City of Gladstone

MS4 Stormwater Management Program Document

Submitted to:
Oregon Department of Environmental Quality

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2022 CITY OF GLADSTONE STORMWATER MANAGEMENT PROGRAM

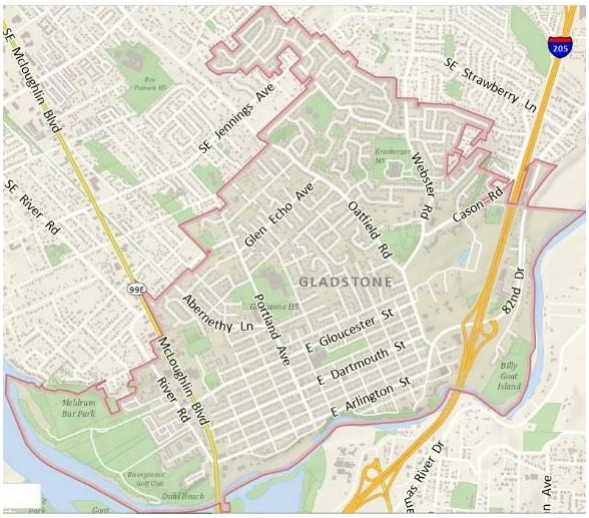
Stormwater Management Program (SWMP) Overview

In accordance with the City of Gladstone's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer (MS4) Permit, Permit number 101348, the City of Gladstone implements a Stormwater Management Program (SWMP) to outline best management practices (BMPs) and activities to comply with permit requirements. The City of Gladstone is a co-permittee of the Clackamas County MS4 Permit Group.

This version of the Stormwater Management Program (SWMP), dated October 13, 2022 reflects updates required by Oregon Department of Environmental Quality (DEQ) under the reissuance of the September 15, 2021 MS4 Permit, effective October 1, 2021. The MS4 Permit term is effective for five years, expiring September 30, 2026. Throughout this SWMP document, the phrase "MS4 Permit term" refers to the five-year term that began October 1, 2021. The MS4 Permit regulates discharges from the City of Gladstone and the Clackamas County co-permittees' storm sewers to waters of the state under the federal Clean Water Act's NPDES program. This SWMP will become effective once approved by DEQ.

The SWMP document serves as a resource for the public to learn about the City of Gladstone's strategies to reduce pollutants discharged by the municipal separate storm sewer system, a procedural guide for staff, and a measure of compliance for the MS4 Permit. The City of Gladstone (the City) and each Clackamas County co-permittee is required, by MS4 Permit Schedule A.2.c to develop and maintain a Stormwater Management Document (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.

The City of Gladstone implements it's MS4 permit and SWMP within the entire boundaries of the City limits. See map in Figure 1 below.



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.

The MS4 Permit requires the City and 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. 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 SWMP Document, the phrase “MS4 Permit term” refers to the five-year term that began October 1, 2021.

City of Gladstone SWMP (2022) Document Organization

The SWMP Document follows the organization of the nine Stormwater Management Program Control Measures described in Schedule A.3 of the MS4 Permit and addresses them in eight Best Management Practice (BMP) categories. For organizational purposes, mapping related activities are organized in a BMP category which is not included in the MS4 permit. The MS4 Permit Infrastructure Retrofit and Hydromodification Assessment control measure permit requirements are located in the Stormwater System Operations and Maintenance BMP of the SWMP Document. Activities relating to the Pollution Prevention and Good Housekeeping for Municipal Operations requirements of the MS4 Permit are described in two BMP categories: Pollution Prevention for Municipal Operations and Stormwater Systems Operations and Maintenance.

BMP Category Names

Each BMP category is named with a unique identifier (see Table 1). Each BMP is numbered (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

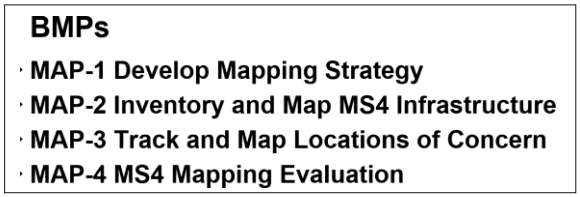


Figure 2 Numbered BMPs Example

Regulatory Overview

Each BMP category contains a brief summary of the relevant 2021 MS4 Stormwater Permit requirements and a table joining each requirement to at least one relevant BMP (see Table 2 below for example).

Table 2

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-9 for City 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-6 for private storm system inspections.

Best Management Practices (BMPs)

MS4 Permit Schedule D.4 defines BMP's in the following manner: "Best Management Practices" BMPs means 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 purpose 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 ways in which the City of Gladstone intends/proposes to comply with MS4 Permit requirement Schedule A.3. Each BMP consists of the following components.

- The purpose of the BMP
- Background information relating to the BMP
- A detailed description of each task included in the BMP (BMP activities)
- Measurable goals and tracking measures for BMP evaluation. Each BMP includes one or more measurable goal and tracking measure related to each measurable goal in order to evaluate the effectiveness of the BMP. Each goal consists of a short form abbreviation and number relating to the BMP name/activity. Tracking measure progress will be reported to DEQ annually in the City of Gladstone MS4 Annual Report.

Purpose

The Purpose is a description that includes the intent of the BMP activity and information about how the City will address the requirements of the Permit.

Background

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

BMP Activities

This section describes the specific activities the City 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. To differentiate these nuances, each BMP is divided into sequentially numbered BMP activities (see Figure 3).

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

Figure 3. Example of sequentially numbered BMP activities

Each BMP activity is characterized by frequency and status as described in Tables 3 and 4.

Table 3. 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 4. 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 SWMP Document.

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 City's MS4 Annual report.

Figure 4 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 SWMP Document.

Figure 4. Example 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 on 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.
POST-4.4	Inspect 100% of stormwater facilities for new City CIPs.	-Annual number of stormwater facility inspections of new City CIPs. -Annual number of City CIPs completing construction. -Annual percentage of stormwater facility inspections of new City CIPs.

Terms, Abbreviations, and Acronyms

The following terms, abbreviations, and acronyms are used in the 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
BMP	Best Management Practice
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

Terms, Abbreviations, and Acronyms	
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
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
NRSS	Numeric Stormwater Retention Requirement
OAR	Oregon Administrative Rules
ODOT	Oregon Department of Transportation
OERS	Oregon Emergency Response System
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
ROW	Right-of-Way, Rights-of-Way
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
The City	The City of Gladstone
SWM Plan	Stormwater management plan, as required by the City for the construction plan review and approval of stormwater management controls on development and redevelopment sites
Public Works	Gladstone Public Works Department
TMDL	Total Maximum Daily Load
WES	Water Environment Services

Education and Outreach (ED)

Regulatory Overview

The MS4 permit requires the City of Gladstone to promote public education and outreach. This section includes requirements from multiple permit schedules. These BMPs relate to permit requirements to conduct public education and outreach activities with the intention to increase public knowledge of stormwater impacts on receiving waterbodies and the actions that can reduce pollutants in stromwater runoff. The City of Gladstone 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
- 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-9 for City 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-6 for private storm system inspections.

BMPs

ED-1 Stormwater Public Education and Outreach Strategy

Purpose

This BMP meets the MS4 permit requirements of 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 to the public through education and outreach activities. The Stormwater Public Education and Outreach Strategy will guide the City of Gladstone's activities to reach education and outreach goals.

Background

The City of Gladstone implements, updates and maintains an education matrix to carry out and document the progress of the stormwater public education and outreach strategy. The education matrix describes outreach programs intended to reduce pollutants in stormwater discharge through knowledge and behavior change. The education plan identifies targeted audiences, pollution reduction topics, and specific education activities.

<u>Other Outreach</u>

The City of Gladstone stormwater program engages in other education and outreach activities focused on water quality. These activities target a large broad range of the population with large broad water quality knowledge ultimately, while targeting specific water quality issues at times.

The City of Gladstone utilizes City newsletters and the City website to promote public awareness of stormwater quality issues and sources, including reporting of illicit discharges.

The City of Gladstone partners with various watershed councils and agencies in the region to promote stormwater quality education and awareness. This is largely done through membership in the Regional Coalition for Clean Rivers and Streams. This partnership increases the City of Gladstone and each member's ability to coordinate outreach activities to reach a large diverse population with a number of wide ranging water quality messages.

The City of Gladstone also partners with Clackamas County Water Environment Services (WES) and Clackamas Community College (CCC) Environmental Learning Center (ELC) through an IGA

to offer a K-12 program providing local students the opportunity to engage in watershed health education. The CCC Environmental Learning Center provides hands-on and virtual educational programming and field trips with goals relating to the City of Gladstone's SWMP and MS4 permit requirements and is an ideal location to teach the concepts of watershed science.

BMP Activities

ED-1.1-IMPLEMENT THE STORMWATERPUBLIC EDUCATION AND OUTREACH STRATEGY

TYPE: Ongoing

STATUS: Ongoing

On an ongoing basis, the City of Gladstone will implement the latest version of the strategy. Activities will take place throughout the year to maintain public awareness of issues. Activities will be timed to address seasonal topics when appropriate.

The City of Gladstone will continue to maintain stormwater information on its website and publish newspaper articles in the monthly City newsletter.

The City will continue to maintain partnership with the Regional Coalition for Clean Rivers and Streams as well as other watershed quality groups to conduct regional education and outreach.

The city will continue to stencil catch basins as needed.

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

Type: Periodic

Status: Ongoing.

Per Permit requirement Schedule A,3,a, the City of Gladstone has evaluated the Stormwater Public Education and Outreach Strategy, identified issues and updated the strategy on October 10, 2022 to address new Permit requirements and will continue to do so as needed in the future.

The update includes the City's targeted pollutants of concern from the latest TMDL reduction evaluation and 303(d) evaluation, surface water contaminants targeted, priority audiences, key messages, objectives, and specific education activities.

When developing the strategy, the City considered pollutants of concern identified in the *2015 TMDL Pollutant Load Reduction Evaluation* and the latest *303(d) Evaluation*.

The City of Gladstone Stormwater Public Education and Outreach Strategy, dated October 10, 2022 is as follows:

Targeted Pollutants of Concern from latest TMDL Evaluation and 303(d) Evaluation:

- Bacteria.
- Temperature.
- Mercury.
- PCBs.
- PAHs.
- DDE/DDT.
- Dieldrin.
- Iron.
- Manganese.

Surfaces water contaminants targeted:

- Nutrients and toxins from fast-releasing synthetic fertilizers and pesticides applied to yards and lawns.
- Pollutant loads from car washing soaps, metals and other toxins from vehicle maintenance (and unmaintained vehicles).
- E. Coli from pet waste.
- Turbidity.
- Legacy pesticides.
- Mercury from eroded soils and other contaminants from illicit discharges.

Priority audiences:

- General public of all ages and backgrounds.
- Those making purchasing and management decisions about yard care, pets and auto maintenance activities.
- Construction site operators, commercial and industrial business owners/operators, operators of private stormwater facilities.
- City maintenance staff.

Key Messages:

- Stormwater runoff goes directly to our local waterways without treatment. When it rains, pollutants from your home, car and garden wash into our rivers and streams. Never dump anything into storm drains.

- Bacteria from uncollected dog waste washes into our rivers and streams. You can protect our water by picking up after your pets.
- Yard and garden products wash into our rivers and streams. You can protect our water by eliminating these products or using compost and slow-release fertilizer.
- Motor oil, solvents, and soaps wash into our rivers and streams. You can protect our water by keeping car-care chemicals out of storm drains, diverting wash water onto your landscaping, and going to a car wash.
- Appropriate EPSC measures protect water quality.
- Proper private stormwater quality facility maintenance protects and enhances water quality.

Objectives:

- Increase audience understanding of specific stormwater quality issues in the waterways of the community and which pollutants, products, and behaviors contribute to the problems.
- Communicate and demonstrate how to reduce pollutant discharges in stormwater runoff.
- Encourage participation by the public in the protection and enhancement of local waterways and wildlife, as well as responsibility in behaviors to prevent illicit discharge from entering the MS4 or impacting receiving waters.
- Promote, publicize, and facilitate reporting of illicit discharges.

Specific education activities:

- For the general public, use monthly City newsletter articles promoting above key messages. 12 per year (Public Works).
- For the general public, the City is to provide educational electronic articles and information on the City website relating to the above key messages, including illicit discharge and spill reporting information.
- For the general public, use catch basin stenciling as required for upkeep (Public Works),
- For the general public and commercial/business operators, the City is to maintain membership with Regional Coalition for Clean Rivers and Streams (RCCRS) to support public education activities such as newspaper articles, educational videos, outreach supporting and connecting the public with public stewardship activities/watershed quality groups and K-12 educational opportunities supporting above key messages.
- For the general public/students, the City to maintain partnership with Clackamas County WES and Clackamas Community College to support K-12 watershed health education program.

- For the general public/students, the City to maintain partnership with Clackamas River Basin Council and other watershed quality groups to provide K-12 educational stewardship opportunities in Gladstone Parks and natural areas.
- For construction site operators, reference the Clackamas County WES EPSC Planning and Design Manual at pre-construction meetings and as applicable.
- For construction site operators, The City will offer information on it's website about state NPDES construction site discharge permits (1200-C and 1200-CN), which are required by DEQ for some construction sites.
- For construction site operators, the City will maintain a list of local and regional training opportunities for construction site erosion control and pollution prevention. The City will distribute the list to City staff. The City will also post the list on it's website.
- For private stormwater facility owners, the City will offer private stormwater facility maintenance guidance on the City website and during inspections.
- For private stormwater facility owners, the City 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 City's inspection and maintenance strategies and schedules (see MAINT-2). Handouts will be posted to the City website and handed out during private stormwater facility inspections.
- For private stormwater facility owners, the City will promote the Clean Water Services Online Private Water Quality Maintenance Program and explore opportunities to partner on offering additional education options.
- For businesses, the City will identify and reach out to businesses, City Public Works staff and municipal property owners that have a potential to spill oil, hazardous substances, or other materials to the MS4.
- For businesses, the City 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-6, Regulated Private Storm System Inspection and Maintenance. The City will combine stormwater source control inspections of priority facilities with other inspections when feasible.
- For City staff, volunteers and City contractors, the City will conduct one meeting per permit term to check in with key Public Works staff, volunteers and private contractors hired by the City who maintain landscaping at parks, municipal facilities and building in the City.

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	Maintain RCCRS membership.	-Status of RCCRS membership.
ED-1.1-c	Update the Public Education and Outreach Strategy once before December 1, 2022 and then as needed.	-Date(s) the plan was updated.
ED-1.1-d	Each year, complete 80% of planned City newsletter outreach articles.	-Number of planned articles each year. -Number of articles published each year. -Percentage of planned articles published each year.
ED-1.1-e	Annually review and update (if necessary) City website outreach/informational material related to stormwater and IDDE education and reporting channels.	-Date(s) website material reviewed/updated.
ED-1.1-f	Perform annual catch basin stenciling upkeep as required.	-Number of catch basins stenciled annually.
ED-1.1-G	Maintain RCCRS membership.	-RCCRS membership status.
ED-1.2	Maintain partnership with WES and CCC for k-12 watershed health education program.	-Watershed health education program partnership status.
ED-1.2-a	Maintain partnership with CRBC to provide volunteer education and stewardship opportunities.	-Current partnership status and volunteer events conducted annually.

ED-2 Outreach to Priority Audiences

Purpose

This BMP meets the MS4 Permit requirements found in schedule A.3.a.i, 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. The City of Gladstone identifies priority audiences and topics in the Public Education and Outreach Strategy (see ED-1). The activities in this BMP are ongoing and planned.

Background

The City conducts outreach to specific audiences with greater potential to cause or reduce adverse impacts on receiving waters. These audiences include the general public, K-12 students, construction site operators, commercial and industrial business owners/operators, operators of private stormwater facilities, and City employees who maintain landscaping at municipal facilities and buildings in the City of Gladstone.

For construction site operators, the City makes available the *Erosion Prevention and Sediment Control Planning and Design Manual* (EPSC Planning and Design Manual). At the time of pre-construction meetings and as applicable, the City of Gladstone directs Construction Site Operators to the Erosion Control Planning and Design Manual, which is available for free download from the Water Environment Services (WES) website. Clackamas County WES provides EPSC inspections per a current IGA for the City of Gladstone. Inspectors have handouts that are distributed as needed to convey proper installation and maintenance techniques. In addition, Clackamas County WES continues to mail out to applicants an informational flyer on the correct type of sediment fencing and how to install it. The City of Gladstone Public Works staff offers guidance and information.

The 1200-Z Stormwater Discharge General Permit regulates stormwater discharges from industrial facilities that may reach Oregon waterways. The City regulates industrial or commercial properties that are not eligible for the 1200-Z permit through the MS4 Permit.

Owners and 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 Gladstone Public Works describing these obligations. The City will conduct outreach efforts to private stormwater facility maintenance using electronic or paper informational handouts that will be based on the maintenance guidance and criteria developed in MAINT-2.

The City maintains landscapes and controls vegetation on a variety of municipal properties and roads located throughout the City. The City also partners with private contractors to perform such work. The City will refer to the 2012 *Integrated Pest Management Plan for the Surface Water Management Agency of Clackamas County* to guide City staff, volunteers and private contractors in safe practices.

ED-2.1 EROSION CONTROL OUTREACH

Type: Ongoing

Status: Ongoing

The City will continue to direct construction site operators to the Clackamas County Wes Erosion Control Planning and Design Manual available on the Clackamas County WES website during pre-construction meetings for subdivision, partition, and commercial/industrial construction projects, as well as City CIPs and as otherwise applicable.

The City will offer information on it's website about state NPDES construction site discharge permits (1200-C and 1200-CN), which are required by DEQ for some construction sites.

The city will maintain a list of local and regional training opportunities for construction site erosion control and pollution prevention. The City will distribute the list to City staff. The City will also post the list on it's website.

ED-2.2 PRIVATE STORMWATER FACILITY OPERATIONS AND MAINTENANCE OUTREACH

Type: One-time

Status: Future

The City will offer private stormwater facility maintenance guidance on the City website and during inspections.

The City 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 City's inspection and maintenance strategies and schedules (see MAINT-2). Handouts will be posted to the City website and handed out during private stormwater facility inspections (see MAINT-6).

The City will promote the Clean Water Services Online Private Water Quality Maintenance Program and explore opportunities to partner on offering additional education options.

ED-2.3 SOURCE CONTROL OUTREACH AND TECHNICAL ASSISTANCE

Type: Ongoing

Status: Ongoing

The City will identify and reach out to businesses, City Public Works staff and municipal property owners that have a potential to spill oil, hazardous substances, or other materials to the MS4.

The City 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-6, Regulated Private Storm System Inspection and Maintenance. The City will combine stormwater source control inspections of priority facilities with other inspections when feasible.

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

Type: Ongoing

Status: Ongoing

The City will conduct one meeting per permit term to check in with key Public Works staff, volunteers and private contractors hired by the City who maintain landscaping at parks, municipal facilities and building in the City.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
ED-2.1	Reference the WES ESPC Manual at 80% of pre-construction meetings to construction site operators each year.	-Number of pre-construction meetings held annually. -Number of references to WES EPSC Manual at pre-construction meetings. -Percentage of pre-construction meetings in which WES EPSC Manual was referenced.
ED-2.1-a	Over the permit term, update the City website to offer information about 1200-C and 1200-CN permits.	-Status of 1200-C and 1200-CN permit information available on City website. -Date(s) website updated.
ED-2.1-b	Over the permit term, update the City website to maintain a list of local and regional training opportunities for EPSC.	-Status of EPSC training opportunities available on City website. -Date(s) website updated.
ED-2.2-a	During the permit term, update City website to offer private stormwater facility maintenance guidance.	-Status of private maintenance guidance on City website. -Date(s) website updated.
ED-2.2-b	During the Permit term, upgrade City website to promote CWS online Private Water Quality Maintenance Program and explore partnership opportunities to offer additional education opportunities.	-Status of CWS online Water Quality Maintenance Program promotion and consideration of additional education opportunities. -Date(s) website upgraded.
ED-2.3-a	During the Permit term, develop program to identify and reach out to businesses, City staff and property owners that have high potential to spill oil and hazardous substances into the MS4.	-Status of program.
ED-2.3-b	During the permit term, create program to distribute spill prevention messages to businesses.	-Status of program.

ID	Measurable Goals	Tracking Measures
ED.-2.4	Once during the permit term, conduct one check in meeting for City staff, volunteers and City contractors performing landscaping and building in the City.	-Date of check in meeting.

ED-3 Evaluation of Education and Outreach Activities

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.2f, 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 City's stormwater management program.

Background

DEQ requires the City of Gladstone to follow and 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.

BMP ACTIVITIES

ED-3.1 EVALUATION OF EDUCATION AND OUTREACH ACTIVITIES

Type: One time

Status: Future

During the MS4 Permit term, the City will evaluate the education and outreach activities conducted as per the SWMP Document. The City 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 City will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the City's stormwater management program. The evaluation will be planned to meet the Permit renewal application package timeline. The criteria and plan may include only education and outreach activities or combine education and outreach activities with other Permit required evaluation topics.

Measurable Goals and Tracking Measures

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

Public Participation (PP)

Regulatory Overview

The MS4 Permit requires the City 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 City to give the public opportunities to participate in the maintenance, further development, and/or adaptive management of its stormwater management programs. Requirements include a publicly accessible website and stewardship opportunities to foster 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 SWMP Document. The website will provide information on the SWMP Document, the City of Gladstone's SWMP implementation, contact information, and educational materials.

Background

The City will provide opportunities for the public to participate in the development of its stormwater management program. The City will use digital communications to give the public opportunities to participate in the development of the SWMP Document.

During the MS4 Permit term, the City will post the SWMP Document on it's website.

BMP Activities
PP-1.1-PUBLICLY ACCESSIBLE WEBSITE

Type: Ongoing

Status: Ongoing

The most current SWMP Document will be available throughout the MS4 Permit term on the City website.

The City will also publish current information on the City website 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 stormwater management programs;
- The most recent MS4 Permit Annual Report; and,
- Contact information for relevant staff.

The City will provide opportunities for public participation by publishing draft document for public comment on it's website. 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.

PP-1.2-FACILITATE ILLICIT DISCHARGE REPORTING

Type: Ongoing

Status: Ongoing

The City 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. The City will include messages about preventing and identifying illicit discharges in other planned outreach activities or publications (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:

- Contact the Public Works Office via phone: 503-656-7957.
- Contact Clackamas County non-emergency response via phone: 503-655-8211.
- 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.
- Electronic report from the City of Gladstone Public Works webpage: https://www.ci.gladstone.or.us/publicworks/page/stormwater-division

Reports to the City Public Works hotline and website are processed in accordance with the *City of Gladstone Spill Response Plan* updated October 11, 2022 (see IDDE-2).

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PP-1.1-a	Post MS4 Permit renewal documents to City website by April 3, 2026.	• Date documents posted to City website.
PP-1.1-b	Post MS4 Annual Report to City website by Dec. 5 each year.	• Date(s) MS4 Annual Report posted to City website each year.
PP-1.1-c	Post draft documents for public comment on City website for at least 30 days	• Title of each document and starting and ending date of document postings on City 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 City website.	• Title of each document and date of posting.

ID	Measurable Goals	Tracking Measures
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.

Background

The City conducts 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, The City offers stormwater utility billing credit to support businesses and property owners who want to improve the health of the watersheds within the City by constructing stormwater quality BMPs above and beyond minimum design and construction standards. The objective of this program is to improve watershed health by providing business and property owners and incentive/reward for improving storm water quality within the watershed.

BMP Activities

PP-2.1 PUBLIC STEWARDSHIP

The City will evaluate the possibility of funding public education and outreach activities that incorporate stewardship.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PP-2.1-a	Continue to offer stormwater utility bill credits for private businesses and property owners that construct stormwater quality BMPs above and beyond minimum criteria.	Annual number of billing credits granted.
PP-2.1-b	Evaluate the feasibility of co-sponsoring at least one volunteer activity with an education component.	Report evaluation results.

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 City's stormwater management program.

Background

DEQ requires the City to follow and 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 City will submit a permit renewal application package that must support any proposed modifications to programs and stromwater 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, the City will evaluate public involvement and participation activities. The City 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 City will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the City's stormwater management program. The evaluation will be planned to meet the Permit renewal package timeline. 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.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PP-3.1	Evaluate the 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 the City 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 the City 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 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 City's 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.

Background

The elected officials of the City of Gladstone adopt policies, rules, and regulations that prohibit illicit discharges in the MS4 stormwater system. Roads with surface-discharging drainage systems are part of the MS4.

The City of Gladstone Municipal Code prohibits illicit discharge into the MS4 within the entire City limits. *The Municipal Code* applies to all properties with a service connection to the MS4 within the City limits. The *Municipal Code* gives Code Enforcement and Public Works authority to address nuisances and prohibit discharge of wastes and materials. The City will review the Municipal code by Dec. 1 2024 to make sure all relevant MS4 permit requirements are met.

BMP Activities

IDDE-1.1 – REVIEW AND UPDATE LEGAL AUTHORITY

Type: One time

Status: Future

ID	Measurable Goals	Tracking Measures
IDDE-1.1-a	Review and update legal authority as necessary to prohibit illicit discharges 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.

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-3, MAINT-4, and MAINT-5), or during other routine work. Additionally, illicit discharge response encompasses spill response and incident response. Spills may be reported to Public Works by the public, emergency responders, or municipal field crews.

Public Works conducts illicit discharge response within the entire City limits/MS4 in coordination with Gladstone Code Enforcement. Public Works currently implements a Spill Response Program described in IDDE-2.1. Public Works will update and adopt a new Spill Response Program SOP by December 1, 2022.

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

The City of Gladstone receives illicit discharge reports 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 (see MAINT-3, MAINT-4, and MAINT-5),
- Discovery during routine stormwater inspections (see MAINT-6) 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 *City of Gladstone Spill Response Plan October 11, 2022* as follows:

Responsible parties: Spill reporting channels from the public are available through the Gladstone public works office hotline, Clackamas County Non-Emergency dispatch, and the Gladstone Public Works website which provides reporting procedural information. Spill responses are generally performed by Public Works. Certain situations may require Public works to partner with Clackamas County Fire District. Larger spills will be directed to DEQ, Clackamas County Emergency Management or a private contractor such as River City Environmental or Clean Harbors Environmental.

Safety measures: Protecting the City MS4 system will be a priority in all spills. Oil booms and blotting pads will be used initially to guard storm system inlets. Safety glasses, gloves, boots,

masks, and safety suits will be made available to staff. Public Works maintains inventory of spill cleanup kits, and bulk spill cleanup materials such as adsorbent, blotting pads and oil booms.

Procedures for containment, diversion, and isolation: For standard spills, an initial assessment to determine the extent of the spill and the extent it may have entered the MS4 Storm system will be conducted. Adsorbent, oil booms and blotting pads will be used initially to contain/isolate spills and guard storm system inlets. Adsorbent and other containment will be used to adsorb and dispose of the spill. The Public Works street sweeper will also be used for mitigating spills to sweep up surfaces and remove contaminated materials from the storm system. As a precaution, oil booms will be placed at downstream stormwater facilities and to remain in place for a minimum of 5 days.

For larger spills, DEQ, Clackamas County Emergency Management or a private contractor will be contacted.

Storage of Cleanup Materials: Cleanup kits will be stored in relevant Public Works vehicles. Bulk clean up materials and clean up PPE will be stored in the Public Works storage shed.

Private Property Spills: For private property spills in which Public Works responds to, Public Works will perform a site assessment to determine the severity and extent of the spill with emphasis on protecting the MS4 system. Public works will take immediate action to contain/isolate the spill and protect the MS4 system if required. Once the site and MS4 system are determined secure, Public Works will initially attempt to contact the property owner to perform cleanup. If the property owner is unreachable, Public Works will perform mitigation using the procedures above. Public Works will collect abatement and cleanup costs from the private property owner.

Reporting: All spills will be reported to the Oregon Emergency Response System and documented in a database for reporting in the MS4 Annual Report.

Public Works will report “reportable” illicit discharges and spills to OERS. If an illicit discharge originates from or flows to an adjacent MS4, Public Works will notify adjacent MS4 operators within one working day of becoming aware of the discharge or sooner if able to do so.

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

Illicit Discharge Removal

Once an illicit discharge is confirmed and the source is located, Public Works will immediately evaluate steps to remove the discharge.

Public Works will control the illicit discharge as soon as possible, typically within an hour of discovery for a “routine” illicit discharge. For discharges, including spills, which constitute a threat to human health, welfare, or the environment, the City 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. Public Works will call for emergency response from the Clackamas County Fire Department or other County and State emergency responders, as necessary. For all other reports of illicit discharges, Public Works will respond within an average of two working days, and no greater than four working days. Public Works will conduct an initial investigation or evaluation within five working days or refer the complaint to the appropriate agency.

The City of Gladstone 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, Public Works 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 City wastewater or storm sewer conveyance systems or other capital improvements, the City 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.

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.

Background

Public Works currently implements a Spill Response Program SOP, which provides enforcement guidance to ensure a consistent response to illicit discharges. See IDDE-2 for illicit discharge response activities.

The City of Gladstone maintains enforcement authority for discharges to the MS4 (see IDDE-1). In addition, the City of Gladstone Public Works coordinates with the Fire Department, Code Enforcement and other outside 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, the City 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, Public Works will implement the *City of Gladstone IDDE Program Enforcement Response Plan*, as described below, which was updated October 11, 2022 per new Permit requirement. If sampling is necessary, The City maintains an IGA with Clackamas County WES to conduct stormwater sampling and analysis as needed. In some cases, professional services may be used to conduct sampling.
If a responsible party is identified as the source, the City can choose to initiate enforcement. The discharger will be required to stop and clean up the discharge. The City 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, the City may conduct further enforcement actions. The City may take steps to control the discharge in an emergency.

The City 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.

The City 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.

IDDE-3.2 – Update Illicit Discharge Enforcement procedures

Type: One time

Status: Future

On April 4, 2023, the City reviewed and updated the *City of Gladstone IDDE Program Enforcement Response Plan* again. The updated enforcement procedures document how to address repeat violations and establish timelines for compliance. Activities conducted under the COMM that address MS4 Permit Schedule A(3)(g) and result in an enforcement action will utilize the same updated enforcement procedures. The updated enforcement procedures consider factors such as the amount and type of pollutant discharges, whether the discharge was intentional or accidental (if known) and whether the discharge could have been prevented. The updated *Gladstone IDDE Program and Industrial/Commercial Facilities Enforcement Response Plan* can be found on the City website public works stormwater page at https://www.ci.gladstone.or.us/publicworks/page/stormwater-division

See COMM-2 for the Industrial and Commercial Strategy.

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 the City. -Annual number of enforcement actions initiated in that MS4 Permit year that paid a civil penalty. -Annual number of enforcement actions.
IDDE-3.2	Review and revise "Illicit Discharge Detection & Elimination Program Enforcement Response Plan" by December 1, 2023.	-Date the SOP was reviewed. -Date the SOP was revised, if necessary.

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. This BMP describes the *City of Gladstone Dry Weather Outfall Screening Program Plan, updated October 11, 2022 per new Permit requirement.*

Background

Public Works currently maintains a list of priority locations for dry-weather inspections in its district. The total number of locations may change due to updates in the prioritization criteria or evaluating existing locations; as of summer 2022, there are 11 priority locations. Public Works inspects these outfalls once a year during the dry season and after an antecedent dry period of at least 72-hours.

Public Works maintains Pollutant Parameter Action Levels (PPALs) consistent with Clackamas County WES and co-permittees. Discharges testing at or above the PPALs will require further action. Pollutant Parameter Discharges with visible water quality issues are to be tested and traced to their source then addressed, and if necessary, controlled. A summary of PPALs is as follows:

TABLE IDDE-4 Action Levels for Pollutants	
Monitoring Parameter	***Action Level***
Total Residual Chlorine	*0.09 mg/l*
Water Temperature	*68 degrees F*
pH	*Less than 6.4, greater than 8.6*
Conductivity	*Greater than 325 microsiemens per centimeter or mhos per centimeter*
Total Dissolved Solids	*Greater than 160.0 mg/l*
Salinity	*Greater than 0.4%*

BMP Activities
IDDE-4.1 – Maintain and Update List of Priority Locations

Type: Periodic

Status: Ongoing

Public Works will maintain and update the list of priority locations for dry-weather inspections. The list will include 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. A major outfall meets the criteria given in the Clean Water Act below:

- A large pipe (≥36” inside diameter); or

- A conveyance other than circular pipe that serves a drainage area of more than 50 acres; or
- A single pipe (≥12” inside diameter) if it also receives drainage from lands zoned for industrial activity; or
- A single conveyance other than a circular pipe that receives drainage from more than two acres of land zoned for industrial activity.

Priority locations are mapped in the City's GIS (see MAP-2). They will also be shared with maintenance staff responsible for inspection, maintenance, and cleaning of the MS4 (see MAINT-3 through 5), as required by MS4 Permit Schedule A(3)(c)(v). Public Works reviewed and updated the prioritization criteria for dry weather screening Priority Locations on July 18, 2023 and submitted it to DEQ with the Annual Report on December 1, 2023, as required by MS4 Permit Schedule A(3)(c)(v).

IDDE-4.2 – Inspections and Analysis
Type: Annual
Status: Ongoing
Public Works will conduct an annual dry-weather inspection of each priority location to detect illicit discharges.

Public Works will inspect priority locations during the Willamette Valley's seasonal dry period (summer and early fall, usually August) and after a minimum of 72 hours has passed since any measurable rain (0.1 inch) has fallen. Inspectors will make general observations using visual inspecting techniques and water sampling will be performed for any observations that indicate possible pollutants present. General observations will include visual presence of flow, turbidity, oil sheen, trash, debris or scum, condition of conveyance system or outfall, color, odor, and any other relevant observations related to the potential presence of non-storm water or illicit discharges. If flow is observed, the inspector will investigate to determine the source. An inspection form will be completed at each location. Public Works reviewed and update the prioritization criteria for dry weather screening Priority Locations on July 18, 2023 and submitted it to DEQ with the Annual Report on December 1, 2023, as required by MS4 Permit Schedule A(3)(c)(v). The current inspection form was updated in July 2023 to include the below at minimum.

- Data collected will include:
- Inspector name
- Date and time of visit
- Presence of water flow
- Indicators of an illicit discharge (odors, colors, solids) if present
- Action taken (sampling, upstream investigation)

- If flow is present, and indicates possible pollutants present, some water quality data (such as water temperature, pH, salinity, etc.)
- Other data, such as photographs, as necessary

When the inspection reveals dry-weather flow, an investigation will be performed to determine the source. If the investigation leads to a source likely to cause an illicit discharge and/or general observations indicate possible pollutants present, stormwater quality sampling will be conducted to determine if flow exceeds the PPALs. If necessary to confirm and identify the discharge, samples will be collected and sent to the Clackamas County WES accredited laboratory as Gladstone currently maintains a stormwater sampling IGA with WES, or to a third-party accredited laboratory.

When the on-site analysis reveals a potential illicit discharge, Public Works will immediately investigate upstream to locate the discharge. If possible, staff will control or contain the discharge immediately.

Suspected illicit discharges and those that are confirmed through immediate investigation or later analysis will be followed up on by Public Works (see IDDE-2).
Allowed non-stormwater discharges discovered by Public Works dry-weather inspections will be tracked in a database for future reference. Non-stormwater discharges allowed by MS4 Permit Schedule A.1.d.ii include pavement washing, excess irrigation flows, and other types of discharges.

Inspection forms will be entered into a database for tracking and a paper copy will be maintained for records.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
IDDE-4.1	Review and update of prioritization criteria for dry weather screening Priority Locations by December 1, 2023.	-Date prioritization criteria submitted with Annual Report. -Date MS4 Map updated with new locations.
IDDE-4.2-a	Each year inspect 100% of priority locations as identified in the most recent list.	-Annual number of priority locations inspected. -Number of priority locations in most recent list. -Annual percentage of priority locations inspected.
IDDE-4.2-b	Each year, conduct investigations on 100% of confirmed (and unconfirmed) illicit discharges discovered through dry-weather inspection within one working day.	-Annual number of confirmed and unconfirmed illicit discharges investigated within one working day. -Annual number of confirmed and unconfirmed illicit discharges discovered through dry-weather inspection. -Annual percentage of confirmed and unconfirmed illicit discharges investigated 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.

Background

The City must continue to implement a program to detect and eliminate illicit discharges to the MS4. In addition, the City 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, Public Works 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 City will document the required training and education frequencies in a training and education strategy. The strategy may include only IDDE tasks or combine IDDE with other Permit required staff training topics.

IDDE-5.2 – CONDUCT TRAINING

TYPE: ONGOING

STATUS: ONGOING

Public Works 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 Public Works and reported in the annual report.

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.

BMP Activities
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:

- Assist with the adaptive management of the IDDE program, and
- Support DEQ's independent assessment of the City's stormwater management program.

Background
DEQ requires the City 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 City 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
IDDE-6.1 EVALUATION OF IDDE ACTIVITIES
TYPE: ONE-TIME
STATUS: FUTURE

During the MS4 Permit term, the City will evaluate the IDDE activities conducted as per the SWMP Document. The City 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 City will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the City's stormwater management programs. The evaluation will be planned to meet the Permit renewal application package timeline. The criteria and plan may include only IDDE activities or combine IDDE with other Permit required evaluation topics.

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 the City 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 City is 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 6).

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 City's SWMP activities by providing an accurate inventory and map of the MS4.

Background

The MS4 Permit includes several requirements for inventorying and mapping aspects of the City's 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 City currently maintains a GIS map of all MS4 system outfalls and a list of priority locations for dry-weather inspection and a geographic information system (GIS) of its storm sewer system.

BMP Activities
MAP-1.1 – Develop Mapping Strategy

Type: One time

Status: Ongoing

Once during the MS4 Permit term, the City 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 City developed a mapping strategy on October 12, 2022. The strategy meets or exceeds Permit requirements and will also support other MS4 inventory and mapping needs identified by the City.

The MS4 Mapping Strategy (further described in sections below) includes surveying the GIS map for gaps associated with MS4 Permit requirements and performing GIS map updates to include the following:

- Outfall locations, owned or operated by the City;
- 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 City to be a major stormwater facility;
- Chronic illicit discharges; and,
- Annual dry-weather priority screening sites.

The City currently has a GIS stormwater system map fulfilling the majority of the Permit requirements available on the City website at:
https://maps.orcity.org/Html5Viewer_4_14_2/index.html?viewer=Gladstone.Gladstone#

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAP-1.1	Complete mapping strategy by December 1, 2022.	Date Mapping Strategy completed.

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 City. 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 the City track progress toward meeting measurable goals of related BMPs.

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 the City's 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.

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, the City will update the GIS with new attribute fields and structural changes necessary to execute the strategy. The City will then implement the MS4 Mapping Strategy to expand, audit, and update the current MS4 inventory and map.

The City will audit the current inventory to ensure the list and map are accurate. This will continuously be done through time as field staff, surveyors and engineers perform day to day or specialized field work while auditing the current GIS mapping system for accuracy. Required GIS map updates will be performed periodically as needed as inaccuracies are discovered and as new and altered components are added to private and municipal stormwater systems. To

support this effort as needed, data will be collected in the field and from as-builts and record drawings. Data collected will include outfall locations, structural locations, pipe diameter, and pipe materials. As-builts and other record drawings will be used to fill other data gaps.

MAP-2.2 – Inventory and Map New Stormwater conveyance and management Facilities

Type: Ongoing

Status: Ongoing

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

The inventory will document the ownership status and maintenance responsibility status of each facility. The City may use the annual inventory report as the basis for calculating maintenance-related tracking measures for the year (see MAINT-1 through 6).

MAP-2.3 – MAP PRIORITY LOCATIONS FOR IDDE FIELD SCREENING

Type: Periodic

Status: Ongoing

The City maintains a list of priority locations for dry-weather inspections and inspects these outfalls annually (see IDDE-4). These Priority Locations must be included as part of the MS4 Map and digital inventory. As required by MS4 Permit Schedule A(3)(c)(v)., the City reviewed and updated the prioritization criteria on July 18, 2023, and the priority field screening locations were identified on the MS4 map and digital inventory once the assessment is completed.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAP-2.1	MS4 Map and Digital Inventory submitted to DEQ by December 1, 2022.	Date MS4 Map and Digital Inventory submitted
MAP-2.1-a1	70% 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-a	100% of existing public stormwater conveyances and stormwater facilities mapped by December 1, 2025	-Number of in-service public stormwater assets mapped by December 1, 2025 -Number of in-service public stormwater assets -Percentage of in-service public stormwater assets mapped by December 1, 2025
MAP-2.1-b	20% 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
MAP-2.1-c	100% of existing private stormwater facilities mapped by December 1, 2025.	-Number of existing private stormwater facilities mapped by December 1, 2025 -Number of existing private stormwater facilities -Percentage of existing private stormwater facilities mapped by December 1, 2025
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.

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

The City will map locations when and where chronic illicit discharges occur.

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

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 City's stormwater management program.

Background

DEQ requires the City 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 City 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, the City will evaluate the MS4 mapping activities conducted as per the SWMP Document. The City 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 City will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the City's stormwater management programs. The evaluation will be planned to meet the Permit renewal application package timeline. 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.

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 the City to address construction site runoff control and prevent polluted runoff from construction sites, primarily sediment and other significant pollutants such as DDT and mercury. The City is 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. The City is 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 City's 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.

Background

The elected officials of the City of Gladstone adopt policies, rules, and regulations that require pollution control measures on construction sites that drain into the City's MS4. Many construction sites are also subject to the Oregon NPDES Construction Stormwater Discharge Permit (1200-C, 1200-CN and 1200-CA).

The City of Gladstone Municipal Code requires erosion control planning/permitting related to earthwork and development. The City coordinates with Clackamas County Service District No. 1 and WES to keep consistent on regional standards. The City follows and refers the Clackamas County *Erosion Prevention Planning and Design Manual* (2020) to provide consistent standards with Clackamas County. EPSC permitting, planning, inspections and enforcement is performed by the Clackamas County Building Official for excavation, grading, or earthwork. The City consents to the application of Clackamas County erosion control standards within these areas. The City of Gladstone municipal code prohibits pollutants including erosion and sediment from leaving construction sites. Effective maintenance of EPSC measures are required. Waste management controls are required on construction sites.

City capital improvement projects (CIPs) are designed and constructed by Public Works using professional services contracts and construction bid contracts. Some are also designed or constructed by Public Works. When a City CIP is within the Permitted Area, Public Works exercises the City's contracting authority to require EPSC plans and construction methods in its construction contracts. The City of Gladstone contracting prohibits pollutants including erosion and sediment from leaving constructions sites. Effective maintenance of EPSC measures are required. Waste management controls are required on construction sites. The City will review current boilerplate contract document to determine if EPSC language may have room for improvement by December 1, 2024.

<u>The City of Gladstone has an IGA with Clackamas County WES to conduct EPSC permitting, planning, inspections and enforcement. WES rules apply within the City limits.</u>

- The *WES Rules* requires construction site erosion control and pollution prevention, which will apply the following to all parcels within the City limits:
- 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

The City 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.

EPSC-1.2 – EROSION AND SEDIMENT CONTROL PLAN STANDARDS

Type: One-Time

Status: Future

The City will review the Clackamas County *WES Erosion Prevention Planning and Design Manual,* in coordination with WES 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. The City, in coordination with WES 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 WES in coordination with the City;

Require Erosion and Sediment Control Plans to be kept on site and made available for review by WES in coordination with the City, 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.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
EPSC-1.1-a	Review, and update, if necessary, Public Works boilerplate contract terms to ensure contract language adequately requires EPSC plans by Dec. 1, 2024.	-Date legal authority reviewed. -Date legal authority updated, if necessary.
EPSC-1.1-b	Review, and update, if necessary, Gladstone City code to ensure alignment with the MS4 Permit Schedule A.4.c by Dec. 1, 2024.	-Date legal authority reviewed. -Date legal authority updated, if necessary.
EPSC-1.1-c	Review, and update, if necessary, in coordination with Clackamas County, *WES Rules and Regulations* to ensure alignment with MS4 Permit Schedule A.4.c by Dec. 1, 2024.	-Date legal authority reviewed. -Date legal authority updated, if necessary.
EPSC-1.1-d	Review, and update, if necessary, in coordination with Clackamas County, Clackamas County Code and Building and Development Ordinance to ensure alignment with MS4 Permit Schedule A.4.c by Dec. 1, 2024.	-Date legal authority reviewed. -Date legal authority updated, if necessary.
EPSC-1.2	Review, and update, if necessary, in Coordination with Clackamas County WES, Clackamas County 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. The City, in coordination with Clackamas County WES adopts clear EPSC plan requirements and implements 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.

Background

Depending on the construction site's location, staff from either Public Works or WES reviews the EPSC plans. Both the City and WES 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 CITY CIPS

Type: Ongoing

Status: Ongoing

For a City CIP within the Permitted Area that disturbs more than 800 square feet, the City's design Engineer, in coordination with Public Works will develop an EPSC plan with the project's construction documents. Public Works Staff will internally review the plan. Public Works will obtain the EPSC plan from Clackamas County WES. Public Works in coordination with City engineering services will perform, EPSC planning, plan review, inspections, and enforcement actions. Public Works in coordination with City engineering services will obtain EPSC permits from Clackamas County WES. Contractors will be required by Public Works and Clackamas County WES to follow the EPSC plan.

EPSC-2.3 – EPSC REVIEW FOR BUILDING PERMIT, NEW CONSTRUCTION AND REDEVELOPMENT PROJECTS

Type: Ongoing

Status: Ongoing

As per IGA between Clackamas County and the City, Clackamas County WES performs EPSC permitting services within the City limits for all new construction and redevelopment projects that disturb 800 square feet or greater of land. This includes permitting, plan review, inspections and enforcement actions. Reviews will be conducted in accordance with the *WES Rules* and adopted standards.

As part of an IGA with Clackamas County, all building construction projects disturbing 800 feet or greater of land within the City limits are required to obtain a building permit through Clackamas County building services. 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. Clackamas County WES will review and sign off on EPSC plans submitted as part of permit applications in Development Direct before Clackamas County

Development Engineering issues a building permit. Clackamas County WES will perform EPSC permitting, plan review, inspections and enforcement actions.

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 to the Clackamas County building department. Clackamas County WES will review the EPSC plan concurrently with the site's post-construction stormwater plan (see POST-3). If the Clackamas County building department, also known as 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).

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).

Clackamas County DTD Building Department will route building permit applications to WES Development Review when the DTD Permit Counter receives an application. 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).

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
EPSC-2.1	Public Works to internally review the EPSC plan of 100% of City CIPs going to construction in the Permitted Area each year.	-Annual number of City CIP EPSC plans reviewed by Public Works. -Annual number of City CIPs going to construction in the Permitted Area. -Annual percentage of City CIP EPSC plans reviewed by Public Works.
EPSC-2.2	Per IGA between Clackamas County and Gladstone, Clackamas County WES is to review EPSC plans for 100% of land use and building permit applications meeting threshold for erosion prevention and sedimentation control in the City each year.	-Annual number of EPSC reviews. -Annual number of new land use and building permit applications meeting threshold for EPSC in the City. -Annual percentage of EPSC reviews conducted.
EPSC-2.3-b	Per IGA, Clackamas County WES to Attend 80% of pre-construction meetings for development projects meeting threshold for erosion prevention and sediment control in the City.	-Annual number of pre-construction meetings attended by WES. -Annual number of pre-construction meetings for projects needing EPSC. -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. The City has an IGA with Clackamas County WES to permit, review EPSC plans, inspect, and enforce EPSC on building permit, development and redevelopment projects. Clackamas County WES ensures EPSC measures are in place by conducting inspections before construction starts, during construction, and after construction is complete and the site is stabilized. For City CIP projects, Public Works in coordination with the City's Engineering professional services provide EPSC plan review inspection and enforcement.

Background

For building permit, development and redevelopment projects meeting the City's EPSC threshold, WES inspects sites before and during construction. Inspections and enforcement gives WES, on behalf of the City 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.

For City CIP projects, contracting document language along with City code gives Public Works in coordination with City Engineering professional services along with City Code Enforcement authority to review EPSC plans, inspect EPSC measures, educate site operators and enforce rules. Public Works in coordination with City Engineering professional services obtains proper EPSC permitting from Clackamas County WES prior to construction. Public Works along with City Engineering professional services attend pre-construction meetings.

Enforcement Authority

Public Works, in coordination with the City's Engineering professional services exercise the City's contracting authority to conduct EPSC inspections and enforce EPSC measures on City CIPs.

The Gladstone Public Works Inspector or designee is authorized to issue a stop work order, prevent certification of occupancy, and coordinate with Gladstone Code Enforcement to issue fines if the City Code is violated. Public Works exercises the City's contracting authority to conduct EPSC inspections and enforce EPSC measures on City CIPs. Escalating enforcement measures are performed as a result of violations.

For building permit construction, development and redevelopment, Clackamas County WES's enforcement authority while performing EPSC inspections and enforcement actions on the City's behalf is described in *WES Rules*.

EPSC-3.2 – Gladstone Public Works Inspection and Enforcement on City CIPs

Type: Ongoing

Status: Ongoing

Public Works and City Engineer professional services will conduct EPSC inspections a minimum of three times per City CIP project and while the inspector is on site. The Public Works inspector or designee is authorized to issue a stop work order, prevent certification of occupancy, and coordinate with Gladstone Code Enforcement to issue fines if the City code is violated. Public Works exercises the City's contracting authority to conduct EPSC inspections and enforce EPSC measures on City CIPs. Inspections will verify proper installation, maintenance, and use of EPSC measures.

Initial Inspections

Prior to construction, the Public Works Inspector or City Engineering professional services representative will inspect the site to ensure EPSC measures conform to the approved EPSC plan and are correctly implemented.

Regular Inspections

Regular inspections are performed at least weekly on all active City CIP projects.

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

The 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, certification of project completion, and acceptance of the residential, multi-family, or commercial development by the City.

Enforcement

If inspection finds that EPSC measures are absent or incorrectly applied, Public Works will initiate a graduated enforcement action. An escalating enforcement system is used for violations, depending on the severity and the nature of the violation. The escalating enforcement may include verbal warnings, written warnings (e.g., Defiance Notices), Stop Work Orders, and civil citations. The City may bypass verbal or written warnings to address severe violations. Photo documentation is collected when appropriate to support Stop Work Orders. These Erosion Control Enforcement procedures were evaluated for current Permit compliance by the City and updated in November 2023. The updated procedure was included in the annual report submitted December 1, 2023. The updated procedures can be found on the City website public works stormwater page at https://www.ci.gladstone.or.us/publicworks/page/stormwater-division

Tracking

Public Works will track EPSC inspections and enforcement on project inspection forms. Data from inspection forms will be converted to an electronic database.

EPSC-3.3 – BUILDING PERMIT, NEW CONSTRUCTION, REDEVELOPMENT INSPECTION AND ENFORCEMENT

Type: Ongoing

Status: Ongoing

Per an IGA between Clackamas County and the City of Gladstone. Clackamas County building department/Transportation and Development (DTD) performs building and development services for new construction and redevelopment on behalf of the City with City limits. Clackamas County WES performs EPSC inspections in coordination with DTD and the building permit/development process on behalf of the City.

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. In addition, DTD will document the initial and final EPSC inspections for single-family residential building sites in its permit tracking database.

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.

EPSC-3.4 – ADOPT CONSTRUCTION SITE ENFORCEMENT PROCEDURES

Type: One-time

Status: Future

In November, 2023, the City updated and adopted escalating construction site enforcement procedures for escalating erosion control enforcement as allowed within the Gladstone Municipal Code. Gladstone's updated Erosion Control Enforcement Procedures are escalating and address repeat violations through progressively stricter response, as needed, to achieve compliance. The City intends to address EPSC deficiencies with the lowest level of response needed to gain compliance. However, it may be necessary to begin enforcement at a higher level if the non-compliance is of extreme severity, a repeat violation, is intentional, or is causing or has the potential to cause immediate degradation. Penalties will be administered in such an escalating manner depending on these factors. Timelines for correction are established on a case by case basis using the methodology described above. The City of Gladstone Erosion Control Enforcement Procedures may be found on the City website public works stormwater page at https://www.ci.gladstone.or.us/publicworks/page/stormwater-division

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 City CIP construction sites within the Permitted Area that require EPSC review.	-Annual number of City CIP projects in the Permitted Area that completed construction and that Public Works inspected for EPSC at least three times over the life of the project. -Annual number of City CIP projects in the Permitted Area that met the threshold for EPSC review and that completed construction. -Annual percentage of City CIP projects that Public Works 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 100% of City CIP projects.	-Annual number of EPSC permitted sites that received an initial EPSC inspection prior to construction. -Annual number of EPSC permitted sites that began construction. -Annual percentage of EPSC permitted sites that received an initial EPSC inspection prior to construction. -Number of EPSC complaints received per permitted site.

ID	Measurable Goals	Tracking Measures
EPSC-3.2-b	Inspect 90% of EPSC permitted sites at least three times over the life of the project.	-Annual number of EPSC permitted sites that completed construction and received at least three EPSC inspections over the life of the project. -Annual number of EPSC permitted sites that completed construction. -Annual percentage of EPSC permitted sites that received at least three EPSC inspections.
EPSC-3.2-c	Inspect 100% of EPSC permitted sites at least twice over the life of the project.	-Annual number of EPSC permitted sites that received at least two EPSC inspections over the life of the project. -Annual number of EPSC permitted sites that completed construction. -Annual percentage of EPSC permitted sites that received at least two EPSC inspections. -Number of EPSC complaints received per project.
EPSC-3.3-a	For building permit, new construction and redevelopment projects, each year WES to conduct the initial EPSC site inspection prior to construction at 100% of EPSC permitted sites within the City limits on behalf of the City.	-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. -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.
EPSC-3.3-b	On behalf of the City, WES to inspect 90% of EPSC permitted sites within the City limits 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 within the City limits. -Annual percentage of EPSC permitted sites within the City limits that received at least three EPSC inspections by WES. -Number of EPSC complaints received per project.
EPSC-3.3-c	On behalf of the City, WES to inspect 100% of EPSC permitted sites within the City limits at least twice over the life of the project.	-Annual number of EPSC permitted sites that received at least two EPSC inspections by WES over the life of the project. -Annual number of EPSC permitted sites that completed construction in the City. -Annual percentage of EPSC permitted sites in the City that received at least two EPSC inspections by WES. -Number of EPSC complaints received per permitted site.
EPSC-3.4	Adopt construction site enforcement procedures by December 1, 2023.	-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 City requirements are trained or otherwise qualified.

Background

The City must implement and enforce a program to reduce discharges of pollutants from constructions sites. The City 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 City 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 TRACKING NEEDS

Type: One-Time

Status: Future

One time during the Permit term, the City will evaluate staff training and education needs and document the required training for staff members responsible for reviewing ESCP and inspecting construction sites. The City will document the required training and education frequencies in a training strategy. The strategy may be developed independently or jointly by the City, and the strategy may include only EPSC tasks or combine training for EPSC with other Permit required staff training topics.

EPSC-4.2 – Conduct EPSC Training

Type: Ongoing

Status: Ongoing

The City 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 City and reported in the annual report.

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

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 City's stormwater management program.

Background

DEQ requires the City 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 City 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, the City will evaluate the construction site runoff activities conducted as per the SWMP Document. The City 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 City will provide the results of the evaluation to adaptively manage the construction site runoff control activities, and the City will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the City's stormwater management programs. The evaluation will be planned to meet the Permit renewal application package timeline. 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.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
EPSC-5.1	Evaluate 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 the City 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 City's 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.

Background

The elected officials of the City of Gladstone adopt the policies, rules, and regulations that require development and redevelopment sites in the districts to provide post-construction stormwater management controls. Public Works adopts the policies that require City CIP projects to provide post-construction stormwater management controls.

The *City of Gladstone Public Works Design and Construction Standards* requires all development and re-development activities to meet the stormwater requirements contained in the *City of Gladstone Public Works Design 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.

The City of Gladstone Public Works Design Standards 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 *City of Gladstone Design Standards* also contain specific performance standards and design criteria for the required stormwater management facilities.

<u>City CIPs</u>

City CIPs often are designed and constructed using Public Works staff or professional services contracts and construction bid contracts.

Public Works 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 *the City of Gladstone Design Standards*, or an equivalent.

POST-1.1 – MAINTAIN CURRENT POST-CONSTRUCTION LEGAL AUTHORITY

Type: Ongoing

Status: Ongoing

The City will maintain its 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.

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

Type: One-time

Status: Future

The City 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, the City 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 (NRSS) 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.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
POST-1.1-a	Review, and update, if necessary, Gladstone Municipal 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, *Gladstone Public Works Design Standards* 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.

Background

For all development types within the City limits, Public Works publishes and requires use of the *City of Gladstone Public Works Design and Construction Standards*, which is used for all types of development activities such as private and public development projects and City CIPs.

The *City of Gladstone 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

The City developed and began implementation of a strategy on June 14, 2023 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, Public Works reviewed City ordinances and development codes along with Public Works Design Standards 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. This LID/GI strategy is documented in the subsequent 2022-2023 Annual Report and will become implemented within this SWMP once approved by DEQ.

Public Works will share results of the analysis with City staff and the City Administrator, who may elect to make recommendations to elected officials.

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

POST-2.2 – UPDATE STORMWATER STANDARDS DESIGN MANUAL

Type: One-time

Status: Future

The City will review and update *the City of Gladstone Public Works Stormwater Design Standards.* An update to the *Stormwater Standards* will be coordinated with an update to legal authority and requirements in the Gladstone Municipal Code (see POST-1). Updates to the code/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; and
- Developing or referencing infiltration testing and reporting requirements.

In development and implementation of the stormwater management requirements, Public Works included numeric stormwater retention requirement site performance and treatment standards, or alternative site performance standards. Public Works 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.

Public Works will consult with City professional engineering services. Public Works will include outreach to the development and building community in this effort.

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 *Public Works Stormwater Standards* by Dec. 1, 2024.	Date stormwater design standards 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. Public Works, in coordination with engineering professional services will 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 the City to apply standards consistently when determining the stormwater management requirements for development and redevelopment projects.

Background

Public Works, in coordination with engineering professional services 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 Public Works, engineering professional services and Clackamas County departments.

For private development and redevelopment projects, City engineering professional services in coordination with Public Works provides the technical review of the on-site SWM Plans, while Clackamas County DTD accepts land use and building permit applications, routing application materials to Public Works and City engineering professional services, and coordinating with the applicants.

For City CIPs, Public Works coordinates with City professional engineering service to develop SWM Plans in accordance with the *City of Gladstone Public Works Design Standards* to ensure conformance with the applicable adopted standards.

BMP Activities

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

Type: Ongoing

Status: Ongoing

The City has internal processes for reviewing and approving City CIP designs to ensure conformance with applicable stormwater standards. Public Works, in coordination with City professional engineering services will develop and review SWM Plans to ensure conformance with *City of Gladstone Public Works Design Standards* in the planning stages and prior to final

design plan approval in order to identify and mitigate potential negative impacts on or to enhance benefits for the water quality of receiving water bodies.

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

Type: Ongoing

Status: Ongoing

For SFR building permits, Gladstone City engineering professional services in coordination with Gladstone Public Works reviews the SFR SWM Plan as part of the building permit review through Clackamas County DTD. The building permit cannot be issued without an approved structural stormwater control plan.

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 Clackamas County DTD planning department to Gladstone City engineering professional services in coordination with Gladstone Public Works and will conclude with approval of the SWM construction plans and issuance of applicable permits.

Within the City limits, applicants will submit land use applications and plans to Clackamas County DTD Planning and Gladstone City engineering professional services in coordination with Public Works will review the stormwater management aspects of the plans. Gladstone City engineering professional services in coordination with Gladstone Public Works will provide the County 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 Public Works in coordination with City engineering professional services.

Measurable Goals and Tracking Measures

ID	Measurable Goal	Tracking Measure
POST-3.1	Review 100% of City CIP SWM Plans that meet the minimum impervious surface threshold each year.	-Annual number of City CIP SWM Plans reviewed and approved. -Annual number of City CIPs that meet the minimum impervious surface threshold approved for construction. -Annual percentage of City 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.	-Annual number of SFR SWM Plans reviewed by engineering services/public works prior to signing off on building permit. -Annual number of SFR building permit applications referred to Clackamas County DTD. -Annual percentage of SFR SWM Plans reviewed by engineering services/public works prior to signing off on building permit.
POST-3.3-a	Public works/engineering services to attend 100% of pre-application meetings for land use applications.	-Annual number of pre-application meetings attended by public works/engineering services. -Annual number of pre-application meetings held for applicants. (Clackamas County DTD). -Annual percentage of pre-application meetings attended by public works/engineering services.
POST-3.3-b	Public works/engineering services to review and approve 100% of non-SFR SWM Plans for projects that meet the minimum impervious threshold each year.	-Annual number of non-SFR SWM Plans approved by engineering services/public works. -Annual number of non-SFR stormwater management plans submitted to engineering services/public works that meet the minimum impervious area threshold. -Annual percentage of non-SFR SWM Plans approved by engineering services/public works.

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 the City will 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.

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 Public Works, City engineering services and Clackamas County departments.

Through this process, the City will verify the following for each project:

- The stormwater management system was constructed in accordance with the *City of Gladstone Public Works 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).

<u>Assuring Ongoing Operation and Maintenance of Privately-Owned and Operated Systems</u>

The City 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 Clackamas County Clerk and submit documents to Public Works. At times, these sites may 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-6 for long term operations and maintenance of private stormwater facilities.

Assuring Ongoing Operation and Maintenance of Publicly Operated Systems

Public Works accepts ownership and maintenance responsibilities of constructed single-family residential subdivisions to ensure perpetual maintenance of the stormwater facilities.

See MAINT-3 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, on behalf of the City, a Clackamas County DTD plumbing inspector will inspect the site's private property located stormwater system. For the public right of way portion of the building stormwater system, the Public Works inspector or City engineering services representative will inspect the building stormwater system and point of connection to the public or private storm sewer.

POST-4.2 – VERIFY SUBDIVISION/PARTITION STORMWATER SYSTEMS

Type: Ongoing

Status: Ongoing

On a subdivision or partition in the City, the Public Works inspector or engineering services representative 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 *Gladstone Public Works 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, often times, the City will accept ownership and maintenance responsibilities of the stormwater facilities to ensure proper ongoing maintenance activities will be performed.

See MAP-2 for the inventorying and mapping of public stormwater facilities.

POST-4.3 – VERIFY COMMERCIAL DEVELOPMENT STORMWATER SYSTEMS

Type: Ongoing

Status: Ongoing

On a commercial development site in the City, Public Works or engineering professional services 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 *Public Works 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 asdesigned.

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, Public Works 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.

POST-4.4 – VERIFY CITY CIP STORMWATER SYSTEMS

Type: Ongoing

Status: Future

When the City constructs a CIP, the City will verify the function of the stormwater facilities. The City's engineer or professional services engineer will submit an inspection report and as-builts by e-mail to the City verifying the following:

The stormwater management system was constructed in accordance with the *Gladstone Public Works 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.

Public Works 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.

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.

ID	Measurable Goals	Tracking Measures
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.
POST-4.4	Inspect 100% of stormwater facilities for new City CIPs.	-Annual number of stormwater facility inspections of new City CIPs. -Annual number of City CIPs completing construction. -Annual percentage of stormwater facility inspections of new City CIPs.

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.

Background

The City must implement and enforce a program to control stormwater runoff from new development and redevelopment project sites and reduce the discharge of pollutants. The City must review structural stormwater control plans for new development and redevelopment projects according to the procedures referenced in the SWMP Document. The City 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. 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-9 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, the City 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 City will document the required training and frequencies in a training and education strategy. 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.

POST-5.2 – Conduct Staff Training

Type: Ongoing

Status: Ongoing

The City 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 City and reported in the annual report.

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 City's stormwater management program.

Background

DEQ requires the City 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 City 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, the City will evaluate the post-construction site runoff activities conducted as per the SWMP Document. The City 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 City will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the City's stormwater management programs. The evaluation will be planned to meet the Permit renewal application package timeline. 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.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
POST-6.1	Evaluate the City's 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 City, as a property owner and manager of public property and facilities, and as an operator of public streets and roads, to manage its 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.

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.

Background

The City operates public roadways and preserves the intended drainage capacity of public roadside storm sewer systems under its authority in a manner that reduces discharge of pollutants to the MS4. Roadway operations include street sweeping, road repair, cleaning culverts, storm drains and other routine road maintenance activities.

The City uses 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 it is doing work to improve or maintain a public road under its authority.

BMP Activities

PREV-1.1 – STREET SWEEPING

Type: Ongoing

Status: Ongoing

The City will continue to implement a program to routinely sweep public City streets under its authority in the Permitted Area. At a minimum, Public Works will sweep all public City streets four times per year, often times monthly.

Public Works 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. The City will use BMPs from adopted manuals during the following road and ROW maintenance activities:

- Repairing roads
- Cleaning stormwater culverts/piping
- Cleaning storm drains
- Ditching
- Removing solid waste dumps found within the ROW

Public Works 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 chemicals 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.

PREV-1.3 – REVIEW AND UPDATE POLLUTION PREVENTION PROCEDURES RELATED TO ROAD OPERATIONS

Type: One-Time

Status: Future

During the MS4 Permit term, the City will review and update existing pollution prevention procedures and schedules for inspection and maintenance of the MS4 related to road operations [see MS4 Permit A(3)(f)(iii)]. The City will review procedures for operation and maintenance of public streets, roads, and highways, and associated stormwater controls, ditches, and pipes.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-1.1	Sweep all public streets within the City a minimum of four times per year.	-Total number of City-wide sweeps each year.

ID	Measurable Goals	Tracking Measures
PREV-1.2	Remove 90% of solid waste dumps in the City 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-1.3	Review and update pollution prevention procedures related to road maintenance during the MS4 permit term.	-Summary of review of pollution prevention procedures. -Summary of updates to pollution prevention procedures, if any.

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.

Background

The City Implements Winter Operations and Maintenance activities that limit impacts to water quality while protecting the traveling public during winter weather events. The City 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.

BMP Activities

PREV-2.1 – WINTER MATERIALS MANAGEMENT

Type: Ongoing

Status: Ongoing

Public Works continues to evaluate and test materials used in winter operations for improved safety, implementation, and local environmental impacts. Public Works follows manufacturers' or the ODOT Guide for storage, cleanup, and disposal of products or materials.

Public Works uses Magnesium Chloride as an anti-icer and roadway sand (¼-10) as a roadway abrasive. Winter materials are stored at the Public Works facility (see PREV-5).

PREV-2.1 – WINTER MAINTENANCE STRATEGY

Type: Ongoing

Status: Ongoing

Public Works implements a *Snow and Ice Response Plan*, 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, and curves. 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.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-2.1	Maintain winter materials stockpile	-List of types of materials stored and/or used in the Permitted Area 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 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 City 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.

Background

The City maintains landscapes and manages/maintains vegetation on a variety of municipal properties and roads located throughout the Permitted Area. To guide vegetation and pest control activities, The City follows/refers to either the 2012 *Integrated Pest Management Plan for the Surface Water Management Agency of Clackamas County, and the ODOT Integrated Vegetation Management Statewide 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

Public Works maintains a number of parks within the Permitted Area to which this BMP applies.

Municipal Buildings and public lands

The City owns municipal buildings and facilities covered by this BMP. Public Works and professional services provide landscape maintenance and building management services to such facilities.

Maintenance Yards

Public Works operates a maintenance yard in the Permitted Area to which this BMP applies.

Rights-of-Way

Public Works maintains transportation ROW operations 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 general public.

BMP Activities

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

Type: Ongoing

Status: Ongoing

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

For ROW transportation operations, Public Works will adopt and use the most current version of the ODOT Guide.

Public Works 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 Clackamas County IPM Plan or an equivalent plan and to submit chemical spray logs to the City. Public Works Maintenance staff uses the Clackamas County IPM Plan for vegetation maintenance of City parks. Public Works Streets department continues to use the Clackamas County IPM Plan, as updated, to guide vegetation control activities in the public ROW and at the Public Works maintenance yard. The Public Works Streets department uses mowing as the preferred method of vegetation maintenance in the City-maintained ROW. Herbicides are used consistent with product labels.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-3.1	Adopt and implement the most recent ODOT Guide or an approved alternative for vegetation maintenance in City-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.

Background

The City of Gladstone provides education and technical assistance to residents, businesses and workplaces, schools, and events throughout the City to reduce waste. The City also coordinates with and oversees the City's franchise collection company.

Metro, the tri-county regional government, operates a Transfer Station in neighboring Oregon City for individuals to bring hazardous materials, yard waste, and materials not accepted curbside.

BMP Activities

PREV-4.1 – IMPLEMENT LITTER CONTROL METHODS

Type: Ongoing

Status: Ongoing

The City offers preventative measures to reduce the creation of litter, including:

- Offers technical assistance upon request
- Provides garbage stations for City parks, business area streets and events

- Coordinates with volunteer groups to station trash bags available to the public for picking up litter or disposing of litter generated at the park
- 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. Public Works Streets Department responds to cleanup requests of debris and dumping on City-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.

The City implements 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-3, MAINT-4, MAINT-5, and MAINT-6).

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-4.1-a	Coordinate with volunteer groups to station litter storage bags in parks available to the public.	-Number of litter storage bags stationed in City parks each year.

ID	Measurable Goals	Tracking Measures
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 the City 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.

Background

Public Works operates a maintenance facility located in the City.

BMP Activities

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

Type: Ongoing

Status: Ongoing

Public Works will continue to implement pollution prevention activities at its maintenance facility, including annual inspections.

The Public Works decant facility receives hauled solid and liquid wastes that have been collected from storm sewer system maintenance activities. The decant facility has a holding facility where materials can be dumped from trucks and captured. The materials are loaded into a dumpster and hauled of as hazardous waste for proper disposal by the City's garbage disposal franchise. All collected sanitary sewer debris from field maintenance activities are hauled to and disposed of at the Clackamas County WES decant facility on Jennifer Road per and IGA with Clackamas County.

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

- Storm system cleaning materials
- Street sweeping solids are hauled off-site for proper disposal at a landfill.
- Leaf debris collected through the City leaf pickup program are hauled off-site to a composting facility.
- City Parks Department temporarily stores vegetation in a dumpster to be picked up by the City franchise garbage company for disposal.

Lynch-style catch basins are guarded with bio-bags and capture stormwater from paved areas and a water quality BMP structure 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 quality BMP structures are inspected regularly and maintained by public works staff. The facility lot is swept by the street sweeper regularly. 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. Major vehicle maintenance is performed off-site by professional services or indoors at the Public Works facility.

ID	Measurable Goals	Tracking Measures
PREV-5.1-a	Each year, inspect municipal waste facilities at least once.	Annual number of municipal waste facilities inspected.

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 City will use to prevent sewage from entering the MS4.

Background

State plumbing rules and *City of Gladstone Municipal Code* prohibit cross connection of sanitary sewer lines to the MS4 in new development and redevelopment. Public Works, in coordination with Clackamas County DTD and WES enforce this prohibition through the development and building permit review processes.

As part of its routine maintenance program for sanitary sewer operations, Public Works inspects sanitary sewer lines using television cameras to identify damaged pipes for repair.

If sanitary sewage is released into the MS4 from a failing septic system or a cross connection 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

Public Works will periodically inspect 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 Public Works locates a discharge from sanitary sewer to the MS4, Public Works 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

Public Works will review development plans (see POST-3) for cross connections between the sanitary and storm sewer systems. Public Works will inspect connections to the public sanitary and storm sewer systems for new construction. 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).

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-6.1-a	Each year, conduct periodic TV inspections of public storm and sanitary sewer systems as budget allows.	Annual length (linear feet) of public storm sewer pipe TV inspected. Annual length (linear feet) of public sanitary sewer pipe TV inspected.
PREV-6.1-b	Eliminate 100% of sanitary sewer discharges to the MS4 public 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 actions taken by the City to limit the pollutants entering the MS4 from routine fire-fighter training.

Background

Fire-fighting services in the City are provided by Clackamas Fire District No. 1 (CFD#1). CFD#1 is a special service district.

CFD#1 operates a small training center at Meldrum Bar Park, mostly consisting of structure and obstacle training activities. No chemicals are used at this facility.

Public Works provides pollutant reduction outreach and technical assistance related to watershed safety training activity procedures.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-7.1	Once during the MS4 Permit term, contact the Fire Department, visit site and confirm training practices are being conducted in a manner that is watershed safe.	Date(s) of site visit and discussion with Fire Department.

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 City facilities and along public roads are trained or otherwise qualified.

Background

The City 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, the City will evaluate staff training needs and document the required training for staff members responsible for operations and maintenance of City facilities. The City will document the required training and frequencies in a training and education strategy. 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.

PREV-8.2 – CONDUCT POLLUTION PREVENTION TRAINING

Type: Ongoing

Status: Ongoing

The City 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 and reported in the annual report.

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 City's stormwater management program.

Background

DEQ requires the City 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 City 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, the City will evaluate the pollution prevention for municipal operation activities conducted as per the SWMP Document. The City 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 City will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the City's stormwater management program. The evaluation will be planned to meet the Permit renewal application package timeline. 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.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
PREV-9.1	Evaluate the 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 the City 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 may be potentially contributing a significant pollutant load to the MS4.

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 City that require a 1200-Z NPDES industrial stormwater permit are known to DEQ and the City.

Background

This BMP applies where stormwater is discharged from a private industrial property to the MS4. Public Works continues to implement a program to reduce pollutants in the stormwater discharges to the MS4 from industrial and commercial facilities.

BMP Activities

COMM-1.1 – IDENTIFY NEW INDUSTRIAL FACILITIES REQUIRING NPDES PERMITS

Type: Annual

Status: Ongoing

A minimum of one time each year, Public Works will review development applications for new industrial sites to determine whether any new facilities would be subject to a 1200-Z permit. Alternately, Public Works may elect to perform this review at the time of post-construction stormwater plan review (see POST-2).

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, Public Works will notify the facility operator and DEQ of its findings within 30 days.

COMM-1.2 – IDENTIFY EXISTING INDUSTRIAL FACILITIES REQUIRING NPDES PERMITS

Type: Annual

Status: Ongoing

A minimum of one time each year, Public Works will review a sub-set of all existing industrial sites in the City to determine whether any facilities may require, but do not currently hold, a 1200-Z permit, or a DEQ-approved No Exposure Certification waiver from this requirement. Public Works plans to conduct site surveys in combination with SIC code evaluations, past pre-treatment surveys and past business licensure forms to perform this task. During this process, if Public works identifies an existing industrial site that may require 1200-Z permit or a NEC waiver, Public Works will notify the facility operator and DEQ of its findings within 30 days.

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 existing industrial facilities for 1200-Z permit applicability a minimum of one time each year.	Date(s) survey performed.
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 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.

Background

The City continues to implement an Industrial/Commercial Facilities Stormwater Program Strategy.

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 City 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. 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

The City reviewed and updated the Industrial/Commercial Facilities Stormwater Program Strategy on May 15, 2023. The review and update ensures that the strategy includes, at a minimum:

- The facility types or activities, rationale, and priorities for entities that may havehigh 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.

The updated City of Gladstone Industrial/Commercial Facilities Inspection Strategy document was posted on the City website for public comment for a minimum of 30 days prior to submission to DEQ for approval and incorporation into the SWMP Document. The updated document can be found on the City website public works stormwater page at https://www.ci.gladstone.or.us/publicworks/page/stormwater-division

COMM-2.2 – IMPLEMENT THE INDUSTRIAL/COMMERCIAL FACILITIES STRATEGY

Type: Ongoing

Status: Ongoing

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

The City 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 the City receives such a complaint or referral, Public Works may request permission from the site operator to inspect the site. If entry is refused, Public Works, in coordination with Code Enforcement may take legal action to secure entry. Public Works 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*, Public Works will implement a program to inspect the pollutant source control measures at priority commercial and industrial facilities. Public Works 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 Public Works suspects inadequate source control measures on a site, Public Works 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).

The City is currently implementing the May 15, 2023 updated Gladstone Industrial/Commercial Facilities Inspection Strategy found on the City website public works stormwater page at https://www.ci.gladstone.or.us/publicworks/page/stormwater-division

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.

Background

The City must implement a program to reduce pollutants in stormwater discharges to the MS4 from industrial and commercial facilities. The City 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, the City will evaluate staff training needs and document the required training for staff members responsible for inspecting and evaluating commercial and industrial facilities. The City will document the required training and frequencies in a training and education strategy. 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.

COMM-3.2 – CONDUCT TRAINING

Type: Ongoing

Status: Ongoing

The City 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 and reported in the annual report.

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 City's stormwater management program.

Background

DEQ requires the City 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 City 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, the City will evaluate the industrial and commercial facilities activities conducted as per the SWMP Document. The City 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 City will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the City's stormwater management programs. The evaluation will be planned to meet the Permit renewal application package timeline. 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.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
COMM-4.1	Evaluate the City's 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

The MS4 Permit requires the City to implement a program to verify that 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.

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 the City 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 City's MS4. Improperly maintained storm systems can contribute pollutants and excessive runoff to the MS4.

Background

The elected officials of the City of Gladstone adopt the policies, rules, and regulations that require operation and maintenance of privately-owned and operated stormwater management facilities. Public Works tracks and coordinates this BMP.

The City of Gladstone Public Works Stormwater Design 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 (mostly single family residence sub-divisions) that will be publicly owned must be accepted by the City. Public Works will take over ownership and long term operations and maintenance responsibility; until that acceptance process is complete, the stormwater facility remains the responsibility of the property owner or permit applicant. The City and the property owner must have a contract or other legal mechanism in place in order for the City to assume legal ownership and 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, the City 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.

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

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAINT-1.1	Review, and update, if necessary, legal authority 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 Inspection 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, and A.3.f.xi. The purpose of this BMP is to develop and implement a strategy containing inspection and maintenance schedules to ensure all public and private stormwater controls that discharge to the MS4 are operated and maintained to the maximum extent practicable to protect the pollutant removal, infiltration/retention, and flow control capacities of facilities.

The City will develop a maintenance strategy that describes the observable conditions that indicate stormwater management facilities require maintenance and a standardized schedule for conducting inspections. The strategy will also contain maintenance standards which provide the foundation for an inspection-based maintenance program for public facilities (see MAINT-3 through MAINT-5), a regulated private storm system inspection and maintenance program (see MAINT-6), and private stormwater facility operations and maintenance outreach (ED-2.2).

This work is also dependent upon mapping and digital inventories of stormwater controls and the MS4 (see MAP-1 and MAP-2).

Background

On behalf of the City, Public Works is responsible for implementing this BMP.

BMP Activities

MAINT-2.1 – INSPECTION AND MAINTENANCE STRATEGY AND STANDARDS

Type: One-time

Status: Future

Public Works will develop and publish an inspection and maintenance strategy for stormwater management facilities. Public Works will distribute the document internally to staff and will publicize it for use by private storm system owners and operators.

Criteria for facility inspection and prioritization will differ based on whether the operational responsibility is public or private.

For both public and private facilities, the strategy will include:

- Definitions of facility types (consistent with data schema developed in MAP-1);
- Narrative of priorities for inspection and maintenance based on factors, including but not limited to:
    - Facility type
    - Facility features (e.g., catch basins with sumps or without sumps)
    - Priority locations;
- Inspection criteria (thresholds or triggers for maintenance and/or cleaning), rationale, frequency, procedures, and a schedule; and
- Maintenance criteria (proper maintenance desired outcomes), rationale, frequency, and procedures.

For stormwater controls that include vegetation, the inspection and maintenance strategy will include requirements to remove sediment accumulation and manage the vegetation community to ensure functionality as designed. For stormwater controls that include soil in the treatment process, the strategy will include requirements for maintaining soil permeability. For manufactured stormwater technology, the strategy will include schedules for replacement at regular intervals.

Public facility criteria will include the following items:

- Scheduled preventive maintenance programs (e.g., routine vegetation control); and
- Inspection and maintenance tracking procedures.

Private facility criteria will include the following items:

- Required training or qualifications to inspect private facilities (see MAINT-9); and
- Summary and citation of the legal requirements, including reporting and documenting inspections.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAINT-2.1	Complete Inspection and Maintenance Strategy document during the MS4 Permit Term.	Date Inspection Schedule and Maintenance Standards document completed.

MAINT-3 Public Facility Inspection 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 verify and maintain the effective pollutant removal, infiltration/retention, and flow control functions of public stormwater facilities. The facilities covered by this BMP include publicly owned facilities owned and operated by Public Works.

Background

Ownership

Public Works inspects and maintains stormwater management facilities that are publicly owned and/or operated. Within the entire City limits, the City owns and operates stormwater management facilities that are in ROW and on dedicated tracts, including City owned building facilities. Often times, when single family residential sub-divisions is complete, the City will accept ownership through an easement to perform ongoing maintenance responsibilities for the facilities to ensure proper maintenance is being performed.

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.

Catch basins are addressed in BMP MAINT-4. See MAINT-6 for long term operations and maintenance of privately maintained storm systems.

BMP Activities

MAINT-3.1 – ONGOING FACILITY MAINTENANCE (CONTINUE CURRENT LEVEL OF EFFORT)

Type: Ongoing until superseded by MAINT-3.2 and 3.3

Status: Ongoing

The City will continue using established schedules and practices described in the 2012-2017 SWMPs for public facility maintenance until new inspection schedules and maintenance standards have been completed (see MAINT-2).

Public works uses 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. Public Works will dedicate one full time equivalent (FTE) to inspect structures in a specified area prior to assigning additional maintenance, if any, to that area. Public Works staff will perform maintenance of vegetated detention ponds and water quality ponds.

Public Works will track maintenance activities using field maintenance logs and digital databases.

Public works will continue maintenance activities at frequencies shown in the table below.

Ongoing Facility Maintenance Tasks

Facility Type	Frequency	Activity Type
Structural water quality facility in ROW	100% annually	Vactor
Residential Maintenance facility in ROW owned by City (detention, water quality, conveyance)	100% annually	Inspect If needed, Vactor, trash pickup, mow.
Privately owned residential facility (detention, water quality, conveyance)	Complaint response	Vactor, trash pickup, mow

MAINT-3.2 – PREVENTITIVE MAINTENANCE

Type: Ongoing

Status: Future

Implementation of MAINT-3.2 will depend on the completion of the maintenance schedule in MAINT-2.

Public Works will schedule and perform stormwater facility routine preventive maintenance tasks that are not inspection dependent. These tasks will include trash pickup, mowing, vegetation control requiring hand tools, and other routine tasks.

MAINT-3.3 – Inspection-Based Facility Maintenance

Type: Ongoing

Status: Future

When the inspection and maintenance strategy has been completed (see MAINT-2), then the City will begin to inspect all types of stormwater management facilities identified in this BMP using the schedule and standards in that document. Inspectors will use criteria to determine facility maintenance status and needs. Inspection reports will be compiled in a database and will be used to determine maintenance requirements.

When an inspection shows the need for maintenance, then Public Works will perform the maintenance within a timeline established in the inspection and maintenance strategy. Maintenance records will be compiled in a database.

Inspection-based maintenance tasks will include:

- Replacing proprietary filter media;
- Removing sediment from manholes, pipes (within the facility's system), vaults, tanks, and pre-settling basins;
- Restoring and/or replenishing energy dissipation elements (e.g., rock pads);
- Removing sediment from and re-grading ponds and swales;
- Revegetating and mulching bare spots in surface ponds and swales;

- Replacing soil media and vegetation in LID facilities; and
- Other maintenance as needed.

These tasks will often include use of Vactor trucks, backhoes, and other equipment.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
Continue using existing goals and tracking measures as described below for MAINT-3.1 until the BMP activities are superseded by MAINT-3.2 and 3.3.		
MAINT-3.1-a	Inspect the public and existing private structural storm water control facilities annually and maintain as necessary.	Record the Structural control inspection and maintenance activities that occur annually.
MAINT-3.1-b	Conduct annual spot inspections of all new private structural stormwater quality control facilities.	Record annual spot inspections conducted
MAINT-3.1-c	Require signed maintenance agreements for new private structural stormwater facilities as a condition of plan approval.	Track any additional (public or private) structural control facilities installed within the City on an annual basis.
Begin using goals and tracking measures as described below for MAINT-3.2 and 3.3 when the SWMP City implements the inspection-based maintenance program, supported by MAINT-2, Inspection and Maintenance Strategy.		
MAINT-3.2	Complete 90% of scheduled preventive maintenance on time each year.	Annual number of preventive maintenance activities completed on time. Annual number of scheduled preventive maintenance activities. Annual percentage of preventive maintenance activities completed on time. Estimated volume of debris removed as a total or by category or type of activity, if known.
MAINT-3.3-a	Perform 100% of scheduled facility inspections each year.	Annual number of facility inspections conducted. Annual number of facility inspections scheduled. Annual percentage of facility inspections completed.
MAINT-3.3-b	Correct 100% of maintenance deficiencies discovered during a public facility inspection within allowed time period. (Allowed time period based on maintenance schedule established in MAINT-2) (Does not include repairs.)	Running total of facilities with maintenance deficiencies (excluding repairs) that were corrected within the allowed time period. Running total of facilities with maintenance deficiencies (excluding repairs) discovered during public facility inspection. Percentage of maintenance deficiencies corrected within allowed time period. Estimated volume of debris removed as a total or by category or type of activity, if known.

MAINT-4 Inspect and Clean Catch Basins

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. Catch basins and inlets primarily perform a conveyance function; however, some catch basins also serve a water quality function by capturing sediment and debris. The purpose of this BMP is to maintain conveyance capacity and eliminate pollutants from the MS4 by removing sediment and debris from catch basins.

Background

Public Works removes sediment from publicly owned or operated catch basins and inlets on a routine basis.

Catch basins are often located in the ROW but may also be located in easements. Public Works implements this BMP in the City ROW and easements within the City limits. Public Works also implements this BMP at City Owned building facilities and parks.

BMP Activities

MAINT-4.1 – ROUTINE CATCH BASIN CLEANING (CONTINUE CURRENT LEVEL OF EFFORT)

Type: Ongoing until superseded by MAINT-4.2

Status: Ongoing

Public Works will continue the current levels of effort described in the 2012-2017 SWMPs for cleaning catch basins and inlets.

Public Works will remove sediment from catch basins and inlets using a Vactor truck and will document catch basin cleaning in a database. To provide data for inspection schedules, described in MAINT-2, field operators will record the estimated quantity of sediment removed from each catch basin.

MAINT-4.2 – INSPECTION-BASED CATCH BASIN CLEANING AND MAINTENANCE

Type: Ongoing

Status: Future

When the inspection and maintenance strategy is complete (see MAINT-2), Public Works will implement a catch basin/inlet inspection and maintenance program based to clean only sumped catch basins and inlets on documented priorities and criteria.

Inspectors will use criteria established in MAINT-2 to determine maintenance status and needs.

Cleaning and maintenance will be based on inspection results. Cleaning will be required when sediment depth in the sump exceeds the established standard. Repair or replacement will be required based on an assessment of the structure's condition.

Public Works will clean and repair or replace catch basins within timelines established in the inspection and maintenance strategy.

Inspection reports and maintenance records will be compiled in a database.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
Continue using existing goals and tracking measures as described below for MAINT-4.1 until the BMP activities are superseded by MAINT-4.2.		
MAINT-4.1-a	Clean 100% of catch basins and inlets (with sumps) each year.	-Annual number of catch basins and inlets cleaned. -Total number of catch basins and inlets (with sumps). -Annual percentage of catch basins and inlets (with sumps) cleaned.
Begin using goals and tracking measures as described below for MAINT-4.2 when the City implements the inspection-based maintenance program, supported by BMP MAINT-2, Inspection and Maintenance Strategy.		
MAINT-4.2-a	Perform 100% of scheduled catch basin/inlet inspections each year. (Number of scheduled inspections may differ each year, based on priorities and schedules established in MAINT-2.)	Annual number of catch basins/inlets inspections performed. Annual number of scheduled catch basin/inlet inspections. Annual percentage of catch basins/inlets inspected.
MAINT-4.2-c	Clean 100% of catch basins/inlets that fail a sediment depth inspection within allowed time period. (Allowed time period based on maintenance schedule established in MAINT-2.)	-Running total of catch basins/inlets that were cleaned within the allowed time period. -Running total of catch basins/inlets that failed sediment depth inspection. -Percentage of catch basins/inlets that were cleaned within the allowed time period to date.

ID	Measurable Goals	Tracking Measures
MAINT-4.2-e	Repair or replace 60% of catch basins/inlets that fail condition inspection within allowed time period from date of inspection. (Allowed time period based on maintenance schedule established in MAINT-2.)	-Running total of catch basins/inlets that were repaired or replaced within the allowed time period. -Running total of catch basins/inlets that failed condition assessment. -Percentage of catch basins/inlets that were repaired or replaced within the allowed time period to date.

MAINT-5 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.

Background

Conveyances include storm sewer pipes and ditches.

Public Works will clean and maintain ditches and storm sewer lines within the City limits.

BMP Activities

MAINT-5.1 – PUBLIC CONVEYANCE CLEANING AND MAINTENANCE

Type: Ongoing

Status: Ongoing

Public works will clean public storm lines in the City-maintained ROW and easements inside the City limits routinely and as needed based on complaints or field crew observations.

Public Works will also clean ditches routinely and as needed based on complaints or field crew observations.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAINT-5.1	Complete 75% of scheduled conveyance system cleaning maintenance activities each year.	-Annual number of conveyance system feet cleaned each year. -Annual number of conveyance system feet scheduled to be cleaned each year. -Annual percentage of conveyance system planned cleanings completed each year.

MAINT-6 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 City's MS4 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.

Background

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

For the purposes of this BMP, a 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.).

Public Works maintains legal authority to regulate operation and maintenance of these systems in the *Stormwater Design Standards* (see MAINT-1) if necessary. 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 Public works.

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

MAINT-6.2 – REGULATED STORM SYSTEM INSPECTION AND ENFORCEMENT

Type: Ongoing

Status: Future

When the inspection and maintenance strategy is complete (see MAINT-2), Public Works will implement a new inspection and enforcement program to verify operation and maintenance of regulated private storm systems.

Public Works will prioritize sites for inspection based on risk factors. Selection criteria will be documented in the MS4 annual report.

Public Works 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 Public Works performs, such as: sanitary system inspections for Industrial Pretreatment and the Fats, Oils, & Grease Program (FOG Program); and priority commercial and industrial facility stormwater quality inspections (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 MAINT-2. If a regulated private storm system fails an inspection, Public Works will follow an escalating enforcement strategy that begins with education and technical assistance.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAINT-6.2-a	Following completion of MAINT-2, inspect 25% of prioritized regulated private storm systems each year.	-Annual number of prioritized regulated private storm systems inspected at least one time. -Total number of prioritized regulated private storm systems within the City in reporting year. -Annual percentage of prioritized regulated private storm systems inspected.
MAINT-6.2-b	50% of prioritized regulated private storm systems to 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.

ID	Measurable Goals	Tracking Measures
MAINT-6.2-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-7 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 and culverts to prevent or mitigate localized flooding. The City also takes preventive actions to help ensure proper drainage and maintain water quality functions where possible prior topredicted storms.

Background

The City unblocks 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-7.1 – URGENT CONDITIONS/STORM PREPARATION AND RESPONSE

Type: Ongoing

Status: Ongoing

Public Works will mobilize and respond to flooding caused by public facilities and conveyances during storms and urgent conditions.

A response involving a public treatment or flow control facility (e.g., detention pond, swale) will be documented as a maintenance activity and recorded in a database.

Public Works 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.

MAINT-8 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.i. 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 City's stormwater retrofit strategy and assesses the outcomes of the stormwater retrofit strategy and hydromodification assessment to evaluate and improve the effectiveness of retrofits.

Background

Retrofits address water quality impacts (discharge of pollutants) and hydrologic impacts (changes to volume, rate, and duration of discharges). Retrofits may be standalone projects, demonstration projects, or may be integrated into other planned capital improvement projects.

In 2015, the City submitted a hydromodification assessment to DEQ as a standalone deliverable. The Stormwater Master Plan was also submitted and used to fulfill the storm sewer Retrofit Plan requirement for the 2012-2017 Permit term as the water quality project needs were developed per the permit language. The City implemented the Retrofit Plan during the 2012-2017 MS4 Permit term.

The City continues 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 (included in the 2014 Stormwater Master Plan).

MAINT-8.1 – INFRASTRUCTURE RETROFIT AND HYDROMODIFICATION ASSESSMENT UPDATE

Type: One-Time

Status: Future

The City will continue to implement the Retrofit Plan (included in the 2014 Stormwater Master Plan).

In October 2023, Public Works assessed the outcomes of the Retrofit Plan, which which included, 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 thereports;
- Narrative describing progress toward addressing gaps in hydromodificationinformation or data related to waterbodies within the City 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.

The City considered potential projects. The following areas and types of facilities are candidates for retrofits as funding allows:

- 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 the City that lack water quality or hydrologic controls; and
- Existing flood control projects owned or operated by the City 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 the MS4 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, The City has prioritized them for retrofit, in order to add water quality and hydrologic controls as capital improvement funds allow while balancing other required CIPs.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAINT-8.1	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-9 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.

Background

The City 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-9.1 – DETERMINE TRAINING NEEDS

Type: One-Time

Status: Future

One time during the Permit term, the City will evaluate staff training needs and document the required training for staff members responsible for inspecting, operating, and maintaining City stormwater facilities as well as inspecting and ensuring regulated private stormwater facilities are operated and maintained to appropriate standards. The City 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 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.

MAINT-9.2 – CONDUCT STORMWATER MANAGEMENT FACILITIES MAINTENANCE STAFF TRAINING

Type: Ongoing

Status: Ongoing

The City 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 City and reported in the annual report.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAINT-9.1	Evaluate and document staff training needs one time during the MS4 Permit term.	Date staff training and education strategy published.
MAINT-9.2	Conduct or procure training documented in the staff training and education strategy.	Number of employees who receive training and type training received.

MAINT-10 Evaluation of Stormwater System Operations and Maintenance Activities

Purpose

This BMP meets the MS4 Permit requirements found in Schedule A.2.f, A.3.xi, A.3.h.i, B.4.b, and B.4.c. The purpose of assessing stormwater management facilities management activities are to:

- Assist with the adaptive management of the stormwater management facilities maintenance program, and
- Support DEQ's independent assessment of the City's stormwater management program.

Background

DEQ requires the City 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 City 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

MAINT-10.1 EVALUATION OF STORMWATER SYSTEM MAINTENANCE ACTIVITIES

Type: One-Time

Status: Future

During the MS4 Permit term, the City will evaluate the stormwater system maintenance activities conducted as per the SWMP Document. The City 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 City will provide the results of the evaluation to DEQ to support DEQ's independent assessment of the City's stormwater management programs. The evaluation will be planned to meet the Permit renewal application package timeline. The criteria and plan may include only stormwater system maintenance activities or combine stormwater system maintenance activities with other Permit required evaluation topics.

Measurable Goals and Tracking Measures

ID	Measurable Goals	Tracking Measures
MAINT-10.1	Evaluate the City's 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.
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 the City. If a non-stormwater discharge is not allowed by the City 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 the City.
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 the City's MS4, 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.
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.

Bibliography

Clackamas County. *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*, December 2012.

City of Gladstone. Public Works Department. *City of Gladstone Public Works Design and Construction Standards.* 2017.

City of Gladstone. Streets Department. *Plowing and Sanding Plan.* February 2021.

Clackamas County. Water Environment Services. *Erosion Prevention and Sediment Control Planning and Design Manual*. Developed in partnership with the cities of Gladstone, Happy Valley, Lake Oswego, Milwaukie, Oregon City, West Linn, Wilsonville and Oak Lodge Sanitary District and Clean Water Services, December 2008.

Oregon Department of Transportation. *Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices*, 2020.

Oregon Secretary of State. *Oregon Administrative Rules.* Salem, OR: Oregon State Archives, July 2022.

Oregon Department of Environmental Quality. *National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System (MS4) Discharge Permit: Issued to the Clackamas County Group.* Portland, OR: Oregon DEQ, Surface Water Management Section, September 2021.

Otak, Inc. *2022 MS4 Permit Shared Stormwater Management Plan*. Otak, Inc. on behalf of Water Environment Services, February 2017.

United States. Environmental Protection Agency. Office of Water. *National Pollutant Discharge Elimination System (NPDES): NPDES Stormwater Program.* Washington: U.S. EPA, Office of Water, July 2022.

United States. Environmental Protection Agency. Office of Water. *Law & Regulations: Summary of the Clean Water Act.* Washington: U.S. EPA, Office of Water, July 2022.

Brown and Caldwell. *2014 Gladstone Stormwater Master Plan.* Brown and Caldwell on behalf of the City of Gladstone, November 2014.

Brown and Caldwell. *City of Gladstone Hydromodification Assessment.* Brown and Caldwell on behalf of the City of Gladstone, August 2015.

Gladstone Public Works. *Illicit Discharge Detection and Elimination Program Enforcement Response Plan.*

DEQ 2015. *Water Pollution Control Facilities Permit for Class V Stormwater Underground Injection Control Systems for the City of Portland,* May 2015.

City of Gladstone. *Municipal Code.* 2021