

City of Wilsonville

Stormwater Management Program Document

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

Permit Number: 101348



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List of Abbreviations

ACWA	Association of Clean Water Agencies
BMP	Best Management Practice
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CWA	Clean Water Act
DEI	Diversity, Equity, and Inclusion
DEQ	Department of Environmental Quality
ESC	Erosion and Sediment Control
ESCP	Erosion and Sediment Control Plan
EPA	Environmental Protection Agency
IDDE	Illicit Discharge Detention and Elimination
GI	Green Infrastructure
I/C	Industrial and Commercial
IPM	Integrated Pest Management
LA	Load Allocations
LID	Low Impact Development
NPDES	National Pollutant Discharge Elimination System
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
PI	Public Involvement
RM	River Mile
ROW	Right-of-Way
SF	Square Feet
SMP	Stormwater Master Plan
SOP	Standard Operating Procedure
SWMP	Stormwater Management Program
SWPPS	Stormwater Pollution Prevention Strategy
TMDL	Total Maximum Daily Load
TSD	Treatment, Storage, and Disposal
TVFR	Tualatin Valley Fire and Rescue
UGB	Urban Growth Boundary
WC	Wilsonville Code
WERK	Wilsonville Environmental Resource Keepers
WLA	Waste Load Allocations

Section 1: SWMP Overview

1.1 Introduction

Under the federal Clean Water Act (CWA) and Oregon Revised Statute 468B.050, the Oregon Department of Environmental Quality (DEQ) has issued the City of Wilsonville (City) a renewed National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Phase I Permit, effective October 1, 2021.

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

The City is a co-permittee on the Clackamas County NPDES MS4 Permit, along with 11 other agencies. The first permit (101348) was issued in 1995. A second permit was issued in 2005 after an appeal and a modification. A third permit was issued in 2012, expired in 2017 and went into administrative extension until a renewed permit was issued September 15th, 2021, with an effective date of October 1, 2021.

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

The BMPs outlined in this program will be evaluated annually during the preparation of the NPDES MS4 Annual Report. The annual reports will include the status of implementing each BMP and any proposed modifications or adaptations of the program. Any updates made to this 2022 SWMP are made in accordance with Schedule A.2.f of the NPDES MS4 Permit and documented in the change log provided as Appendix B.

1.2 Background

This section documents the permit coverage area and the relationship between the NPDES MS4 Permit, SWMP, and Total Maximum Daily Load (TMDL) obligations.

1.2.1 City of Wilsonville Overview

Wilsonville is located in both Clackamas and Washington Counties, approximately 20 miles south of Portland, Oregon in the Willamette River Valley. The City provides water, sanitary sewer, and surface water management services to approximately 24,300 residents and covers a total of 7.8 square miles. The majority of the City is situated north of the Willamette River which runs east-west through the City, while the Charbonneau District is located south of the Willamette River. The city has historically seen significant growth and development. Land use is primarily residential, commercial, and industrial, with the majority of commercial and industrial development located along the Oregon Interstate 5 (I-5) freeway corridor which runs north-south through the city, almost equally dividing the City in half (see Figure 1). While residential development is mostly located in the southern half of the City (i.e., I-5 divides the City to the east and west and Boeckman Road divides the city to the north and south), open space areas are scattered throughout the city and include a number of parks, wetlands, and riparian areas.

1.2.2 Coverage Area

Two major tributaries to the Willamette River run north-south through the City: Boeckman Creek and Coffee Lake Creek. The Willamette River and tributaries (including Boeckman Creek and Coffee Lake Creek) currently have a TMDL in place for temperature, bacteria, and mercury.

The City is located in the Middle Willamette River watershed, and all areas discharge either directly or indirectly to the Willamette River between river mile (RM) 37 and 39.8. There are six (6) major drainage basins in the City:

1. Boeckman Creek Basin
2. Charbonneau Basin
3. Coffee Lake Creek Basin
4. Corral Creek Basin
5. Meridian Creek Basin
6. Willamette River Basin

The largest watersheds within the total drainage area are the Boeckman Creek and Coffee Lake Creek basins. These watersheds represent over 80 percent of the contributing drainage area from which the City manages stormwater runoff.

The map in Figure 1 illustrates the total area (including the surrounding jurisdictions) and major waterbodies associated with the representative watersheds that cover Wilsonville's city limits and UGB. Both City limits and UGB are shown because areas in the UGB will become part of the overall stormwater program (and NPDES MS4 permit implementation) once annexed. Additional maps related to the City's stormwater system and stormwater program are included on the City's NPDES Stormwater Permit Information website.

The BMPs described within this SWMP are applied within the City boundary. The programs operate on a city-wide basis, working to reduce the discharge of pollutants to waterways to the maximum extent practicable.

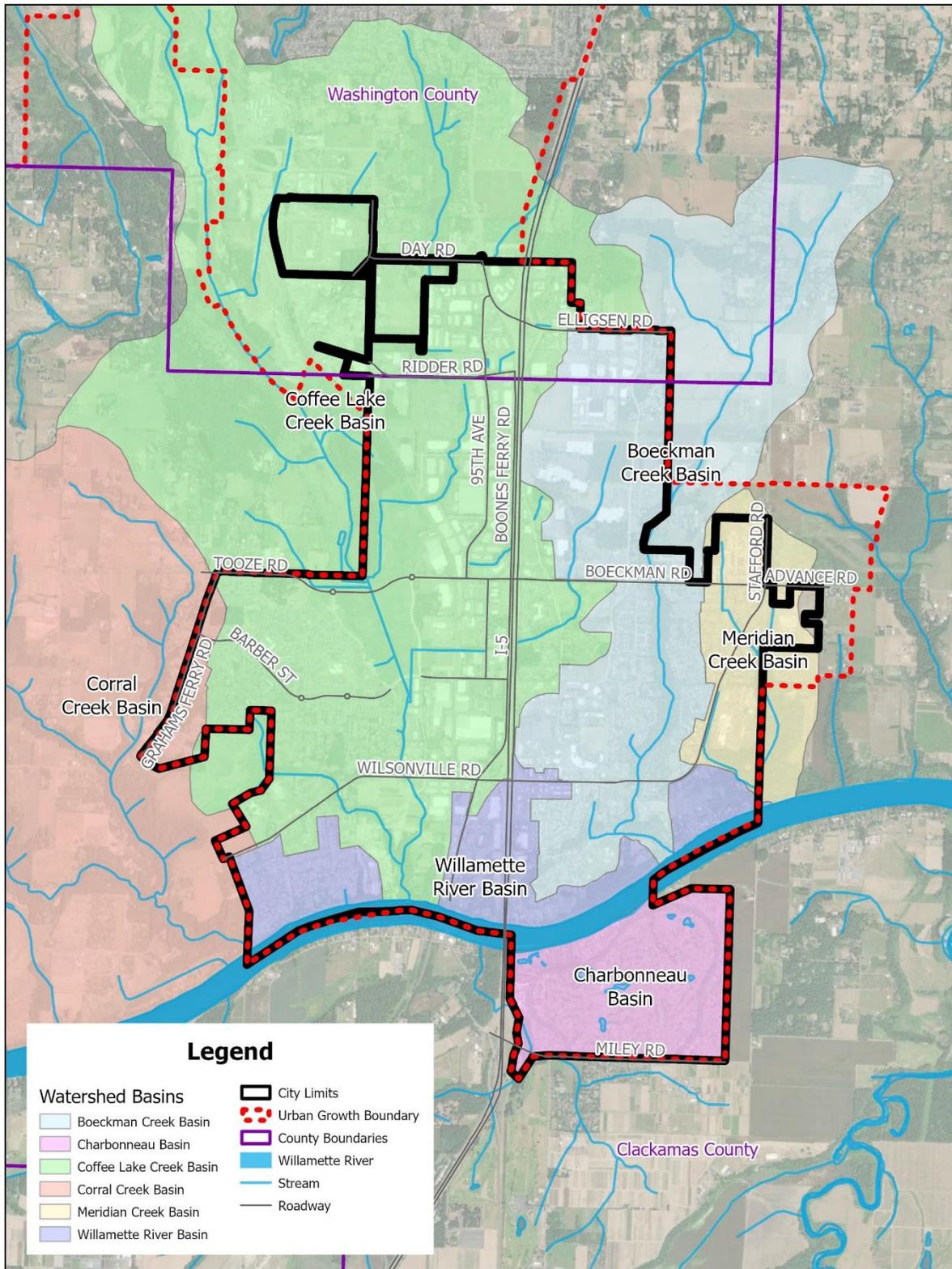


Figure 1. Map of the City of Wilsonville Boundary

1.2.3 Relationship to TMDLs

In addition to the NPDES MS4 Permit requirements, the City is subject to Total Maximum Daily Load (TMDL) regulations under the CWA. TMDLs serve as plans for restoring impaired or polluted waters. They identify the maximum amount of a specific pollutant that a body of water can receive while still meeting water quality standards. These allowable loads are then allocated among dischargers which are referred to as Designated Management Agencies (DMA). In Oregon, DEQ assigns load allocations (LAs) for nonpoint sources of pollution and waste load allocations (WLAs) for point sources. Municipal stormwater discharges are regulated as point sources, and assigned WLAs, if they are covered by a NPDES MS4 permit.

The City is a DMA for the following TMDL parameters for the Willamette Basin (Middle Willamette Subbasin):

- Bacteria (*E. coli*)
- Mercury (the surrogate is total suspended solids)
- Temperature

Point sources of pollutants and associated WLAs are regulated under the NPDES permitting program and nonpoint sources are managed by TMDL Implementation Plans. As the City implements their NPDES MS4 permit city-wide, the NPDES MS4 permit addresses the City's TMDL obligations under Schedule D.3, which states:

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

Clackamas Group Phase I NPDES MS4 Permit, Schedule D.3.a

This SWMP is the City's program to control pollutant runoff to address TMDL WLAs for bacteria and total mercury (TSS as a surrogate). Schedule D.3.b also requires the City to conduct and submit a mercury minimization assessment with the annual report due December 1, 2022. To facilitate addressing this requirement, BMPs outlined in this SWMP include reference to the targeted TMDL pollutants addressed with implementation of BMPs. In addition, Schedule D.3.c of the NPDES MS4 permit requires the City to conduct a TMDL pollutant load reduction evaluation and Schedule D.3.d requires the City to establish pollution load reduction benchmarks for relevant TMDL pollutants in conjunction with the NPDES MS4 Permit renewal application.

Given the SWMP is implemented city-wide, it is used to cover both point and non-point sources of the TMDL pollutants listed above except for temperature. As stated in the 2006 Willamette River TMDL, temperature is generally not considered to be a significant contributor to stormwater pollution and thus is not addressed through a stormwater permit. DMAs are expected to address temperature as a non-point source pollutant in a TMDL Implementation Plan. The City's TMDL Implementation Plan was updated and resubmitted to DEQ in August 2022 and again in December 2023 and is intended to complement this SWMP.

1.3 Stormwater Program Overview

The activities outlined in this SWMP impact and are implemented by multiple City departments. This section provides an overview of the participating departments and the City's organizational structure as well as an outline of the SWMP organization in relation to the Phase I NPDES MS4 Permit requirements.

1.3.1 Stormwater Program Organization

Stormwater program activities in the City are implemented by staff in various departments and divisions. The Community Development Department is the lead department responsible for planning and tracking activities related to this SWMP. The Engineering and Planning Divisions, as well as the Natural Resources Program are all under the Community Development Department and help maintain and promote a healthy environment in

Wilsonville by providing long term care of local natural resources, such as streams, wetlands, and natural areas, ensuring a sustainable future for the residents of Wilsonville. The following departments and divisions primarily participate in stormwater program operations or implementation.

- Community Development Department
 - Building Division
 - Engineering Division
 - Natural Resources Program
 - Planning Division
- Public Works Department
 - Facilities Division
 - Information Systems and Geographic Information Systems Division
 - Roads and Stormwater Division
 - Utilities Division
- Parks and Recreation Department

1.3.2 Stormwater Program Partners

The City does not have any active Intergovernmental Agreement (IGAs) or Memorandums of Understanding (MOUs) with other agencies but, when possible, partners with other entities or agencies for specific BMP activities or monitoring activities. To clarify the City’s permit responsibilities, areas of responsibility are outlined specific to each BMP in Section 2.

1.3.3 SWMP Organization

The SWMP is organized into the major stormwater program categories listed in Table 1-1. The categories closely correspond to the Schedule A.3 control measures per the NPDES MS4 permit. Within each stormwater program category, this SWMP outlines BMPs to address the NPDES MS4 Permit requirements. The BMPs are organized with numbering and titles based on the program categories. The BMPs listed in this summary are only those that address the explicit requirements of the SWMP as described in Schedule A.3 of the 2021 NPDES MS4 Permit. Additional activities within the City’s stormwater program that do not specifically align with permit requirements may not be included in this document.

The BMPs include measurable goals and tracking measures that will be used to report progress to DEQ on an annual basis. The reporting period is July 1 through June 30 of each year, with Annual Reports due to DEQ by December 1 each year.

Table 1-1. Stormwater Program Organizational Categories		
Category Title	NPDES MS4 Permit Requirement	BMP Naming Abbreviation
Public Education and Outreach	Schedule A.3.a	PEO
Public Involvement and Participation	Schedule A.3.b	PI
Illicit Discharge Detection and Elimination	Schedule A.3.c	ILL
Construction Site Runoff Control	Schedule A.3.d	EC
Post-Construction Site Runoff for New Development and Redevelopment	Schedule A.3.e	PC
Pollution Prevention and Good Housekeeping for Municipal Operations*	Schedule A.3.f	OM
Industrial and Commercial Facilities	Schedule A.3.g	IND

*BMP OM-8 includes activities related to Schedule A.3.h.

1.3.4 SWMP Development

Since the City received its first NPDES MS4 permit from DEQ in 1995, their SWMP has been through numerous iterations to align with consecutive reissuances of the NPDES MS4 permits and to meet the respective permit renewal requirements. With each iteration, the City conducts an evaluation to identify areas where modifications to the SWMP are appropriate. Existing BMPs are reviewed by those responsible for implementing the BMP to propose changes to the BMP that enhance efficiency and effectiveness. BMP revisions are reviewed internally to ensure that commitments and activities are accurate and achievable.

In 2022, the City conducted a detailed evaluation of the existing SWMP using a gap analysis strategy to compare the City's proposed SWMP changes (per their 2017 NPDES MS4 permit renewal application) to the 2021 NPDES MS4 permit requirements. The evaluation also included review of the City's annual reports and considered input from City staff responsible for implementing each BMP. Based on the City's experience, some BMPs were streamlined to reflect work previously completed, and other BMPs were adjusted to better reflect the way the City operates. New BMPs were also identified to accommodate new NPDES MS4 permit requirements. Measurable goals and tracking measures were developed or adjusted (if needed) for each BMP.

1.4 SWMP Reference Library

Stormwater program implementation requires numerous codes, ordinances policies, procedures, guidance manuals, checklists, forms, mapping, and other related documents. Throughout this SWMP the relevant documents (reference documents) are noted within each program category or BMP, if applicable. The referenced documents have been compiled into an MS4 Program Reference Library that can be found on the City's website.

[NPDES Stormwater Permit Information | City of Wilsonville Oregon](#)

The Reference Library will also include this SWMP, monitoring plan, and associated annual reports.



Section 2: SWMP Control Measures

The following sections detail the BMPs applicable to the Schedule A.3 Stormwater Management Program Control Measures. The control measures being addressed are separated into the following categories:

- A. Public Education and Outreach
- B. Public Involvement and Participation
- C. Illicit Discharge Detection and Elimination
- D. Construction Site Runoff Control
- E. Post-Construction Site Runoff for New Development and Redevelopment
- F. Pollution Prevention and Good Housekeeping for Municipal Operations
- G. Industrial and Commercial Facilities

Tables 2.1–2.7, specific to each respective BMP category, identify which of the City’s SWMP BMPs correspond to the individual components of the Schedule A.3 permit requirements.

2.1 Public Education and Outreach

Public education and outreach activities are an integral component of a successful stormwater pollution prevention program. Increasing public knowledge of local water quality issues is key to obtaining public support and ownership for stormwater programs. The City partners with multiple agencies and non-profits to support public outreach and experiential education focused on stormwater, as well as maintains separate public outreach efforts targeted at issues that are significant to the community.

Table 2-1 outlines the City’s BMPs to address the permit requirements for Schedule A.3.a.

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

The following Public Education and Outreach centered BMPs are described in detail in the **Category A BMP** table:

- PEO-1: Public Education Participation
- PEO-2: Staff Training

Supporting BMPs that will also assist in meeting the requirements of this permit category are as follows:

- PI-1: Public Involvement and Participation (**Section 2.2**)
- PI-2: Public Stewardship Opportunities (**Section 2.2**)

The **Category A BMP** table provides a description, implementation schedule, measurable goals, annual tracking measures, and TMDL pollutants addressed for each public education and outreach BMP. Measurable goals and tracking measures will be evaluated annually to assess the impact of the BMPs and to inform future education and outreach activities.

Category A. Public Education and Outreach BMPs		
PEO-1: Public Education Participation	BMP Number	PEO-1
	BMP Name	Public Education Participation
	BMP Implementation Responsibility	Community Development Department, Natural Resources Program
	Reference Document(s)	N/A
	Permit Year	Ongoing
	BMP Description	<p>The City continues to implement an ongoing public education strategy to inform citizens about water quality problems related to stormwater runoff. Public education activities and messaging builds on findings from the coordinated public education effectiveness evaluation completed as part of an Association of Clean Water Agencies (ACWA) study conducted in 2015 on behalf of Phase I communities and provides information on a variety of topics including:</p> <ul style="list-style-type: none"> • The proper application and disposal techniques for waste oil and toxic materials (e.g., paint, pesticides, herbicides, etc.) • Explaining the interconnection between catch basins/storm drains, surface water, and drinking water; • Reducing pollutants in stormwater runoff associated with application of pesticides, herbicides, and fertilizers; and • Preventing spills and inappropriate discharges to City drainage systems and waterways (also see ILL-2). <p>Educational information is transmitted to the public through the various City newsletters (The Boones Ferry Messenger, Wilsonville Business Newsletter), the City’s social media accounts, door hangers, and/or the City’s website. The newsletters contain a periodic segment which discusses an environmental issue or tip. Door hangers are distributed in the vicinity of identified non-stormwater or illicit discharges to inform residents of the problematic discharge type and provide education regarding stormwater pollution and practices for preventing this pollution. Stormwater outreach materials are provided in both English and Spanish for targeted messaging, as available. Key audiences currently include but are not limited to:</p> <ul style="list-style-type: none"> • General public (e.g., renters, homeowners, homeowner associations, youth, and other groups) • Business Community including industrial and commercial facilities • Local schools and students • Local elected officials, land use planners, engineers, developers, and/or employees • Construction site operators <p>The City also coordinates on several recycling activities and programs, and participates in regional efforts (i.e., the Clean Rivers Coalition, the Regional Coalition for Clean Rivers and Streams) to increase awareness of stormwater issues.</p>

Category A. Public Education and Outreach BMPs		
PEO-1: Public Education and Participation	Measurable Goals	<ul style="list-style-type: none"> • Utilize the City’s newsletters, social media, and website to promote public awareness of stormwater quality issues and encourage public reporting of illicit discharges. • Publish two (2) articles per year in the Wilsonville Business Newsletter targeting stormwater issues associated with the business community (e.g., trash enclosure maintenance, outside storage of waste materials, outdoor washing, etc.). • Publish three (3) articles per year educating the public on stormwater issues (e.g., car washing, dog poop disposal, yard and garden products, etc.). • Distribute door hangers as necessary in neighborhoods where non-stormwater/illicit discharges have been identified. • Engage the City’s Diversity, Equity, and Inclusivity (DEI) Committee to identify additional language translations needs of the public, if necessary. • Annually distribute newsletters to local business that include targeted stormwater messaging. • Financially support regional public education campaigns and programs. Utilize available outreach materials and distribute at a local scale.
	Tracking Measures	<ol style="list-style-type: none"> 1. Track the number of stormwater-related educational articles or materials published per year. 2. Track the number of door hangers distributed annually.
	TMDL Pollutant Addressed	<ul style="list-style-type: none"> • Bacteria (<i>E. coli</i>) • TSS (Mercury)

Category A. Public Education and Outreach BMPs		
PEO-2: Staff Training	BMP Number	PEO-2
	BMP Name	Staff Training
	BMP Implementation Responsibility	<ul style="list-style-type: none"> • Community Development Department • Public Works Department • Parks and Recreation Department
	Reference Document(s)	Appendix A: Municipal Staff MS4 Training
	Permit Year	Ongoing
	BMP Description	<p>The City provides a variety of training opportunities for City staff on topics associated with stormwater quality. Training activities are outlined in the Municipal Staff MS4 Training Strategy (see Appendix A) and include educational activities for City staff and crews on erosion control measures, proper spill response procedures, safe work practices, and record keeping.</p> <p>Staff also attend local trainings and conferences to improve skills related to stormwater controls and surface water quality. Many conferences and meetings are facilitated through the Oregon Association of Clean Water Agencies. Staff also attend Clackamas County co-permittee meetings to further engage in collective efforts related to education, monitoring, and NPDES requirements. Such coordination helps to optimize resources.</p> <p>Additional staff training detailed in the Appendix A: Municipal Staff MS4 Training includes:</p> <ul style="list-style-type: none"> • Illicit Discharge Detection and Elimination • Construction Site Runoff Control • Post-Construction Site Runoff for New Development and Redevelopment • Pollution Prevention and Good Housekeeping for Municipal Operations • Industrial and Commercial Facilities
	Measurable Goals	<ul style="list-style-type: none"> • Conduct municipal staff training in accordance with frequencies outlined in the Municipal Staff MS4 Training Strategy. • Attend scheduled Clackamas County co-permittee meetings and coordinate regarding regional water quality efforts.
	Tracking Measures	<ol style="list-style-type: none"> 1. Track the number of municipal staff training activities provided by the City. 2. Track staff participation in training activities. 3. Track any cost share or jointly funded projects conducted annually.
TMDL Pollutant Addressed	<ul style="list-style-type: none"> • Bacteria (<i>E. coli</i>) • TSS (Mercury) 	

2.2 Public Involvement and Participation

The public provides valuable input and assistance to the City’s stormwater pollution prevention program. The goal of the public involvement is to effectively engage a diverse cross-section of people who can participate in stormwater pollution prevention activities. The City conducts a variety of public involvement programs to provide opportunities for the public to effectively participate in the development of the SWMP control measures. The public involvement efforts are also closely tied with the public education and outreach efforts.

Table 2-2 outlines the City’s BMPs to address the permit requirements for Schedule A.3.b.

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

The following Public Involvement and Participation BMPs are described in detail in the **Category B BMP** table:

- PI-1: Public Involvement and Participation
- PI-2: Public Stewardship Opportunities

The **Category B BMP** table provides a description, implementation schedule, measurable goals, annual tracking measures, and TMDL pollutants (or surrogate) addressed for each public involvement and participation BMP. Measurable goals and tracking measures will be evaluated annually to assess the impact of the BMPs and to inform future public involvement activities.

Category B. Public Involvement and Participation BMPs		
PI-1: Public Involvement and Participation	BMP Number	PI-1
	BMP Name	Public Involvement and Participation
	BMP Implementation Responsibility	Community Development Department, Natural Resources Program
	Reference Document(s)	NPDES Stormwater Permit Information City of Wilsonville Oregon
	Permit Year	Ongoing
	BMP Description	<p>Per Schedule A.3.b.i of the City’s MS4 NPDES permit, the City is required to provide opportunity for public participation in the development, implementation, and modification of the City’s stormwater management program. This includes providing a 30-day comment period for the updated monitoring plan, which was due to DEQ December 1, 2022; a 30-day comment period for this SWMP, also due December 1, 2022; and other strategy documents as required (i.e., Industrial and Commercial Facilities Strategy due December 1, 2023).</p> <p>The City’s NPDES MS4 Program website (City of Wilsonville Nature Resources–Stormwater) is a publicly accessible website that includes program contact information and additional educational and reference materials and reporting requirements for illicit discharges. Comments about the documents with specific public review periods will be collected, reviewed, and considered by City staff prior to submittal to DEQ.</p> <p>Annually, the City prepares their NPDES MS4 annual compliance report for submittal to DEQ documenting the status of implementing the current SWMP. To aid in public participation and involvement, the City will post their Annual Report on the City’s website for public access and review.</p>
	Measurable Goals	<ul style="list-style-type: none"> • Maintain a publicly accessible website with the SWMP, Monitoring Plan, annual reports, program contact information, educational/reference materials, and reporting requirements for illicit discharges. • Provide a 30-day public comment period, and consider comments received for updates to the Monitoring Plan, the SWMP, and other strategy documents as required. • Maintain the MS4 Document Library on the City website.
	Tracking Measures	<ol style="list-style-type: none"> 1. Track the number of comments/questions received from the public on documents submitted for 30-day public review. 2. Track updates to the publicly accessible website annually and revise content and links as needed.
TMDL Pollutant Addressed	N/A	

Category B. Public Involvement and Participation BMPs		
PI-2: Public Stewardship Opportunities	BMP Number	PI-2
	BMP Name	Public Stewardship Opportunities
	BMP Implementation Responsibility	<ul style="list-style-type: none"> • Community Development Department, Natural Resources Program • Public Works Department • Parks and Recreation Department
	Reference Document(s)	N/A
	Permit Year	Ongoing
	BMP Description	<p>The City conducts a variety of stewardship events to increase public involvement and participation in stormwater-related programs. Annually, the City sponsors the Wilsonville Environmental Resource Keepers (WERK) day event, the Adopt-a-Road Program for trash and invasive species removal, Friends of Trees, and the Backyard Habitat Certification Program. Sponsorship generally includes staff time and associated City resources such as equipment.</p> <p>The City also provides community workshops in native planting and integrated pest management (IPM). As part of the City's effort to expand the urban forest, the City offers up to five (5) native tree seedlings for any community member or business within the City limits, for planting on their property. The trees are obtained from a local nursery which provides recipients input on their selection, planting, and care. Plantings along streams and other water bodies are encouraged.</p> <p>The City's Natural Resource Program routinely collaborates with West Linn-Wilsonville School District and helps support the development of curriculum for the Center for Research in Environmental Sciences & Technologies (CREST) environmental education center, offering outreach and on-site programs for K-12 grade students.</p> <p>City employees volunteer at local schools and assist students with community service projects aimed at educating both young people and residents about natural resource protection and implementing watershed-based programming, which includes stormwater management, environmental education, and restoration projects.</p>
	Measurable Goals	<ul style="list-style-type: none"> • Continue organizing public outreach programs such as Adopt-a-Road and WERK Day. • Continue participation in the Backyard Habitat Certification Program and CREST to support workshops and environmental programs. • Continue to support the planting of urban trees through partnering with Friends of Trees and providing native trees through the Tree Coupon program. • Promote stewardship-related events on the City's website and social media.
	Tracking Measures	<ol style="list-style-type: none"> 1. Estimate volunteer and public participation in City-sponsored stewardship events. 2. Track the number of trees provided through the Tree Coupon program. 3. Track the number of collaboration projects where City employees are regularly engaging with school-based activities.
TMDL Pollutant Addressed	<ul style="list-style-type: none"> • Bacteria (<i>E. coli</i>) • TSS (Mercury) 	

2.3 Illicit Discharge Detection and Elimination

An illicit discharge is defined in EPA's stormwater regulations as any discharge to an MS4 that is not composed entirely of stormwater unless specifically exempt by the permit. Stormwater runoff is defined as the portion of precipitation that does not percolate into the ground or evaporate, but flows via overland flow, interflow, channels, or pipes into a defined surface water channel or a constructed infiltration facility. Illegal discharges to the storm sewer from industrial facilities, commercial businesses, and residents can be a significant source of water pollution. Deteriorating piping in the sanitary sewer and storm drain systems may also be a source of pollution if sanitary sewage seeps into the stormwater system.

The goal of the Illicit Discharge Detection and Elimination (IDDE) Program is to detect and eliminate illegal discharges and illicit connections to the storm drain system. The City accomplishes this goal through implementation of ordinances and enforcement procedures, MS4 mapping, a dry weather field screening program, a spill response program, and staff training.

Table 2-3 outlines the City's BMPs to address the permit requirements for Schedule A.3.c.

Table 2-3. Illicit Discharge Detection and Elimination						
Schedule A.3.c Permit Requirements	Applicable BMPs					
	ILL-1	ILL-2	ILL-3	ILL-4	OM-6	OM-7
i. MS4 Map	■		■	■	■	■
ii. Ordinance and/or Other Regulatory Mechanisms	■					
iii. Enforcement Procedures	■					
iv. Program to Detect and Eliminate Illicit Discharges	■	■		■		
v. Dry Weather Screening Program				■		
vi. Illicit Discharge Detection and Elimination Training and Education*		■				
vii. Tracking and Assessment	■	■	■	■	■	■

Appendix A: Municipal Staff MS4 Training Strategy provides specific information about training related to this permit requirement.

The following Illicit Discharge Detection and Elimination BMPs are described in detail in the **Category C BMP** table:

- ILL-1: Illicit Discharge Detection and Elimination
- ILL-2: Spill Prevention, Training, and Response
- ILL-3: MS4 Mapping
- ILL-4: Dry Weather Field Screening

The following supporting BMPs that assist in meeting the requirements of this permit language can be found in **Section 2.6**:

- OM-6: Public Structural Facility Operation and Maintenance
- OM-7: Private Structural Facility Operation and Maintenance

Additional information on the IDDE program can be found in the IDDE SOP (see MS4 SWMP Reference Library on the City's website), Wilsonville Code, and Design and Construction Standards. The **Category C BMP** table provides a description, implementation schedule, measurable goals, annual tracking measures, and TMDL pollutants (or surrogate) addressed for each IDDE BMP. Measurable goals and tracking measures will be evaluated annually to assess the impact of the BMPs and to inform future IDDE priority areas and activities.

Category C. Illicit Discharge Detection and Elimination BMPs		
ILL-1: Illicit Discharge Detection and Elimination	BMP Number	ILL-1
	BMP Name	Illicit Discharge Detection and Elimination
	BMP Implementation Responsibility	<ul style="list-style-type: none"> Community Development Department, Natural Resources Program Public Works Department
	Reference Document(s)	<ul style="list-style-type: none"> City of Wilsonville Code (2022) (WC) City of Wilsonville Illicit Discharge Detection and Elimination Standard Operating Procedure Appendix A: Municipal Staff MS4 Training
	Permit Year	Ongoing
	BMP Description	<p>The City prohibits illicit discharges into their MS4 system and conducts appropriate response procedures and enforcement in conjunction with WC Section 8.302-8.318.</p> <p>If an illicit discharge is discovered, the City conducts appropriate action to remove the illicit discharge in accordance with the City’s Illicit Discharge Detection and Elimination Standard Operating Procedure (IDDE SOP). The standard operating procedure was originally developed in November 2012 and revised in 2022 to incorporate information on procedures for eliminating illicit discharges. The IDDE SOP documents code and enforcement authority and identifies high priority locations for conducting dry-weather field screening activities. See BMP ILL-2 for detail on public reporting.</p> <p>All drainage from Wilsonville discharges to the Willamette River, and not to another jurisdiction. No other jurisdictions have drainage systems that connect to Wilsonville’s MS4.</p> <p>Illicit Discharge Detection and Elimination specific training is outlined in Appendix A: Municipal Staff MS4 Training Strategy.</p>
	Measurable Goals	<ul style="list-style-type: none"> Implement the City’s IDDE Program as outlined in the IDDE SOP. For identified illicit discharges, conduct appropriate actions to remove the discharge in conjunction with time frames outlined in the City’s MS4 NPDES Permit. By December 1, 2023, as needed, review and update the City’s IDDE SOP to clarify enforcement procedures and response timeframes in conjunction with the NPDES MS4 permit.
	Tracking Measures	<ol style="list-style-type: none"> Track the enforcement activities (i.e., number, type of discharge, general location, etc.) related to any illicit discharge investigation conducted.
TMDL Pollutant Addressed	<ul style="list-style-type: none"> Bacteria (<i>E. coli</i>) TSS (Mercury) 	

Category C. Illicit Discharge Detection and Elimination BMPs		
ILL-2: Spill Prevention, Training, and Response	BMP Number	ILL-2
	BMP Name	Spill Prevention, Training, and Response
	BMP Implementation Responsibility	<ul style="list-style-type: none"> • Community Development Department, Natural Resources Program • Public Works Department
	Reference Document(s)	<ul style="list-style-type: none"> • City of Wilsonville Code (2022) • https://www.ci.wilsonville.or.us/natural/page/report-spill • City of Wilsonville Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedure • Citizen Complaint or Request Form through the “Ask the City” portal or City website • Appendix A: Municipal Staff MS4 Training
	Permit Year	Ongoing
	BMP Description	<p>The City’s NPDES MS4 Program website provides a 24-hour emergency response number and contact information for reporting illicit spills or activities that cause contamination of stormwater. The “Ask the City” portal on the City’s website contains a Citizen Complaint or Request Form that is routed to the appropriate Department for response, investigation, and elimination.</p> <p>The City’s public education strategy focuses on promoting, publicizing, and facilitating the public reporting of spills, illicit discharges, and the dumping of waste materials. Articles and other educational materials inform readers how to report observed water quality problems.</p> <p>Industries with stormwater and/or industrial wastewater discharge permits are required to have a site-specific spill control plan. Facilities who store or use of hazardous or toxic substances and have had an accidental spill or release must prepare and submit an Accidental Spill Prevention and Control Plan to the City.</p> <p>Spill response within the public right-of-way is handled by the City’s Public Works staff or the Tualatin Valley Fire and Rescue (TVFR) Hazardous Materials Team in accordance with Occupational Safety and Health Administration (OSHA) procedures. Typically, the TVFR Hazardous Materials Team responds to all calls received by the 911 Communication Center and all incidents involving hazardous materials requiring special skills or tools.</p> <p>Appropriate City staff are trained to the OSHA First Responder Operations level and can respond to spills with releases or potential releases of hazardous substances. Annual refresher courses are provided to City staff to maintain OSHA certifications. City staff generally responds to spills involving non-hazardous materials (i.e., antifreeze, diesel, and oil) with imminent potential of damaging the environment. The Public Works and Community Development departments are responsible for ensuring all appropriate parties are notified in instances of spills in accordance with response timeframes as outlined in the NPDES MS4 permit, as required. The Community Development Department maintains a record of all spills both reported and responded to and follow up/mitigation measures.</p> <p>IDDE-specific training is outlined in Appendix A: Municipal Staff MS4 Training Strategy. Additional public education activities related to spill prevention are discussed in PEO-1.</p>

Category C. Illicit Discharge Detection and Elimination BMPs		
ILL-2: Spill Prevention, Training, and Response	Measurable Goals	<ul style="list-style-type: none"> • City staff to respond to non-hazardous materials spills. • Ensure all appropriate parties, including State and National Emergency Response Systems as necessary, are notified of spills. • Train City staff to the OSHA First Responder Operations level. • Continue to use the “Citizen Complaint or Request Form” form to facilitate public reporting of spills, illicit discharges, and dumping. • Include the phone number and website for reporting illicit discharges in a minimum of one published article each year.
	Tracking Measures	<ol style="list-style-type: none"> 1. Track number of City employees attending OSHA spill-response training and/or refresher courses. 2. Track the number of citizen-reported concerns received each year and any follow-up actions resulting from the requests. 3. Track the type/source of pollutant discharges associated with each reported spill.
	TMDL Pollutant Addressed	<ul style="list-style-type: none"> • Bacteria (<i>E. coli</i>) • TSS (Mercury)

Category C. Illicit Discharge Detection and Elimination BMPs		
ILL-3: MS4 Mapping	BMP Number	ILL-3
	BMP Name	MS4 Mapping
	BMP Implementation Responsibility	<ul style="list-style-type: none"> Community Development Department, Engineering Division Public Works Department, Information Systems and Geographic Information Systems Division
	Reference Document(s)	<ul style="list-style-type: none"> Wilsonville Maps website City of Wilsonville Illicit Discharge Detection and Elimination Standard Operating Procedure (2022)
	Permit Year	Ongoing
	BMP Description	<p>The City’s GIS staff maintains a publicly available interactive overview of the City’s boundaries and parcels on the Wilsonville Maps website. Asset information is updated digitally when new as-builts are received. The following stormwater assets are included as layers in the Wilsonville Maps digital inventory:</p> <ul style="list-style-type: none"> Stormwater mains and culverts Stormwater control manholes Stormwater inlets, outlets, and vaults Inventory of outfalls owned and/or operated by the City-with a unique identifier, relevant geographic information, and name(s) of receiving water(s). When available, outfall characteristics such as presence of dry weather flows and details of the collection area to be included. Stormwater basins (i.e., structural stormwater facilities or BMPs) Stormwater drainage basin delineations Geographic information such as tax lot parcels, right-of-way, easements, parks, street names, railroads, streams and waterbodies, the City boundary, the UGB, and school names <p>Mapping is used to aid in facility inspections, maintenance activities, and enforcement response. If mapping discrepancies are observed, maps are updated accordingly. The IDDE SOP contains a detailed map and description of each of the dry weather field screening priority locations (Figure 1 and Table 1 of the IDDE SOP). The City does not currently have any known chronic illicit discharges that are not otherwise included as a dry weather field screening priority locations and should be identified on the MS4 map.</p>
	Measurable Goals	<ul style="list-style-type: none"> Continually maintain the online GIS mapping for public viewing. Add municipal structural stormwater controls in accordance with facility category naming to the available map online within 1 year of receiving the as-builts. As necessary, create a tracking system for repeat illicit discharges over time and integrate into the MS4 mapping.
	Tracking Measures	<ol style="list-style-type: none"> Annually, track the number of new public and private water quality facilities added to Wilsonville Maps associated with new development. Annually, track the number of new outfalls added to the Wilsonville Maps associated with new development. Track the number of repeat illicit discharges integrated into the MS4 mapping. As applicable, track any capital improvements needed or implemented to eliminate recurring or chronic illicit discharges.
TMDL Pollutant Addressed	N/A	

Category C. Illicit Discharge Detection and Elimination BMPs		
ILL-4: Dry Weather Field Screening	BMP Number	ILL-4
	BMP Name	Dry Weather Field Screening
	BMP Implementation Responsibility	Community Development Department, Natural Resources Program
	Reference Document(s)	City of Wilsonville Illicit Discharge Detection and Elimination Standard Operating Procedure
	Permit Year	Ongoing
	BMP Description	<p>The City conducts illicit discharge inspections, monitoring, and investigations annually during dry-weather conditions at six (6) high priority field screening locations. Priority field screening locations have been identified based on contributing land use and development activities within the City limits and are summarized in the City's <i>Illicit Discharge Detection and Elimination Standard Operating Procedure</i> (IDDE SOP), revised in 2022.</p> <p>Dry weather field screening involves the inspection of select outfalls during dry weather conditions to determine if discharge is occurring. If discharge is occurring, the next steps are to identify the source of the discharge, determine whether the discharge is allowable, and eliminate the discharge if it is unallowable or anticipated to contribute pollutants to the MS4. Physical characteristics and dry-weather flow conditions are identified at each high priority location and recorded on field data sheets. If field-screening investigations positively identify an illicit connection, City staff, with approval from the Public Works Director, may abate the pollution source without contacting the property owner if an imminent human health or environmental risk exists.</p> <p>If necessary, in accordance with the annual dry-weather inspection activities, the City will update their map and inventory of existing outfall locations and high priority field screening locations in the standard operating procedure.</p>
	Measurable Goals	<ul style="list-style-type: none"> • Inspect all high priority field screening locations annually for illicit discharges in accordance with the dry weather field screening procedures as outlined in the IDDE SOP. • By December 1, 2023, review and update high priority locations and criteria, as necessary, based on outcomes from inspections and other public reporting. Update locations on mapping and in the IDDE SOP. • Notify the Public Works Director of all positively identified illicit connections and take necessary actions to eliminate them. • As necessary, update existing outfall mapping and priority dry weather field screening locations in accordance with field observations.
	Tracking Measures	<ol style="list-style-type: none"> 1. Track dry weather field screening locations inspected annually and any additional outfalls inspected during routine maintenance. 2. Summarize dry weather inspection results and indicate locations requiring monitoring (i.e., sampling) and/or investigations. 3. Indicate the outcome and resolution of any dry weather investigation activities conducted.
TMDL Pollutant Addressed	<ul style="list-style-type: none"> • Bacteria (<i>E. coli</i>) • TSS (Mercury) 	

2.4 Construction Site Runoff Control

Construction projects often involve the removal of vegetation and excavation of soils. When vegetation is removed the velocity of stormwater runoff typically increases and disturbed soils can be carried offsite to storm inlets or receiving waters. Soil particles can transport associated pollutants to waterways, contribute to increases in stream temperature, reduce channel capacity, and have negative impacts to aquatic habitat. Other potential pollutant causing activities conducted at construction sites, include materials storage, fueling, and vehicle and equipment use. Staging areas and equipment use can lead to soil compaction further increasing stormwater runoff from the site. A robust and enforceable construction site runoff control program is vital for reducing pollution in stormwater runoff.

The goal of the construction site runoff control program is to prevent sediment and other construction related materials from leaving construction sites through the implementation of properly selected and installed BMPs. The City maintains a 1200-CN permit from DEQ. The program allows developers to meet DEQ 1200-C permitting requirements by complying with the City of Wilsonville’s erosion control program. This only applies to construction sites less than 5-acres in size. For sites 5 acres and larger, developers are required to obtain both City and DEQ permits. The City implements the Clackamas County Erosion Prevention and Sediment Control Planning and Design Manual as well as provisions in the Wilsonville Code and Design and Construction Standards. Education is provided for both municipal staff and members of the design/engineering/construction community. Construction site runoff controls are accomplished through regulatory requirements, plan review and permitting, construction site inspections, enforcement procedures, training, education, and tracking.

Table 2-4 outlines the City’s BMPs to address the permit requirements for Schedule A.3.d.

Table 2-4. Construction Site Runoff Control			
Schedule A.3.d Permit Requirements	Applicable BMPs		
	EC-1	EC-2	OM-1
i. Ordinance and/or Other Regulatory Mechanisms	■	■	
ii. Erosion and Sediment Control Plans (ESCPs)	■		
iii. Erosion and Sediment Control Plans Review	■		
iv. Construction Site Inspections		■	
v. Enforcement Procedures		■	
vi. Construction Runoff Control and Training Education	■		■
vii. Tracking and Assessment	■	■	■

The following Construction Site Runoff Control BMPs are described in detail in the **Category D BMP** table:

- EC-1: Erosion Control and Construction Site Management
- EC-2: Erosion Control Inspections and Enforcement

A supporting BMP that will assist in meeting the requirements of this permit language can be found in **Section 2.6:**

- OM-1: Municipal Stormwater Pollution Prevention

The **Category D BMP** table provides a description, implementation schedule, measurable goals, annual tracking measures, and TMDL pollutants addressed for each construction site runoff control BMP. Measurable goals and tracking measures will be evaluated annually to assess the impact of the BMPs and to inform future construction site runoff control BMPs.

Category D. Construction Site Runoff Control BMPs		
EC-1: Erosion Control and Construction Site Management	BMP Number	EC-1
	BMP Name	Erosion Control and Construction Site Management
	BMP Implementation Responsibility	Community Development Department, Engineering Division
	Reference Document(s)	<ul style="list-style-type: none"> • City of Wilsonville Code (2022) (WC) • City of Wilsonville Public Works Standards (2015/2017) • Clackamas County Erosion and Sediment Control Planning and Design Manual (2020) • Erosion Control Plan Review Checklist • Appendix A: Municipal Staff MS4 Training Strategy
	Permit Year	Ongoing
	BMP Description	<p>The City implements an erosion and sediment control (ESC) program in accordance with requirements set forth in WC Section 8.317, the <i>Wilsonville Public Works Standards</i> Section 101.9.00. Each proposed construction application is reviewed in conjunction with the latest edition of the <i>Clackamas County Erosion and Sediment Control Planning and Design Manual (2020)</i> and <i>City's Erosion Control Review Checklist</i> to ensure control measures meet the City's required erosion and sediment control prevention. Enforcement provisions and requirements to update and modify approved erosion control plans if deficiencies are encountered are outlined in the WC.</p> <p>These regulations require that any project disturbing an area equal to or greater than 500 ft², but less than one (1) acre, must submit an erosion and sediment control plan (ESCP) to obtain a City-issued Erosion and Sediment Control Permit. The ESCP contains site specific measures and BMPs to be implemented during all phases of land development to prevent visible and/or measurable sediment or sediment-laden runoff from the site. For projects between 1 and 5 acres, the developer may comply with DEQ 1200-C permitting requirements by complying with the City's program under their 1200-CN permit. Projects over 5 acres are required to obtain a DEQ-issued 1200-C permit and provide the approved 1200-C permit to the City prior to any soil disturbance activity. The City holds a 1200-CA permit issued by DEQ that applies to all capital projects over one acre in size.</p> <p>ESCPs and proposed BMPs for erosion and sediment control are reviewed according to the general site characteristics (i.e., slope, cover, vegetation, etc.), the construction schedule, and the proposed drainage of the site during construction. Implementation of the erosion and sediment control measures is required prior to and concurrent with construction activities. Maintenance of all erosion and sediment control measures, pursuant to an approved plan shall be the responsibility of the engineering and building permit applicant/owner.</p> <p>The City conducts pre-construction conferences with construction site operators to instruct them on the required erosion and sediment control measures and goals of the program.</p> <p>Construction Site Runoff Control specific training is outlined in Appendix A: Municipal Staff MS4 Training Strategy.</p>

Category D. Construction Site Runoff Control BMPs		
EC-1: Erosion Control and Construction Site Management	Measurable Goals	<ul style="list-style-type: none"> ● Require all new and redevelopment disturbing over 500 ft² to obtain an Erosion and Sediment Control Permit. ● Require a copy of all 1200-C permit applications for development resulting in land disturbance of greater than or equal to five acres. ● Assess new and redevelopment applications for erosion control compliance during plan review. Require erosion and sediment control plans not in compliance to be amended prior to approval in conjunction with provisions outlined in the <i>Clackamas County Erosion Prevention and Sediment Control Manual (2020)</i>, City Standards, and applicable permits.
	Tracking Measures	<ol style="list-style-type: none"> 1. Report any updates or modifications to the <i>Clackamas County Erosion Prevention and Sediment Control Planning and Design Manual (2020)</i>. 2. Track the number of erosion and sediment control plans approved. 3. Track the number of 1200-C permits issued.
	TMDL Pollutant Addressed	<ul style="list-style-type: none"> ● Bacteria (<i>E. coli</i>) ● TSS (Mercury)

Category D. Construction Site Runoff Control BMPs		
EC-2: Erosion Control Inspections and Enforcement	BMP Number	EC-2
	BMP Name	Erosion Control Inspections and Enforcement
	BMP Implementation Responsibility	Community Development Department, Engineering Division
	Reference Document(s)	<ul style="list-style-type: none"> Erosion Prevention and Sediment Control Planning and Design Manual (2020) City of Wilsonville Code (2022) (WC) Erosion Control Inspection Form Erosion Control Enforcement Standard Operating Procedure Appendix A: Municipal Staff MS4 Training Strategy
	Permit Year	Ongoing
	BMP Description	<p>WC Section 8.317 requires erosion and sediment control prevention measures to be implemented, inspected, and maintained during and following construction. The City conducts a minimum of three (3) inspections over the construction period and more frequently if general site characteristics, weather conditions, and/or results of previous inspections indicate that structural and non-structural erosion control measures may not perform as expected. Inspections will determine if the approved ESCP is being adequately implemented and effective if it is successful in avoiding erosion and sediment from the construction site.</p> <p>Inspections are conducted by City staff in the Community Development Department for proper implementation of required BMPs and housekeeping practices addressing non-stormwater waste (e.g., concrete truck washout, litter, etc.). The <i>Erosion Control Inspection Checklist</i> is filled out for each site during each inspection and logged into the project file. EnerGov is used to document plan review and inspections. Adjustments to the site’s erosion and sediment control plan may be necessary if erosion is occurring. The Community Development Director issues stop work orders at sites that are out of compliance with the erosion prevention standards, and may impose fines, if necessary.</p> <p>Erosion and sediment control enforcement procedures are outlined in Section 8.318 of the WC and include the following progression of enforcement steps:</p> <ol style="list-style-type: none"> 1. Notification of violation observed 2. Stop Work Order 3. Termination of permit(s) 4. Civil Penalties and associated actions. <p>Construction Site Runoff Control specific training is outlined in Appendix A: Municipal Staff MS4 Training Strategy.</p>

Category D. Construction Site Runoff Control BMPs		
EC-2	Measurable Goals	<ul style="list-style-type: none"> • Conduct a minimum of three (3) erosion control inspections on all construction sites issued an Erosion and Sediment Control Permit. • As necessary, enforce appropriate erosion and sediment control in conjunction with the progressive enforcement procedures as outlined in the WC Section 8.318. • Require all disturbed areas to be permanently stabilized or revegetated prior to final inspections by the Engineering or Building Divisions. • By December 1, 2023, review and, if necessary, update enforcement response procedures and escalating enforcement specific to erosion and sediment control in WC and Public Works Standards.
	Tracking Measures	<ol style="list-style-type: none"> 1. Track the number of erosion control inspections conducted each year. 2. Report the number of notices of non-compliance and stop work orders issued, and describe the measures used to resolve the issue. 3. Track the number and type of enforcement actions taken by the City and/or DEQ.
	TMDL Pollutant Addressed	<ul style="list-style-type: none"> • Bacteria (<i>E. coli</i>) • TSS (Mercury)

2.5 Post-Construction Site Runoff for New Development and Redevelopment

Stormwater runoff from new development and redevelopment of urban areas impacts the quality and quantity of stormwater discharges. Stormwater that flows through developed areas has the potential to carry pollutants such as sediment, nutrients, hydrocarbons, and litter to water bodies degrading the water quality. Degraded water quality negatively impacts aquatic habitats and threatens human uses. Increases in impervious area associated with development decreases the amount of stormwater that can percolate into the ground which increases the flow rate and quantity of stormwater discharged to receiving waters. An increase to the quantity and flow rate of stormwater discharge can cause streambank scouring, channel incising, and downstream flooding, which could lead to a loss of aquatic habitats and damage to property.

The NPDES MS4 Permit requires that the City develop a site performance standard based on a numeric stormwater retention requirement (NSRR). The site performance standards should target natural surface or predevelopment hydrologic function and encourage a retention first approach to stormwater control designs. If onsite retention is not feasible for a given site, the City may establish alternative site performance standards that result in treatment of a design storm representing at least 80% of average annual runoff. The permit requires the City to continue to prioritize Low Impact Development (LID) and Green Stormwater Infrastructure (GI) to reduce pollution by retaining and treating stormwater near where it falls. The City’s codes and standards will be evaluated and updated as necessary during the permit term to align with required performance standards.

Table 2-5 outlines the City’s BMPs to address the permit requirements for Schedule A.3.e.

Table 2-5. Post-Construction Site Runoff for New Development and Redevelopment						
Schedule A.3.e Permit Requirements	Applicable BMPs					
	PC-1	OM-1	OM-4	OM-5	OM-6	OM-7
i. Ordinance and/or Other Regulatory Mechanisms	■					
ii. Prioritization of Low Impact Development & Green Infrastructure	■					
iii. Post-Construction Stormwater Management Requirements	■					
iv. Water Quality Benefit Offset Programs*	■					
v. Post-Construction Site Runoff Plan Review	■					
vi. Long-Term Operation and Maintenance (O&M)			■	■	■	■
vii. Training and Education	■	■				
viii. Tracking and Assessment	■	■	■	■	■	■

* To be addressed by December 2024 in conjunction with the compliance deadlines in the permit.

The following Post-Construction Site Runoff for New Development and Redevelopment BMP is described in detail in the **Category E BMP** table:

- PC-1: Stormwater Planning and Development Review

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

- OM-1: Municipal Stormwater Pollution Prevention (**Section 2.6**)
- OM-4: Conveyance System Cleaning (**Section 2.6**)
- OM-5: Catch Basin Cleaning (**Section 2.6**)
- OM-6: Public Structural Facility Operation and Maintenance (**Section 2.6**)
- OM-7: Private Structural Facility Operation and Maintenance (**Section 2.6**)

The **Category E BMP** table provides a description, implementation schedule, measurable goals, annual tracking measures, and TMDL pollutants addressed for each post-construction site BMP for new development and redevelopment. Measurable goals and tracking measures will be evaluated annually to assess the impact of the BMPs and to inform future post-construction and education/outreach activities.

Category E. Post-Construction Site Runoff for New Development and Redevelopment BMPs		
PC-1: Stormwater Planning and Development Review	BMP Number	PC-1
	BMP Name	Stormwater Planning and Development Review
	BMP Implementation Responsibility	<ul style="list-style-type: none"> • Community Development Department • Public Works Department
	Reference Document(s)	<ul style="list-style-type: none"> • City of Wilsonville Stormwater & Surface Water Design and Construction Standards (2015) • City of Wilsonville Comprehensive Plan (2018) • City of Wilsonville LID Guidebook (2021) • Wilsonville Stormwater Plan Review Checklist • Appendix A: Municipal Staff MS4 Training Strategy
	Permit Year	Ongoing
	BMP Description	<p>The City provides land use and planning review in accordance with the City’s <i>Comprehensive Plan (revised in 2018)</i> to meet goals and objectives related to the management of natural resources, transportation, housing, public facilities and services, and open spaces and parks. In conjunction with the <i>Comprehensive Plan</i>, the City’s 2015 Public Works Standards for <i>Stormwater & Surface Water Deign & Construction Standards</i> (PWS) address stormwater and surface water design and construction requirements.</p> <p>The City requires structural stormwater controls for water quality and quantity on all new and redevelopment projects that add or replace 5,000 ft² or more of impervious surface. Current standards require the use of low impact development (LID), stormwater facility sizing based on a flow duration standard, and the inclusion of water quality treatment. PWS Section 301.1.06 allows for proposed developments that are unable to meet flow control or water quality requirements to either build a stormwater management facility offsite or pay a fee in lieu of onsite improvements.</p> <p>Wilsonville’s Development Review Team reviews all plans for new and redevelopment through the land use and engineering/building permit process using EnerGov software. The Development Review Team includes individuals from the Community Development Department in the Engineering Division, Building Division, Planning Division, Natural Resources Program, and the Public Works Department. During the development review process, the Development Review Team addresses requirements for water quality treatment and water quantity control and source control in conjunction with the ordinance/regulatory mechanisms and specifications required by Schedule A.3.e.i of the NPDES MS4 permit.</p>

Category E. Post-Construction Site Runoff for New Development and Redevelopment BMPs		
PC-1: Stormwater Planning and Development Review		<p>Conditions of approval from the Development Review Team are presented to the Development Review Board during the public land use review process. Development review verifies connections to both sanitary and storm systems thereby minimizing the opportunities for cross-connections.</p> <p>Post-construction stormwater facilities are permitted under a Public Works Engineering Permit. Plans sets are reviewed in accordance with Section 3 of the PW standards and the Stormwater Plan Review Checklist.</p> <p>The City provides staff training on proposed/adopted stormwater design changes and related land use policies, the plan review process, and the site inspection process and checklist for construction acceptance. Post-Construction Site Runoff for New Development and Redevelopment specific training is outlined in Appendix A: Municipal Staff MS4 Training Strategy.</p>
	Measurable Goals	<ul style="list-style-type: none"> • Continue to require all new and redevelopment projects that add or replace 5,000 ft² or more of impervious surface to implement the <i>City's Stormwater and Surface Water Design and Construction Standards</i> (Section 3 of the Public Works Standards). Review plans for compliance with stormwater requirements. • By December 1, 2023, if deemed necessary with current implementation of the City's stormwater design standards, review and document updates to the <i>City's LID Guidebook</i> and <i>Public Works Standards</i> to refine preferred LID/GI approaches and strategies for development within the ROW. • By December 1, 2024, as necessary, update Section 3 of the <i>Public Works Standards</i> to include reference to either the Numeric Stormwater Retention Requirement (NSSR) or Alternative Site Performance Standards.
	Tracking Measures	<ol style="list-style-type: none"> 1. Track number of development applications reviewed for compliance with the City's stormwater requirements. 2. Track new and redeveloped impervious surface in conjunction with annual reporting requirements. 3. Track the number, type, and ownership of structural water quality and quantity facilities installed.
	TMDL Pollutant Addressed	<ul style="list-style-type: none"> • Bacteria (<i>E. coli</i>) • TSS (Mercury)

2.6 Pollution Prevention and Good Housekeeping for Municipal Operations

The goal of the pollution prevention program is to reduce discharge of pollutants to receiving waters by properly operating and maintaining City facilities using good housekeeping BMPs. Municipal operations include a wide variety of activities conducted to maintain City-owned and operated property and facilities. These activities can lead to pollutants—such as sediment, chemicals from pesticides, nutrients from fertilizers, and litter—reaching the MS4 system and receiving waters.

During this permit term, the City will work to develop/update written pollution prevention policies, strategies, and agreements to document the procedures that are already in place for many municipal operations.

Table 2-6 outlines the City’s BMPs to address the permit requirements for Schedule A.3.f.

Table 2-6. Pollution Prevention and Good Housekeeping for Municipal Operations												
Schedule A.3.f Permit Requirements	Applicable BMPs											
	OM-1	OM-2	OM-3	OM-4	OM-5	OM-6	OM-7	OM-8	PEO-1	PC-1	ILL-2	IND-1
i. Operation and Maintenance Strategy for Existing Controls				■	■	■	■					
ii. Inspection, Maintenance, and Cleaning of the MS4				■	■	■	■					
iii. Pollution Prevention in Facilities and Operations	■	■							■			
iv. Co-permittee-owned NPDES Industrial Stormwater Permit Facilities												■
v. Winter Operations and Maintenance Program*		■										
vi. Requirements for Pesticide and Fertilizer Applications			■									
vii. Litter Control*		■										
viii. Materials Disposal*	■				■							
ix. Flood Control, Transportation, and Other Infrastructure				■				■		■		
x. Operations & Maintenance Staff Training	■										■	
xi. Tracking and Assessment	■	■	■	■	■	■	■	■	■	■	■	■

* Items are new permit requirements that have not historically been measured or tracked by the City.

The following Pollution Prevention and Good Housekeeping for Municipal Operations BMPs are described in detail in the **Category F BMP** table:

- OM-1: Municipal Stormwater Pollution Prevention
- OM-2: Routine Road Maintenance
- OM-3: Pest Management
- OM-4: Conveyance System Cleaning
- OM-5: Catch Basin Cleaning
- OM-6: Public Structural Facility Operation and Maintenance
- OM-7: Private Structural Facility Operation and Maintenance
- OM-8: Develop Planning Documents in Support of Water Quality

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

- PEO-1: Public Education Participation (**Section 2.1**)
- OM-3: Pest Management (**Section 2.6**)
- PC-1: Stormwater Planning and Development Review (**Section 2.5**)
- ILL-2: Spill Prevention, Training, and Response (**Section 2.3**)
- IND-1: Industrial and Commercial Inspection Program (**Section 2.7**)

The **Category F BMP** table provides a description, implementation schedule, measurable goals, annual tracking measures, and TMDL pollutants addressed for each pollution prevention and good housekeeping for municipal operations BMP. These BMPs were previously divided between elements 7: Pollution Prevention for Municipal Operations, and 8: Stormwater Management Facilities Operation and Maintenance Activities but have been merged into a single SWMP control measure (Category F) under the new permit. Measurable goals and tracking measures will be evaluated annually to assess the impact of the BMPs and to inform future pollution prevention and good housekeeping BMPs.

Category F. Pollution Prevention and Good Housekeeping for Municipal Operations BMPs		
OM-1: Municipal Stormwater Pollution Prevention	BMP Number	OM-1
	BMP Name	Municipal Stormwater Pollution Prevention
	BMP Implementation Responsibility	<ul style="list-style-type: none"> • Community Development Department, Natural Resources Program • Public Works Department • Parks and Recreation Department • SMART Transit
	Reference Document(s)	<ul style="list-style-type: none"> • City of Wilsonville Stormwater Pollution Prevention Strategy for Municipal Facilities (2013) • Appendix A: Municipal Staff MS4 Training Strategy
	Permit Year	Ongoing
	BMP Description	<p>The City conducts and implements several activities to promote stormwater pollution prevention City-wide, specific to municipal properties and facilities. The City owns and operates three municipal facilities that store and/or manage waste generated within the City. The City implements the <i>City of Wilsonville Stormwater Pollution Prevention Strategy for Municipal Facilities (SWPPS)</i>, originally developed in October 2013. The SWPPS includes facility specific BMPs aimed at reducing the discharge of pollutants to the MS4. These BMPs include programmatic, procedural, maintenance, and source control activities and structural treatment facilities. Section 3 of the SWPPS details waste material disposal BMP protocols for each of the three facilities.</p> <p>Firefighting activities are contracted to the Tualatin Valley Fire and Rescue Department, who implements firefighting activities for several local jurisdictions in Clackamas, Multnomah, and Washington counties. No routine firefighting training activities are conducted within the City of Wilsonville.</p> <p>To aid in pollution prevention activities targeted at public property, over the permit term, the City will develop standard language for event contracts to include provisions about litter control and waste management. As necessary, revised standard language will be included in new event contracts for events on public property.</p> <p>Pollution Prevention and Good Housekeeping for Municipal Operations specific training is outlined in Appendix A: Municipal Staff MS4 Training Strategy.</p>
	Measurable Goals	<ul style="list-style-type: none"> • Implement BMPs outlined in the City’s SWPPS on an ongoing basis. • By December 1, 2024, review and update the SWPPS for consistency with current use, practices, and new facility installations (i.e., pending Public Works facility). • Ensure litter control language is included in new event contracts and facility rental agreements. • Attend applicable conferences and trainings, as appropriate.
	Tracking Measures	<ol style="list-style-type: none"> 1. Report any updates or modifications to the City’s SWPPS. 2. Report any capital improvements to municipal facilities that treat, store, or transport municipal waste.
TMDL Pollutants Addressed	<ul style="list-style-type: none"> • Bacteria (<i>E. coli</i>) • TSS (Mercury) 	

Category F. Pollution Prevention and Good Housekeeping for Municipal Operations BMPs		
OM-2: Road and Winter Maintenance	BMP Number	OM-2
	BMP Name	Road and Winter Maintenance
	BMP Implementation Responsibility	Public Works Department, Roads and Stormwater Division
	Reference Document(s)	<ul style="list-style-type: none"> • ODOT Routine Road Maintenance Water Quality and Habitat Guide (2020) • Winter Weather Response Plan (2021)
	Permit Year	Ongoing
	BMP Description	<p>The City’s Public Works Department implements road maintenance activities described in the <i>Oregon Department of Transportation (ODOT) Routine Road Maintenance Water Quality and Habitat Guide</i> (revised in 2020). Such road maintenance activities referenced include surface and inlay repairs, ditch shaping and cleaning, culvert cleaning, and right-of-way mowing. Weeding and trimming conducted as part of ditch maintenance activities is performed by hand to minimize soil exposure. If there is silt build-up, silt is removed and erosion control measures, such as mulch and biobags, are put in place until vegetation is re-established. Where appropriate, road maintenance activities are generally conducted during dry-weather conditions to minimize runoff and pollutant discharge.</p> <p>An outside contractor conducts street sweeping efforts using either a regenerative air or a mechanical sweeper. All sweepers are PM-10 Compliant and Rule 1186 Certified and have working pollution control systems to enhance sweeper performance. Sweeping occurs approximately once per month along all curbed roadways within the City limits. Sweeping also occurs after accidents, spills, and winter weather events requiring sand to be applied to the roads, as needed. The City’s solid waste provider collects yard debris and food scraps from customers on a weekly basis. In addition, more frequent sweeping is conducted by the City seasonally to remove leaves from the streets.</p> <p>The City encourages public participation in roadway clean-up activities and sponsors a local Adopt-a-Road program and various citizen volunteer efforts. Leaf and yard debris pick up occurs weekly within the City limits, with an annual Leaf Drop Off Day in the fall through a partnership with Republic Services.</p> <p>The City implements a <i>Winter Weather Response Plan (2021)</i> during winter weather events, which is reviewed and updated regularly. The <i>Winter Weather Response Plan</i> addresses how snow removal, sanding, and chemical application is implemented to meet specific levels of service. The levels of service response are divided into six deicer application tables for: (1) light snow, (2) light snow with a period of moderate or heavy snow, (3) moderate or heavy snow, (4) frost or black ice, (5) freezing rainstorm, and (6) sleet storm.</p>

Category F. Pollution Prevention and Good Housekeeping for Municipal Operations BMPs	
OM-2: Road and Winter Maintenance	<p>BMP Description (continued)</p> <p>The <i>Winter Weather Response Plan</i> also identifies priority area locations and maintenance responsibility and provides operational guidelines (i.e., chemical application rate of pre-wet sand/Magnesium Chloride, woody debris removal, equipment operator guide for snowplows, etc.). A series of maps are included to outline procedural activities:</p> <ul style="list-style-type: none"> • Map 1: Snow Plowing Routes by priority level (1-3) • Map 2: Sidewalk Responsibility, noting areas with maintenance agreements • Map 3: Street Sanding, identifying the City’s and ODOT’s responsibility areas • Map 4: Anti-icing/Deicing Application Sites <p>All winter weather response materials are utilized and stored properly, according to most updated and accepted practices.</p>
	<p>Measurable Goals</p> <ul style="list-style-type: none"> • Sweep all curbed City streets monthly. • Schedule and conduct street maintenance activities during dry weather conditions. • Continue to sponsor the Adopt-a-Road program, Bulky Waste Day, and Fall Leaf Collection Day. • Implement the <i>Winter Weather Response Plan</i> as documented.
	<p>Tracking Measures</p> <ol style="list-style-type: none"> 1. Track length and frequency of roadway swept annually. 2. Track volume of debris removed annually. 3. Track the number of winter weather events annually, including material storage quantities and locations, type and quantity (e.g., pounds per mile) of material used on City roads, and any other actions taken to protect waters of the state for areas where that data is available or becomes available during the permit term.
	<p>TMDL Pollutants Addressed</p> <ul style="list-style-type: none"> • Bacteria (<i>E. coli</i>) • TSS (Mercury)

Category F. Pollution Prevention and Good Housekeeping for Municipal Operations BMPs																			
OM-3: Pest Management	<table border="1"> <tr> <td>BMP Number</td> <td>OM-3</td> </tr> <tr> <td>BMP Name</td> <td>Pest Management</td> </tr> <tr> <td>BMP Implementation Responsibility</td> <td> <ul style="list-style-type: none"> Community Development Department, Natural Resources Program Public Works Department Parks and Recreation Department </td> </tr> <tr> <td>Reference Document(s)</td> <td>City of Wilsonville Integrated Pest Management Plan (2018)</td> </tr> <tr> <td>Permit Year</td> <td>Ongoing</td> </tr> <tr> <td>BMP Description</td> <td> <p>The City maintains public properties including parks, medians, plazas, and other public grounds in accordance with the principals of the City's <i>2018 Integrated Pest Management (IPM) Plan</i>. The City requires personnel, including City staff and hired contractors, comply with federal, state, and local requirements for applying chemicals.</p> <p>The City utilizes principals of IPM when maintaining public properties to control pests in a cost effective, safe, and environmentally responsible manner, through a balance of cultural, chemical, and other control methods. Pest management activities occur as needed, in conjunction with the general maintenance schedule for public landscape and open space. A minimal amount of insecticides are used on City property. Typical maintenance activities conforming to the IPM include:</p> <ul style="list-style-type: none"> Mow high grasses to reduce weed seed crop. Prune trees and shrubs to increase air circulation and reduce susceptibility to disease and invasive insects. Use appropriate fertilizers to encourage plant health and resistance to pests. Install and maintain native vegetation when possible. Combine turf aeration and over-seeding with application of broadcast weed control to eliminate pest problems without repeat application. Use alternative methods, such as a weed steamer and goat browsing in parks to remove non-native vegetation such as English ivy. Use volunteer labor as available for manual control of vegetation. <p>The City verifies that all staff and hired contractors that apply chemicals comply with federal, state, and local laws and follow all label requirements.</p> </td> </tr> <tr> <td>Measurable Goals</td> <td> <ul style="list-style-type: none"> Follow the current IPM principles for public landscape maintenance. Require all staff and hired contractors applying chemicals within the City comply with federal, state, and local requirements. Publish annual IPM activity report on City website. </td> </tr> <tr> <td>Tracking Measures</td> <td> <ol style="list-style-type: none"> Track amount of pesticides and fertilizers applied to public property and general areas of application. Estimate number and area of sites where the planting of native vegetation was incorporated into the maintenance activities. </td> </tr> <tr> <td>TMDL Pollutants Addressed</td> <td> <ul style="list-style-type: none"> Bacteria (<i>E. coli</i>) TSS (Mercury) </td> </tr> </table>	BMP Number	OM-3	BMP Name	Pest Management	BMP Implementation Responsibility	<ul style="list-style-type: none"> Community Development Department, Natural Resources Program Public Works Department Parks and Recreation Department 	Reference Document(s)	City of Wilsonville Integrated Pest Management Plan (2018)	Permit Year	Ongoing	BMP Description	<p>The City maintains public properties including parks, medians, plazas, and other public grounds in accordance with the principals of the City's <i>2018 Integrated Pest Management (IPM) Plan</i>. 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Estimate number and area of sites where the planting of native vegetation was incorporated into the maintenance activities. 	TMDL Pollutants Addressed	<ul style="list-style-type: none"> Bacteria (<i>E. coli</i>) TSS (Mercury)
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BMP Name	Pest Management																		
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TMDL Pollutants Addressed	<ul style="list-style-type: none"> Bacteria (<i>E. coli</i>) TSS (Mercury) 																		

Category F. Pollution Prevention and Good Housekeeping for Municipal Operations BMPs		
OM-4: Conveyance System Cleaning	BMP Number	OM-4
	BMP Name	Conveyance System Cleaning
	BMP Implementation Responsibility	Public Works Department, Roads and Stormwater Division
	Reference Document(s)	<ul style="list-style-type: none"> • ODOT Routine Road Maintenance Water Quality and Habitat Guide (2020) • WFP 8.0 Closed-Circuit Television (CCTV) Inspections
	Permit Year	Ongoing
	BMP Description	<p>The City maintains and repairs the public stormwater conveyance system components including the storm sewer pipes, manholes, outfalls, culverts, and swales (trash racks and inlets are addressed under OM-5; ditches are referenced under OM-1). Pipeline cleaning and inspections are conducted in accordance with the City’s CCTV program. The City maintains a goal to inspect approximately 15% of their public conveyance system (pipe > 6”) annually. Pipeline cleaning is conducted based on inspections. Pipeline inspection results are recorded in accordance with the NASSCO rating criteria and the scores are integrated into the City’s asset management program.</p> <p>Inspection of outfalls, culverts, and surface conveyance system features will be performed as needed and as a follow-up to reports of drainage issues. Outfalls, culverts, manholes, and exposed pipes will be inspected for cracking and breakage, which would limit the structural integrity and performance of the conveyance system. Outfalls and culverts will be inspected for trash, debris, and vegetation that may clog the system and prevent water from freely discharging. Ditches and swales will be inspected for trash and debris accumulation that may inhibit stormwater conveyance. The City evaluates collection system components in accordance with internal inspection guidelines that outline asset scoring criteria (from 1-5) and those scores integrated into the City’s asset management program</p> <p>Maintenance will be performed as required to ensure proper drainage and function of the surface conveyance systems. The conveyance system typically does not require regular maintenance because the catch basins are cleaned regularly (see OM-5). Specific procedures for ditch shaping and cleaning, culvert cleaning, and swale maintenance that protect water quality are included in the ODOT Routine Road Maintenance Water Quality and Habitat Guide (2020), which has been incorporated into the City’s stormwater management program (OM-2).</p> <p>Regular updates to the City’s electronic asset management software (Cartegraph) will be made and verified with each inspection and maintenance cycle.</p>
	Measurable Goals	<ul style="list-style-type: none"> • Conduct CCTV inspection of approximately 15% of the public stormwater conveyance system annually; inspect other public conveyance systems as required. • Maintain and repair public conveyance system as needed based on inspections. • Refine the internal inspection guidelines to help facilitate ongoing inspection efforts.
	Tracking Measures	<ol style="list-style-type: none"> 1. Track maintenance activities related to the conveyance system each year. 2. Estimate the length of the public stormwater conveyance system inspected via CCTV annually.
TMDL Pollutants Addressed	<ul style="list-style-type: none"> • Bacteria (<i>E. coli</i>) • TSS (Mercury) 	

Category F. Pollution Prevention and Good Housekeeping for Municipal Operations BMPs		
OM-5: Catch Basin Cleaning	BMP Number	OM-5
	BMP Name	Catch Basin Cleaning
	BMP Implementation Responsibility	Public Works Department, Utilities Division
	Reference Document(s)	WFP 12.0 Catch basin Cleaning
	Permit Year	Ongoing
	BMP Description	<p>The City inspects, maintains, and repairs public stormwater catch basins annually. Inspection of catch basins is performed during the citywide catch basin cleaning and maintenance operations performed during the dry season (May 1–August 31). During catch basin cleaning operations, catch basins are inspected for cracking and breakage, which would limit the structural integrity and performance of the system. They are also inspected for excess sediment accumulation, trash and debris, and organic material deposition.</p> <p>Cleaning and maintenance of public catch basins within the City limits occurs annually for priority catchbasins (i.e., approximately 25% of all public catchbasins), and once every four years for the remaining catchbasins (i.e., the remaining 75% of all public catchbasins). Maintenance may occur more frequently if a need is identified. High priority catchbasins are those identified within heavy use industrial or commercial areas, as well as along major arterials where debris accumulates at an accelerated level. A database tracking system is updated during each maintenance cycle to allow the City to better track catch basins requiring more frequent maintenance.</p> <p>Cleaning operations are conducted with a vactor truck and require a minimal amount of water. The debris removed is brought to a drying bed at the wastewater treatment plant. After dewatering occurs, the debris is disposed of in an approved landfill. The City continues to explore options for a regional facility or other methods for dewatering street wastes.</p> <p>Debris is periodically inspected to determine composition for source control assessments. Inspection of the debris ensures compliance with <i>Toxicity Leachate Characteristics Standards</i>.</p>
	Measurable Goals	<ul style="list-style-type: none"> • Clean all high-priority public catch basins annually and the remaining public catch basins over a four-year period. • Inspect catch basins for maintenance and repair needs during catch basin cleaning activities. • Schedule catch basin repair activities as needed, based on inspections. • Refine the internal inspection guidelines to help facilitate ongoing inspection efforts. • Update tracking database during each maintenance cycle.
Tracking Measures	<ol style="list-style-type: none"> 1. Track percent of total catch basins cleaned each year. 2. Track number of catch basin repair activities conducted each year. 3. Estimate volume of debris removed annually. 	
TMDL Pollutant Addressed	<ul style="list-style-type: none"> • Bacteria (<i>E. coli</i>) • TSS (Mercury) 	

Category F. Pollution Prevention and Good Housekeeping for Municipal Operations BMPs		
OM-6: Public Structural Facility Operation and Maintenance	BMP Number	OM-6
	BMP Name	Public Structural Facility Operation and Maintenance
	BMP Implementation Responsibility	<ul style="list-style-type: none"> • Community Development Department, Natural Resources Program • Public Works Department • Parks and Recreation Department
	Reference Document(s)	<ul style="list-style-type: none"> • Public Works Stormwater & Surface Water Design and Construction Standards (2015) • A Guide to the Stormwater Maintenance & Access Easement (2011) • Vegetated Stormwater Facility Inspection SOP
	Permit Year	Ongoing
	BMP Description	<p>The City tracks, inspects, maintains, and repairs City-owned (public) structural control components of the stormwater system, specifically, water quality manholes, swales, proprietary treatment systems, raingardens, planters, and detention ponds. Inspection of structural controls is performed annually in accordance with the City’s internal inspection guidelines and Vegetated Stormwater Facility Inspection SOP. The assets can be scored (from 1-5) and scores are integrated into the City’s asset management program.</p> <p>Public water quality manholes are inspected for cracking and breakage, conditions that would limit the structural integrity and performance of the system. Vegetated stormwater facilities are inspected for accumulated sediments, trash and debris, quality of vegetation, and structural issues that limit the ability of the system to operate at full capacity. If significant materials are observed in the structural control facilities, such that the systems may cause premature flooding or bypass of the water quality design storm, or if plants are no longer viable, maintenance is scheduled and performed. Proprietary systems are inspected and maintained in accordance with manufacturer specifications.</p> <p>Maintenance for all public facilities is performed as needed. The City utilizes asset management software (Cartegraph) to identify and maintain City owned structural controls. New controls are added to the City’s GIS databases when as-builts are received.</p>
	Measurable Goals	<ul style="list-style-type: none"> • Inspect public structural controls annually and maintain and/or repair as needed. • Maintain GIS database for public water quality structural controls. • In conjunction with updates to post-construction standards, by December 1, 2024, update the City’s internal inspection guidelines and Vegetated Stormwater Facility SOP to include all active stormwater facilities (including proprietary controls) being used in the City.
	Tracking Measures	<ol style="list-style-type: none"> 1. Track number of public stormwater structural controls inspected. 2. Track number of public stormwater structural controls maintained.
	TMDL Pollutants Addressed	<ul style="list-style-type: none"> • Bacteria (<i>E. coli</i>) • TSS (Mercury)

Category F. Pollution Prevention and Good Housekeeping for Municipal Operations BMPs		
OM-7: Private Structural Facility Operation and Maintenance	BMP Number	OM-7
	BMP Name	Private Structural Facility Operation and Maintenance
	BMP Implementation Responsibility	Community Development Department, Natural Resources Program
	Reference Document(s)	<ul style="list-style-type: none"> • Public Works Stormwater & Surface Water Design and Construction Standards (2015) • A Guide to the Stormwater Maintenance & Access Easement (2011) • A Manual for the Operation and Maintenance of Privately Owned Stormwater Facilities (2012) • Stormwater Operations and Maintenance Plan • Vegetated Stormwater Facility Inspection SOP • Stormwater Annual Inspection and Maintenance Report
	Permit Year	Ongoing
	BMP Description	<p>The City requires maintenance of private structural stormwater controls through implementation of the <i>Stormwater Maintenance and Access Easement</i> agreements and submittal of a <i>Stormwater Operations and Maintenance Plan</i> (O&M Plan). The Easement is required as a condition of approval for the Land Use process. In accordance with the City's <i>2015 Public Works Standards</i> Section 301.13.00 "The person designated by the applicant as the responsible party in the Stormwater Maintenance Requirements and Access Easement shall be responsible for operation and maintenance of private stormwater management facilities. An operation and maintenance plan (O&M Plan) shall be prepared by the applicant for the stormwater management facility and shall be submitted to the City Natural Resources Program for review and approval."</p> <p>The O&M Plan and Stormwater Access Easement agreements require facility owners to inspect, maintain, and repair private stormwater facilities and submit annual reports to the City. The O&M Plan and Stormwater Access Easement agreements contain a list of facilities to be maintained and acknowledgement of a list of maintenance criteria.</p> <p>The City's Stormwater Management Coordinator assures that facility owners conduct inspections and maintenance by having facility owners submit an annual report due May 1 of each year. The City's Natural Resources–Stormwater webpage contains a link to the <i>Operation and Maintenance of Privately Owned Stormwater Facilities (2012)</i> manual to help landowners with private stormwater facilities on their property to effectively manage the facility in accordance with federal, state, and local management regulations and guidelines.</p> <p>Private structural stormwater facilities are inspected by City staff during the permit term. Private facilities are included in the City's GIS database as as-builts are received. Facilities are inspected by the City as necessary in accordance with these criteria, as authorized by the recorded Stormwater Maintenance and Access Easement.</p>

Category F. Pollution Prevention and Good Housekeeping for Municipal Operations BMPs		
OM-7: Private Structural Facility Operation and Maintenance	Measurable Goals	<ul style="list-style-type: none"> Promote maintenance of private structural facilities through the tracking of O&M Plans and Stormwater Maintenance and Access Easement agreements. Maintain GIS database for private structural facilities.
	Tracking Measures	<ol style="list-style-type: none"> 1. Track agreements on file for private structural control facilities. 2. Track number of private annual inspection and maintenance reports received annually. 3. Track the number of private structural facilities inspected by City staff annually.
	TMDL Pollutants Addressed	<ul style="list-style-type: none"> Bacteria (<i>E. coli</i>) TSS (Mercury)

Category F. Pollution Prevention and Good Housekeeping for Municipal Operations BMPs		
OM-8: Develop Planning Documents in Support of Water Quality	BMP Number	OM-8
	BMP Name	Develop Planning Documents in Support of Water Quality
	BMP Implementation Responsibility	Community Development Department, Natural resources Program
	Reference Document(s)	<ul style="list-style-type: none"> • Stormwater Master Plan (2012) • City of Wilsonville Stormwater Retrofit Plan (2015) • City of Wilsonville Hydromodification Assessment (2015) • Infrastructure Retrofit and Hydromodification Assessment Update (2023)
	Permit Year	Ongoing
	BMP Description	<p>The City assesses flood control, transportation, and other infrastructure projects during planning stages to identify and mitigate potential negative impacts and/or enhance benefits for the water quality of receiving water bodies.</p> <p>The City's <i>Stormwater Master Plan (2012)</i> includes stormwater capital improvement projects (CIPs) related to flood control and water quality. CIPs include low-impact development (LID) and green infrastructure (GI) facilities that integrate stormwater treatment and stormwater volume and flow reduction. CIPs also include natural resource preservation and enhancement projects to minimize channel incision and erosion. The City's <i>Stormwater Retrofit Plan (2015)</i> included a review and prioritization of CIPs described in the <i>2012 Stormwater Master Plan (SMP)</i> in accordance with more refined water quality objectives.</p> <p>The City implements their stormwater capital improvement program in accordance with a bi-annual budgeting process. The capital improvement program prioritizes CIPs according to available funding and proposed construction scheduling. The capital improvement plan is subject to City Council approval.</p> <p>The City is currently updating their 2012 SMP to reflect updated stormwater CIPs including those identified from previous planning efforts (i.e., the <i>2015 Stormwater Retrofit Plan</i>), as well as new City initiatives and recently identified problem areas. The updated SMP includes the integration of project needs stemming from an updated <i>Hydromodification Assessment (conducted in 2022)</i>.</p>
	Measurable Goals	<ul style="list-style-type: none"> • By December 1, 2024, complete public outreach related to the updated <i>2023 Stormwater Master Plan</i>. • By December 1, 2023, document and submit a summary of outcomes the City's <i>2015 Retrofit Strategy</i> and <i>2015 Hydromodification Assessment</i>, in accordance with the <i>2023 Stormwater Master Plan</i>. • Implement water quality, flood control, and natural resource CIPs in accordance with the effective <i>Stormwater Master Plan</i>.
	Tracking Measures	<ol style="list-style-type: none"> 1. Track the status of the City's Stormwater Master Planning efforts. 2. Track the number of CIP/retrofit projects implemented each year and discuss the added benefit (water quality, hydromodification, habitat restoration, etc.) of each. 3. Map the location and drainage area of water quality CIPs/retrofits as they are constructed.
TMDL Pollutants Addressed	<ul style="list-style-type: none"> • Bacteria (<i>E. coli</i>) • TSS (Mercury) 	

2.7 Industrial and Commercial Facilities

The City’s stormwater management program tracks industrial and commercial facilities to reduce pollutants in stormwater discharges to the MS4. These facilities include sites subject to the DEQ-issued 1200-Z industrial stormwater NPDES general permit, as well as commercial and industrial properties that potentially contribute pollutants to the MS4. The City does not have any hazardous waste treatment, disposal and recovery facilities; industrial facilities subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986; or facilities subject to Section 313 of the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. 11023.

Table 2-7 outlines the City’s BMPs to address the permit requirements for Schedule A.3.g.

Table 2-7. Industrial and Commercial Facilities	
Schedule A.3.g Permit Requirements	Applicable BMPs
	IND-1
i. Screening for Industrial Stormwater Permitting	■
ii. Strategy to Reduce Pollutants from Industrial and Commercial Facilities	■
iii. Commercial & Industrial Facility Inspection Staff Training	■
iv. Tracking and Assessment	■

The following Industrial and Commercial Facilities BMP is described in detail in the **Category G BMP** table:

- IND-1: Industrial and Commercial Inspection Program

The **Category G BMP** table provides a description, implementation schedule, measurable goals, annual tracking measures, and TMDL pollutants addressed for each industrial and commercial BMP. Measurable goals and tracking measures will be evaluated annually to assess the impact of the BMPs and to inform future industrial and commercial facilities requirements and training.

Category G. Industrial and Commercial Facilities BMPs		
IND-1: Industrial and Commercial Inspection Program	BMP Number	IND-1
	BMP Name	Industrial and Commercial Inspection Program
	BMP Implementation Responsibility	<ul style="list-style-type: none"> • Community Development Department, Natural Resources Program • Public Works Department
	Reference Document(s)	<ul style="list-style-type: none"> • City of Wilsonville Industrial/Commercial Facility Inspection Program SOP • City of Wilsonville Industrial and Commercial Environmental Survey • Appendix A: Municipal Staff MS4 Training
	Permit Year	Ongoing
	BMP Description	<p>The City implements their industrial and commercial business inspection program in accordance with procedures outlined in the <i>City of Wilsonville Industrial/Commercial Facility Inspection Program</i> document, originally developed in July 2013.</p> <p>The City maintains and annually updates a database of identified potential high pollutant source facilities. This database is also used to inventory local NPDES industrial stormwater dischargers that are identified by the City and DEQ. This database is reviewed and updated annually in conjunction with new business license applications and <i>Industrial and Commercial Environmental Surveys</i>.</p> <p>Potential high pollutant source facilities are typically identified based on the following criteria:</p> <ul style="list-style-type: none"> • The facility has an SIC code and process/manufacturing activities that require an industrial stormwater NPDES permit; • The facility includes hazardous waste handling and storage (i.e., fully regulated generators, CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) sites, and Treatment, Storage and Disposal (TSD) facilities; • The facility includes processes that may contribute pollutants to stormwater runoff; or • The facility has a history of complaints or questionable activities, as observed by City staff or the public. <p>Annually, City staff conduct windshield surveys of identified potential high pollutant source facilities. During the windshield survey, information is collected to inform the prioritization of facilities for formal business site inspections. Annually, City staff conducts formal business site inspections for up to five potential high pollutant source facilities.</p> <p>Additionally, during the permit term, existing business license applications will be reviewed to confirm whether the SIC code indicates that an industrial stormwater NPDES permit is required (and has not already been obtained). If such industry is identified, DEQ and the industry will be notified within 30 days.</p> <p>Industrial and Commercial Facilities specific training is outlined in Appendix A: Municipal Staff MS4 Training Strategy.</p>

Category G. Industrial and Commercial Facilities BMPs		
IND-1: Industrial and Commercial Inspection Program	Measurable Goals	<ul style="list-style-type: none"> ● By December 1, 2023, update the Industrial/Commercial Facility Inspection Program SOP with updated facility prioritization, inspection and documentation procedures. ● Obtain completed Environmental Surveys from new businesses (i.e., non-residential sewer users) annually, to identify whether the business is a potential high pollutant source facility. ● Update facility information by sending the Environmental Survey or obtaining additional data related to onsite activities for all businesses once over the permit term, to confirm accuracy of the high pollutant source facility inventory. ● As applicable, identify facilities needing NPDES 1200Z permits and notify the facility and DEQ within 30 days. ● Annually conduct windshield surveys of potential high pollutant source facilities. ● Annually conduct formal business site inspections on up to five potential high pollutant source facilities.
	Tracking Measures	<ol style="list-style-type: none"> 1. Track the number of facilities inspected annually. 2. Track the number of existing and potential new 1200Z permitted facilities identified annually. 3. Track any enforcement actions associated with inspections.
	TMDL Pollutant Addressed	<ul style="list-style-type: none"> ● Bacteria (<i>E. coli</i>) ● TSS (Mercury)

2.8 Monitoring and Reporting

The City is required to conduct monitoring that includes the collection and analysis of stormwater, instream surface water and macroinvertebrate samples. The monitoring requirements and objectives are outlined in Schedule B of the MS4 permit. The City participates in a joint monitoring plan with other Clackamas co-permittees. This joint monitoring plan (i.e., the Comprehensive Clackamas County NPDES MS4 Stormwater Monitoring Plan or CCCSMP) was updated to address the 2021 permit requirements and submitted to DEQ as required with the submittal of this SWMP (December 1, 2022). The new Monitoring Plan describes monitoring objectives, strategy, and procedures for the collection and analysis of stormwater, instream, and macroinvertebrate samples. Objectives of the monitoring program include the evaluation of pollution sources, characterization of stormwater runoff quality, assessment of water quality trends, and assessment of the effectiveness of the stormwater programs. The Monitoring Plan strategy includes both new and existing monitoring locations, sampling frequencies, updated pollutant parameters, analytical methods, quality control procedures, staffing resources, and a summary of field operating procedures. Monitoring data will be submitted to DEQ annually on December 1st.

In accordance with the NPDES MS4 permit requirements, the City also submits annual reports to DEQ to evaluate the City's progress towards implementing the SWMP control measures and associated BMPs. Beginning in 2023, the annual reports will be compiled using the annual report form provided by DEQ. The tracking measures outlined in each BMP table will be used to assess the effectiveness of the BMPs and inform future priorities and actions.

Records of data and information used in the development and implementation of the SWMP will be retained by the City for 5 years or for the permit term, whichever is longer. Annual reports are posted on the City's website and are made available to the public and to DEQ upon request.

Appendix A: Municipal Staff MS4 Training Strategy

City of Wilsonville

Municipal Staff MS4 Training Strategy



Prepared: September 2022

Last Update: September 2022

Overview

This document presents the City's multi-year and multi-topic training strategy to address stormwater education for municipal staff. The City's 2021 NPDES MS4 Permit requires training for municipal staff in several stormwater-related areas. In general, new staff will be trained in the duties of their position upon hire. Existing staff will be trained in the duties of their position on an annual basis. All staff will be trained on updated or changed procedures throughout the permit term, as those changes or updates occur.

This strategy covers training in the following categories:

- Illicit discharge detection and elimination
- Erosion and sediment control for construction sites
- Post construction stormwater management
- Operations and maintenance of stormwater management facilities
- Stormwater pollution prevention for municipal facilities and operations
- Industrial and commercial facilities

The following table outlines the City's strategy for conducting the required stormwater training for municipal staff. This strategy is specific to NPDES MS4 Permit requirements. City staff participate in trainings for topics and programs beyond those listed in this strategy, including field safety training and equipment training.

City of Wilsonville Municipal Staff MS4 Training Strategy					
Category	Permit Section	Stormwater Training Topic	Target Group	Frequency/Years for Training	Potential Resources
Illicit Discharge Detection and Elimination Training and Education	A.3.c.vi	Identifying, responding, and eliminating illicit discharges	Public Works field staff	Annually	HAZWOPER Training
		Investigating and reporting illicit discharges (including procedures for enforcement and follow-up actions)	Stormwater Management Coordinator	Once per permit term	Internal training based on City's IDDE response SOP
		Dry weather screening procedures, documentation, reporting, and follow-up actions	Stormwater Management Coordinator	Annually	Review City's Dry weather screening SOP
Erosion and Sediment Control	A.3.d.vi	Plan Review	Engineering staff	Once in permit term	Review plan review check list and update as necessary
		Construction site ESC inspection processes and documentation procedures (including violations enforcement processes)	ESC Inspectors	Annually	Internal training based on City's inspection checklist
			<ul style="list-style-type: none"> ESC Inspectors Stormwater Management Coordinator 	Every 3 years	CESCL (or comparable) training
Post-Construction Stormwater Management	A.3.e.vii	Proposed or adopted changes to stormwater design standards and stormwater related land use policies.	<ul style="list-style-type: none"> Applicable Community Development staff Engineering Staff 	Once after the adoption of new or updated Public Works stormwater design standards	Internal training
		Plan Review	Engineering staff	Once in permit term or after adoption of new design standards	Review plan review checklist and update as necessary
		City site inspection processes and documentation procedures for construction acceptance	Engineering staff	Once in permit term	Joint agency workshop or professional group presentation
Operations and Maintenance of Stormwater Management Facilities	A.3.e.vii A.3.f.x	Operation and maintenance best practices for stormwater management facilities (including violations enforcement processes)	<ul style="list-style-type: none"> Public Works Facilities, Roads and Stormwater operations staff, and Parks and Recreation staff responsible for maintenance of post-construction stormwater management facilities Stormwater Management Coordinator 	Once in permit term	<ul style="list-style-type: none"> Internal training based on City's site inspection SOP Joint agency workshop or professional group presentation
			Private property owners and maintenance contractors	Annual	Private entities responsible for maintenance receive education material via an annual inspection form
Stormwater Pollution Prevention for Municipal Facilities and Operations	A.3.f.x	Inspection, cleaning, and documentation/tracking procedures for MS4 related structures (catch basins, storm drains inlets, pipes)	Public Works Roads and Stormwater operations staff	Once in permit term	Internal training based on City's SOP and schedule for MS4 maintenance
		Stormwater pollution prevention and good housekeeping practices for field operations	<ul style="list-style-type: none"> Public Works field staff SMART operations staff Parks and Recreation field staff 	Once in permit term	Internal training based on City's municipal pollution prevention plan or SOPs
			Annual	HAZWOPER	
		Three Bay Facility stormwater pollution prevention plan and best practices	Field operations staff that utilize FACILITY	Once in permit term	Internal training based on the City's SWPPP
		SMART Operations and Fleet Facility stormwater pollution prevention plan and best practices	Field operations staff that utilize FACILITY	Once in permit term	Internal training based on the City's SWPPP
		Memorial Park Maintenance Barn stormwater pollution prevention plan and best practices	Parks and Recreation staff that utilize FACILITY	Once in permit term	Internal training based on the City's SWPPP
Integrated pest management and proper application of pesticides and fertilizers	<ul style="list-style-type: none"> Parks landscaping staff Facilities landscaping staff Roads and Stormwater landscaping staff 	Once in permit term	Internal training based on City's IPM		
		Annual	Licensed pesticide applicator training		
Industrial and Commercial Facilities	A.3.g.iii	Industrial/Commercial facility inspection procedures (including violations enforcement processes)	Stormwater Management Coordinator	Once in permit term	<ul style="list-style-type: none"> Internal training based on the City's Industrial and Commercial Facilities Strategy Joint agency workshop or professional group presentation

Reference Permit Language

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

Schedule A.3.d.vi–Construction Runoff Control Training and Education The co-permittees must ensure that all staff responsible for ESCP reviews, site inspections, and enforcement of the co-permittees' requirements are trained or otherwise qualified to conduct such activities, and training strategies and frequencies must be described or referenced in the SWMP.

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

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

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

Appendix B: Change Log

Table B-1. Revision Log – City of Wilsonville 2022 SWMP				
Revision Date	Relevant Permit Requirement	Revision Description	An analysis of why the new action is an appropriate alternative from the standpoint of effectiveness, feasibility and/or cost (Schedule A.2.f.ii.(A))	Expectations on the effectiveness of the replacement action or activity (Schedule A.2.f.ii.(B))
December 1, 2023	Schedule A.2.f Review and Modification of the SWMP Document	Added a new SWMP Document date to the cover to reflect the December 1 updates. Added a sentence to the end of Section 1.1 to introduce the addition of a revisions log to track SWMP Document revisions. Updated references to the TMDL Implementation Plan, reflecting its December 2023 resubmittal. Included a SWMP Document Change Log as Appendix B for tracking revisions to the 2022 SWMP Document moving forward.	N/A	N/A
December 1, 2023	Schedule A.3.c	Removed 2022 date reference associated with the City’s IDDE SOP in BMP ILL-1, ILL-2 and ILL-4 (following 2023 review of the document). Updated the measurable goal in ILL-1 to indicate updates to the IDDE SOP “as needed” (as no updates were required following the 2023 review of the document).	N/A	N/A
December 1, 2023	Schedule A.3.d	Updated reference in EC-2 to add the City’s Erosion Control Enforcement Standard Operating Procedure (developed in 2023) as a reference document for inclusion in the document library.	N/A	N/A
December 1, 2023	Schedule A.3.f	Updated reference in OM-8 to add the City’s Infrastructure Retrofit and Hydromodification Assessment Update (2023) as a reference document for inclusion in the document library. Updated the measurable goal in OM-8 to change the date of completion of public outreach related to	N/A	N/A

Table B-1. Revision Log – City of Wilsonville 2022 SWMP				
Revision Date	Relevant Permit Requirement	Revision Description	An analysis of why the new action is an appropriate alternative from the standpoint of effectiveness, feasibility and/or cost (Schedule A.2.f.ii.(A))	Expectations on the effectiveness of the replacement action or activity (Schedule A.2.f.ii.(B))
		the updated 2023 Stormwater Master Plan (per current project schedule).		
December 1, 2023	Schedule A.3.g	Updated name and removed date in IND-1 to the Industrial/ Commercial Facility Inspection Program SOP document (following 2023 update of the document).	N/A	N/A

Note: This Revision Log documents adaptive management modifications to the SWMP in accordance with Schedule A.2.f. of the NPDES MS4 Permit. Information included in the last two columns is not required for modifications that add elements to the approved SWMP Document. Information is required in these columns for modifications to delete, adjust, or replace elements in the approved SWMP Document with an alternate action or activity.