evaluation results included in permit renewal package.

MS4 Mapping (MAP)

Regulatory Overview

The MS4 Permit has several requirements for SWMP Document Participants to map and inventory stormwater assets and locations. This section has been organized to include requirements from multiple schedules of the Permit. Requirements include identifying locations for IDDE dry weather screening, maintaining an inventory of all public and private stormwater facilities that discharge to the MS4, and maintaining and updating a map of the MS4 system including known outfall locations, the conveyance system, stormwater control locations, and chronic illicit discharges.

While not identified in the 2021 Stormwater Permit as a defined control measure, the SWMP Document Participants are consolidating mapping requirements in order to better scope, resource, and streamline a coordinated mapping strategy.

These maps may be used in Illicit Discharge Response (IDDE-2), Dry Weather Inspections (IDDE-4), Implement the Industrial/Commercial Facilities Strategy (COMM-2), Industrial/Commercial Site Inspections (COMM-2), and most operations and maintenance activities (MAINT-1 through 4).

Requirement Summary for MS4 Mapping					
		BMPs			
Schedule	Requirement	MAP-1	MAP-2	MAP-3	MAP-4
A.3.c.i.(A)	MS4 Map and Digital Inventory	■	■	■	■
A.3.c.i.(B)	Outfall Inventory		■		
A.3.c.i.(C)	Conveyance System and Stormwater Control Locations		■		
A.3.c.i.(D)	Chronic Illicit Discharges			■	
A.3.c.v.(A)	Annual Field Screening of Priority Locations❶		■	■	
A.3.e.vi (G)	Long-Term O&M Inventory and Mapping of Public and Private Stormwater Facilities❷		■		
B.4.b. and c.	Evaluation of SWMP for Permit Renewal				■
B.4.h	Updated MS4 Maps for Permit Renewal		■	■	■

The full text of the requirement that each BMP is addressing can be found in the 2021 MS4 Permit.
❶ See IDDE for activities related to Annual Field Screening of Priority Locations; MAP refers only to the mapping requirements.
❷ See MAINT for long-term O&M activities; MAP refers only to the mapping requirements.

BMPs

MAP-1 Develop Mapping Strategy

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.c.i(A). The purpose of this BMP is to support the SWMP Document Participants' SWMP activities by providing an accurate inventory and map of the MS4.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
✓	Other Clackamas County department
✓	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

The MS4 Permit includes several requirements for inventorying and mapping aspects of the SWMP Document Participants' MS4s and the MS4 Permit area:

- A.3.c. Illicit Discharge Detection and Elimination
  - i. MS4 Map:
  - v. Dry Weather Screening Program
- A.3.e. Post-Construction Site Runoff for New Development and Redevelopment
  - vi. Long-Term Operation and Maintenance (O&M)

The SWMP Document Participants currently maintain separate MS4 maps on different databases with different data schemas. WES currently maintains a map and list of priority locations for dry-weather inspection and a geographic information system (GIS) of its storm sewer system. DTD maintains a separate inventory of the storm sewer system in the County ROW, including outfalls, in an asset management database, currently the Roadway Inventory Management System (RIMS). WES coordinates with Happy Valley for mapping of the MS4 within the WES SWM Service Area. Outside of the WES SWM Services Area, DTD and Happy Valley maintain their own maps of their MS4.

BMP Activities

MAP-1.1 – DEVELOP MAPPING STRATEGY

TYPE: ONE-TIME

STATUS: FUTURE

Once during the MS4 Permit term, SWMP Document Participants will develop a mapping strategy to guide the collection and maintenance of geographic data and other inventory information about the MS4 and Permit area. The strategy will meet or exceed permit requirements and will also support other MS4 inventory and mapping needs identified by the SWMP Document Participants. The strategy will provide guidance on minimum information collection protocol and provide both a standard data schema and metadata standards to assist with data sharing. WES will lead development of the strategy and standards.

At a minimum, the MS4 Mapping Strategy will include mapping standards and practices for the following features:

- Outfall locations, owned or operated by the SWMP Document Participants;
- Stormwater conveyances;
- Structural stormwater controls:
  - Public stormwater facilities, and
  - Private facilities which discharge to the MS4 and which meet any of the following criteria: were constructed since January 15, 2012, or are used to estimate pollutant

load reduction as part of the TMDL benchmark evaluation, or otherwise determined by the SWMP Document Participants to be a major stormwater facility);
- Chronic illicit discharges; and,
- Annual dry-weather priority screening sites.

The MS4 Mapping Strategy may include recommendations for tracking inspection and maintenance activities and interfaces between work order management databases and GIS.

Responsibilities for Developing Mapping Strategy

Responsibilities Matrix	WES Field Ops	WES Dev Review	WES Capital Projects	WES Info Mgmt.	DTD Transpo Const	Happy Valley Eng
Develop Mapping Strategy	C/S	C/S	C/S	P	C/S	C/S
Update GIS structure	I	I	I	P	P	P
Update GIS records	P	P	P	C/I	P	P
Field verifies selected assets	P				P	P

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAP-1.1	Develop MS4 Mapping Strategy by December 1, 2022.	• MS4 Mapping Strategy.

MAP-2 Inventory and Map MS4 Infrastructure

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.c.i(A), A.3.c.i(B), A.3.c.i(C), A.3.c.v(A), A.3.e.vi(G), and B.4.h. The purpose of this BMP is to map stormwater conveyance systems and stormwater management facilities in the SWMP Document Participants' jurisdictions. A complete and updated inventory and map of stormwater management facilities is an essential first step in maintaining public facilities and regulating private facilities and helps SWMP Document Participants track progress toward meeting measurable goals of related BMPs.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
✓	Other Clackamas County departments
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

Stormwater management facilities are defined as those structures with pollutant removal, infiltration/retention, or flow control capabilities. These include, but are not limited to, catch basins, detention tanks/pipes, detention ponds, infiltration ponds, swales, rain gardens, and pollution control manholes.

Stormwater management facilities may be public or private. Public facilities include both those constructed as part of a SWMP Document Participants' capital improvements such as roadways and those added to the public system through private development. For the purposes of this BMP, the definition of a public facility includes the privately-owned, publicly operated facilities, most of which are in single-family residential subdivisions, that are enrolled in WES' Residential Maintenance Agreement Program.

Private facilities are those stormwater management facilities owned and operated by commercial, industrial, multi-family residential, and institutional property owners (civic, religious, etc.). Facilities owned and operated by other public agencies, such as schools, fire districts, and ODOT, are also defined as private for the purposes of this BMP.

BMP Activities

MAP-2.1 – UPDATE INVENTORY AND MAP EXISTING INFRASTRUCTURE

TYPE: ONGOING

STATUS: ONGOING

After completing MAP-1.1 to develop the MS4 Mapping Strategy, each SWMP Document Participant will update their GIS with new attribute fields and structural changes necessary to execute the strategy. The SWMP Document Participants will then implement the MS4 Mapping Strategy to expand, audit, and update the MS4 inventory and map.

Each SWMP Document Participant will audit their current inventory to ensure the list and map are accurate. To support this effort, data will be collected in the field and from as-builts and record drawings. Data collected will include Global Positioning System (GPS) coordinates, pipe diameter, and pipe materials. As-builts and other record drawings will be used to fill other data gaps.

Responsibilities for Updating GIS and Existing Records

Responsibilities Matrix	WES Field Ops	WES Info Mgmt.	DTD Transpo Maint	Happy Valley Public Works
Upgrade GIS database structure	S	P	P	P
Review and update existing records	P	S	P	P
Field-verify select GIS records	P	S	P	P

P = Performs Task, C = Consulted, S = Supports, I = Informed

MAP-2.2 – INVENTORY AND MAP NEW STORMWATER CONVEYANCE AND MANAGEMENT FACILITIES

TYPE: ONGOING

STATUS: ONGOING

Each SWMP Document Participant will inventory and map new public conveyances and new public and private stormwater management facilities that drain to the MS4 in a GIS as per the Mapping Strategy developed in MAP-1.1.

The inventory will document the ownership status and maintenance responsibility status of each facility. SWMP Document Participants may use the annual inventory report as the basis for calculating maintenance-related tracking measures for the year (see MAINT-1 through 4).

Responsibilities for Mapping New Stormwater Conveyance and Management Facilities

Responsibilities Matrix	WES Field Ops	WES Dev Review	DTD Transpo Const	Happy Valley Eng	WES Capital Projects
Constructs new public stormwater facilities and submits as-builts (see POST-4)	I	I	P	P	P
Accept as-builts of private development stormwater facilities (see POST-4)		P			
Seek additional info as needed		P	P	P	P
Inventory/map assets in GIS	C/S	P	P	P	P

P = Performs Task, C = Consulted, S = Supports, I = Informed

MAP-2.3 – MAP PRIORITY LOCATIONS FOR IDDE FIELD SCREENING

TYPE: PERIODIC

STATUS: ONGOING

WES maintains a list of priority locations for dry-weather inspections and inspects these outfalls annually (see IDDE-4). This list, which is contained within a WES memo, was updated most recently in June 2022. These Priority Locations must be included as part of the MS4 Map and digital inventory. WES is required to review and update the prioritization criteria by December 1, 2023, and the priority field screening locations must be identified on the MS4 map and digital inventory when the assessment is complete.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAP-2.1-a	MS4 Map and Digital Inventory submitted or access provided to DEQ by December 1, 2022.	• Date MS4 Map and Digital Inventory submitted or access provided
MAP-2.1-a	100% of existing public stormwater conveyances and stormwater facilities mapped by December 1, 2022	• Number of in-service public stormwater assets mapped by December 1, 2022 • Number of in-service public stormwater assets • Percentage of in-service public stormwater assets mapped by December 1, 2022
MAP-2.1-b	25% of existing private stormwater facilities mapped by December 1, 2022	• Number of existing private stormwater facilities mapped by December 1, 2022 • Number of existing private stormwater facilities • Percentage of existing private stormwater facilities mapped by December 1, 2022

ID	Measurable Goals	Tracking Measures
MAP-2.1-c	100% of existing private stormwater facilities mapped by end of permit term.	• Number of existing private stormwater facilities mapped by December 1, 2023 • Number of existing private stormwater facilities • Percentage of existing private stormwater facilities mapped by December 1, 2023
MAP-2.2	100% of new public stormwater conveyances and public and private stormwater facilities are mapped within 3 months of public acceptance and private final construction approval (see POST-4)	• Number of new public stormwater conveyances and stormwater facilities mapped within three months of acceptance. • Number of new public stormwater conveyances accepted. • Percentage of new public stormwater conveyances mapped within three months of acceptance. • Number of new private stormwater facilities mapped within three months of final construction approvals. • Number of new private stormwater facilities with final construction approval. • Percentage of new private stormwater facilities mapped within three months of final construction approval.
MAP-2.3	100% of IDDE Priority Locations mapped by December 1, 2023.	• Number of Priority Locations mapped by December 1, 2023 • Number of Priority Locations • Percentage of Priority Locations mapped by December 1, 2023

MAP-3 Track and Map Locations of Concern

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.c.i(A), A.3.c.i(D), A.3.c.v(A), and B.4.h. The purpose of this BMP is to reduce discharge of contaminated stormwater to the MS4 by identifying and mapping locations which have a greater potential to discharge pollutants to the MS4.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

Locations of concern have a greater potential to discharge pollutants to the MS4. These locations include locations where repeat or recurring illicit discharges occur, locations at risk of illicit discharges due to land use factors, and industrial and commercial sites not eligible for the 1200-Z permit.

BMP Activities

MAP-3.1 – MAP CHRONIC ILLICIT DISCHARGES

TYPE: ONGOING

STATUS: FUTURE

SWMP Document Participants will map locations when and where chronic illicit discharges occur.

There is no responsibilities matrix for this BMP.

ID	Measurable Goals	Tracking Measures
MAP-3.1	MS4 Map and Digital Inventory submitted or access provided to DEQ by December 1, 2022.	• Date MS4 Map and Digital Inventory submitted or access provided

MAP-4 MS4 Mapping Evaluation

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.c.i(A), B.4.b, B.4.c, and B4.h. The purpose of assessing MS4 mapping activities is to:

- Assist with the adaptive management of the MS4 mapping program, and
- Support DEQ's independent assessment of the SWMP Document Participant's stormwater management program.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

DEQ requires SWMP Document Participants to follow an adaptive management approach to assess and modify, as necessary, any or all existing SWMP components and adopt new or revised SWMP components. Modifications that add elements to the approved SWMP may be made at any time and described in the Annual Report for that year. Modifications to delete, adjust, or replace elements in the approved SWMP with an alternate action or activity may be made at any time and must be supported by documentation submitted with the subsequent annual report that must include:

- An analysis of why the new action is an appropriate alternative from the standpoint of effectiveness, feasibility, and/or cost; and
- Expectations on the effectiveness of the replacement action or activity.

In addition, the SWMP Document Participants will submit a permit renewal application package that must support any proposed modifications to programs and stormwater control measures. This application package must evaluate the adequacy of the programs described in the SWMP Document for effectiveness, feasibility, and cost.

BMP Activities

MAP-4.1 EVALUATION OF MS4 MAPPING ACTIVITIES

TYPE: ONE-TIME

STATUS: FUTURE

During the MS4 Permit term, SWMP Document Participants will evaluate the MS4 mapping activities conducted as per the SWMP Document. The SWMP Document Participants will develop a standard set of objective criteria relative to effectiveness, local applicability, and program resources to adaptively manage the MS4 mapping activities, and the SWMP Document Participants will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the SWMP Document Participants stormwater management programs. The evaluation will be planned to meet the Permit renewal application package timeline. The criteria and plan may be developed independently or jointly by the SWMP Document Participants, and the criteria and plan may include mapping activities or combine mapping activities with other Permit required evaluation topics.

See IDDE-6 for an evaluation of IDDE activities and POST-6 for an evaluation of POST activities.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAP-4.1	Evaluate the MS4 mapping activities by April 3, 2026.	• Date evaluation results included in permit renewal package.

Construction Site Runoff Control (EPSC)

Regulatory Overview

The MS4 permit requires SWMP Document Participants to address construction site runoff control and prevent polluted runoff from construction sites, primarily sediment and other significant pollutants such as DDT and mercury. SWMP Document Participants are required to have ordinances or other regulatory mechanisms to require the implementation of proper erosion prevention and sediment control (EPSC) measures, as well as the control of other pollutants, on construction sites that result in a land disturbance of 1,000 square feet or greater. SWMP Document Participants are also required to review site plans prior to construction and inspect construction sites to confirm operators are complying with requirements. The MS4 Permit uses the acronym of Erosion and Sediment Control Plans (ESCP) to refer to a site-specific plan; this SWMP Document uses the acronym of Erosion Prevention and Sediment Control (EPSC) to encompass all BMPs related to construction site runoff control, including site-specific plans.

Requirement Summary for Construction Site Runoff Control							
Schedule	Requirement	BMPs					
		EPSC-1	EPSC-2	EPSC-3	EPSC-4	EPSC-5
A.2.f	Review and Modification of the SWMP Document					■
A.3.d.i	Ordinance and/or Other Regulatory Mechanism	■		■		
A.3.d.ii	Erosion and Sediment Control Plans (ESCPs)	■				
A.3.d.iii	Erosion and Sediment Control Plans Review		■			
A.3.d.iv	Construction Site Inspections			■		
A.3.d.v	Enforcement Procedures			■		
A.3.d.vi	Construction Runoff Control Training and Education ❶				■	
A.3.d.vii	Tracking and Assessment	■	■	■	■	■
B.4.b. and c.	Evaluation of SWMP for Permit Renewal					■

The full text of the requirement that each BMP is addressing can be found in the 2021 MS4 Permit.
❶ *See ED-2 for education and outreach for erosion control.*

BMPs

EPSC-1 Construction Site Runoff Legal Authority

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.d.i, A.3.d.ii, and A.3.d.vii. The purpose of this BMP is to establish and maintain the SWMP Document Participants' legal authority to require EPSC measures at construction sites, to review EPSC plans prior to construction, and to inspect EPSC measures during construction.

Construction activities remove vegetation and other cover, which exposes soil to the weather and increases erosion. Sediment and other pollutants from construction sites cause significant harm to receiving waters. This BMP addresses the adverse effects of these pollutants on receiving waters by providing the legal authority to require and inspect EPSC measures at construction sites.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

The elected officials of Clackamas County and Happy Valley adopt policies, rules, and regulations that require pollution control measures on construction sites that drain into the SWMP Document Participants' MS4s. Many construction sites are also subject to the Oregon NPDES Construction Stormwater Discharge Permit (1200-C, 1200-CN and 1200-CA).

WES, Clackamas County, and Happy Valley participated in the regional development of the *Erosion Prevention Planning and Design Manual* (2020) to provide consistent standards. Clackamas County Code 9.03, Excavation and Grading, requires permits from the Clackamas County Building Official for excavation, grading, or earthwork. Clackamas County Zoning and Development Ordinance 1006.06 provides standards for erosion control during development and requires an erosion control plan.

On behalf of SWMP Document Participants, WES tracks the status of legal authority.

<u>County-maintained ROW</u>

County capital improvement projects (CIPs) are designed and constructed by DTD using professional services contracts and construction bid contracts. Some are also designed or constructed by DTD personnel. When a County CIP is within the Permitted Area, DTD exercises the County's contracting authority to require EPSC plans and construction methods in its construction contracts.

<u>Happy Valley</u>

Happy Valley Municipal Code (HVMC) Chapter 15.20 prohibits visible or measurable erosion and other contaminants from being discharged into the MS4 during construction. The Chapter requires approval of an erosion control plan and issuance of an erosion control permit on any site where construction activity will disturb an area in excess of 500 square feet.

Happy Valley CIPs are designed and constructed by Happy Valley using professional services contracts and construction bid contracts. Some are also designed or constructed by City personnel. Happy Valley exercises the City's contracting authority to require EPSC plans and construction methods in its construction contracts.

<u>WES SWM Service Area</u>

The *WES Rules* requires construction site erosion control and pollution prevention, which will apply the following to all parcels within WES' SWM Service Area:

- Prohibit erosion from leaving construction sites;
- Limit exposure of bare soil to wet weather;

- Require preparation of EPSC plans;
- Require an erosion control permit at a threshold established in the *WES Stormwater Standards;*
- Require effective maintenance of EPSC measures;
- Prohibit discharge of other pollutants (e.g., fuel, concrete) to the MS4 and other locations; and
- Require water quality treatment of sediment-laden water prior to discharge to a surface water system.

The *WES Rules* require adherence to adopted and referenced erosion control standards and stormwater standards.

The *WES Stormwater Standards* describe thresholds and BMPs for construction site pollution prevention, such as:

- Requiring an EPSC plan and EPSC permit for sites disturbing 800 square feet or more;
- Requiring all sites, regardless of size, to prevent visible or measurable erosion from leaving the site; and
- Establishing minimum construction site pollution prevention measures.

BMP Activities

EPSC-1.1 – CONSTRUCTION SITE RUNOFF LEGAL AUTHORITY

TYPE: ONE-TIME

STATUS: FUTURE

SWMP Document Participants will review legal authority to require, inspect, and enforce erosion control and pollution prevention measures on construction sites in alignment with MS4 Permit Schedule A.3.d one time during the Permit term.

There is no responsibilities matrix for this BMP.

EPSC-1.2 – EROSION AND SEDIMENT CONTROL PLAN STANDARDS

TYPE: ONE-TIME

STATUS: FUTURE

SWMP Document Participants will review the *Erosion Prevention Planning and Design Manual* at least once during the permit term to ensure that it meets the standards of MS4 Permit Schedule A.3.d. This includes requiring construction site operators to document site specific erosion and sediment controls for construction project sites that result in a minimum land disturbance equal to or greater than 1,000 square feet. SWMP Document Participants will maintain written specifications that address the proper installation and maintenance of erosion and sediment controls during all phases of construction activity occurring in their coverage area. The written specifications must include an ESCP template, worksheet, checklist, or similar document for construction site operators to document how erosion, sediment, and waste material management controls for non-stormwater wastes (e.g., discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste) will be implemented and maintained at the construction project site.

The adopted standards must:

- Require construction site operator to complete a site-specific Erosion and Sediment Control Plan or other documentation of site-specific controls prior to beginning construction/land disturbance;
- Require the Erosion and Sediment Control Plan be maintained and updated as site conditions change, or as specified by the SWMP Document Participants;
- Require Erosion and Sediment Control Plans to be kept on site and made available for review by the SWMP Document Participants, DEQ, or another administrating entity during site inspections or upon request; and,
- Continue to ensure that ESCPs for construction sites disturbing one acre or greater are consistent with the substantive requirements of the State of Oregon's 1200-C NPDES permit ESCPs.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
EPSC-1.1-a	Review, and update, if necessary, DTD's boilerplate contract terms to ensure EPSC plans are required in construction contracts by Dec. 1, 2024.	• Date legal authority reviewed. • Date legal authority updated, if necessary.
EPSC-1.1-b	Review, and update, if necessary, Happy Valley code to ensure alignment with the MS4 Permit Schedule A.3.d by Dec. 1, 2024.	• Date legal authority reviewed. • Date legal authority updated, if necessary.
EPSC-1.1-c	Review, and update, if necessary, *WES Rules and Regulations* to ensure alignment with MS4 Permit Schedule A.3.d by Dec. 1, 2024.	• Date legal authority reviewed. • Date legal authority updated, if necessary.
EPSC-1.1-d	Review, and update, if necessary, Clackamas County Code and Building and Development Ordinance to ensure alignment with MS4 Permit Schedule A.3.d by Dec. 1, 2024.	• Date legal authority reviewed. • Date legal authority updated, if necessary.
EPSC-1.2	Review, and update, if necessary, Erosion Prevention Planning and Design Manual once during the MS4 Permit Term.	• Date manual reviewed. • Date manual updated, if necessary.

EPSC-2 EPSC Plan Review

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.d.iii and A.3.d.vii. The purpose of this BMP is to prevent sediment and other pollutants from leaving construction sites and entering the MS4. SWMP Document Participants adopt clear EPSC plan requirements and implement efficient and consistent EPSC plan review procedures to provide guidance to construction site operators. This BMP helps ensure proper implementation of erosion and pollution prevention measures on construction sites.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

Depending on the construction site's location, staff from either WES or Happy Valley reviews the EPSC plans. Both SWMP Document Participants administratively adopted the current *EPSC Planning and Design Manual* to describe site planning requirements and BMPs for construction site pollution control.

BMP Activities

EPSC-2.1 – EPSC REVIEW OF COUNTY CIPS

TYPE: ONGOING

STATUS: ONGOING

For a County DTD CIP within the Permitted Area that disturbs more than 800 square feet, DTD Transportation Construction will develop an EPSC plan with the project's construction documents. DTD will internally review the plan. Contractors will be required by DTD to follow the EPSC plan.

Responsibilities for EPSC Plan Review of County CIPs

Responsibilities Matrix	DTD Transportation Construction	Construction Site Contractor❶
Determine if CIP requires EPSC plan	P	
Develop EPSC plan	P	
Install and maintain EPSC measures	I	P
Initiate EPSC Inspection and Enforcement (see EPSC-3.1)	P	I
Track EPSC plans	P	

P = Performs Task, C = Consulted, S = Supports, I = Informed

❶ *These entities do not participate directly in this SWMP Document and are not required to comply with it. SWMP Document Participants are not responsible for the actions of these entities. SWMP Document Participants implement the activities of the plan through enforceable authority, standards, contract language, plan review, inspection, and enforcement.*

EPSC-2.2 – EPSC REVIEW IN HAPPY VALLEY

TYPE: ONGOING

STATUS: ONGOING

Happy Valley will conduct EPSC plan review for all construction sites in the City that disturb more than 500 square feet, including the portions of the City within WES Rate Zone #2.

Applicants will be required to apply for an EPSC permit and to submit an EPSC plan. EPSC plans will be required to use the minimum control measures described in *WES Rules* and to include a site plan and BMPs in accordance with the *EPSC Planning and Design Manual*. The submittal will be required

to describe operational methods and temporary facilities to control sediment during construction and to include schedules for construction and maintenance of BMPs.

The Happy Valley Engineering Division will review EPSC permit applications and plans associated with land use applications (e.g., commercial, multi-family, and subdivisions), and Happy Valley Building Division will review them with building permits. An EPSC permit will be issued before the City issues a development or building permit. After permit issuance, Happy Valley will implement the EPSC Inspection and Enforcement process (see BMP EPSC-3.2).

Responsibilities for EPSC Plan Review in Happy Valley

Responsibilities Matrix	Happy Valley Engineering or Building	Applicant[1]
Submit EPSC plan and EPSC permit application	I	P
Review EPSC plan	P	
Approve EPSC plan and issue EPSC permit	P	I
Attend pre-construction meeting (land use review projects only)	P	P
Initiate EPSC Inspection and Enforcement (see EPSC-3)	P	
Track EPSC permits	P	

P = Performs Task, C = Consulted, S = Supports, I = Informed

[1] *These entities do not participate directly in this SWMP Document and are not required to comply with it. SWMP Document Participants are not responsible for the actions of these entities. SWMP Document Participants implement its activities through enforceable authority, standards, plan review, inspection, and enforcement.*

EPSC-2.3 – EPSC REVIEW IN WES' SWM SERVICE AREA

TYPE: ONGOING

STATUS: ONGOING

WES will review the EPSC plans of all new construction and redevelopment projects that disturb 800 square feet or greater of land in WES' SWM Service Areas that are not located in Happy Valley. Reviews will be conducted in accordance with the *WES Rules* and adopted standards.

Applicants will be required to apply for an EPSC permit and to submit an EPSC plan. EPSC plans will be required to use the minimum control measures described in the *WES Rules* and to include a site plan and BMPs in accordance with the *EPSC Planning and Design Manual*. The submittal will be required to describe operational methods and temporary facilities to control sediment during construction and to include schedules for construction and maintenance of BMPs.

The County's DTD Permit Counter will receive applications for EPSC permits in unincorporated Clackamas County and Rivergrove. For properties within the WES SWM Service Area, EPSC permits will be routed to WES to initiate the EPSC review process. WES will review and sign off on EPSC plans submitted as part of permit applications in Development Direct before DTD Development Engineering issues a building permit.

Land Use Approvals

For construction sites associated with land use reviews (e.g., commercial, multi-family, subdivisions) applicants will submit construction documents, including an EPSC plan, after land use approval and before construction begins. WES will review the EPSC plan concurrently with the

site's post-construction stormwater plan (see POST-3). If DTD and the applicant elect to hold a pre-construction meeting, WES will attend.

After WES approves the EPSC plan, and DTD issues the Land Use Approval, WES will initiate EPSC Inspection and Enforcement (see EPSC-3).

Responsibilities for EPSC Plan Review of Land Use Approvals in WES Service Areas

Responsibilities Matrix	DTD Development Engineering	WES Development Review	Applicant[1]
Submit EPSC plan with construction documents		I	P
Review EPSC plan		P	
Approve EPSC plan and issue EPSC permit	I	P	I
Issues Land Use Approval	P	C/S	
Attend pre-construction meeting	P	S	P
Initiate EPSC Inspection and Enforcement (see EPSC-3)		P	
Track EPSC permits		P	

P = Performs Task, C = Consulted, S = Supports, I = Informed

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Single-Family Building Permits

EPSC review of single-family residence (SFR) building permits will be coordinated with post-construction stormwater review of these sites (see POST-3).

DTD Building Department will route building permit applications to WES Development Review when the DTD Permit Counter receives an application for a site that is, or may be, within WES' SWM Service Area. WES Development Review will determine if the activity requires an EPSC permit. If an EPSC permit is required, then WES Development Review will contact the applicant to require submittal of the SFR EPSC Application.

WES will review and approve SFR EPSC Applications based on the *EPSC Planning and Design Manual*. WES will issue the EPSC permit to the applicant before DTD releases the building permit.

After approval, WES Development Review will initiate EPSC Inspection and Enforcement (see EPSC-3).

Responsibilities for EPSC Plan Review of Single-Family Building Permits in WES' SWM Service Area

Responsibilities Matrix	WES Development Review	DTD Building Department	Applicant[1]
Route building permit application to WES	I	P	
Mail EPSC Application to applicant	P		I
Submit EPSC Application	I		P
Review EPSC plan	P		
Sign off on building permit	P	I	
Issue EPSC permit	P	I	I
Initiate EPSC Inspection and Enforcement (see EPSC-3)	P	I	
Track EPSC permits	P		

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Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
EPSC-2.1	Internally review the EPSC plan of 100% of County CIPs going to construction in the Permitted Area each year. (DTD)	• Annual number of County CIP EPSC plans reviewed by DTD. • Annual number of County CIPs going to construction in the Permitted Area. • Annual percentage of County CIP EPSC plans reviewed by DTD.
EPSC-2.2	Review EPSC plan of 100% of land use and building permit applications meeting threshold for erosion prevention and sedimentation control in Happy Valley each year. (Happy Valley)	• Annual number of EPSC reviews conducted by Happy Valley. • Annual number of new land use and building permit applications meeting threshold for EPSC in Happy Valley. • Annual percentage of EPSC reviews conducted by Happy Valley.
EPSC-2.3-a	Review EPSC plan of 100% of land use reviews and building permit applications meeting threshold for erosion prevention and sediment control in WES Service Areas.	• Annual number of EPSC reviews conducted by WES. • Annual number of new land use reviews and building permit applications meeting threshold for EPSC in WES. • Annual percentage of EPSC reviews conducted by WES.
EPSC-2.3-b	Attend 80% of pre-construction meetings for projects meeting threshold for erosion prevention and sediment control in WES Service Areas.	• Annual number of pre-construction meetings attended by WES. • Annual number of pre-construction meetings for projects needing EPSC held in WES. • Annual percentage of pre-construction meetings attended by WES.

EPSC-3 EPSC Inspection and Enforcement

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.d.i, A.3.d.iv, A.3.d.v, and A.3.d.vii. The purpose of this BMP is to ensure EPSC measures and other pollution prevention measures are in place and functioning correctly during construction. SWMP Document Participants ensure EPSC measures are in place by conducting inspections before construction starts, during construction, and after construction is complete and the site is stabilized.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

SWMP Document Participants inspect sites before and during construction. Inspections and enforcement give SWMP Document Participants an opportunity to provide additional guidance and education, to require changes to the EPSC plan, issue warnings, or assess penalties.

Each site receives a minimum of three inspections: an initial inspection, a final inspection, and at least one unscheduled inspection during construction. Additional inspections may be conducted based on complaints, history of failing inspection, or the nature and extent of construction activity and site characteristics.

Inspections include a review of the site-specific EPSC measures, documentation of visual observations and any recommendations made for follow up to the site operator, and an inspection report that includes any follow up actions to ensure compliance. Follow up visits document proper implementation of corrective measures.

<u>Enforcement Authority</u>

DTD exercises the County's contracting authority to conduct EPSC inspections and enforce EPSC measures on County CIPs.

Happy Valley's enforcement authority is described in HVMC Chapters 20.15 and 15.20.080. The building official or designee is authorized to issue a stop work order, prevent certification of occupancy, and issue fines if the Chapter is violated. The City's erosion inspection report form also describes enforcement steps. Happy Valley exercises the City's contracting authority to conduct EPSC inspections and enforce EPSC measures on City CIPs.

WES's enforcement authority is described in *WES Rules*.

BMP Activities

EPSC-3.1 – COUNTY CIP INSPECTION AND ENFORCEMENT

TYPE: ONGOING

STATUS: ONGOING

DTD Transportation Construction will conduct regular construction inspections of the County's CIPs within the Permitted Area. Sites will be inspected a minimum of three times to verify proper installation, maintenance, and use of EPSC measures. DTD will require improvements when warranted and will enforce contract terms to ensure effective pollutant reduction measures, if necessary.

Responsibilities for County CIP EPSC Inspection and Enforcement

Responsibilities Matrix	DTD Capital Project Supervisor
Contractor begins site construction	I
Inspect EPSC measures on County CIPs	P
Enforce EPSC requirements	P

P = Performs Task, C = Consulted, S = Supports, I = Informed

EPSC-3.2 – HAPPY VALLEY INSPECTION AND ENFORCEMENT

TYPE: ONGOING

STATUS: ONGOING

Happy Valley will conduct EPSC inspections a minimum of three times. For building permit construction sites, the Happy Valley Building Division will conduct EPSC inspections concurrently with building inspections. For site development construction, such as subdivision, multi-family, and commercial development sites, Happy Valley Engineering Division will conduct an EPSC inspection whenever the inspector is on the site, often weekly. Happy Valley requires EPSC plans and inspects EPSC measures throughout the City limits inside and outside WES Service Areas.

Initial Inspections

Prior to building permit construction, the Happy Valley Building Division will inspect the site to ensure EPSC measures conform to the approved EPSC plan and are correctly implemented. The initial inspection will be conducted by a building inspector concurrently with a footings and foundations inspection.

Prior to site development construction, the Happy Valley Engineering Division inspector will inspect and approve the installed EPSC measures.

Unscheduled Monitoring Inspection(s)

At least one unscheduled inspection will take place during construction. An unscheduled inspection may also occur in response to a complaint.

If EPSC measures are not correctly implemented and maintained, the inspector will initiate enforcement action. Inspectors will conduct additional monitoring inspections, as necessary.

Final Inspections

For building permit construction, the Happy Valley Building Division inspector will perform a final inspection after temporary EPSC measures have been removed and the contractor has stabilized the site. Final EPSC inspection will be required prior to occupancy certification.

For site development construction, the Happy Valley Engineering Division inspector will conduct a final EPSC inspection to confirm that all disturbed areas of the site are covered, and the site is stabilized. This inspection will occur prior to acceptance of the residential, multi-family, or commercial development by the City.

Enforcement

If an inspection finds EPSC measures to be absent or incorrectly applied, Happy Valley will initiate enforcement action in accordance with its enforcement procedures, described above.

Tracking

The Happy Valley Building Division will track EPSC inspections and enforcement in a database (currently Accela). The Happy Valley Engineering Division will track EPSC inspections and enforcement in a spreadsheet.

City CIPs

The Happy Valley Engineering Division will conduct regular construction inspections of its CIPs. Inspections will verify proper installation, maintenance, and use of EPSC measures. Happy Valley will require improvements when warranted and will enforce contract terms to ensure effective pollutant reduction measures, if necessary.

Responsibilities for Happy Valley EPSC Inspection and Enforcement

Responsibilities Matrix	**Happy Valley Building or Engineering** ***Inspector Depends on Type of Construction Site***	**Site Operator❶**
Applicant installs EPSC measures	I	P
Call for initial inspection	I	P
Inspect construction site EPSC	P	I
Enforcement, as needed	P	I
Final EPSC Inspection	P	I
Close EPSC Permit	P	I
Track inspections and enforcement	P	

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EPSC-3.3 – WES INSPECTION AND ENFORCEMENT

TYPE: ONGOING

STATUS: ONGOING

WES Development Review will inspect EPSC measures on construction sites a minimum of three times.

Single-family builders will request the initial and final EPSC inspections by contacting DTD; these inspections will be coordinated with the footing inspection and the final building inspection. Operators of non-single family development sites will contact WES directly to schedule the initial and final EPSC inspections.

WES will document inspections and enforcement in a database (currently Permits 2015). In addition, DTD will document the initial and final EPSC inspections for single-family residential building sites in its permit tracking database (currently Accela).

WES' inspectors will look for proper implementation and maintenance of EPSC measures.

Initial Inspection

Before construction begins, WES will inspect construction sites to ensure EPSC measures conform to the EPSC plan and are correctly installed. DTD Building Division will require the initial EPSC inspection to be completed prior to scheduling the footings inspection or for the two inspections to be scheduled concurrently.

Unscheduled Monitoring Inspection(s)

At least once during construction, WES will conduct an unscheduled monitoring inspection of construction sites to verify proper implementation of required BMPs. WES Development Review will conduct additional monitoring inspections, as necessary.

An unscheduled inspection may also occur in response to a complaint.

Final Inspection

After stabilization and clean-up of the site and removal of temporary EPSC measures, WES will conduct a final EPSC inspection. The inspection will confirm removal of temporary BMPs and stabilization of disturbed areas.

Enforcement

If inspection finds that EPSC measures are absent or incorrectly applied, WES will initiate a graduated enforcement action in accordance with *WES Rules*. WES inspectors have the authority to issue deficiency notices, charge re-inspection fees, issue fines and stop land-disturbing development work at the site until provisions of the regulations are met.

Responsibilities for WES EPSC Inspection and Enforcement

Responsibilities Matrix	WES Development Review	DTD Building Division	Site Operator[1]
Applicant installs EPSC measures			P
Applicant calls for initial inspection (includes footing inspections for building permits)	I	I	P
Hold initial footing inspection OR coordinate scheduling with WES (for bldg. permits only)	I	P	
Inspect construction site EPSC – initial inspection	P		I
Notify DTD Building to allow initial footing inspection (if held)	P	I	
Allow initial footing inspection (if held)		P	I
Monitoring (and other) EPSC inspections	P		I
Enforcement, as needed	P		I
Final EPSC inspection	P	I	
Close EPSC Permit	P	I	I
Track inspections and enforcement	P		

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EPSC-3.4 – ADOPT CONSTRUCTION SITE ENFORCEMENT PROCEDURES

TYPE: ONE-TIME

STATUS: FUTURE

No later than December 1, 2023, WES and Happy Valley will administratively adopt construction site enforcement procedures to clarify the procedures for escalating erosion control enforcement contained in the *WES Rules and Regulations*, *WES Stormwater Standards* and Happy Valley Municipal Code Chapters 15.12, Infill and Grading, and Chapter 15.20, Erosion Control. Clarifications may include, but will not be limited to, documenting the preferred initial technical assistance procedures and establishing the number of erosion control violations that constitute a misdemeanor. The procedures will address repeat violations through progressively stricter response, as needed, to achieve compliance. The escalating enforcement and response procedure must describe how the SWMP Document Participants will use enforcement techniques to ensure compliance. The enforcement procedures must include timelines for compliance and, when formulating response procedures and penalties should consider factors (or multipliers) such as the type and severity of pollutant discharge, and whether the discharge was intentional or accidental. These procedures may be added to the *IDDE Program Enforcement Response Procedures* or may exist as a separate document.

Responsibilities for Adopting Construction Site Enforcement Procedures

Responsibilities Matrix	WES Watershed Protection	Happy Valley Public Works
Write and adopt construction site enforcement procedures	P	P

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
EPSC-3.1	Conduct at least three EPSC inspections over the life of the project at 100% of County CIP construction sites within the Permitted Area that require EPSC review.	• Annual number of County CIP projects in the Permitted Area that completed construction and that DTD inspected for EPSC at least three times over the life of the project. • Annual number of County CIP projects in the Permitted Area that met the threshold for EPSC review and that completed construction. • Annual percentage of County CIP projects that DTD inspected for EPSC at least three times. • Number of EPSC complaints received per project.
EPSC-3.2-a	Each year conduct the initial EPSC inspection prior to construction at 100% of EPSC permitted sites in Happy Valley.	• Annual number of EPSC permitted sites that received an initial EPSC inspection by Happy Valley prior to construction. • Annual number of EPSC permitted sites that began construction in Happy Valley. • Annual percentage of EPSC permitted sites that received an initial EPSC inspection by Happy Valley prior to construction. • Number of EPSC complaints received per permitted site.
EPSC-3.2-b	Inspect 90% of EPSC permitted sites in Happy Valley at least three times over the life of the project.	• Annual number of EPSC permitted sites that completed construction in Happy Valley and received at least three EPSC inspections over the life of the project. • Annual number of EPSC permitted sites that completed construction in Happy Valley. • Annual percentage of EPSC permitted sites in Happy Valley that received at least three EPSC inspections.
EPSC-3.2-c	Inspect 100% of EPSC permitted sites in Happy Valley at least twice over the life of the project.	• Annual number of EPSC permitted sites that received at least two EPSC inspections by Happy Valley over the life of the project. • Annual number of EPSC permitted sites that completed construction in Happy Valley. • Annual percentage of EPSC permitted sites in Happy Valley that received at least two EPSC inspections. • Number of EPSC complaints received per project.
EPSC-3.3-a	Each year conduct the initial EPSC site inspection prior to construction at 100% of EPSC permitted sites in WES SWM Service Areas.	• Annual number of EPSC permitted sites that received an initial EPSC inspection by WES prior to construction. • Annual number of EPSC permitted sites that began construction in WES • Annual percentage of EPSC permitted sites that received an initial EPSC inspection by WES prior to construction. • Number of EPSC complaints received per permitted site.

ID	Measurable Goals	Tracking Measures
EPSC-3.3-b	Inspect 90% of EPSC permitted sites in WES at least three times over the life of the project.	• Annual number of EPSC permitted sites that received at least three EPSC inspections by WES over the life of the project. • Annual number of EPSC permitted sites that completed construction in WES. • Annual percentage of EPSC permitted sites in WES that received at least three EPSC inspections. • Number of EPSC complaints received per project.
EPSC-3.4	Adopt construction site enforcement procedures by December 1, 2023 (WES, DTD, Happy Valley).	• Date construction site enforcement procedures adopted for each jurisdiction.

EPSC-4 Construction Site Runoff Staff Training

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.d.vi and A.3.d.vii. The purpose of this BMP is to ensure staff responsible for ESCP reviews, site inspections, and enforcement of the SWMP Document Participants requirements are trained or otherwise qualified.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

The SWMP Document Participants must implement and enforce a program to reduce discharges of pollutants from constructions sites. The SWMP Document Participants must review erosion prevention and sediment control (EPSC) plans from construction projects that will result in land disturbance of 1,000 square feet or greater to determine compliance with the appropriate regulations. The SWMP Document Participants must also inspect construction sites to ensure the approved ESCP, or other documented controls, is properly implemented and conduct enforcement as necessary to achieve compliance. Staff members responsible for reviewing ESCP and inspecting construction sites need appropriate training to conduct these activities safely and effectively.

BMP Activities

EPSC-4.1 – DETERMINE TRAINING NEEDS

TYPE: ONE-TIME

STATUS: FUTURE

One time during the Permit term, SWMP Document Participants will evaluate staff training and education needs and document the required training for staff members responsible for reviewing ESCP and inspecting construction sites. The SWMP Document Participants will document the required training and education frequencies in a training strategy. The strategy may be developed

independently or jointly by the SWMP Document Participants, and the strategy may include only EPSC tasks or combine training for EPSC with other Permit required staff training topics.

There is no responsibilities matrix for this BMP.

EPSC-4.2 – CONDUCT EPSC TRAINING

TYPE: ONGOING

STATUS: ONGOING

The SWMP Document Participants will conduct the training documented in the strategy based on the identified frequencies as well as provide training for new employees as needed. Completed training will be documented by the SWMP Document Participants and reported in the annual report.

See ED-2 for erosion control training and education offered to the general public.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
EPSC-4.1	Evaluate and document staff training needs one time during the MS4 Permit term.	• Date staff training and education strategy published.
EPSC-4.2	Conduct or procure training documented in the staff training and education strategy.	• Number of employees who receive training and type training received.

EPSC-5 Evaluation of Construction Site Runoff Control Activities

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.2.f, A.3.d.vii, B.4.b, and B.4.c. The purpose of assessing construction site runoff control activities is to:

- Assist with the adaptive management of the construction site runoff control evaluation program, and
- Support DEQ's independent assessment of the SWMP Document Participant's stormwater management program.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

DEQ requires SWMP Document Participants to follow an adaptive management approach to assess and modify, as necessary, any or all existing SWMP components and adopt new or revised SWMP components. Modifications that add elements to the approved SWMP may be made at any time and described in the Annual Report for that year. Modifications to delete, adjust, or replace elements in

the approved SWMP with an alternate action or activity may be made at any time and must be supported by documentation submitted with the subsequent annual report that must include:

- An analysis of why the new action is an appropriate alternative from the standpoint of effectiveness, feasibility, and/or cost; and
- Expectations on the effectiveness of the replacement action or activity.

In addition, the SWMP Document Participants will submit a permit renewal application package that must support any proposed modifications to programs and stormwater control measures. This application package must evaluate the adequacy of the programs described in the SWMP Document for effectiveness, feasibility, and cost.

BMP Activities

EPSC-5.1 EVALUATION OF CONSTRUCTION SITE RUNOFF CONTROL ACTIVITIES

TYPE: ONE-TIME

STATUS: FUTURE

During the MS4 Permit term, SWMP Document Participants will evaluate the construction site runoff activities conducted as per the SWMP Document. The SWMP Document Participants will develop a standard set of objective criteria relative to effectiveness, local applicability, and program resources to adaptively manage the construction site runoff control activities, and the SWMP Document Participants will provide the results of the evaluation to adaptively manage the construction site runoff control activities, and the SWMP Document Participants will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the SWMP Document Participants stormwater management programs. The evaluation will be planned to meet the Permit renewal application package timeline. The criteria and plan may be developed independently or jointly by the SWMP Document Participants, and the criteria and plan may include only construction site runoff control activities or combine construction site runoff control activities with other Permit required evaluation topics.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
EPSC-5.1	Happy Valley, DTD, and WES will evaluate their construction site runoff control activities by April 3, 2026.	• Date evaluation results included in permit renewal package.

Post-Construction Site Runoff (POST)

Regulatory Overview

The MS4 Permit requires SWMP Document Participants to implement a program to control pollutants and runoff from new development and redevelopment projects that create or replace impervious surfaces. This section has been organized to include requirements from multiple schedules of the Permit. Requirements include ordinances and regulations that require stormwater management controls, design standards, procedures for plan review, and standards for on-site retention, post-development runoff volume, duration, and rates of discharge, and water quality treatment, and enforcement. Plan Participations must prioritize low impact development (LID) and green infrastructure, provide alternative site performance standards, and develop water quality benefit offset programs.

See MAINT for long term operations and maintenance practices and training for inspection of private stormwater controls and MAP for the mapping and digital inventory of private and public stormwater controls.

Requirement Summary for Post-Construction Site Runoff

Schedule	Requirement	BMPs					
		POST-1	POST-2	POST-3	POST-4	POST-5	POST-6
A.2.f	Review and Modification of the SWMP Document						■
A.3.e.i	Ordinance and/or Other Regulatory Mechanism ❶	■	■				
A.3.e.ii	Prioritization of Low Impact Development & Green Infrastructure	■	■				
A.3.e.iii	Post-Construction Stormwater Management Requirements	■	■				
A.3.e.iv	Water Quality Benefit Offset Programs	■	■				
A.3.e.v	Post-Construction Site Runoff Plan Review			■	■		
A.3.e.vii	Training and Education					■	
A.3.e.viii	Tracking and Assessment	■	■	■	■	■	■
A3.f.ix	Flood Control, Transportation, and Other Infrastructure			■			
B.4.b. and c.	Evaluation of SWMP for Permit Renewal						■

The full text of the requirement that each BMP is addressing can be found in the 2021 MS4 Permit.
❶ See ED-2 for education and outreach regarding private stormwater facility operations and maintenance.

BMPs

POST-1 Post-Construction Legal Authority

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.e.i, A.3.e.ii, A.3.e.iii, A.3.e.iv, and A.3.e.viii. The purpose of this BMP is to establish and maintain the SWMP Document Participants' legal authority to require post-construction stormwater controls on both public and private property. New development and redevelopment can have a significant effect on receiving water bodies by increasing stormwater runoff and increasing the type and quantity of pollutants in stormwater runoff including sediment, oil, pesticides, heavy metals, and nutrients. Effective post-construction stormwater controls can reduce the negative impacts of development by reducing the

increase in runoff, removing pollutants, and retaining stormwater on site. This BMP addresses the negative impacts of development by providing the legal authority to require post-construction stormwater controls, review plans, and inspect controls for proper construction and function prior to site occupation.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

The elected officials of Clackamas County adopt the policies, rules, and regulations that require development and redevelopment sites in the districts to provide post-construction stormwater management controls. DTD adopts the policies that require County road improvement projects to provide post-construction stormwater management controls.

The *WES Rules* requires all development and re-development activities to meet the stormwater requirements contained in the *WES Stormwater Standards.* All development and re-development activities that result in an excess of 5,000 SF of new or replaced impervious surface area must meet site planning, stormwater management, and erosion control requirements for all newly proposed and replaced impervious surface areas within the overall project boundary. Stormwater management requirements include on-site flow control, water quality treatment, infiltration, and conveyance to reduce and minimize the impacts of stormwater runoff.

WES Rules requires submittal of a stormwater management plan (SWM Plan) for review and approval, inspection of post-construction stormwater management facilities, and ongoing maintenance of stormwater facilities.

The *WES Stormwater Standards* also contain specific performance standards and design criteria for the required stormwater management facilities.

<u>County CIPs</u>

County CIPs often are designed and constructed using DTD personnel or professional services contracts and construction bid contracts.

DTD incorporates post-construction stormwater design standards for CIPs into its contracts. Projects within the Permitted Area that add or replace 5,000 square feet of impervious area must be designed in accordance with *WES Rules*, or an equivalent.

BMP Activities

POST-1.1 – MAINTAIN CURRENT POST-CONSTRUCTION LEGAL AUTHORITY

TYPE: ONGOING

STATUS: ONGOING

The SWMP Document Participants will maintain their current legal authority to require stormwater management facilities and controls on development and redevelopment sites until the review and update of authority is complete (see BMP POST-1.2). Any changes to rules and standards will maintain at least the current level of authority, thresholds, and standards.

There is no responsibilities matrix for this BMP.

POST-1.2 – UPDATE POST-CONSTRUCTION RUNOFF ORDINANCES AND STANDARDS

TYPE: ONE-TIME

STATUS: FUTURE

SWMP Document Participants will review legal authority to require stormwater management facilities and controls on development and redevelopment sites one time during the MS4 Permit term.

By December 1, 2024, SWMP Document Participants also will review and update rules and regulations to implement post-construction stormwater management requirements that, at a minimum, prioritize onsite retention of stormwater and pollutant removal, and include technical standards according to either of the following options: numeric stormwater retention requirement (NSRR) site performance and treatment standards meeting the requirements of subsection A.3.e.iii (A) of the MS4 Permit, or alternative design requirements including site performance standards determined to generate water quality benefits comparable to the NSRR approach.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
POST-1.1-a	Review, and update, if necessary, Happy Valley code to ensure alignment with the MS4 Permit Schedule A.3.e by December 1, 2024.	• Date legal authority reviewed. • Date legal authority updated, if necessary.
POST-1.1-b	Review, and update, if necessary, *WES Rules and Regulations* to ensure alignment with MS4 Permit Schedule A.3.e by December 1, 2024.	• Date legal authority reviewed. • Date legal authority updated, if necessary.

POST-2 Post-Construction Stormwater Standards

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.e.i, A.3.e.ii, A.3.e.iii, A.3.e.iv, and A.3.e.viii. The purpose of this BMP is to aid site designers in designing stormwater facilities that meet the districts' rules, regulations, and standards by providing a standards manual and other tools for meeting requirements.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

For WES Rate Zones #2 and #3, WES publishes and requires use of the *WES Stormwater Standards*, which is used for all types of development activities such as private and public development projects and City and County transportation CIPs.

The *WES Stormwater Standards*, requires and provides:

- Performance standards for SWM Plans for sites creating or replacing 5,000 square feet or more of impervious surface;
- Capture and treatment of the 80th percentile design storm event;
- Infiltration of the first ½ inch of rainfall in 24 hours (full credit is also granted for shallow injection of stormwater with drywells or other types of Class V injection devices);
- Onsite detention to reduce the rate and timing of stormwater runoff by matching the 2-year 24-hours post-developed runoff rate to ½ of the 2-year 24-hour pre-developed runoff rate;
- BMPs, including design criteria;
- Conditions where structural BMPs apply based on drainage area and site conditions; and
- Standards for access roads to public and private stormwater facilities to support maintenance activities.

BMP Activities

POST-2.1 – REQUIRE LOW IMPACT DEVELOPMENT/GREEN INFRASTRUCTURE FOR DEVELOPMENT AND REDEVELOPMENT PROJECTS

TYPE: ONE-TIME

STATUS: FUTURE

WES will develop and begin implementation of a strategy to require, to the maximum extent practicable, the use of Low Impact Development and Green Infrastructure (LID/GI) design, planning, and engineering strategies intended to minimize effective impervious area or surfaces, and reduce the volume of stormwater discharge and the discharge of pollutants in stormwater runoff from development and redevelopment projects. In development of this strategy, WES will review the SWMP Document Participants' ordinances and development codes for opportunities to reduce the volume of discharge by design, engineering, and planning methods in ways that prioritize onsite retention, infiltration, and evapotranspiration and the option of reuse where feasible, in order to make LID/GI the preferred and commonly used approach to site development. The analysis will include the Clackamas Zoning and Development Ordinance, *Clackamas County Roadway Standards*, Happy Valley Municipal Code, *City of Happy Valley Engineering Design and Standard Details Manual*, and Rivergrove's ordinances. This LID/GI strategy will be documented in the subsequent Annual Report and incorporated into or referenced in the SWMP Document after completion and DEQ approval.

County and City planning departments will assist WES in the technical review.

WES will share results of the analysis with DTD Planning, DTD Transportation Planning, Happy Valley Department of Economic Development and Community Development, and the Rivergrove City Manager. These officials may elect to make recommendations to their elected officials – the Board of County Commissioners, Happy Valley City Council, and Rivergrove City Council – to update codes and standards.

WES will incorporate outreach to the development and building community as part of this effort.

Responsibilities for LID/GI Strategy

Responsibilities Matrix	WES Watershed Protection	Clackamas County Public and Government Affairs	DTD Planning	DTD Transportation Planning	Happy Valley Department of Economic & Community Development	Rivergrove City Manager
Review ordinances and standards to maximize LID/GI	P		C/S	C/S	C/S	C/S
Outreach to development and building community	S	P	C	C		
Recommend updates to codes and standards	P		I	I	I	I
Propose updates to codes and standards to Elected Officials or other decision-makers	S		P	P	P	P

P = Performs Task, C = Consulted, S = Supports, I = Informed

POST-2.2 – UPDATE STORMWATER STANDARDS DESIGN MANUAL

TYPE: ONE-TIME

STATUS: FUTURE

WES will review and update the *WES Stormwater Standards.* An update to the *WES Stormwater Standards* will be coordinated with an update to legal authority and requirements in the *WES Rules* (see POST-1). Updates to the standards will include MS4 Permit requirements found in Schedule A.3.e and also may include:

- Prioritizing LID or other techniques that address hydromodification for on-site stormwater management;
- Listing conditions where the use of LID may be infeasible;
- Listing accepted LID BMPs, and providing applicability, selection, and design criteria for each;
- Adopting LID engineering details;
- Adopting LID and vegetated facility plant lists, plant material specifications, and planting guidelines;
- Developing or referencing infiltration testing and reporting requirements; and

- Long-term operations and maintenance requirements for private stormwater controls (see MAINT-4).

In development and implementation of the stormwater management requirements, WES included numeric stormwater retention requirement site performance and treatment standards, or alternative site performance standards. WES will evaluate development of a Water Quality Benefit Offset Program [see MS4 Permit Schedule A.3.e.iv] which would provide an in-lieu method of compliance for performance standards for sites where full treatment of the NSRR design storm event is impracticable.

WES will consult with Happy Valley Public Works and Happy Valley Engineering Division. WES will include outreach to the development and building community in this effort.

Responsibilities for Updating the Stormwater Standards Design Manual

Responsibilities Matrix	WES Watershed Protection	WES Development Review	Clackamas County Public and Government Affairs	Happy Valley Public Works & Engineering
Coordinate update of standards manual with updates to *WES Rules and Regulations* (see POST-1)	P	C	I	C
Develop LID infeasibility, applicability, selection, design, engineering details, and specifications	C/S	P		C
Develop infiltration testing and reporting requirements	C/S	P		C
Outreach to development and building community	S	S	P	S
Publish updated standards manual	S	P	S	I

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
POST-2.1	By Dec. 1, 2023, review and update or develop and begin a LID/GI strategy.	• Date LID/GI strategy update or adoption and adopted, if necessary.
POST-2.2	Update the stormwater design manual (currently *WES Stormwater Standards)* by Dec. 1, 2024.	• Date stormwater design manual was updated.

POST-3 Stormwater Management (SWM) Plan Review

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.e.v, A.3.e.viii, and A.3.f.ix. The purpose of this BMP is to control the amount of runoff and pollutants entering receiving waters after construction of new developments and redevelopments. SWMP Document Participants review

and approve stormwater management plans proposed by applicants to ensure post-construction runoff control measures conform to design standards for pollutant removal, infiltration/retention, and flow control. Documented review, approval, and inspection procedures allow SWMP Document Participants to apply standards consistently when determining the stormwater management requirements for development and redevelopment projects.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

WES reviews and approves the SWM Plans of those development and redevelopment projects that meet the minimum threshold for impervious surface creation. SWM Plan review is one component of the larger development review process, which includes pre-application meetings, land use, site planning, engineering, building permit review, and inspections. Consequently, SWM Plan review requires extensive coordination and routing between SWMP Document Participants and departments.

For private development and redevelopment projects, WES provides the technical review of the on-site SWM Plans, while DTD and Happy Valley participate within their respective jurisdictions by accepting land use and building permit applications, routing application materials to WES, and coordinating with the applicants.

For SWMP Document Participants' CIPs, WES coordinates with the SWMP Document Participants' capital improvement workgroups.

WES reviews and approves SWM Plans in accordance with the *WES Stormwater Standards* to ensure conformance with the applicable adopted standards. WES may elect to concurrently review commercial/industrial development submittals for 1200-Z Permit applicability (see COMM-1.1).

BMP Activities

POST-3.1 STORMWATER MANAGEMENT PLAN (SWM PLAN) REVIEW OF PERMITTEE CIPS

TYPE: ONGOING

STATUS: ONGOING

Each SWMP Document Participant has internal processes for reviewing and approving CIP designs to ensure conformance with applicable stormwater standards.

On County ROW in the Permitted Area outside of the districts (e.g., in OLWS, Oregon City, Milwaukie, or another co-permittee city), DTD will design CIPs using the *Clackamas County Roadway Standards*, which includes stormwater standards similar to those in WES. DTD will submit the SWM Plan for any CIP in the Permitted Area to the appropriate co-permittee with authority to review and approve it. DTD as a SWMP Document Participant and co-permittee is responsible for

ensuring compliance with MS4 Permit requirements within other jurisdictions in the Permitted Area.

For Happy Valley CIPs, Happy Valley Engineering Division will design projects using the *WES Stormwater Standards.*

As part of the capital project plan review process for flood control, transportation, and other infrastructure projects that SWMP Document Participants are involved with, SWMP Document Participants will review during the planning stages in order to identify and mitigate potential negative impacts on or to enhance benefits for the water quality of receiving water bodies. There is no responsibilities matrix for this BMP.

POST-3.2 – SWM PLAN REVIEW FOR SINGLE-FAMILY (SFR) BUILDING PERMITS

TYPE: ONGOING

STATUS: ONGOING

For SFR building permits, WES reviews the SFR SWM Plan as part of the building permit review through the relevant building department – either Clackamas County Building Codes, DTD, or Happy Valley. The building permit cannot be issued without an approved structural stormwater control plan.

Responsibilities for SFR SWM Plan Review

Responsibilities Matrix	DTD Permit Counter or Happy Valley Building Division *Building Authority Depends on Site Location*	WES Development Review	Applicant[1]
Submit building permit application	I		P
Building permit application intake	P		
Determine if site location may be in WES	P		
Route application to WES	P	I	
Initiate SFR EPSC Plan Review (see EPSC-2)		P	
Review SFR SWM Plan		P	
Notify building department of WES' approval	I	P	
Issue building permit	P	I	I
Initiate Post-construction Verification and Acceptance (see POST-4)		P	

P = Performs Task, C = Consulted, S = Supports, I = Informed

[1] *These entities do not participate directly in this SWMP Document and are not required to comply with it. SWMP Document Participants are not responsible for the actions of these entities. SWMP Document Participants implement its activities through enforceable authority, standards, plan review, inspection, and enforcement.*

POST-3.3 – SWM PLAN REVIEW FOR LAND USE APPLICATIONS

TYPE: ONGOING

STATUS: ONGOING

For commercial development and land divisions, the coordination of SWM Plan review will be initiated by the appropriate planning department and will conclude with approval of the SWM construction plans and issuance of applicable permits.

Within the WES Service Areas, applicants will submit land use applications and plans to the pertinent land use authority (Happy Valley Planning Division, the City of Rivergrove, or DTD Planning) and WES will review the stormwater management aspects of the plans. WES will provide the planning department conditions of approval and comments for incorporation into the land use decision. After receiving a land use decision, applicants may submit stamped engineered construction plans for review and approval directly to WES.

Outside the WES Service Areas, applicants will submit land use applications and plans to DTD Planning, and Development Engineering will review the stormwater management aspects of the plans. Development Engineering will provide the planning department conditions of approval and comments for incorporation into the land use decision.

Two responsibilities matrices are shown below – one for commercial sites and one for subdivisions. For the purposes of this BMP, a commercial development site includes multi-family and non-residential land uses (e.g., commercial, industrial, religious, etc.).

Responsibilities for Commercial Site SWM Plan Review

Responsibilities Matrix		WES Dev Review	DTD Planning or Happy Valley Planning *Depends on Site Location*	DTD Engineering or Happy Valley Planning *Depends on Site Location*	Applicant❶
Pre-App❷	Submit plans and request pre-application meeting		I		P
	Schedule pre-application meeting and invite stakeholders	I	P		I
	Attend pre-app meeting; share stormwater requirements	P	P		P
Land Use Review	Submit preliminary SWM Plan with land-use application	I	I	I	P
	Review feasibility of stormwater proposal (uninc. only)	P	I	P	I
	Submit land use application		I		P
	Route land use application for comments and conditions	I	P	I	
	Review application and recommend conditions of approval to Planning	P	I	P	
	Approve or deny application and set final conditions of approval	I	P	I	I
Construction Plan Review❸	Submit SWM construction plans including EPSC plan *(this initiates EPSC Plan Review, EPSC-2)*	I		I	P
	Review and approve/deny SWM construction plans	P		C/I	C
	Sign off on building permit application	P		C/I	I
	Initiate Post-construction Verification and Acceptance (BMP POST-3)	P			

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❶ These entities do not participate directly in this SWMP Document and are not required to comply with it. SWMP Document Participants are not responsible for the actions of these entities. SWMP Document Participants implement its activities through enforceable authority, standards, plan review, inspection, and enforcement.

❷ The pre-application process is optional for all applicants.

❸ Commercial building permits that do not need a land use approval begin the process here.

Responsibilities for Subdivision/Partition Stormwater Management Plan Review

Responsibilities Matrix		WES Development Review	DTD Planning or Happy Valley Planning *Planning Authority Depends on Site Location*	DTD Engineering or Happy Valley Planning *Depends on Site Location*	Applicant❶
Pre-App❷	Submit plans and request pre-application meeting		I		P
	Schedule pre-application meeting and invite stakeholders	I	P		I
	Attend pre-app meeting; share stormwater requirements	P	P		P
Land Use Review	Submit preliminary SWM Plan with land-use application	I	I	I	P
	Review feasibility of stormwater proposal (unincorporated County only)	P	I	P	I
	Submit land use application		I		P
	Route land use application for comments and conditions	I	P	I	
	Review application and recommend conditions of approval to Planning	P	I	P	
	Approve or deny application and set final conditions of approval	I	P	I	I
Construction Plan Review	Submit SWM construction plans including EPSC plan (*this initiates EPSC Plan Review, EPSC-2*)	I		I	P
	Review and approve/deny SWM construction plans	P	I	C/I	
	Hold pre-construction meeting (stamp SWM construction plans at meeting)	C	C	P	S
	Sign off on applicable site development permits	P		C/I	I
	Submit plat and maintenance agreement for review and approval			I	P
	Route plat to WES	I		P	
	Initiate Post-construction Verification and Acceptance (see POST-4)	P			

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❶ These entities do not participate directly in this SWMP Document and are not required to comply with it. SWMP Document Participants are not responsible for the actions of these entities. SWMP Document Participants implement its activities through enforceable authority, standards, plan review, inspection, and enforcement.

❷ The pre-application process is optional for all applicants.

Measurable Goals and Tracking Measures

ID	Measurable Goal	Tracking Measure
POST-3.1	Review 100% of CIP SWM Plans that meet the minimum impervious surface threshold each year.	• Annual number of CIP SWM Plans reviewed and approved. • Annual number of CIPs that meet the minimum impervious surface threshold approved for construction. • Annual percentage of CIP SWM Plans reviewed and approved where the project met the minimum impervious surface threshold.
POST-3.2	Review 100% of SFR SWM Plans received prior to signing off on building permit each year. (WES)	• Annual number of SFR SWM Plans reviewed by WES prior to signing off on building permit. • Annual number of SFR building permit applications referred to WES. • Annual percentage of SFR SWM Plans reviewed by WES prior to signing off on building permit.
POST-3.3-a	Attend 100% of pre-application meetings (WES) for land use applications (DTD/Happy Valley).	• Annual number of pre-application meetings attended by WES. • Annual number of pre-application meetings held for applicants. (DTD and Happy Valley) • Annual percentage of pre-application meetings attended by WES.
POST-3.3-b	Review and approve 100% of non-SFR SWM Plans for projects that meet the minimum impervious threshold each year. (WES)	• Annual number of non-SFR SWM Plans approved by WES. • Annual number of non-SFR stormwater management plans submitted to WES that meet the minimum impervious area threshold. • Annual percentage of non-SFR SWM Plans approved by WES.

POST-4 Post-Construction Verification and Acceptance

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.e.v and A.3.e.viii. The purpose of this BMP is to ensure post-construction stormwater controls will function as intended prior to approving construction for occupancy. This BMP documents the inspection and enforcement procedures SWMP Document Participants follow to verify stormwater controls are constructed in conformance with the approved SWM Plans and to assure ongoing operations and maintenance. See MAP-2 for activities related to mapping and inventory of public and private stormwater controls.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

This BMP is initiated when construction begins on a site with an approved SWM Plan. Post-construction verification and acceptance is one component of a larger process for ensuring the safety and acceptability of public and private stormwater management improvements. Consequently, this process requires coordination and routing between SWMP Document Participants and departments.

Through this process, SWMP Document Participants verify the following for each project:

- The stormwater management system was constructed in accordance with the *WES Rules* and the *WES Stormwater Standards;*
- The stormwater management facilities were constructed in accordance with approved plans and will capture the full design volume;
- The flow control devices/facilities were constructed in accordance with approved plans and function as designed;
- The on-site storm sewer system is properly connected to the MS4; and
- Ongoing operation and maintenance of the stormwater facilities is assured (see below for detailed discussion of verifying ongoing operations).

Assuring Ongoing Operation and Maintenance of Privately-Owned and Operated Systems

SWMP Document Participants must assure long-term operation and maintenance of post-construction stormwater management facilities. Facilities that will be privately owned and operated must submit a maintenance plan and other legal assurances as described below.

Single-family residential subdivisions and partitions with private storm systems are required to record the annual maintenance obligation or a maintenance agreement in a covenant or easement with the County Clerk. Often, these sites elect to form a Homeowners Association to manage stormwater facility maintenance.

Privately-owned and operated storm systems on multi-family and non-residential sites are required to sign a private maintenance agreement to ensure that the property owners will annually inspect, maintain, and clean the storm system.

See MAINT-4 for long term operations and maintenance of private stormwater facilities.

Assuring Ongoing Operation and Maintenance of Publicly Operated Systems

WES offers the Residential Maintenance Agreement Program to ensure perpetual maintenance of the stormwater facilities for single-family residential subdivisions; a few other non-single-family residential properties are also enrolled in this program. Through this program, WES maintains a residential subdivision's storm sewer systems in exchange for a monthly service fee. In these cases, WES must first agree to accept the facility for public maintenance and operation.

SWMP Document Participants assure ongoing maintenance of public stormwater facilities built through CIPs by transferring operations and maintenance responsibilities to WES. See MAINT-2 for long term operations and maintenance of public stormwater facilities.

BMP Activities

POST-4.1 – VERIFY SINGLE-FAMILY RESIDENTIAL BUILDING SITE STORMWATER SYSTEMS

TYPE: ONGOING

STATUS: ONGOING

On a SFR building site, a plumbing inspector from the pertinent building department – either DTD or Happy Valley – will inspect the site's approved point of connection to the public or private storm sewer.

Responsibilities for Verifying and Accepting Stormwater Systems on SFR Building Sites

Responsibilities Matrix	WES Development Review	DTD Building Department or Happy Valley Building Division *Building Authority Depends on Site Location*	Applicant[1]
Applicant constructs project			P
Sanitary and storm service connection inspection (plumbing inspection) *(Final plumbing inspection will prompt final EPSC Inspection if site is stabilized, see EPSC-3)*	I	P	C
Submit plumbing inspection report to WES	I	P	I
Finalize permit and file customer account	P		

P = Performs Task, C = Consulted, S = Supports, I = Informed

[1] *These entities do not participate directly in this SWMP Document and are not required to comply with it. SWMP Document Participants are not responsible for the actions of these entities. SWMP Document Participants implement its activities through enforceable authority, standards, plan review, inspection, and enforcement.*

POST-4.2 – VERIFY SUBDIVISION/PARTITION STORMWATER SYSTEMS

TYPE: ONGOING

STATUS: ONGOING

On a subdivision or partition in the WES SWM Service Area, WES will inspect, verify, and accept the stormwater management facilities and the site's connection to the MS4.

The applicant's engineer will be required to submit a stamped certificate of completion to certify:

- The stormwater management system was constructed in accordance with the *WES Rules* and the *WES Stormwater Standards;*
- The stormwater management facilities were constructed in accordance with approved plans and will capture the full design volume; and
- The flow control and infiltration (i.e., retention) devices/facilities were constructed in accordance with the approved plans and function as designed.

The engineer of record will be required to submit as-built drawings, and the applicant will be required to provide for long-term operation and maintenance of the stormwater facilities. For single-family subdivisions, most applicants will elect to enroll the subdivision in WES' Residential Maintenance Agreement Program to provide for long-term operation and maintenance.

In some cases, applicants can apply for and receive building permits prior to approval of stormwater facilities by WES. This typically occurs when facilities will be publicly maintained. See MAP-2 for the inventorying and mapping of public stormwater facilities.

Responsibilities for Verifying and Accepting Stormwater Systems on Subdivisions and Other Participants

Responsibilities Matrix	WES Development Review	DTD Engineering or Happy Valley Planning *Authority Depends on Site Location*	Applicant / Applicant's Engineer❶
Constructs subdivision / partition			P
Conduct field construction inspections	I	I	P
Submit completion certificate, as-builts, test results, service connection drawings, and maintenance agreement	I	S	P
Final SWM construction site inspection *(coordinate with final EPSC review EPSC-2)*	P	C	C
Submit stormwater improvement warranty bond	I	I	P
Approve the recording of the Plat	P	I	
Send acceptance letter to applicant (storm, sanitary)	P	I	I
Inspect stormwater facilities prior to warranty bond release	P	I	C
Release stormwater improvement warranty bond	P	I	I

P = Performs Task, C = Consulted, S = Supports, I = Informed

❶ *These entities do not participate directly in this SWMP Document and are not required to comply with it. SWMP Document Participants are not responsible for the actions of these entities. SWMP Document Participants implement its activities through enforceable authority, standards, plan review, inspection, and enforcement.*

POST-4.3 – VERIFY COMMERCIAL DEVELOPMENT STORMWATER SYSTEMS

TYPE: ONGOING

STATUS: ONGOING

On a commercial development site in the WES SWM Service Area, WES will inspect and verify the stormwater management facilities and the site's connection to the MS4.

The applicant's engineer will be required to submit a stamped certificate of completion to certify the following:

- The stormwater management system was constructed in accordance with the *WES Rules* and *WES Stormwater Standards;*
- The stormwater management facilities were constructed in accordance with approved plans and will capture the full design volume; and
- The infiltration, flow control, and water quality facilities and/or devices were constructed in accordance with the approved plans and function as designed.

The applicant will be required to submit as-built drawings and to sign and record an agreement to annually inspect, maintain, and clean the site's stormwater management devices/facilities. During

the MS4 Permit term, WES may elect to begin requiring these multi-family and non-residential private maintenance agreements to be recorded in a covenant or easement with the County Clerk.

For the purposes of this BMP, a commercial development site includes multi-family and non-residential land uses (e.g., commercial, industrial, religious, etc.). Once a private stormwater system has been verified, the stormwater facility will be mapped as part of MAP-2.

Responsibilities for Verifying and Accepting Commercial Stormwater Systems

Responsibilities Matrix	WES Dev Review	DTD Engineering or Happy Valley Planning *Depends on Site Location*	DTD Building or Happy Valley Building *Depends on Site Location*	Applicant / Applicant's Engineer❶
Constructs commercial development				P
Conduct field construction inspections	I	I	I	P
Submit completion certificate, as-builts, test results, service connection drawings, and maintenance agreement	I	I		P
Final SWM site construction inspection *(coordinate with final EPSC Inspection if site is stabilized see EPSC-3)*	P	C	C	C
Approve issuance of Temporary Certificate of Occupancy	P		I	
Submit final as-builts	I	I	I	P
Approves issuance of Certificate of Occupancy	I	I	P	I
Initiate regulated private facility inspections (see MAINT-4)	P			I

P = Performs Task, C = Consulted, S = Supports, I = Informed

❶ *These entities do not participate in this SWMP Document and are not required to comply with it. SWMP Document Participants are not responsible for the actions of these entities. Information is provided for the reader's convenience.*

POST-4.4 – VERIFY SWMP DOCUMENT PARTICIPANT CIP STORMWATER SYSTEMS

TYPE: ONGOING

STATUS: FUTURE

When a SWMP Document Participant constructs a CIP in the WES Service Area, the SWMP Document Participant will verify the function of the stormwater facilities. The SWMP Document Participant's engineer will submit an inspection report and as-builts by e-mail to WES verifying the following:

- The stormwater management system was constructed in accordance with the *WES Rules* and *WES Stormwater Standards;*
- The stormwater management facilities were constructed in accordance with approved plans and will capture the full design volume; and
- The stormwater management flow control and infiltration (ie. Retention) devices/facilities were constructed in accordance with approved plans and function as designed.

WES will inspect the facilities prior to accepting them for ongoing maintenance and operation. See MAP-2 for the inventorying and mapping of public stormwater facilities.

Responsibilities for Verifying and Accepting Stormwater Systems Serving SWMP Document Participants' CIPs in WES

Responsibilities Matrix	WES Development Review	DTD Transportation Construction or WES Capital Projects or Happy Valley Engineering or Rivergrove *Depends on SWMP Document Participant Constructing CIP*
Inspect CIP stormwater facilities		P
Submit inspection report and as-builts to WES	I	P
Perform site construction inspection of stormwater facilities	P	I
Initiate public facility inspection and maintenance (MAINT-2)	P	

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
POST-4.1	Perform final SWM construction site inspection on 100% of residential development sites each year.	• Annual number of final SWM construction site inspections performed on residential development sites. • Annual number of residential development sites that complete construction. • Annual percentage of final SWM construction site inspections performed residential development sites.
POST-4.2	Perform final SWM construction site inspection on 100% of subdivision and partition sites each year.	• Annual number of final SWM construction site inspections performed on subdivision and partition development sites. • Annual number of subdivision and partition development sites that complete construction. • Annual percentage of final SWM construction site inspections performed on subdivision and partition development sites.
POST-4.3	Perform final SWM construction site inspection on 100% of commercial development sites each year.	• Annual number of final SWM construction site inspections performed on commercial development sites. • Annual number of commercial development sites that complete construction. • Annual percentage of final SWM construction site inspections performed on commercial development sites.

ID	Measurable Goals	Tracking Measures
POST-4.4	Inspect 100% of new stormwater facilities for completed County CIPs and Happy Valley CIPs in the WES SWM Service Areas prior to acceptance each year. (WES)	• Annual number of completed County and Happy Valley CIPs with new stormwater facility that are inspected prior to acceptance. . • Annual number of County CIPs completing construction with new stormwater facilities. • Annual number of Happy Valley CIPs completing construction with new stormwater facilities. • Percentage of completed County and Happy Valley CIPs with new stormwater facilities that are inspected prior to acceptance each year

POST-5 Post-Construction Site Runoff Staff Training

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.e.vii and A.3.e.viii. The purpose of this BMP is to ensure staff responsible for post-construction runoff site plan reviews, administering the post-construction program requirements, and performing operations and maintenance or evaluating compliance with long-term operations and maintenance requirements are trained or otherwise qualified.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

The SWMP Document Participants must implement and enforce a program to control stormwater runoff from new development and redevelopment project sites and reduce the discharge of pollutants. The SWMP Document Participants must review structural stormwater control plans for new development and redevelopment projects according to the procedures referenced in the SWMP Document. The SWMP Document Participants must also implement a strategy to ensure that public and private stormwater controls that discharge to the MS4 are operated and maintained to the maximum extent practicable (see BMP MAINT-2 and MAINT-4). Staff members responsible for reviewing structural stormwater control plans and ensuring facilities are inspected, operated, and maintained need appropriate training to conduct these activities safely and effectively. See MAINT-7 for training and education activities related to private stormwater facility inspection.

BMP Activities

POST-5.1 – DETERMINE STAFF TRAINING NEEDS

TYPE: ONE-TIME

STATUS: FUTURE

One time during the Permit term, SWMP Document Participants will evaluate staff training needs and document the required training for staff members responsible for reviewing structural stormwater control plans and ensuring facilities are inspected. The SWMP Document Participants will document the required training and frequencies in a training and education strategy. The strategy may be developed independently or jointly by the SWMP Document Participants, and the strategy may include only post-construction runoff tasks or combine training for post-construction runoff tasks with other Permit required staff training and education topics.

There is no responsibilities matrix for this BMP.

POST-5.2 – CONDUCT STAFF TRAINING

TYPE: ONGOING

STATUS: ONGOING

The SWMP Document Participants will conduct the training documented in the strategy based on the identified frequencies as well as provide training for new employees as needed. Completed training will be documented by the SWMP Document Participants and reported in the annual report.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
POST-5.1	Evaluate and document staff training needs one time during the MS4 Permit term.	• Date staff training and education strategy published.
POST-5.2	Conduct or procure training documented in the staff training and education strategy.	• Number of employees who receive training and type of training received.

POST-6 Evaluation of Post-Construction Site Runoff Activities

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.2.f, A.3.e.viii, B.4.b, and B.4.c. The purpose of assessing post-construction site runoff activities is to:

- Assist with the adaptive management of the post-construction site runoff program, and
- Support DEQ's independent assessment of the SWMP Document Participant's stormwater management program.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

DEQ requires SWMP Document Participants to follow an adaptive management approach to assess and modify, as necessary, any or all existing SWMP components and adopt new or revised SWMP components. Modifications that add elements to the approved SWMP may be made at any time and

described in the Annual Report for that year. Modifications to delete, adjust, or replace elements in the approved SWMP with an alternate action or activity may be made at any time and must be supported by documentation submitted with the subsequent annual report that must include:

- An analysis of why the new action is an appropriate alternative from the standpoint of effectiveness, feasibility, and/or cost; and
- Expectations on the effectiveness of the replacement action or activity.

In addition, the SWMP Document Participants will submit a permit renewal application package that must support any proposed modifications to programs and stormwater control measures. This application package must evaluate the adequacy of the programs described in the SWMP Document for effectiveness, feasibility, and cost.

BMP Activities

POST-6.1 EVALUATION OF POST-CONSTRUCTION SITE RUNOFF ACTIVITIES

TYPE: ONE-TIME

STATUS: FUTURE

During the MS4 Permit term, SWMP Document Participants evaluate the post-construction site runoff activities conducted as per the SWMP Document. The SWMP Document Participants will develop a standard set of objective criteria relative to effectiveness, local applicability, and program resources to adaptively manage the post-construction site runoff activities, and the SWMP Document Participants will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the SWMP Document Participants stormwater management programs. The evaluation will be planned to meet the Permit renewal application package timeline. The criteria and plan may be developed independently or jointly by the SWMP Document Participants, and the criteria and plan may include only post-construction site runoff activities or combine post-construction site runoff activities with other Permit required evaluation topics.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
POST-6.1	Evaluate the SWMP Document Participants post-construction site runoff activities by April 3, 2026.	• Date evaluation results included in permit renewal package.

Pollution Prevention for Municipal Operations (PREV)

Regulatory Overview

The MS4 Permit requires the SWMP Document Participants, as property owners and managers of public property and facilities, and as operators of public streets and roads, to manage their operations in a manner that reduces the discharge of pollutants. This section has been organized to include requirements from multiple schedules of the Permit. Requirements include best management practices for materials transfer and storage; application of chemicals such as pesticides and fertilizers; sanitary sewer collections and conveyance; and road maintenance practices. Inspection and maintenance of the MS4 and public and private stormwater controls (Schedule A.3.f.ii) can be found in the stormwater system operation and maintenance (MAINT) section. Assessing flood control, transportation, and other infrastructure projects for water quality benefits (Schedule A.3.f.ix) can be found in POST-3.

Requirement Summary for Pollution Prevention for Municipal Operations

Schedule	Requirement	BMPs ❶								
		PREV-1	PREV-2	PREV-3	PREV-4	PREV-5	PREV-6	PREV-7	PREV-8	PREV-9
A.2.f	Review and Modification of the SWMP Document									■
A.3.f.i	Operation and Maintenance Strategy for Existing Controls ❶					■				
A.3.f.iii	Pollution Prevention in Facilities and Operations ❶	■	■	■	■	■	■	■		
A.3.f.iv	Co-Permittee-Owned NPDES Industrial Stormwater Permit Facilities					■				
A.3.f.v	Winter Operations and Maintenance Program		■							
A.3.f.vi	Requirements for Pesticide and Fertilizer Applications			■						
A.3.f.vii	Litter Control	■			■					
A.3.f.viii	Materials Disposal	■	■	■	■	■	■	■		
A.3.f.x	Operations & Maintenance Staff Training								■	
A.3.f.xi	Tracking and Assessment	■	■	■	■	■	■	■	■	■
B.4.b. and c.	Evaluation of SWMP for Permit Renewal									■

The full text of the requirement that each BMP is addressing can be found in the 2021 MS4 Permit.
❶ See MAINT-2 for operations and maintenance activities for existing public stormwater controls and ED-2 for source control education and outreach.

BMPs

PREV-1 Road Operations and Maintenance

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.f.iii, A.3.f.viii, and A.3.f.xi. The purpose of this BMP is to reduce the discharge of pollutants from roadways by adopting maintenance practices that reduce the use of potential pollutants and prevent the discharge of roadway pollutants to storm drains and ditches. Stormwater runoff from roadways picks up petroleum products, heavy metals, trash, and other pollutants and carries them to the MS4 and receiving waters. Additionally, some maintenance activities, such as de-icing (see BMP PREV-2 for

"Winter O & M"), pest control, and vegetation control contribute additional pollutants to roadway runoff. This BMP addresses the adverse impacts of roadway runoff on the MS4 and receiving waters by modifying maintenance to reduce pollutants and regularly sweeping roadways. This BMP contains the updated procedure, including the schedule for inspection and maintenance, which complies with MS4 Permit Schedule A.3.f.iii.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

SWMP Document Participants operate public roadways and preserve the intended drainage capacity of public roadside storm sewer systems under their authority in a manner that reduces discharge of pollutants to the MS4. Roadway operations include street sweeping, road repair, cleaning culverts, and other routine road maintenance activities. Happy Valley and DTD are the two SWMP Document Participants that routinely operate public roads.

SWMP Document Participants use pollution control BMPs from approved manuals, such as the Oregon Department of Transportation (ODOT) *Routine Road Maintenance Water Quality and Habitat Guide: Best Management Practices*, revised 2020 (ODOT Guide) or the most recent version, whenever they are doing work to improve or maintain a public road under their authority.

BMP Activities

PREV-1.1 – STREET SWEEPING

TYPE: ONGOING

STATUS: ONGOING

DTD and Happy Valley will continue to implement a program to routinely sweep arterial and other major curbed streets under their authority in the Permitted Area. DTD will report on County-maintained ROW that is now within the Oak Lodge Water Services District.

DTD and Happy Valley will also sweep as necessary to remove sand applied to snowy or icy roadways (see PREV-2 for activities related to Winter Operations and Maintenance).

PREV-1.2 – CONTINUE TO CONDUCT POLLUTION PREVENTION ACTIVITIES RELATED TO ROAD OPERATIONS

TYPE: ONGOING

STATUS: ONGOING

Operational activities will be conducted using appropriate BMPs to reduce or prevent trash, sediment, nutrients, and chemicals from discharging into storm drains and ditches. SWMP Document Participants will use BMPs from adopted manuals during the following road and ROW maintenance activities:

- Repairing roads
- Ditching
- Removing solid waste dumps found within the ROW

DTD Transportation Maintenance and the Happy Valley Street Maintenance Division will continue to use pollution control BMPs in the most recent ODOT Guide or will adopt an approved alternative.

Pollution reduction activities will include temporary erosion and sedimentation control; proper application of materials during road repair; proper disposal of solid and liquid wastes removed from ROW; and removal of trash, litter, and waste. See PREV-2 for activities related to Winter Operations and Maintenance and PREV-3 for pollution prevention activities related to pest and vegetation control.

Responsibilities for Pollution Prevention in Roadway Operations

Responsibilities Matrix	DTD Transportation Maintenance	Happy Valley Street Maintenance	WES Watershed Protection
Sweep County-maintained roads	P		I
Sweep City streets		P	I
Control pollutants in County roadway operations	P		I
Control pollutants in City street operations		P	I

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-1.1-a	Sweep curbed arterials four times per year (Happy Valley).	• Annual arterial curb miles swept in Happy Valley. • Total curb miles of Happy Valley arterial roadways.
PREV-1.1-b	Sweep a minimum of 50% of County maintained curbed road and bike lane miles four times per year (DTD).	• Annual curbed road and bike lane miles of County-maintained ROW in the Permitted Area that have been swept. • Total curbed road and bike lane miles of County-maintained ROW in the Permitted Area. • Percentage of curbed road and bike lane miles of County-maintained ROW in the Permitted Area which were swept four times per year
PREV-1.2	Remove 90% of solid waste dumps in SWMP Document Participants' ROW within six weeks of notification or discovery.	• Annual number of solid waste dumps removed within six weeks. • Annual number of solid waste dumps discovered or notified about. • Annual percentage of solid waste dumps removed within six weeks.

PREV-2 Winter Operations and Maintenance

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.f.iii, A.3.f.v, A.3.f.viii, and A.3.f.xi. The purpose of this BMP is to reduce the discharge of pollutants from winter operations and maintenance activities by adopting maintenance practices that reduce the use of potential pollutants and prevent the discharge of winter maintenance materials to the storm sewer system.

Stormwater runoff from roadways and other surfaces pick up anti-icing and de-icing materials and sand (which can be used on roads to improve traction during snowy/icy conditions) and carries them to the MS4 and receiving waters. Using and storing these materials properly can reduce the impacts of winter operations and maintenance activities.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

The SWMP Document Participants implement Winter Operations and Maintenance activities that limit impacts to water quality while protecting the traveling public during winter weather events. The SWMP Document Participants must ensure that all winter materials used on roads for anti-icing and de-icing purposes are utilized and stored properly, according to most updated and accepted practices. Happy Valley and DTD are the two SWMP Document Participants that routinely operate public roads.

BMP Activities

PREV-2.1 – WINTER MATERIALS MANAGEMENT

TYPE: ONGOING

STATUS: ONGOING

Both DTD and Happy Valley continue to evaluate and test materials used in winter operations for improved safety, implementation, and local environmental impacts. Washing of vehicles used in winter operations and maintenance takes place in areas that do not drain to the MS4. Happy Valley and DTD follow manufacturers' or the ODOT Guide for storage, cleanup, and disposal of products or materials.

Happy Valley currently uses Magnesium Chloride as an anti-icer and roadway sand (¼-8) as a roadway abrasive. Winter materials are stored at the Happy Valley Public Works maintenance facility on SE Ridgecrest Road in Happy Valley (see PREV-5).

DTD currently uses magnesium chloride, roadway salt, and IceSlicer™ as an anti-icer and roadway sand (¼-10) as a roadway abrasive. DTD may also use sand chip mix (a sand mix that is made from rejected graded sand) when available. Winter materials are currently stored at a DTD Transportation Maintenance facility on Beavercreek Road in Oregon City (see PREV-5).

There is no responsibilities matrix for this BMP.

PREV-2.1 – WINTER MAINTENANCE STRATEGY

TYPE: ONGOING

STATUS: ONGOING

Happy Valley maintains a website that lists their current inclement weather procedures and priorities (see https://www.happyvalleyor.gov/inclement-weather/). This website is updated as winter weather response is evaluated, and practices or policies are updated. This website includes a map of prioritized streets for snow removal and sanding and identifies how anti-icer will be applied.

DTD implements a *Snow and Ice Response Plan* (dated September 30, 2021), which is reviewed and updated regularly. The *Snow and Ice Plan* addresses how snow removal, sanding, and chemical application is implemented to meet specific service level priorities. Traction materials (sand) and anti-icing materials will only be applied to intersections where vehicle stops are required and to steep grades, curves, and bridges. Other locations are evaluated based on available resources and the service level priorities. Roadway salt is not used in locations where it would drain to vegetated stormwater facilities. Sanding materials are applied after plowing operations have ended and are not applied to straight, level roads. The *Snow and Ice Plan* also addresses cleanup of winter materials following a winter weather event.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-2.1	Maintain winter materials stockpile	• List of types of materials stored per MS4 Permit year.
PREV-2.2	Implement winter operations and maintenance activities if snow and/or ice events occur.	• Number of winter weather events where winter maintenance materials are used in the Permitted Area per MS4 Permit year. • Quantities of each material used and general location of each material used in relation to distance (e.g., pounds per mile) in the Permitted Area per MS4 Permit year. • Any other actions taken to protect waters of the state in the Permitted Area per MS4 Permit year

PREV-3 Landscape Maintenance and Vegetation Control

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.f.iii, A.3.f.vi, A.3.f.viii, and A.3.f.xi. The purpose of this BMP is to reduce the quantity of pollutants that enter runoff and contribute pollutants to receiving waters from municipal landscaping and vegetation control operations. Pesticides and fertilizers used in these operations can wash into the MS4 and receiving waters and become pollutants. This BMP seeks to control and minimize the use and application of pesticides and fertilizers on SWMP Document Participant owned properties and facilities, including in municipal operations and ROW vegetation control and to ensure these substances are stored and used in ways that minimize the potential to pollute runoff. This BMP contains the updated procedure, including the schedule for inspection and maintenance, which complies with MS4 Permit Schedule A.3.f.iii.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
✓	Other Clackamas County department
✓	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

SWMP Document Participants maintain landscapes and manage/maintain vegetation on a variety of municipal properties and roads located throughout the Permitted Area. To guide vegetation and pest control activities, SWMP Document Participants follow either the 2012 *Integrated Pest Management Plan for the Surface Water Management Agency of Clackamas County, Clackamas County Service District No. 1, and the City of Happy Valley* (IPM Plan), the 2000 *Clackamas County Integrated Vegetation Management Plan* (County IVM Plan), or an equivalent plan. These plans are intended to prevent or mitigate damage from undesirable plant, fungal, and invertebrate pests with the least possible hazard to people, property, and the environment.

Parks

Happy Valley and Rivergrove each own and operate parks in the Permitted Area to which this BMP applies.

Clackamas County Parks (operated by Clackamas County Business and Community Services) and the North Clackamas Parks and Recreation District have many parks within the Permitted Area to which this BMP applies.

Municipal Buildings and public lands

Clackamas County, WES, and Happy Valley each own or lease municipal buildings and facilities covered by this BMP. On behalf of Clackamas County, Clackamas County Facilities Management provides landscape maintenance and building management services to facilities that house County departments. Happy Valley hires contractors for municipal facility maintenance.

Maintenance Yards

DTD and Happy Valley each own and operate a maintenance yard in the Permitted Area to which this BMP applies.

Rights-of-Way

DTD and Happy Valley each operate transportation ROW in the Permitted Area to which this BMP applies.

See ED-2.4 for activities related to pesticide and fertilizer technical assistance and training for the staff who are employed by the SWMP Document Participants.

BMP Activities

PREV-3.1– CONTINUE TO CONDUCT POLLUTION PREVENTION ACTIVITIES RELATED TO LANDSCAPE MAINTENANCE AND VEGETATION CONTROL

TYPE: ONGOING

STATUS: ONGOING

Clackamas County Facilities Management adopts and uses the IPM Plan or an equivalent plan. The IPM Plan is used for landscape management of all County owned or operated buildings and facilities in the Permitted Area.

DTD will adopt and use the most current version of the ODOT Guide.

Happy Valley follows the most recent IPM Plan for pest control activities in the ROW. Happy Valley uses mowing as the preferred method of vegetation management in City ROW. Herbicides are used consistent with product labels. When facilities management is contracted to a private company, contractors are required to use the IPM Plan or an equivalent plan and to submit chemical spray logs to the City. Happy Valley Parks Maintenance staff use the IPM Plan for vegetation maintenance of City parks. DTD continues to use the most recent County IVM Plan, as updated, to guide vegetation control activities at DTD maintenance yards in the Permitted Area. DTD uses mowing as the preferred method of vegetation maintenance in the County-maintained ROW. Herbicides are used consistent with product labels.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-3.1	Clackamas County DTD shall adopt and implement the most recent ODOT Guide or an approved alternative for vegetation maintenance in County-maintained ROW during the permit term.	• Date manual adopted.

PREV-4 Litter Control

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.f.iii, A.3.f.vii, A.3.f.viii, and A.3.f.xi. The purpose of this BMP is to prevent litter from reaching the MS4 and entering receiving waters. Litter and trash that is not properly disposed of may cause localized flooding by clogging inlets and grates, impact stormwater facility treatment function, and leach pollutants (such as chemicals) as materials break down.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
✓	Other Clackamas County department
✓	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

Clackamas County's Sustainability and Solid Waste Program provides solid waste education and technical assistance to residents, businesses and workplaces, schools, and events throughout Clackamas County to reduce waste. They also oversee single-family residential garbage and recycling services provided by collection companies in unincorporated areas of the county. Within incorporated areas, each City manages garbage and recycling services. These franchise contracts are coordinated to provide service for distinct geographic areas.

Metro, the tri-county regional government, operates a Transfer Station in Oregon City for individuals to bring hazardous materials, yard waste, and materials not accepted curbside. Clackamas County also operates a garbage and recycling transfer station outside of the Permitted Area for individuals to bring materials not accepted curbside.

BMP Activities

PREV-4.1 – IMPLEMENT LITTER CONTROL METHODS

TYPE: ONGOING

STATUS: ONGOING

Clackamas County offers preventative measures to reduce the creation of litter, including:

- Offers technical assistance upon request
- Lends recycling containers for events
- Manages garbage and trash franchise contracts
- Manages code and administrative rules related to trash and recycling, including new development requirements

If litter and debris are discovered, the response will vary based on where the material has been discarded. DTD responds to cleanup requests of debris and dumping on County-operated roads and cleans up the materials. Trash and debris on private property is the responsibility of the property owner and may be addressed through relevant code enforcement (Clackamas County for unincorporated areas, cities for incorporated areas).

SWMP Document Participants implement a variety of BMP activities that directly or indirectly address litter. These other BMPs contain measurable goals and tracking measures to capture the impact of those activities. See the following BMPs and related activities that help address litter control:

- Education and Outreach BMPs for stormwater public education and outreach activities and outreach to priority audiences (ED-1 and ED-2).
- Public Involvement and Participation BMPs for stewardship activities and illicit discharge reporting (PP-1 and PP-2).
- Illicit Discharge Detection and Elimination BMPs for illicit discharge response and enforcement activities and procedures (IDDE-2 and IDDE-3).
- Construction Site Runoff Control BMPs for requirements that apply to construction site (EPSC-1).
- Pollution Prevention for Municipal Operations BMPs for road operation and maintenance and facilities operation and maintenance activities (PREV-1 and PREV-5).
- Industrial and Commercial Facilities BMPs for pollution prevention activities at industrial and commercial facilities (COMM-1 and COMM-2).

- Stormwater System Operations and Maintenance BMPs for activities related to cleaning the MS4 and private stormwater systems (MAINT-2, MAINT-3, and MAINT-4).

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-4.1-a	Encourage event organizers to implement recycling at events.	• Number of events each year where recycling containers were lent out.
PREV-4.1-b	Respond to 100% of roadway litter reports each year.	• Number of reports resolved • Number of submitted reports each year • Percentage of roadway litter reports resolved

PREV-5 Municipal Facilities

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.f.i, A.3.f.iii, A.3.f.iv, A.3.f.viii, and A.3.f.xi. The purpose of this BMP is to control or minimize 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 by another permit, such as the 1200-Z NPDES Permit. This BMP controls or minimize stormwater runoff from washing into the MS4 and polluting receiving waters. Solid and liquid wastes collected by SWMP Document Participants through street sweeping, sanitary and storm sewer cleaning activities, and vegetation maintenance activities are collected and processed at municipal waste facilities. Such facilities are also used to store liquid petroleum products and chemicals, stockpile solid material for road and landscape maintenance, and maintain fleet vehicles and equipment. If improperly handled, the wastes and materials stored at these facilities could leach or wash into the MS4 and discharge pollutants to receiving waters. This BMP describes pollution prevention procedures and controls implemented at municipal waste facilities to keep these materials out of the MS4. This BMP contains the procedures, including the schedule for inspection and maintenance, which complies with MS4 Permit Schedule A.3.f.iii.

Geography

	WES Rate Zone #2, including Happy Valley
	WES Rate Zone #3, including Rivergrove
	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
✓	Other Clackamas County department
	Rivergrove
	OLWS (see OLWS SWMP)

Background

Within the Permitted Area, WES, Happy Valley, and Clackamas County DTD each operate facilities that handle municipal waste and are not covered under a separate NPDES permit. These facilities currently include:

- A WES Vactor Truck decant facility at the intersection of SE Jennifer Street and SE Evelyn Street in Clackamas;
- A Happy Valley Public Works maintenance facility on SE Ridgecrest Road in Happy Valley; and

- A DTD Transportation Maintenance facility on Beavercreek Road near Clackamas Community College in Oregon City.

The updated procedures in this portion of the 2022 SWMP Document, approved by DEQ 2023, and carried over into this 2024 SWMP Document, supersede the associated strategy, titled "*Strategy for Qualifying Municipal Facilities Owned/Operated by the City of Happy Valley, Clackamas County, CCSD#1, and/or SWMACC which are also located in the City of Happy Valley, SWMACC, or CCSD#1";* this associated strategy is not in effect and hasn't been since DEQ approval was granted in 2023 for implementation of the 2022 SWMP Document.

BMP Activities

PREV-5.1 CONTINUE TO CONDUCT POLLUTION PREVENTION ACTIVITIES RELATED TO MUNICIPAL WASTE FACILITIES

TYPE: ONGOING

STATUS: ONGOING

Site operators, including WES, Happy Valley, and DTD, will continue to implement pollution prevention activities at their respective facilities, including annual inspections.

The WES Decant Facility receives hauled solid and liquid wastes that have been collected from storm and sanitary sewer system maintenance activities. The trucks unload wastes indoors, where the solids are further drained and dried. Solids are hauled off site for proper disposal and liquids are discharged to WES' public sanitary sewer system. In the rare emergency when the sanitary sewer cannot receive additional liquids, an overflow drain can convey liquids from inside the building to a dry pond outside the building. This dry pond also provides stormwater management for the entire site. Visual observation of the dry pond during large storm events over the last ten years indicate that pond infiltrates all stormwater and there is no overflow to the public storm sewer. WES will continue to manage liquid and solid wastes indoors and document any emergency overflows to the dry pond. WES will continue to observe the dry pond to assess its infiltration and overflow response to large storm events.

The Happy Valley Public Works Maintenance Facility temporarily stores these municipal wastes prior to transporting off site for re-use or disposal:

- Street sweeping solids will be hauled off-site for beneficial re-use or disposal at a landfill.
- Leaf debris from properties collected and transported by citizens are hauled off-site to a composting facility.
- City Parks Department employees temporarily store vegetation before hauling off site for beneficial re-use.

Lynch-style catch basins capture stormwater from paved areas and a vegetated swale provides stormwater management for the entire site. The catch basins can trap some floatable and settle-able pollutants and are cleaned by Vactor trucks. The stormwater swale is inspected and maintained by public works staff. Other types of materials are assessed for potential environmental impact and stored with stormwater management in mind; for example, small quantities of chemicals are stored indoors. Outdoor storage areas for chemicals or fuel (i.e., gasoline) that could impact surface water have secondary containment. All vehicle maintenance is performed indoors.

The new DTD Public Works Maintenance Facility provides temporary storage for street sweeping solids prior to being hauled off-site for proper disposal and includes a wash rack/decant facility. Three outdoor concrete bays that drain to the sanitary sewer provide temporary storage for materials such as street sweeping solids, winter sand, and cold-mix asphalt for pothole patching. Vehicle wash water, street sweeping liquids and Vactor liquids drain through an oil/water separator before being discharged to the public sanitary sewer. Stormwater from this site is managed in a stormwater pond that meets Oregon City Stormwater Standards.

Responsibilities for Pollution Prevention for Municipal Waste Facilities

Responsibilities Matrix	WES Watershed Protection	WES Field Operations	DTD Transportation Maintenance	Happy Valley Public Works
Inspect each facility annually	C	P	P	P
Respond to and document any emergency overflows to the dry storm sewer system pond at WES' decant facility	P	P		

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-5.1-a	Each year, inspect 100% of municipal waste facilities at least once.	• Annual number of municipal waste facilities inspected. • Annual number of municipal waste facilities. • Annual percentage of municipal waste facilities inspected.
PREV-5.1-b	Each year, document the number of emergency overflow events to the dry pond. (WES)	• Date of each emergency overflow event to the dry pond.

PREV-6 Control Sewage Infiltration

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.f.iii, A.3.f.viii, and A.3.f.xi. The purpose of this BMP is to prevent sewage carried by the sanitary sewer system from entering the MS4 and discharging to receiving waters. Raw sewage introduces a variety of pollutants to stormwater systems including disease-causing organisms, metals, and nutrients. This BMP describes the procedures the SWMP Document Participants will use to prevent sewage from entering the MS4. This BMP contains the updated procedure, including the schedule for inspection and maintenance, which complies with MS4 Permit Schedule A.3.f.iii.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

State plumbing rules and *WES Rules* prohibit cross connection of sanitary sewer lines to the MS4 in new development and redevelopment, and WES and DTD enforce this prohibition through the development and building permit review processes.

As part of its routine maintenance program for sanitary sewer operations, WES inspects sanitary sewer lines in WES using television cameras to identify damaged pipes for repair. A damaged sanitary sewer collection system (ie. Cracked pipe) can potentially allow sewage to leak, and this seepage could potentially infiltrate into a nearby MS4 if one is present.

If sanitary sewage is released into the MS4 from a failing septic system or a cross connection or a damaged private sanitary sewer system on private property, it would be addressed as an illicit discharge. See IDDE-2 for activities related to spill response and IDDE-3 for activities related to illicit discharge enforcement.

BMP Activities

PREV-6.1 – INSPECT SANITARY SEWER LINES

TYPE: ONGOING

STATUS: ONGOING

WES will routinely inspect WES Rate Zone #2's publicly operated sanitary sewer lines for leaks and will clean and maintain lines, as necessary. Lines will be inspected with a television camera on a periodic basis, and tree roots will be removed whenever identified.

Activities responsive to MS4 Permit Schedule A.3.c. to detect and eliminate illicit discharges will also contribute to complying with this requirement. For example, if WES locates a discharge from sanitary sewer to the MS4, WES will eliminate the discharge in compliance with MS4 Permit Schedule A.3.c.iv following IDDE-2, Illicit Discharge Response.

PREV-6.2 – PREVENT CROSS-CONNECTIONS IN NEW DEVELOPMENT / RE-DEVELOPMENT

TYPE: ONGOING

STATUS: ONGOING

WES will review development plans (see POST-3) for cross connections between the sanitary and storm sewer systems. DTD Building Department will inspect new construction in unincorporated portions of WES Rate Zones #2 and #3. The Happy Valley Building Division will inspect new construction in Happy Valley. These inspections will ensure that conveyance systems are correctly plumbed into the storm system, sanitary sewer system, or a private septic system (see POST-4).

Responsibilities for Controlling Sewage Infiltration

Responsibilities Matrix	WES Development Review	WES Field Operations	DTD Building Department or Happy Valley Building Division *Depends on Site Location*
Inspect storm system and/or sanitary sewer connection and lines		P	
Review development plans to prevent cross connections (see POST-2)	P		
Inspect new and redevelopment for cross connections (see POST-3)	I		P

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-6.1-a	Each year complete 100% of scheduled TV inspections of the public sanitary sewer system.	• Annual length (linear feet) of public sanitary sewer pipe TV inspected. • Annual length (linear feet) of public sanitary sewer pipe scheduled for TV inspection. • Annual percentage of scheduled TV inspections of public sanitary sewer system completed.
PREV-6.1-b	Eliminate 100% of sanitary sewer discharges to the MS4 within five days of discovery each year.	• Annual number of discharges to the MS4 resulting from cracked or broken public sanitary sewer lines that were eliminated within five days of discovery. • Annual number of discharges to the MS4 resulting from cracked or broken public sanitary sewer lines. • Annual percentage of discharges to the MS4 resulting from cracked or broken public sanitary sewer lines that were eliminated within five days of discovery.

PREV-7 Fire-Fighting Training

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.f.iii, A.3.f.viii, and A.3.f.xi. The purpose of this BMP is to prevent non-stormwater discharges to the MS4 from fire-fighting training events. Fire-fighting training can introduce pollutants from fire-fighting foam and training fires into the MS4. This BMP describes the procedures and actions taken by the SWMP Document Participants to limit the pollutants entering the MS4 from routine fire-fighter training. This BMP contains the updated procedure, including the schedule for inspection and maintenance, which complies with MS4 Permit Schedule A.3.f.iii.

Geography

✓	WES Rate Zone #2, including Happy Valley
	WES Rate Zone #3, including Rivergrove
	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
	Happy Valley
	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
	OLWS (see OLWS SWMP)

Background

Fire-fighting services in WES Rate Zone #2 are provided by Clackamas Fire District No. 1 (CFD#1). CFD#1 is a special service district and is not a co-permittee of the Clackamas County Group MS4 Permit.

CFD#1 owns and operates a training center within WES Rate Zone #2 (15990 SE 130th Avenue in Clackamas/97015) where a valve is used to divert wastewater flows from outdoor training activities to WES' sanitary sewer system. CFD#1 maintains a standard operating procedure for using the diversion valve, which is posted on a sign above it.

WES provides pollutant reduction outreach and technical assistance related to controlling releases from their fire-fighting training activities.

To the best of the SWMP Document Participants' knowledge, there are no other locations in the Permitted Area where a fire department routinely discharges non-stormwater wastewaters into any storm sewer system during training.

BMP Activities

PREV-7.1 – POLLUTION PREVENTION IN FIRE-FIGHTING TRAINING

TYPE: ANNUAL

STATUS: ONGOING

Once during the 2021-2026 MS4 Permit term, WES Watershed Protection will:

- contact CFD#1 to verify that they're still correctly using the valve to divert training flows of wastewater to WES' sanitary sewer system.
- visit the training site to inspect the position of the diversion valve and review CFD's current Valve Operating SOP.

Responsibilities for Pollution Prevention in Fire-Fighting Training

Responsibilities Matrix	WES Watershed Protection	CFD#1 ❶
Provide technical assistance to CFD#1 once per MS4 Permit term	P	I
Review position of diversion valve at training site once per MS4 Permit term	P	I

P = Performs Task, C = Consulted, S = Supports, I = Informed

❶ CFD#1 does not participate in this SWMP Document and is not required to comply with it. SWMP Document Participants are not responsible for the actions of CFD#1. Information is provided for the reader's convenience.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-7.1	Once during the MS4 Permit term, perform one site visit to CFD#1's training center to review the position of the diversion valve and offer verbal guidance if appropriate.	• Date of site visit.

PREV-8 Pollution Prevention Staff Training

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.f.x and A.3.f.xi. The purpose of this BMP is to ensure staff responsible for conducting or ensuring pollution prevention at SWMP Document Participants' facilities and along public roads are trained or otherwise qualified.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
✓	Other Clackamas County department
✓	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

SWMP Document Participants must properly operate and maintain their facilities, which includes but isn't limited to public roads and publicly owned lands, using pollution prevention and good housekeeping to reduce the discharge of pollutants through the MS4 to waters of the state. These activities include two overlapping groups of activities: operations and maintenance of stormwater facilities to reduce the discharge of pollutants and pollution prevention incidental to non-stormwater focused activities. The training described in this section focuses on activities incidental to non-stormwater focused activities.

BMP Activities

PREV-8.1 – DETERMINE TRAINING NEEDS

TYPE: ONE-TIME

STATUS: FUTURE

One time during the Permit term, SWMP Document Participants will evaluate staff training needs and document the required training for staff members responsible for operations and maintenance of SWMP Document Participants facilities. The SWMP Document Participants will document the required training and frequencies in a training and education strategy. The strategy may be developed independently or jointly by the SWMP Document Participants, and the strategy may include only pollution prevention and good housekeeping activities or combine training for pollution prevention and good housekeeping activities with other Permit required staff training and education topics.

There is no responsibilities matrix for this BMP.

PREV-8.2 – CONDUCT POLLUTION PREVENTION TRAINING

TYPE: ONGOING

STATUS: ONGOING

The SWMP Document Participants will conduct the training documented in the strategy based on the identified frequencies as well as provide training for new employees as needed. Completed training will be documented by the SWMP Document Participants and reported in the annual report.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-8.1	Evaluate and document staff training needs one time during the MS4 Permit term.	• Date staff training and education strategy published.
PREV-8.2	Conduct or procure training documented in the staff training and education strategy.	• Number of employees who receive training and type training received.

PREV-9 Evaluation of Pollution Prevention for Municipal Operations Activities

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.2.f, A.3.f.xi, B.4.b, and B.4.c. The purpose of assessing pollution prevention for municipal operations activities is to:

- Assist with the adaptive management of the pollution prevention for municipal operations program, and
- Support DEQ's independent assessment of the SWMP Document Participant's stormwater management program.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
✓	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

DEQ requires SWMP Document Participants to follow an adaptive management approach to assess and modify, as necessary, any or all existing SWMP components and adopt new or revised SWMP components. Modifications that add elements to the approved SWMP may be made at any time and described in the Annual Report for that year. Modifications to delete, adjust, or replace elements in the approved SWMP with an alternate action or activity may be made at any time and must be supported by documentation submitted with the subsequent annual report that must include:

- An analysis of why the new action is an appropriate alternative from the standpoint of effectiveness, feasibility, and/or cost; and
- Expectations on the effectiveness of the replacement action or activity.

In addition, the SWMP Document Participants will submit a permit renewal application package that must support any proposed modifications to programs and stormwater control measures. This application package must evaluate the adequacy of the programs described in the SWMP Document for effectiveness, feasibility, and cost.

BMP Activities

PREV-9.1 EVALUATION OF POLLUTION PREVENTION FOR MUNICIPAL OPERATIONS ACTIVITIES

TYPE: ONE-TIME

STATUS: FUTURE

During the MS4 Permit term, SWMP Document Participants will evaluate the pollution prevention for municipal operation activities conducted as per the SWMP Document. The SWMP Document Participants will develop a standard set of objective criteria relative to effectiveness, local applicability, and program resources to adaptively manage the pollution prevention for municipal operations activities, and the SWMP Document Participants will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the SWMP Document Participants stormwater management programs. The evaluation will be planned to meet the Permit renewal application package timeline. The criteria and plan may be developed independently or jointly by the SWMP Document Participants, and the criteria and plan may include only pollution prevention for municipal operation activities or combine pollution prevention for municipal operation activities with other Permit required evaluation topics.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-9.1	Evaluate the SWMP Document Participants pollution prevention for municipal operations activities by April 3, 2026.	• Date evaluation results included in permit renewal package.

Industrial and Commercial Facilities (COMM)

Regulatory Overview

The MS4 Permit Schedule A.3.g requires SWMP Document Participants to implement a program to reduce pollutants in stormwater discharges from industrial and commercial facilities in their jurisdictions. This section has been organized to include requirements from multiple schedules of the Permit. Runoff that comes in contact with some commercial and industrial activities can pick up pollutants and transport them to the MS4 or a water body. Requirements include screening screen new and existing facilities to determine if they require a 1200-Z permit and adopting and implementing a strategy to reduce pollutants from those industrial and commercial facilities that potentially contributing a significant pollutant load to the MS4.

Requirement Summary for Industrial and Commercial Facilities					
		BMPs			
Schedule	Requirement	COMM-1	COMM -2	COMM -3	COMM -4
A.3.g.i	Screening for Industrial Stormwater Permitting	■			
A.3.g.ii	Strategy to Reduce Pollutants from Industrial and Commercial Facilities ❶		■		
A.3.g.iii	Commercial & Industrial Facility Inspection Staff Training			■	
A.3.g.iv	Tracking and Assessment	■	■	■	■
B.4.b. and c.	Evaluation of SWMP for Permit Renewal				■

The full text of the requirement that each BMP is addressing can be found in the 2021 MS4 Permit.

❶ *See ED-2 for source control education and outreach and IDDE-3 for Enforcement Response Procedures.*

BMPs

COMM-1 Identify Industrial NPDES Permit Facilities

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.g.i, and A.3.g.iv. The purpose of this BMP is to ensure all industrial facilities in the SWMP Document Participants' jurisdictions that require a 1200-Z NPDES industrial stormwater permit are known to DEQ and the SWMP Document Participants.

Geography

✓	WES Rate Zone #2, including Happy Valley
	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

This BMP applies where stormwater is discharged from a private industrial property to the MS4. WES Rate Zone #2, Happy Valley, and OLWS are the only areas where industrial facilities discharge to a SWMP Document Participant's MS4.

In the 2012-2017 MS4 Permit term, WES conducted a review of existing industrial sites in WES Rate Zone #2 and Happy Valley to identify those sites that may have required an NPDES industrial stormwater permit (1200-Z permit) but had not been issued one by DEQ. WES also reviewed new industrial facilities in WES Rate Zone #2 and Happy Valley to determine if they potentially required 1200-Z permit. WES notified the facilities and DEQ within 30 days of identifying facilities.

BMP Activities

COMM-1.1 – IDENTIFY NEW INDUSTRIAL FACILITIES REQUIRING NPDES PERMITS

TYPE: ANNUAL

STATUS: ONGOING

A minimum of one time each year, WES Development Review will review development applications for new industrial sites to determine whether any new facilities would be subject to a 1200-Z permit. Alternately, WES may elect to perform this review at the time of post-construction stormwater plan review (see POST-3).

The determination will be based on a review of a facility's proposed activities and the applicable Standard Industrial Classification (SIC) codes related to the 1200-Z permit. If a site is identified as potentially meeting the eligibility requirements of the 1200-Z permit or the No Exposure Waiver from the requirement to have this permit, WES will notify the facility operator and DEQ of its findings within 30 days.

There is no responsibilities matrix for this BMP.

COMM-1.2 – IDENTIFY EXISTING INDUSTRIAL FACILITIES REQUIRING A 1200-Z PERMIT

TYPE: ANNUAL

STATUS: ONGOING

A minimum of one time each year, WES Source Control will review a sub-set of all existing industrial sites in the MS4-permitted portion of the WES SWM Service Area to determine whether any facilities may require, but do not currently hold, a 1200-Z permit, or a DEQ "No Exposure Certification" waiver from this requirement. This subset review is defined to include WES Source Control's periodic WES Rate Zone #2 Industrial Pretreatment User Surveys and private stormwater inspections. WES Source Control will include questions on the survey relating to a facility's eligibility for a 1200-Z permit. The subset of private stormwater inspections prioritized using WES Industrial Stormwater Screening Strategy will vary adaptively each year. During these processes, if WES Source Control identifies an existing industrial site that may require 1200-Z permit or a NEC waiver, WES Source Control will notify the facility operator and DEQ of its findings within 30 days. There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
COMM-1.1-a	Review new industrial development applications for applicability of 1200-Z permit a minimum of one time each year.	• Date(s) new development applications were reviewed.
COMM-1.2-a	Survey a subset of existing industrial facilities for 1200-Z permit applicability a minimum of one time each year.	• Date(s) survey sent via U.S. mail.

ID	Measurable Goals	Tracking Measures
COMM-1.1-b and COMM-1.2-b	Each year notify facility operator and DEQ of 100% of facilities newly identified as potentially needing a 1200-Z permit within 30 days of discovery.	• Annual number and list of facilities and where operator and DEQ were notified within 30 days of discovery. • Annual number and list of newly identified facilities. • Annual percentage of facilities where operator and DEQ were notified within 30 days of discovery.

COMM-2 Industrial/Commercial Stormwater Pollutant Prevention

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.g.ii and A.3.g.iv. The purpose of this BMP is to reduce potential discharge of contaminated stormwater to the MS4 from commercial and industrial lands that drain to it.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
	Happy Valley
	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

During the 2012-2017 MS4 Permit term, WES developed the *Strategy for the WES Industrial/Commercial Stormwater Program in the City of Happy Valley and in the portions of SWMACC and CCSD#1 which are regulated by the MS4 permit, (Strategy for the Industrial/Commercial Stormwater Program)* which was last updated in June 2013.

This BMP responds to sections of MS4 Permit Schedule A.3.g relating to a strategy to reduce pollutants from industrial and commercial facilities. Those sites may include:

- Sites subject to the DEQ-issued 1200-Z industrial stormwater NPDES general permit;
- Hazardous waste treatment, disposal, and recovery facilities;
- Industrial facilities that are subject to Section 313 of the Emergency Planning and Community Right to Know Act (42 U.S.C. 11023);
- Site flagged by a pre-treatment program or Industrial User Survey as potentially contributing, or housing activities that may contribute, pollutants to the MS4;
- Facilities or activities that have been identified by the SWMP Document Participants as potentially contributing a significant pollutant load to the MS4.

The current strategy uses complaints and reports from citizens, DEQ, and other County and City employees as the trigger for inspecting a facility to determine whether the site contributes a significant pollutant load to the MS4. WES proactively inspects industrial and commercial sites each year and provides stormwater quality technical assistance and requires owners/operators of private storm sewer systems to remove pollutants from (i.e.. clean) their system (see MAINT-4). General source control outreach and technical assistance is addressed in ED-2 as outreach to priority audiences. If a site is actively discharging to the MS4 and the discharge is confirmed to be

illicit or due to a spill, the spill response and illicit and enforcement activities of IDDE-2 and IDDE-3 would apply.

BMP Activities

COMM-2.1 – REVIEW AND UPDATE THE INDUSTRIAL/COMMERCIAL FACILITIES STRATEGY

TYPE: ONE-TIME

STATUS: FUTURE

WES reviewed and updated the *Strategy for the Industrial/Commercial Stormwater Program* prior to December 1, 2023, as was required by the MS4 Permit. The updated strategy includes:

- The facility types or activities, rationale, and priorities for entities that may have high potential to discharge pollutants of concern to the MS4;
- Inspection procedures, documentation standards, and frequency of inspections; and
- Description of the assessment and tracking of compliance with municipal ordinances related to discharges to the MS4 at industrial and commercial facilities that are potential sources of pollutants in stormwater runoff.

There is no responsibilities matrix for this BMP.

COMM-2.2 – IMPLEMENT THE INDUSTRIAL/COMMERCIAL FACILITIES STRATEGY

TYPE: ONGOING

STATUS: ONGOING

WES will continue to implement the *Strategy for the Industrial/Commercial Stormwater Program* to address stormwater pollution from industrial and commercial sites in the Permit area. The *Strategy* has been updated and incorporated into this SWMP Document, so this BMP activity implements the new *Strategy*.

SWMP Document Participants will respond to complaints or referrals about potential stormwater contaminants on commercial or industrial sites, which could include accidental mishandling, lack of good storage practices, or inappropriate operations. Complaints or referrals about potential contaminated discharges to the MS4 will be treated as reports of potential illicit discharges (see IDDE-2).

When a SWMP Document Participant receives such a complaint or referral, WES may request permission from the site operator to inspect the site. If entry is refused, WES may take legal action to secure entry. WES may also elect to collect a stormwater sample where the facility connects to the MS4. If an illicit discharge to the MS4 is found, the IDDE response and enforcement procedures apply (see IDDE-2 and IDDE-3).

As part of the updated *Strategy*, WES Watershed Protection will implement a program to inspect the pollutant source control measures at priority commercial and industrial facilities. WES inspectors will evaluate pollutant source control measures in outdoor areas used for work, storage, and materials handling and transfer. Spill prevention education and technical assistance will be provided during these inspections if dangerous or hazardous materials are used, handled, or stored in any portion of the facility drained by a storm sewer system (see ED-2.3). Inside and outside the

facility, inspectors will seek cross connections and illicit connections of sanitary sewers and floor drains. An inspection report will be completed for each site.

When WES suspects inadequate source control measures on a site, WES will assess whether an illicit discharge to the MS4 is occurring using either visual/olfactory or analytical methods. If an illicit discharge is verified, the IDDE response and enforcement procedures apply (see IDDE-2 and IDDE-3).

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
COMM-2.1	Update Industrial/Commercial Facilities Strategy by December 1, 2023	Date Industrial/Commercial Facilities Strategy updated.
COMM-2.2	Each year, inspect 100% of sites referred through complaint or referral within ten business days	• Annual number of sites inspected within ten business days based on complaint or referral • Annual total of complaints and referrals • Annual percentage of sites inspected with ten business days based on complaint or referral. • List of SIC categories of facilities inspected • Overview of results from inspections

COMM-3 Industrial/Commercial Site Inspection Staff Training

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.g.iii and A.3.g.iv. The purpose of this BMP is to ensure staff members responsible for inspecting and evaluating commercial and industrial facilities, evaluating compliance with regulations related to discharges to the MS4, or ensuring pollution prevention at facilities through inspections and/or provision of educational materials on stormwater management, are trained or otherwise qualified.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
	Happy Valley
	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

The SWMP Document Participants must implement a program to reduce pollutants in stormwater discharges to the MS4 from industrial and commercial facilities. The SWMP Document Participants must assess facilities to identify sites that have the potential to contribute a significant pollutant load to the MS4. These sites may be subject to the DEQ-issued 1200-Z industrial stormwater NPDES general permit. The sites may also store or process hazardous materials or involve other hazardous activities.

Staff members responsible for inspecting and evaluating these sites need appropriate training to conduct these activities safely and effectively.

BMP Activities

COMM-3.1 – DETERMINE TRAINING NEEDS

TYPE: ONE-TIME

STATUS: FUTURE

One time during the Permit term, SWMP Document Participants will evaluate staff training needs and document the required training for staff members responsible for inspecting and evaluating commercial and industrial facilities. The SWMP Document Participants will document the required training and frequencies in a training and education strategy. The strategy may be developed independently or jointly by the SWMP Document Participants, and the strategy may include only commercial and industrial facility tasks or combine training for commercial and industrial facilities with other Permit required staff training and education topics.

There is no responsibilities matrix for this BMP.

COMM-3.2 – CONDUCT TRAINING

TYPE: ONGOING

STATUS: ONGOING

The SWMP Document Participants will conduct the training documented in the strategy based on the identified frequencies as well as provide training for new employees as needed. Completed training will be documented by the SWMP Document Participants and reported in the annual report.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
COMM-3.1	Evaluate and document staff training needs one time during the MS4 Permit term.	• Date staff training and education strategy published.
COMM-3.2	Conduct or procure training documented in the staff training and education strategy.	• Number of employees who receive training and type training received.

COMM-4 Evaluation of Industrial and Commercial Facilities Activities

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.g.iv, B.4.b, and B.4.c. The purpose of assessing industrial and commercial facilities activities is to:

- Assist with the adaptive management of the industrial and commercial facilities program, and
- Support DEQ's independent assessment of the SWMP Document Participant's stormwater management program.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

DEQ requires SWMP Document Participants to follow an adaptive management approach to assess and modify, as necessary, any or all existing SWMP components and adopt new or revised SWMP components. Modifications that add elements to the approved SWMP may be made at any time and described in the Annual Report for that year. Modifications to delete, adjust, or replace elements in the approved SWMP with an alternate action or activity may be made at any time and must be supported by documentation submitted with the subsequent annual report that must include:

- An analysis of why the new action is an appropriate alternative from the standpoint of effectiveness, feasibility, and/or cost; and
- Expectations on the effectiveness of the replacement action or activity.

In addition, the SWMP Document Participants will submit a permit renewal application package that must support any proposed modifications to programs and stormwater control measures. This application package must evaluate the adequacy of the programs described in the SWMP Document for effectiveness, feasibility, and cost.

BMP Activities

COMM-4.1 EVALUATION OF INDUSTRIAL AND COMMERCIAL FACILITIES ACTIVITIES

TYPE: ONE-TIME

STATUS: FUTURE

During the MS4 Permit term, SWMP Document Participants will evaluate the industrial and commercial facilities activities conducted as per the SWMP Document. The SWMP Document Participants will develop a standard set of objective criteria relative to effectiveness, local applicability, and program resources to adaptively manage the industrial and commercial activities, and the SWMP Document Participants will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the SWMP Document Participants stormwater management programs. The evaluation will be planned to meet the Permit renewal application package timeline. The criteria and plan may be developed independently or jointly by the SWMP Document Participants, and the criteria and plan may include only industrial and commercial facilities activities or combine industrial and commercial facilities activities with other Permit required evaluation topics.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
COMM-4.1	Evaluate the SWMP Document Participants industrial and commercial facilities activities by April 3, 2026.	• Date evaluation results included in permit renewal package.

Stormwater System Operation and Maintenance (MAINT)

Regulatory Overview

MS4 Permit SWMP Document Participants implement a program to verify that the stormwater system and stormwater controls are inspected, operated, and maintained for effective pollutant removal, infiltration/retention, and flow control. This section has been organized to include requirements from multiple schedules of the Permit. The stormwater system and controls include, but are not limited to catch basins, detention tanks/pipes, ponds, swales, rain gardens, and pollution control manholes. Requirements apply to both publicly owned or operated systems and privately-owned and operated systems. Schedule A.3.f.ix, which includes the requirement to assess flood control infrastructure, is addressed in POST-3.

Requirement Summary for Stormwater System Operation and Maintenance									
Schedule	Requirement	BMPs							
		MAINT-1	MAINT-2	MAINT-3	MAINT-4	MAINT-5	MAINT-6	MAINT-7	MAINT-8
A.2.f	Review and Modification of the SWMP Document								■
A.3.e.i	Ordinance and/or Other Regulatory Mechanism	■							
A.3.e.vi	Long-Term Operation and Maintenance (O&M) ❶	■	■	■	■	■		■	
A.3.f.i	Operation and Maintenance Strategy for Existing Controls	■	■	■		■			
A.3.f.ii	Inspection, Maintenance, and Cleaning of the MS4		■	■		■			
A.3.f.iii	Pollution Prevention in Facilities and Operations ❶		■	■					
A.3.f.x	Operations and Maintenance Staff Training							■	
A.3.f.xi	Tracking and Assessment	■	■	■	■	■	■	■	■
A.3.h.i	Infrastructure Retrofit and Hydromodification Assessment Update - Documentation						■		■
B.4.b. and c.	Evaluation of SWMP for Permit Renewal								■

The full text of the requirement that each BMP is addressing can be found in the 2021 MS4 Permit.
❶ See ED-2 for education and outreach regarding private stormwater facility O&M, MAP-2 for the digital map and inventory of stormwater controls, and PREV for pollution prevention activities.

BMPs

MAINT-1 Operation and Maintenance Legal Authority

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.e.i, A.3.e.vi, and A.3.f.xi. The purpose of this BMP is to establish and maintain the legal authority for SWMP Document Participants to require maintenance of private stormwater facilities and to conduct inspections as per Schedule A.3.e.i and A.3.e.vi. Privately-owned or operated storm systems discharge to the SWMP Document Participants' MS4s. Improperly maintained storm systems can contribute pollutants and excessive runoff to the MS4.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
	Happy Valley
	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

The elected officials of Clackamas County adopt the policies, rules, and regulations that require operation and maintenance of privately-owned and operated stormwater management facilities. WES tracks and coordinates this BMP.

WES Rules and the *WES Stormwater Standards* require maintenance of stormwater management facilities and annual reporting of maintenance. Generally, if a facility is located on private property, it is the responsibility of the property owner and/or operator. Stormwater management facilities that will be publicly owned must be accepted by the public agency that will take long term operations and maintenance responsibility for them; until that acceptance process is complete, the stormwater facility remains the responsibility of the property owner or permit applicant. Similarly, if a privately owned stormwater facility will be publicly maintained, the public agency and the property owner must have a contract or other legal mechanism in place in order for the agency to assume legal responsibility for the operations and maintenance of the private stormwater facility (see POST-4).

BMP Activities

MAINT-1.1 – REVIEW OPERATION AND MAINTENANCE LEGAL AUTHORITY

TYPE: ONE-TIME

STATUS: FUTURE

One time during the MS4 Permit term, WES will review the legal authority to inspect and require effective operations and maintenance of privately owned and operated stormwater facilities that discharge to the MS4.

WES will track and coordinate updates to legal authority, if necessary.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAINT-1.1	Review, and update, if necessary, legal authority in WES to require maintenance and inspect private storm systems (once during the MS4 Permit term) by Dec. 1, 2024.	• Date legal authority verified. • Date legal authority updated, if necessary.

MAINT-2 Implement Current Operations and Maintenance Strategy

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.e.vi, A.3.f.i, A.3.f.ii, A.3.f.iii, and A.3.f.xi. The purpose of this BMP is to describe the operations and maintenance strategy for existing public controls and for inspection, maintenance, and cleaning of the MS4. This BMP verifies and maintains effective pollutant removal, infiltration/retention, and flow control functions of public stormwater facilities. The facilities covered by this BMP include both publicly owned facilities and privately-owned facilities that are publicly operated under WES' Residential Maintenance Agreement Program or other maintenance agreements. Catch basins and inlets primarily perform a conveyance function; however, some catch basins also serve a water quality function by capturing sediment and debris. This BMP supports maintaining conveyance capacity and eliminating pollutants from the MS4 by removing sediment and debris from catch basins.

The long-term O&M requirements in Schedule A.3.e.vi of the Permit are also addressed in MAINT-1 (legal authority); MAP-1 and MAP-2 (inventory and mapping of public and private facilities), MAINT 2, 3, and 4 (documenting and tracking), MAINT-7 (training to inspect private facilities),

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
✓	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

All SWMP Document participants that own and maintain public stormwater controls and MS4s are responsible for implementing this BMP.

Ownership

SWMP Document Participants inspect and maintain stormwater management facilities that are publicly owned and/or operated. Within the Permitted Area, SWMP Document Participants own stormwater management facilities that are in ROW and on dedicated tracts, such as the County's Red Soils campus on Beavercreek Road in Oregon City and on many other properties.

Operational responsibility for a privately-owned facility is assigned to a SWMP Document Participant in a couple of ways. WES is commonly granted operational responsibility through maintenance agreements for privately-owned facilities serving single-family residential subdivisions. Occasionally, operational responsibility is assigned to a SWMP Document Participant through an easement.

Facility Types

This BMP applies to stormwater management facilities that have a primary pollutant removal, infiltration/retention, or flow control functions, such as:

- Above-ground and below-ground water quality treatment facilities, including:
    - Proprietary pollution control devices
    - Sedimentation manholes

- Detention facilities, including:
    - Detention ponds
    - Below-ground detention tanks and large-diameter pipes
- LID flow-through facilities; and
- Infiltration facilities, including infiltrating LID facilities.

SWMP Document Participants also remove sediment from publicly owned or operated catch basins and inlets on a routine basis. Only catch basins and inlets with sumps, which trap debris and sediment, are routinely cleaned.

Catch basins are often located in the ROW but may also be located in easements. WES cleans catch basins and inlets on County and City ROW and easements within the boundaries of WES. DTD cleans catch basins and inlets on County-maintained ROW in the Permitted Area outside of the WES SWM Service Area. Other catch basins serve Clackamas County-owned facilities, such as those at the Red Soils campus in Oregon City; the County's Facilities Management Department is responsible for cleaning these catch basins.

See MAINT-4 for long term operations and maintenance of privately maintained stormwater controls and storm systems.

BMP Activities

MAINT-2.1 – ONGOING FACILITY MAINTENANCE

TYPE: ONGOING

STATUS: ONGOING

SWMP Document Participants will continue using established schedules and procedures.

Both DTD and WES will use Vactor trucks to remove sediment from the conveyance system and structural controls, such as vegetated aboveground stormwater detention facilities, sedimentation manholes, and various types of underground proprietary pollution control systems. WES will dedicate one full time equivalent (FTE) to inspect structures in a specified area prior to assigning additional maintenance, if any, to that area. WES will hire Clackamas County Corrections crews for maintenance of vegetated detention ponds and water quality ponds. See the below tables for additional criteria, frequency, and procedures.

WES will track maintenance activities in a cMMS. DTD Administration will track maintenance activities in a separate cMMS, currently Trio.

SWMP Document Participants will continue their activities as shown in the tables below.

Ongoing Facility Maintenance Tasks

Facility Type	Geography	Who	Frequency or Prioritization	Inspection Criteria	Maintenance Criteria
Structural water quality facility in ROW	WES	WES	Every 3 years	Visually assess	If needed, Vactor
Residential Maintenance Agreement facility (detention, water quality, conveyance)	WES	WES	100% annually	Visually assess	If needed, Vactor, trash pickup, and/or mow.
Residential Maintenance Agreement facility (detention, water quality, conveyance)	WES	WES	5% of all facilities annually	Visually assess	If needed, sediment removal, tree removal, and/or structure repairs.
Residential Maintenance Agreement facility (detention, water quality, conveyance)	WES	WES	100% annually	Visually assess	If needed, mow and/or cut brush/weeds
Non-maintenance agreement residential facility (detention, water quality, conveyance)	WES	WES	Complaint response	Visually assess	If needed, Vactor, trash pickup, and/or mow
Stormwater treatment: above-ground facility, sedimentation manhole, underground proprietary treatment	County-maintained ROW in Permitted Area outside of WES	DTD	Every 3 years As-needed	Visually assess	If needed, Vactor, trash pickup, and/or mow. If needed, replace proprietary components

Responsibilities for Ongoing Facility Maintenance Procedures

Responsibilities Matrix (Procedures)	WES Field Ops	DTD Transportation Maintenance	DTD Admin
Vactor structural water quality facilities	P		
Inspect Residential Maintenance Agreement facilities	P		
Refer Residential Maintenance Agreement facilities needing maintenance to WES	P / I		
Vactor, trash pickup, or mow Residential Maintenance Agreement facilities needing maintenance	P		
Respond to complaints about non-maintenance agreement residential facilities	P		
Vactor, trash pickup, mow, replace proprietary components of County-maintained treatment facilities in ROW		P	
Respond to complaints about County-maintained vegetated or underground facilities in the ROW		P	
Track maintenance activities in each cMMS	P		P

MAINT-2.2 – ROUTINE CATCH BASIN CLEANING

TYPE: ONGOING

STATUS: ONGOING

SWMP Document Participants will continue the current levels of effort for cleaning catch basins and inlets.

WES will remove sediment from catch basins and inlets (with sumps) with a Vactor truck. WES will document catch basin cleaning in a cMMS. WES field operators will record the estimated quantity of sediment removed from each catch basin.

In the Permitted Area outside of WES' SWM Service Area, DTD will remove sediment from catch basins and inlets (with sumps) in County-maintained ROW using a Vactor truck. As per the existing intergovernmental agreement between DTD and OLWS, OLWS cleans all the catch basins and DTD sweeps all the roads within the OLWS District (see the OLWS SWMP). DTD will record the estimated quantity of sediment removed from each catch basin. DTD will document maintenance activity in a cMMS (currently Trio).

Responsibilities for Routine Catch Basin Cleaning

Responsibilities Matrix	WES Field Ops	WES Information Mgmt.	WES Watershed Protection	DTD Transportation Maint.	Clackamas County Facilities
Map and inventory catch basins/inlets (see MAP-2)	I	P		I	C/S
Schedule routes for routine cleaning	P			P	P
Routine catch basin cleaning	P			P	P
Record sump depth / sediment depth	P	I		P	P
Document cleaning activities in the cMMS / Trio	P	I		P	P
Report tracking measures to WES	P		I	P	P

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAINT-2.1-a	Each year inspect the stormwater systems in 70% of subdivisions and other participants enrolled in WES' Residential Maintenance Agreement Program. (WES)	• Annual number of Residential Maintenance Agreement subdivisions and other participants inspected. • Total number of subdivisions and other participants in WES' Residential Maintenance Agreement Program during reporting year. • Annual percentage of Residential Maintenance Agreement subdivisions and other participants inspected.
MAINT-2.1-b	Correct 100% of maintenance deficiencies discovered during a Residential Maintenance Agreement inspection within two years. (WES)	• Running total of deficiencies found during Residential Maintenance Agreement inspections that were corrected within two years. • Running total of deficiencies found during Residential Maintenance Agreement inspections through December 31, 2020. • Percentage of deficiencies corrected within two years to date.
MAINT-2.1-c	Each year mow and/or cut brush and weeds from stormwater facilities within 100% of subdivisions and other participants enrolled in WES' Residential Maintenance Agreement Program. (WES)	• Annual number of subdivisions and other participants where stormwater facilities were mowed/brushed. • Total number of subdivisions and other participants in WES' Residential Maintenance Agreement Program during reporting year. • Annual percentage of Residential Maintenance Agreement subdivisions and other participants where stormwater facilities were mowed/brushed.
MAINT-2.1-d	Each year remove sediment and trash from 20% of underground public water quality facilities operated by WES. (WES)	• Annual number of underground water quality facilities where WES removed sediment and trash. • Total number of underground public water quality facilities operated by WES in reporting year. • Annual percentage of underground water quality facilities where WES removed sediment and trash. • Estimated volume of debris removed as a total or by category or type of activity, if known.
MAINT-2.1-e	Each year respond to 100% of non-emergency complaints and referrals for facility maintenance within 72 hours. (WES)	• Annual number of non-emergency complaints and referrals for facility maintenance responded to within 72 hours. • Annual number of non-emergency complaints and referrals for facility maintenance received by WES. • Annual percentage of non-emergency complaints and referrals for facility maintenance responded to within 72 hours.
MAINT-2.1-f	Each year replace proprietary components in 100% of stormwater management structures operated by DTD in which a proprietary component needs replacement. (DTD)	• Annual number of structures with proprietary components that need replacement that were replaced by DTD. • Annual number of structures with proprietary components that need replacement. • Annual percentage of structures with proprietary components that have been replaced.

ID	Measurable Goals	Tracking Measures
MAINT-2.1-g	Each year respond to 100% of non-emergency complaints and referrals for facility maintenance within 72 hours. (DTD)	• Annual number of non-emergency complaints and referrals for facility maintenance responded to within 72 hours. • Annual number of non-emergency complaints and referrals for facility maintenance received by DTD. • Annual percentage of non-emergency complaints and referrals for facility maintenance responded to within 72 hours.
MAINT-2.2-a	Clean 20% of catch basins and inlets (with sumps) under WES responsibility each year.	• Annual number of catch basins and inlets cleaned. • Total number of catch basins and inlets (with sumps) under WES responsibility in reporting year • Annual percentage of catch basins and inlets (with sumps) cleaned.
MAINT-2.2-b	Clean 20% of catch basins and inlets (with sumps) under DTD responsibility each year.	• Annual number of catch basins and inlets cleaned. • Total number of catch basins and inlets (with sumps) under DTD responsibility in reporting year. • Annual percentage of catch basins and inlets (with sumps) cleaned.

MAINT-3 Public Conveyance Cleaning and Maintenance

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.e.vi, A.3.f.i, A.3.f.ii, A.3.f.iii, and A.3.f.xi. The purpose of this BMP is to prevent pollutants from discharging from the MS4 by maintaining public conveyances. Maintenance of conveyances can remove pollutants from the MS4, prevent erosion by stabilizing ditches and flow paths, and prevent localized flooding which can re-contaminate treated flows.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

Conveyances include storm sewer pipes and ditches. The most common location of public conveyances is transportation ROW.

SWMP Document Participants will clean and maintain ditches and storm sewer lines under their authority. WES cleans storm sewer pipes greater than 8” in diameter, and DTD cleans those that are greater than 12” in diameter.

BMP Activities

MAINT-3.1 – PUBLIC CONVEYANCE CLEANING AND MAINTENANCE

TYPE: ONGOING

STATUS: ONGOING

WES will clean storm lines as needed in subdivisions enrolled in WES' Residential Maintenance Agreement Program. WES will clean storm pipe in County-maintained ROW inside WES as needed based on complaints or field crew observations. Because of the low number of ditches owned by WES, WES will coordinate with Happy Valley or DTD to meet its infrequent need for cleaning or re-grading of ditches within the MS4-permitted portion of the WES SWM Service Area.

DTD will clean ditches in the County-maintained ROW. Ditch segments will be prioritized based on upcoming scheduled road work and complaints. DTD will clean storm lines in County-maintained ROW within the Permitted Area outside of WES as needed.

Responsibilities for Public Conveyance Cleaning and Maintenance

Responsibilities Matrix	WES Field Ops	DTD Transportation Maintenance	Happy Valley Public Works
Accept conveyance complaints from public	P	P	P
Refer conveyance complaints based on geography and type	P	P	P
Schedule routes for WES Residential Maintenance Agreement participants	P		
Clean storm pipes as needed	P	P	
Schedule DTD ditch cleaning based on upcoming road resurfacing work schedule		P	
Respond to complaints within area of responsibility	P	P	P
Track miles of ditch cleaned or restored; track linear feet of storm pipe cleaned	P	P	P

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAINT-3.1	Complete 100% of scheduled conveyance system cleaning maintenance activities each year (WES, DTD, Happy Valley).	• Annual number of conveyance system work orders completed each year. • Annual number of conveyance system work orders planned each year. • Annual percentage of conveyance system work orders completed every year.

MAINT-4 Regulated Private Storm System Inspection and Maintenance Program

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.e.vi and A.3.f.xi. The purpose of this BMP is to reduce stormwater discharge volumes and pollutant discharge to the SWMP Document Participants' MS4s by verifying that privately-owned storm sewer systems are operated to maintain their pollutant removal, stormwater infiltration/retention, and flow control functions. This BMP covers privately-owned storm sewer systems that serve multi-family residential

properties, commercial and industrial properties, or institutions (religious, civic, etc.) and that discharge to an MS4.

The WES Rules includes requirements for maintenance of private stormwater facilities built under post-construction stormwater standards. The WES Stormwater Standards include long-term O&M inspection and maintenance criteria for private stormwater facilities (see POST-2). The WES Stormwater Standards form the basis of documenting inspections and verifying functionality of private stormwater controls.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
	Happy Valley
	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

Operators of regulated storm sewer systems are required to self-report inspection and maintenance of their systems annually.

For the purposes of this BMP, a regulated private storm system is one that discharges to the MS4 and is on a privately-owned multi-family or non-residential site (e.g., commercial, industrial, religious etc.).

WES maintains legal authority to regulate operation and maintenance of these systems in their rules and regulations (see MAINT-1). Many regulated private system operators are also obligated by a signed commercial/industrial storm sewer system facility maintenance agreement to inspect and maintain the property's stormwater facilities and to report their activities annually to WES.

For many years, WES has participated in the voluntary Storm Drain Cleaning Assistance Program (SCAP) with regional partners in the Portland-Metro area. The program uses voluntary measures paired with an inspection and enforcement program to verify and track maintenance of regulated private stormwater systems. This BMP contains two elements that WES may use interchangeably or in combination at its discretion to meet the measurable goals.

See ED-2.2 for additional private stormwater facility operations and maintenance outreach.

BMP Activities

MAINT-4.1 – STORM DRAIN CLEANING ASSISTANCE PROGRAM

TYPE: ONGOING

STATUS: ONGOING

WES will continue to cooperate with partners to implement the SCAP to help regulated private system operators maintain catch basins.

SCAP implementation will include notification, cleaning assistance, and report tracking. SCAP partner agencies will negotiate with vendors and obtain the lowest qualifying price quote for inspection and cleaning of catch basins. WES Watershed Protection will send an annual maintenance reminder and SCAP invitation to its private facility maintenance agreement participants and other commercial and industrial facilities that operate regulated storm sewer systems.

Property owners who respond to the invitation will be referred to the vendor. The vendor will inspect and clean structures and report the number of facilities visited, number, and type of structures maintained, and the volume of material removed. WES Information Management will track the vendor's reports.

Responsibilities for Storm Drain Cleaning Assistance Program

Responsibilities Matrix	WES Watershed Protection	WES Information Management	SCAP Partners[1]	Vendor[1]	Regulated Private System Operators[1]
Maintain inventory of regulated private storm systems in WES (see BMP MAP-2)	C	P			
Negotiate vendor price	I		P	C	
Compose and send annual maintenance reminder and SCAP invitation	P			I	I
RSVP to WES	I			I	P
Perform inspection and cleaning				P	C
Report tracking measures to WES	I			P	S

P = Performs Task, C = Consulted, S = Supports, I = Informed

[1] *These entities do not participate directly in this SWMP Document and are not required to comply with it. SWMP Document Participants are not responsible for the actions of these entities. SWMP Document Participants implement its activities through enforceable authority, standards, plan review, inspection, and enforcement.*

MAINT-4.2 – REGULATED STORM SYSTEM INSPECTION AND ENFORCEMENT

TYPE: ONGOING

STATUS: FUTURE

WES will implement an inspection and enforcement program to verify operation and maintenance of regulated private storm systems.

WES Watershed Protection will prioritize sites for inspection based on risk factors. Selection criteria will be documented in the MS4 annual report.

WES Watershed Protection will inspect regulated private storm systems at the prioritized sites. Inspections may be conducted independently or may be combined with other types of inspections that WES performs, such as: sanitary system inspections for Industrial Pretreatment and the Fats, Oils, & Grease Program (WES Source Control); and priority commercial and industrial facility stormwater quality inspections (WES Watershed Protection) (see COMM-2.2).

Inspectors will evaluate the maintenance condition of each site's storm system, including stormwater management facilities, using the maintenance standards established in the *WES*

Stormwater Standards. If a regulated private storm system fails an inspection, WES will follow an escalating enforcement strategy that begins with education and technical assistance.

Business Outreach

Storm sewer system maintenance outreach to businesses will also be integrated into DTD's Resource Conservation and Solid Waste (RCSW) program's Leaders in Sustainability Certification, which supports businesses seeking to adopt and strengthen sustainable best practices. DTD will update the certification program to include points for a properly maintained storm system.

Responsibilities for Regulated Private Storm System Inspection and Enforcement

Responsibilities Matrix	WES Watershed Protection	WES Source Control	WES Field Operations	WES Information Management	DTD Resource Conservation Solid Waste
Develop maintenance criteria handouts based on the *WES Stormwater Standards*	P		C		I
Maintain inventory of regulated private stormwater systems in WES (see MAP-2)	I	I		P	I
Prioritize geographic areas or business types	P		C	C	
Incorporate storm sewer system maintenance into Leaders in Sustainability Program	I				P
Perform maintenance inspections of prioritized sites	P		S		
Include storm sewer inspections with ongoing sanitary system-related inspections	S	P			
Submit inspection reports to WES	P	P			
Technical assistance and enforcement, as needed	P	S	S		
Track inspections and enforcement	P	S		S	

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAINT-4.1	Each year, implement SCAP.	• Number of participants • Number and type of facilities cleaned and maintained
MAINT-4.2-a	Inspect 20% of prioritized regulated private storm systems in WES each year.	• Annual number of prioritized regulated private storm systems inspected at least one time. • Total number of prioritized regulated private storm systems in WES service area in reporting year. • Annual percentage of prioritized regulated private storm systems inspected.

ID	Measurable Goals	Tracking Measures
MAINT-4.2-b	50% of prioritized regulated private storm systems pass initial inspection each year.	• Annual number of prioritized regulated private storm systems that passed initial inspection. • Annual number of prioritized regulated private systems inspected. • Annual percentage of prioritized regulated private storm systems that passed initial inspection.
MAINT-4.2-c	Provide technical assistance to 90% of prioritized regulated private storm systems found to have a maintenance deficiency within one year.	• Running total of prioritized regulated private storm systems that received technical assistance within one year of an inspection that discovered a maintenance deficiency. • Running total of prioritized regulated private storm systems where an inspection discovered a maintenance deficiency. • Percentage of prioritized regulated private storm systems that received technical assistance within one year to date.

MAINT-5 Urgent Conditions / Storm Preparation and Response

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.e.vi, A.3.f.i, A.3.f.ii, and A.3.f.xi. The purpose of this BMP is to prepare for and respond to storms or other urgent situations. This BMP includes immediate response to calls for unblocking conveyances to prevent or mitigate localized flooding. SWMP Document Participants also take preventive actions to help ensure proper drainage and maintain water quality functions where possible prior to predicted storms.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
✓	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

SWMP Document Participants unblock conveyances and stormwater management facilities during storms in response to calls from the public. See PREV-2 for activities related to Winter Operations and Maintenance.

BMP Activities

MAINT-5.1 – URGENT CONDITIONS/STORM PREPARATION AND RESPONSE

TYPE: ONGOING

STATUS: ONGOING

SWMP Document Participants will mobilize and respond to flooding caused by public facilities and conveyances during storms and urgent conditions. Crews will respond within any portion of the

Permitted Area that the SWMP Document Participant's crews normally operate. Each SWMP Document Participant will integrate storm response activities into call-out procedures.

A response involving a public treatment or flow control facility (e.g., detention pond, swale) will be documented as a maintenance activity and forwarded to WES for tracking in the cMMS.

WES Field Operations and DTD will maintain lists of conveyances and facilities to inspect and clear of debris and blockages when weather reports call for rainfall in excess of one inch in a 24-hour period.

There are no measurable goals or responsibilities matrices for this BMP.

MAINT-6 Storm Sewer System Retrofit Program and Hydromodification Assessment

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.f.xi and A.3.h The purpose of this BMP is to address water quality and hydromodification caused by runoff from urbanized areas that were developed prior to the utilization of effective stormwater management controls, such as pollutant removal. The BMP implements SWMP Document Participants' stormwater retrofit strategy and assesses the outcomes of the stormwater retrofit strategy and hydromodification assessment to evaluate and improve the effectiveness of retrofits.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

Retrofits address water quality impacts (discharge of pollutants) and hydrologic impacts (changes to volume, rate, and duration of discharges). Retrofit projects may be undertaken at a local or a regional scale. Retrofits may be standalone projects, demonstration projects, or may be integrated into other planned capital improvements such as transportation projects.

On June 30, 2015, WES submitted the *Clackamas County Water Environment Services Stormwater Retrofit Plan* (Retrofit Plan) to DEQ in accordance with MS4 Permit Schedule A.6 *on* behalf of SWMP Document Participants. WES implemented the Retrofit Plan during the 2012-2017 MS4 Permit term. The Hydromodification Assessment report, which complies with Schedule A (5) of the 2012-2017 MS4 Permit, was also submitted to DEQ by WES on June 30, 2015.

The SWMP Document Participants continue to consider the impacts of policy, capital improvements, and retrofit projects on MS4 discharges to receiving waters, considering the goals and proposed actions described in the previous Permit's Hydromodification Assessment and Stormwater Retrofit Strategy reports.

BMP Activities

MAINT-6.1 – INFRASTRUCTURE RETROFIT AND HYDROMODIFICATION ASSESSMENT UPDATE

TYPE: ONE-TIME

STATUS: FUTURE

WES will continue to implement the Retrofit Plan developed and adopted in the previous Permit term.

By December 1, 2023, WES will assess the outcomes of the Retrofit Plan and the Hydromodification Assessment, which will include, at a minimum, the following:

- An assessment of how the Hydromodification Assessment and Stormwater Retrofit Strategy have been used, considered, or implemented since the time the reports were completed;
- Progress toward or completion of projects identified in the Retrofit Strategy priority list, and a qualitative assessment of the benefits of those projects;
- Description of any further actions taken as a result of the Hydromodification Assessment, and a rationale for those actions since the writing of the reports;
- Narrative describing progress toward addressing gaps in hydromodification information or data related to waterbodies within the SWMP Document Participants' jurisdiction as identified in the Hydromodification Assessment; and,
- New goals, tools, priorities, and planned or potential projects for addressing ongoing hydromodification and/or water quality impacts resulting from historical development/infrastructure, and for improving retrofit planning, considering information gathered in the time since the completion of the reports.

Each SWMP Document Participant is invited to provide potential projects to WES. The following areas and types of facilities may be candidates for retrofits:

- Existing ponds and below-ground tanks/pipes which were designed to provide only stormwater detention (lacking water quality);
- Discharges into the MS4 from existing private properties: residential, commercial, and industrial urbanized areas that lack water quality or hydrologic controls;
- Public roadways owned or operated by a SWMP Document Participant that lack water quality or hydrologic controls; and
- Existing flood control projects owned or operated by a SWMP Document Participant that lack water quality treatment.
- In places with soils that have a reasonably good infiltration rate, and where highest seasonal groundwater is deep enough, divert some flow from one or more MS4s to a vegetated infiltration structure (such as a rain garden or vegetated planter box, with an overflow to a shallow injection system, such as a drywell).

After reviewing candidate projects, WES will prioritize them for retrofit, adding water quality and hydrologic controls as capital improvement funds allow.

Responsibilities for Stormwater Retrofit Program

Responsibilities Matrix	WES Watershed Protection	WES Field Ops	WES Comm Relations	DTD Transpo Const	DTD Transpo Planning	Happy Valley Eng	Rivergrove
Refer problems / potential retrofits to WES	I	P		P	P	P	P
Track potential projects	P			I	I	I	I
Public involvement	S		P	C/I	C/I	C/I	C/I
Coordinate project selection	P	I	I	S	S	S	S
Project design	P	I	I	S	S	S	S
Construction	P	I	I	S	S	S	S
Tracking and reporting	P	S	S	S	S	S	S

P = Performs Task, C = Consulted, S = Supports, I = Informed

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAINT-6.1	Assessment of outcomes related to the Hydromodification Assessment and Stormwater Retrofit Strategy reports by December 1, 2023.	• Progress or completion of projects identified in Retrofit Strategy. • Dates Hydromodification Assessment and Stormwater Retrofit Strategy assessed and, if needed, updated.

MAINT-7 Stormwater Facility Maintenance Training

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.3.e.vi, A.3.f.x, and A.3.f.xi. The purpose of this BMP is to ensure individuals responsible for operations and maintenance of public stormwater facilities and inspection and maintenance of regulated private stormwater facilities are trained or otherwise qualified.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
✓	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

SWMP Document Participants must properly operate and maintain their facilities using pollution prevention and good housekeeping to reduce the discharge of pollutants through the MS4 to waters of the state. These activities include two overlapping groups of activities, operations and maintenance of stormwater facilities to reduce the discharge of pollutants and pollution prevention incidental to non-stormwater focused activities. The training described in this section focuses on inspection, operation, and maintenance of stormwater facilities.

BMP Activities

MAINT-7.1 – DETERMINE TRAINING NEEDS

TYPE: ONE-TIME

STATUS: FUTURE

One time during the Permit term, SWMP Document Participants will evaluate staff training needs and document the required training for staff members responsible for inspecting, operating, and maintaining SWMP Document Participants stormwater facilities as well as inspecting and ensuring regulated private stormwater facilities are operated and maintained to appropriate standards. The SWMP Document Participants will document the required training and frequencies in a training and education strategy. The training and education strategy will also identify any required or appropriate qualifications to inspect private stormwater facilities. The strategy may be developed independently or jointly by the SWMP Document Participants, and the strategy may include only stormwater facility inspection, operations, and maintenance activities or combine training for stormwater facility inspection, operations, and maintenance activities with other Permit required staff training and education topics.

There is no responsibilities matrix for this BMP.

MAINT-7.2 – CONDUCT STORMWATER MANAGEMENT FACILITIES MAINTENANCE STAFF TRAINING

TYPE: ONGOING

STATUS: ONGOING

The SWMP Document Participants will conduct the training documented in the strategy based on the identified frequencies as well as provide training for new employees as needed. Completed training will be documented by the SWMP Document Participants and reported in the annual report.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAINT-7.1	Evaluate and document staff training needs one time during the MS4 Permit term.	• Date staff training and education strategy published.
MAINT-7.2	Conduct or procure training documented in the staff training and education strategy.	• Number of employees who receive training and type training received.

MAINT-8 Evaluation of Stormwater System Operations and Maintenance Activities

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.2.f, A.3.f.xi, A.3.h, B.4.b, and B.4.c. The purpose of assessing stormwater management facilities management activities is to:

- Assist with the adaptive management of the stormwater management facilities maintenance program, and
- Support DEQ's independent assessment of the SWMP Document Participant's stormwater management program.

Geography

✓	WES Rate Zone #2, including Happy Valley
✓	WES Rate Zone #3, including Rivergrove
✓	County-maintained ROW
✓	Municipal Facilities in Permitted Area

General Responsibility

✓	WES
✓	Happy Valley
✓	Clackamas County DTD
	Other Clackamas County department
	Rivergrove
✓	OLWS (see OLWS SWMP)

Background

DEQ requires SWMP Document Participants to follow an adaptive management approach to assess and modify, as necessary, any or all existing SWMP components and adopt new or revised SWMP components. Modifications that add elements to the approved SWMP may be made at any time and described in the Annual Report for that year. Modifications to delete, adjust, or replace elements in the approved SWMP with an alternate action or activity may be made at any time and must be supported by documentation submitted with the subsequent annual report that must include:

- An analysis of why the new action is an appropriate alternative from the standpoint of effectiveness, feasibility, and/or cost; and
- Expectations on the effectiveness of the replacement action or activity.

In addition, the SWMP Document Participants will submit a permit renewal application package that must support any proposed modifications to programs and stormwater control measures. This application package must evaluate the adequacy of the programs described in the SWMP Document for effectiveness, feasibility, and cost.

BMP Activities

MAINT8.1 EVALUATION OF STORMWATER SYSTEM MAINTENANCE ACTIVITIES

TYPE: ONE-TIME

STATUS: FUTURE

During the MS4 Permit term, SWMP Document Participants will evaluate the stormwater system maintenance activities conducted as per the SWMP Document. The SWMP Document Participants will develop a standard set of objective criteria relative to effectiveness, local applicability, and program resources to adaptively manage the operations and maintenance activities, and the SWMP Document Participants will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the SWMP Document Participants stormwater management programs. The evaluation will be planned to meet the Permit renewal application package timeline. The criteria and plan may be developed independently or jointly by the SWMP Document Participants, and the criteria and plan may include only stormwater system maintenance activities or combine stormwater system maintenance activities with other Permit required evaluation topics.

There is no responsibilities matrix for this BMP.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAINT-8.1	Evaluate the SWMP Document Participants operations and maintenance activities by April 3, 2026.	• Date evaluation results included in permit renewal package.

Definitions

Term	Definition
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.
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 spillage, or leads, sludge, or waste disposal, or drainage from raw material storages. BMPs are synonymous with structural and non-structural stormwater controls and include the schedule of activities, controls, prohibition of practices, maintenance procedures and other management practices designed to prevent or reduce pollution.
Clean Water Act (CWA)	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.
Control Measure	Any action, activity, Best Management Practice, or other method used to control the discharge of pollutants in MS4 discharges.
Conveyance system	Drainage facilities and features that collect, contain, and provide for the flow of surface and storm water from the highest points on the land down to a receiving water. Conveyance systems are made up of natural elements and of constructed facilities.
County Roads	A public road under the jurisdiction of a county that has been designated as a county road under ORS 368.016 (County authority over roads). County roads have been accepted by the county for maintenance, and the county is authorized to spend county road funds for improving and maintaining.
Flood control project	Any plan, system, manner, or means for the control, diversion, conservation or abatement of floodwaters or any excessive or unusual accumulation of water in any natural or artificial stream or body of water, or for protection of life and property against danger, menace, injury or damage resulting therefrom.
Green Infrastructure	A specific type of stormwater control using vegetation, soils, and natural processes to manage stormwater. At the scale of a neighborhood or site, green infrastructure refers to stormwater management systems designed to mimic nature by reducing and/or storing stormwater through infiltration, evaporation, and transpiration. At the site level, such measures may include the use of plant or soil systems, permeable pavement or other pervious surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspirate stormwater and reduce flows to sewer systems or to surface waters. At the scale of city or county, green infrastructure refers to the patchwork of natural areas that provides flood protection and natural processes that remove pollutants from stormwater.
Illicit discharge	Any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges pursuant to a NPDES permit or other state or federal permit, or otherwise authorized by the Department of Environmental Quality, and discharges resulting from firefighting activities.
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, but are not limited to, building roofs, traditional concrete or asphalt paving on walkways, driveways, parking lots, gravel lots and roads, and packed earthen materials.
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, green infrastructure, and other techniques for infiltration, filtration, evapotranspiration, and reuse of rainwater, and can occur at a wide range of landscape scales (i.e., regional, community and site). Low impact development is a comprehensive land planning and engineering design approach to stormwater management with a goal of mimicking the pre-development hydrologic regime of urban and developing watersheds

Term	Definition
Major outfall	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 from 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).
Maximum Extent Practicable (MEP)	A technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in storm water discharges that was established by Section 402(p)(3)(B)(iii) of the Clean Water Act. This standard is considered met if the conditions of the MS4 Permit are met.
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.
Minor outfall	A municipal separate storm sewer outfall that is not a major outfall.
Municipal Separate Storm Sewer System (MS4)	A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): • 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; • Designed or used for collection or conveying stormwater; • Which is not a combined sewer; and • Which is not part of a Publicly Owned Treatment Works (POTW) as defined by 40 CFR §122.2.
Non-stormwater discharge	Any discharge to the storm sewer that is not composed entirely of stormwater. Non-stormwater discharges can include discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, irrigation, or sanitary wastes. Some non-stormwater discharges are regulated and authorized by an NPDES permit or allowed by SWMP Document Participants. If a non-stormwater discharge is not allowed by a SWMP Document Participant or authorized by a NPDES, it is an illicit discharge.
Operational source control BMPs	Non-structural practices that prevent or reduce pollutants from entering stormwater. Examples include formation of a pollution prevention team, good housekeeping practices, preventive maintenance procedures, spill prevention and cleanup, employee training, inspections of pollutant sources, and record keeping. They can also include process changes, raw material/product changes, and recycling wastes.
Outfall	A point source 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.
MS4 Permit	The NPDES municipal separate storm sewer system (MS4) permit issued to the Clackamas County Group, authorizing the permittees to discharge from the MS4.
Permitted area	Entire coverage area of MS4 Permit No. 101348
Public facility (stormwater management)	A stormwater management facility owned or operated by one of the SWMP Document Participants.
Public road	A road over which the public has a right of use that is a matter of public record.

Term	Definition
Regulated private storm system	A storm sewer system that discharges to one of the SWMP Document Participants' MS4s, is on a privately-owned industrial, commercial, religious institution, or multi-family residential property, and is privately-operated.
Road	The entire right of way of any public or private way that provides ingress to or egress from property by means of vehicles or other means or that provides travel between places by means of vehicles. Road includes, but is not limited to: (a) Ways described as streets, highways, throughways, or alleys; (b) Road related structures that are in the right of way such as tunnels, culverts or similar structures; and (c) Structures that provide for continuity of the right of way such as bridges.
Spill	An unintentional release of a non-stormwater substance related to a single event that does or may enter the stormwater drainage system. Many times they are associated with emergency situations such as an automobile accident spilling oil or other automotive fluids onto the highway surface and potentially flowing into the stormwater drainage system.
Storm sewer	A conveyance structure designed to carry only storm waters, surface water runoff, and/or drainage.
Stormwater	Stormwater runoff, snowmelt runoff, and surface runoff and drainage.
Stormwater facility / stormwater management facility	Engineered facilities that are designed to convey storm runoff, remove pollutants and/or to control flow rates. These facilities include pipes, ditches, swales, filters, ponds, underground tanks, and vaults. These systems are specifically designed to capture, treat, store and then slowly release stormwater runoff downstream or into the ground.
Stormwater management program	A comprehensive program that includes legal authority, permitting and stormwater control and facility design standards, capital projects and retrofits, monitoring, and a stormwater management plan that collectively manages the quality of stormwater discharged from the municipal separate storm sewer system. Stormwater management programs are established to reduce the discharge of pollutants from the MS4 to the Maximum Extent Practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.
Structural water quality facility / structural control (obsolete)	Constructed elements providing stormwater treatment including, but not limited to, vegetated aboveground stormwater detention facilities, sedimentation manholes, and various types of underground proprietary pollution control systems. Note: these terms are obsolete in the Shared SWMP Document. They are used in the SWMP Document Participants' previous SWMPs and are used only in the Shared SWMP Document to describe activities of the SWMP Document Participants that will be superseded by new practices and activities.
Structural source control BMPs / measures	Stormwater controls that are physically designed, installed, and maintained to prevent or reduce the discharge of pollutants in stormwater to minimize the impacts of stormwater on waterbodies. Examples include: (1) storage practices such as wet ponds and extended-detention outlet structures; (2) filtration practices such as grassed swales, sand filters and filter strips; and, (3) infiltration practices such as infiltration basins and infiltration trenches.
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.
Year	Calendar year except where otherwise defined.

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