



**2023-2024
Annual Report**

for
National Pollutant Discharge Elimination System (NPDES)
Municipal Separate Storm Sewer System (MS4)
Permit Compliance
Permit #101348

Prepared by:
Oak Lodge Water Services, Technical Services Department

November 2024

**2024 Oak Lodge Water Services
October 2021 MS4 Permit
ANNUAL REPORT REQUIREMENTS**

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1. Background

The Board of Directors of Oak Lodge Sanitary District (OLSD) created a Surface Water Management program with the adoption of Ordinance 1001 in May of 1993. The purpose of the Surface Water Management Program is to:

- prevent pollutants from entering rivers, lakes, and streams;
- maintain and/or improve water quality; and
- restore or enhance properly functioning conditions in the watersheds.

Program development officially began on July 1, 1993, with the collection of Surface Water Management fees based on impervious surface area.

On January 1, 2017, Oak Lodge Sanitary District and Oak Lodge Water District officially consolidated into Oak Lodge Water Services. Prior to this consolidation, Oak Lodge Sanitary District passed Resolution (16-12) assigning all assets and obligations to the Oak Lodge Water Services. Oak Lodge Water Services understands that it must meet the obligations that OLSD made for the MS4 Permit. In 2023, OLWS became an Authority, which is a type of special district that holds its assets, duties, and boundaries in perpetuity, including the requirements of the MS4 Permit.

Permit History

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

OLWS 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 1st, 2021.

The 2023 version of the OLWS's SWMP was developed based on a review and evaluation of the OLWS's stormwater management program, including activities and accomplishments implemented during the previous permit term and during the administrative extension period. The OLWS 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 OLWS resources available to implement programs.

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

This Annual Report describes activities related to implementation of the OLWS's NPDES MS4 Permit and the Stormwater Management Plan (SWMP). The SWMP contains best management practices (BMPs), which outline the specific tasks that the OLWS 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.

Table 1 – 2021 NPDES MS4 Annual Reporting Requirements

Annual Reporting Requirements from Schedule B.3.a. - 1.	Location in document
a. The status of implementing the Stormwater Management Program (SWMP) and each control measure program element in Schedule A.3, including progress in meeting the measurable goals and program tracking and assessment metrics identified in the SWMP Document as well as additional annual reporting requirements identified in each section, or, prior to SWMP Document approval by DEQ, measurable goals and tracking metrics approved under the previous permit's approved SWMP.	Section 3
b. A summary of the adaptive management implementation and any changes or updates to programs made during the reporting year, including rationales for any proposed changes to the SWMP (e.g., new BMPs), and review of related new and historical monitoring data. This summary should also include discussion of the implications of, or any findings related to recent years' adaptive management and/or changes made to the SWMP Document, based on data from tracking measures, measurable goals, and/or any monitoring related to the change.	Section 5
c. Any proposed changes to SWMP program elements that are designed to reduce Total Maximum Daily Loads (TMDL) pollutants.	Section 6
d. A summary of education & outreach and public involvement activities, progress toward or achievement of measurable goals, and any relevant assessment of those activities. This should include planned adaptive management or other program enhancements to occur in the following years.	Section 4
e. A summary describing the number and nature of enforcement actions, inspections, and public education programs, including results of ongoing field screening and follow-up activities related to illicit discharges.	Section 14
f. A list of entities referred to DEQ for possible 1200-Z NPDES general permit coverage based on co-permittee screening activities, a list of categories of facilities inspected, and an overview of the results of inspections of commercial and industrial facilities.	Section 14
g. A summary of total stormwater program expenditures and funding sources over the reporting fiscal year, and those anticipated in the next fiscal year.	Section 7
h. A summary of monitoring program results, including monitoring data that are accumulated throughout the reporting year submitted in the DEQ-approved Data Submission Template, and any assessments or evaluations of that data completed by the co-permittees or an authorized third party.	Section 15
i. Any proposed modifications to the monitoring plan are necessary to ensure that adequate data and information are collected to conduct stormwater program assessments.	Section 9
j. An overview, as related to MS4 discharges, of concept planning, land use changes and new development activities (including the number of new post-construction permits issued) that occurred within the Urban Growth Boundary (UGB) expansion areas during the reporting year, and those forecast for the following year, where such data is available.	Section 11
k. The details of all corrective actions implemented associated with Schedule A.1.b.iii during the reporting year.	Section 14
l. Additional Annual Report requirements for 2023: <ul style="list-style-type: none">• Winter maintenance activities.	Section 16

<ul style="list-style-type: none"> • Mercury Minimization Assessment 	
<p>m. Additional Annual Report requirements for 2024:</p> <ul style="list-style-type: none"> • Low Impact Development/Green Infrastructure Strategy Document. • Retrofit and Hydromodification Summary. • Updated Stormwater Code – OLWS Design and Construction Standards – to address 	Section 17

2. Report Organization

This report is organized based on the requirements of the October 2021 NPDES permit, Schedule B.5.a through B.5.l. The numbers listed after the report headings indicate the portion of the permit schedule that the section addresses. The report covers the activities of OLWS from July 1, 2023 to June 30, 2024. Information about implementation of required BMP's is summarized in Appendix A. Lastly, the DEQ Grab Data Submission Table summarizes water quality sampling activities in Appendix B. Brief summaries of each topic are described in this document.

3. Status of SWMP Program and Associated Elements (B.5.a)

The Oak Lodge Sanitary District (OLSD) implemented the former Surface Water Management Plan (SWMP) in 2012, which was based on the two permits because the new/current permit was issued mid-cycle in March 2012. The SWMP has been updated for the purposes of the new permit. For the purpose of this annual report preparation, implementation of the SWMP is being reported based on the requirements in the current permit (No. 101348). This information is summarized in Appendix A of this report.

4. Status of Public Education Effectiveness Programs (B.5.b)

OLWS uses multiple avenues to educate the public about the importance of surface water protection.

OLWS includes bi-monthly newsletters in our bills and posts the same information on our website and social media. OLWS partners with multiple agencies and non-profits to support public outreach and education focused on stormwater.

Over time, OLWS has created, supported, and implemented a variety of programs and partnerships to provide outreach to the community about surface water issues. Partnerships include:

- Ecology in Classrooms & Outdoors (ECO)
- Clackamas Community College Environment Learning Center (CCC ELC)
- Regional Coalition for Clean Rivers and Streams (Coalition)
- North Clackamas Park and Recreation District (NCPRD)

Ongoing public education through programs include:

- Backyard Habitat Certification Program with Portland Audubon and Columbia Land Trust
- OLWS Stormdrain Cleaning Assistance Program
- OLWS Wastewater Treatment Plant Tours

Stormdrain Cleaning Assistance Program (SCAP)

The Stormdrain Cleaning Assistance Program helps businesses maintain their parking lot drains at a discounted price, removing contaminants and preventing flooding. The image below is the Stormdrain Cleaning Assistance Program Postcard. We implemented the use of QR codes to make it easy for customers to sign up online via an online form.



Stormdrain Cleaning Assistance Program

Stormdrains discharge rainwater to local streams. they require regular maintenance to remove contaminants and prevent flooding. OLWS coordinates the Stormdrain Cleaning Assistance Program to help businesses maintain their parking lot drains at a discounted price at **\$60 per drain flat fee**. Register at OakLodgeWaterServices.org/scap.

Deadline is October 31, 2023. Questions? Contact alexa.morris@olws.org or by text/call (503) 353-4219.



Wastewater Treatment Plant Tours

In-person customer tours resumed in Summer 2023 and 2024. OLWS had 7 tours between July 1, 2023 – June 30, 2024.

Backyard Habitat Certification Program

OLWS partners with the Backyard Habitat Certification Program (BHCP) to support urban gardeners in their efforts to create natural backyard habitats. This includes working with homeowners to find stormwater solutions in their yards to mimic nature by allowing runoff to soak into the ground, helping to filter out pollutants and decrease or eliminate runoff on their property. In 2023-24 in the OLWS Service Area, BHCP visited 28 properties and 5 were certified.



Figure 1: Oak Grove resident Jenna with her Backyard Habitat certification

Ecology in Classrooms & Outdoors (ECO)

This year’s ECO programming engaged approximately 400 students across Oak Grove Elementary, View Acres Elementary, Candy Lane Elementary, Riverside Elementary, New Urban High, and Rex Putnam High, totaling 2,100 contact hours. ECO educators delivered 44 indoor lessons, 20 outdoor lessons, and 25 walking field trips.

At Oak Grove Elementary, View Acres Elementary, New Urban High, and Rex Putnam High, ECO reached about 270 students. These students learned a broad range of ecology topics and participated in activities like planting native plants and visiting local parks. Feedback from students showed that 79% believed kids can change the environment’s health, and 94% liked nature. One student said, “I like ECO because it is important to teach kids about our planet,” while a teacher appreciated the program’s hands-on activities and multiple lesson structures.

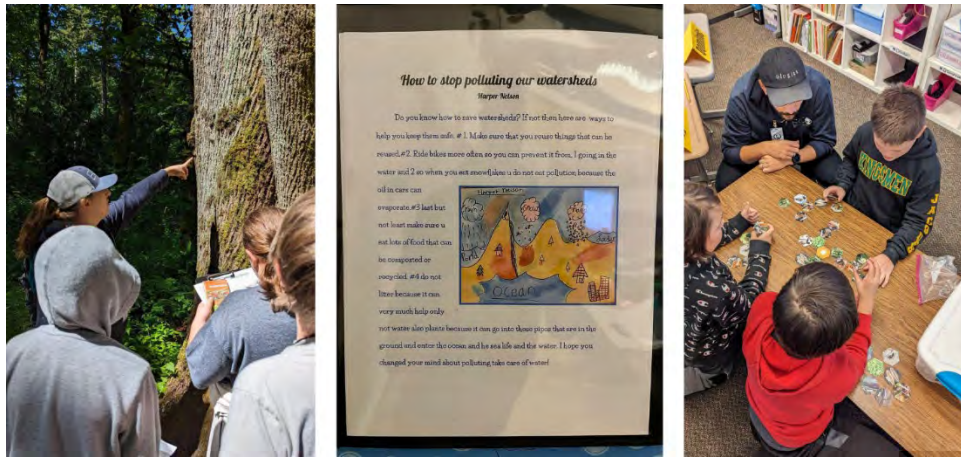


Figure 2: Ecology in Classrooms & Outdoors student activities and field trips

Aves Compartidas

Aves Compartidas provides Spanish immersion and dual language classroom lessons on ecology, restoration and land use, and offers field experiences where students engage in habitat enhancement projects. Programming supports the teachers and students at three dual language elementary schools:



Figure 3: Aves Compartidas students working on migratory bird projects

Candy Lane Elementary (4 classrooms), Riverside Elementary (3 classrooms), and Milwaukie El Puente Elementary (9 classrooms). This year the program at Candy Lane Elementary and Riverside Elementary reached 130 students. At Riverside, the program integrated into dual language classrooms for 3rd-5th grades, focusing on migratory birds like the rufous hummingbird, yellow warbler, and great blue heron, which are indicator species for water quality.

Candy Lane's fourth graders focused on the yellow warbler and presented their projects at the year's end.

Clackamas Community College Environmental Learning Center (CCC ELC)

This winter the Environmental Learning Center presented Livestream episodes to K-5 students. Each of ten episodes focused on wetland ecology, wildlife, and watershed health. Student activity sheets were developed to engage students in the content; each program has an accompanying sheet. Programs aligned with NGSS.

Teachers were provided recordings of the sessions in addition to links for joining the LIVE events. This enabled them to view the presentation at a time that was convenient for them. Two episodes were delivered each week, one for grades K-3 (Wild About Water) and the other for grades 4-5 (Wild in the Wetland), which totaled in 10 livestream classes. Highlighted below are some topics that were featured:

- Beavers, Nature's Builders: January 30, 2024, with 52 students
- Hurray for Herons!: February 13, 2024, with 52 students
- Coyote, Your Wildlife Neighbor: February 27, 2024, with 52 students
- Fun with Frogs: March 12, 2024, with 52 students
- Darting Dragonflies: April 9, 2024, with 52 students

The CCC ELC also offers three field trips that immerse students in discovering and exploring the beautiful wetland and forest ecosystems. All field trips are two hours long. Field trip activities include:

- Learning about wetland inhabitants and solving wildlife mysteries
- Discovering macroinvertebrates in the wetland
- Measuring the quality of water in our wetland

School (field trip)	Grade	# of students
Candy Lane Elementary <i>(Healthy Watersheds)</i>	5 th grade	62
Oak Grove Elementary <i>(Discovering Wetland Wildlife)</i>	1 st grade	40
Riverside Elementary <i>(Healthy Watersheds & Welcome Home)</i>	3 rd , 4 th , and 5 th grades	174
View Acres Elementary <i>(Welcome Home)</i>	3 rd grade	54

Regional Coalition for Clean Rivers and Streams (Coalition)

OLWS is active with the Regional Coalition for Clean Rivers and Streams (Coalition). The Coalition continued its work – initiated in the late 1990s – of providing coordinated messaging about area water health and residential behaviors linked to stormwater pollution from across the Portland metropolitan region in Washington, Multnomah, and Clackamas counties.

The Coalition continues its mission of collaborating across the Portland metropolitan region to improve watershed health by changing household behaviors, reducing polluted runoff and connecting people with their local waterways.

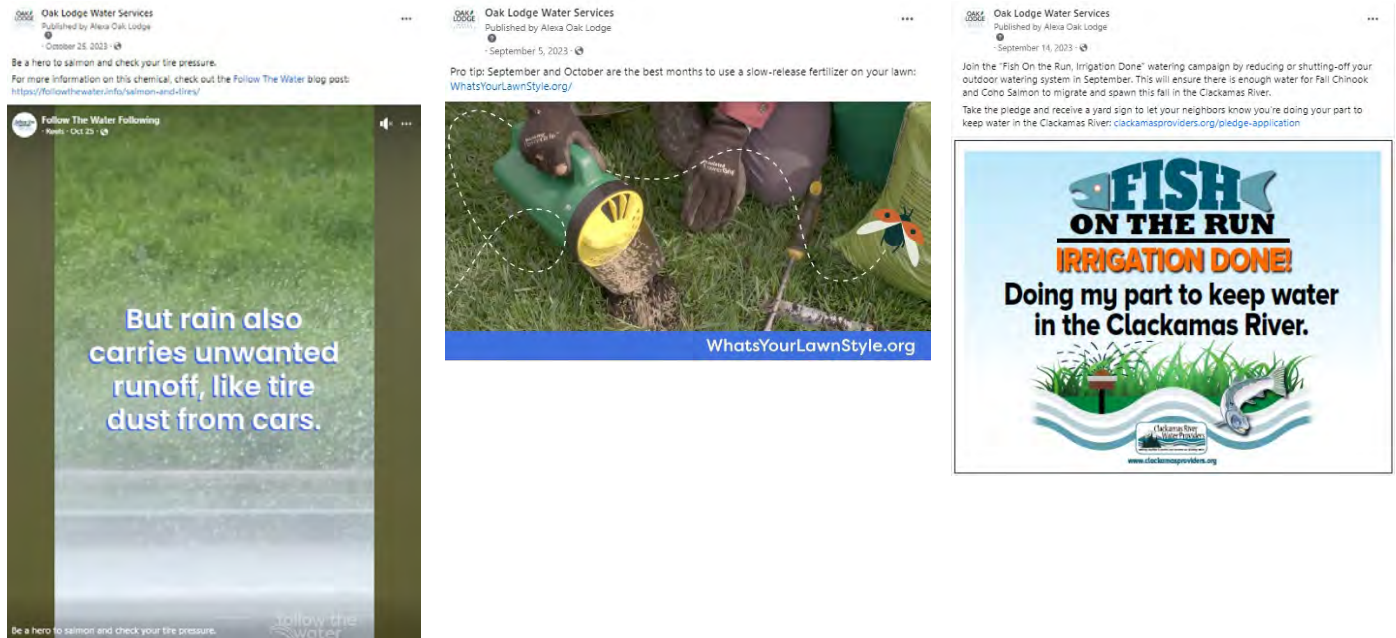
The Coalition’s key messages focus on raising awareness about pollution from stormwater runoff and motivating actions to protect surface water quality through action at the household level. The key messages are:

- Stormwater runoff goes directly to our local waterways without treatment. When it rains, pollutants from your home, car, and garden wash into our rivers and streams. Never dump anything into storm drains.
- Bacteria from uncollected dog waste washes into our rivers and streams. You can protect our water by picking up after your pets. OLWS partners with NCPRD to provide waste bags for dogs in our service area.
- Yard and garden products wash into our rivers and streams. You can protect our water by eliminating these products or using compost and slow-release fertilizer.
- Motor oil, solvents, and soaps wash into our rivers and streams. You can protect our water by keeping car-care chemicals out of storm drains, diverting wash water onto your landscaping, and going to a car wash.

In-person Events

OLWS was a sponsor for the 2024 Oak Grove Festival, where we talked with customers about a variety of topics, including stormwater and not dumping into storm drains. We directly connected with two customers after the event who had further questions about storm drain management.

Below are examples of OLWS social media posts to discourage the use of lawn chemicals and connect the community to their waterways.



Please see the BMP's for Public Education listed in Appendix A for full detail on OLWS's progress toward public education and outreach efforts.

5. Adaptive Management Process (B.5.c)

Over time, OLWS continues to evaluate the overall health of local watersheds using the information collected through the monitoring program. Monitoring data and information provides a valuable 'snapshot' of water quality in OLWS and provides program management the opportunity to determine where to focus limited financial resources for program implementation. OLWS continues targeting water quality issues that are trending toward exceeding state water quality standards; adjustments can be made to focus the messaging to the community about different water quality problems being observed. The anticipated outcome would be a reversal of negatively trending water quality factors because of actions taken by OLWS. Examples of actions might include stepped up inspection and enforcement in areas with documented water quality issues, targeted public outreach to smaller neighborhood or watershed groups that are the source of the problem, and targeted monitoring activities to try to minimize the area where the source of the water quality problems are coming from.

In 2023-2024, OLWS reviewed and updated its Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedure (SOP), including the inspection and tracking procedures, enforcement response guide, and Dry Weather Field Screening. The final IDDE SOP is available online in the OLWS MS4 Permit document library. Second, OLWS completed an audit of its Code language and procedures concerning erosion control inspection, reporting, and enforcement processes and found no changes were needed. Current erosion control practices were found to be in compliance and are available upon request. Finally, OLWS updated our Industrial / Commercial SOP with a focus on screening and reporting. This document was shared with the public for a 30-day period and the final Industrial / Commercial SOP is available in the online OLWS MS4 Permit document library.

6. Proposed Changes to SWMP (B.5.d)

OLWS amended the SWMP during the 2023-2024 permit year as a result of the updated permit conditions required by DEQ. OLWS updated the 2023 SWMP during FY2024 to document the references to updated IDDE SOP, Erosion Control Practices and Procedures, and Industrial / Commercial SOP. No additional proposed changes were made to the SWMP at this time. A Revision Log is included in the updated SWMP to document SWMP changes. The revised SWMP is posted on the MS4 Permit Library on the Watershed Protection Pages of the OLWS website.

7. Summary of SWM Program Expenditures (B.5.e)

All revenue generated by the Watershed Protection Fee is retained within the surface water management program. During the 2024 Fiscal Year, one Equivalent Service Unit (ESU) was \$10.62 per month for residential households. For commercial and industrial users their ESU equivalent is calculated by dividing their total impervious surface by the residential ESU, or by 2,500 SF.

For the 2024 Fiscal Year, OLWS's expenditures for the surface water program totaled \$1,655,567. With \$1,655,567 being devoted to operational expenditures and \$0 being spent from the Surface Water Management Capital Improvement fund due. In between capital investments, OLWS will save surface water fees in order to build up the resources to invest in capital projects.

8. Summary of SWM Program Monitoring (B.5.f)

Surface water sampling occurred four times annually as is required in the NPDES permit. The sites sampled included instream samples from each site, and two outfalls. In reviewing the water quality data, water quality elements for sediment and bacteria tend to be elevated, with periodic exceedances of the state standard for e. Coli. Other testing elements appear to be within DEQ range, and for this reporting year program monitoring occurred per the procedures outlined in the approved monitoring plan.

Required Mercury monitoring for the Clackamas Permit is being handled by Water Environment Services and the first full year of sampling results will be submitted with the 2023-2024 Annual Report.

Sample results are provided in Appendix B.

9. Proposed Modifications to Monitoring Plan (B.5.g)

OLWS monitors using the currently approved monitoring plan. Clackamas co-permittees including OLWS participate in the Clackamas County Coordinated Stormwater Monitoring Program (CCCSMP). The CCCSMP Plan was updated and resubmitted to DEQ on May 30, 2024, following the completion and outcome of the Clackamas NPDES MS4 Permit Modification (initiated in January 2024). The CCCSMP reflects updated pesticide monitoring frequencies and was approved by DEQ on June 7, 2024, for implementation beginning in July 2024.

10. SWMP Enforcement (B.5.h)

OLWS routinely inspects the various elements of the Surface Water system within OLWS. A summary of the inspections, enforcements, and ongoing activities related to illicit discharges can be found in Appendix A.

11. Development Activities (B.5.i)

Land within the Oak Lodge Water Services is largely built out, with very little undeveloped land available for new development and redevelopment activities are more common. Appendix A summarizes the number and type of development activities that OLWS reviewed. At this time, there are no proposals for land annexations, and OLWS does not implement any part of the Urban Growth Boundary.

12. OLWS Boundary Expansion and Authority (B.5.j)

When Oak Lodge Sanitary District consolidated with Oak Lodge Water District to form Oak Lodge Water Services, its boundary grew by approximately 25%; this newly acquired area was already within Clackamas County Service District #1 (CCSD#1). To clarify whose authority would preside in this area, Oak Lodge Water Services District worked with CCSD#1 to create a Memorandum of Understanding (MOU) that allowed CCSD#1 to continue its service in this area since this area naturally drained to watersheds CCSD#1 was already managing. This MOU was later adopted via OLWS Resolution 2017-5. In addition, in 2023 Oak Lodge Water Services became an Authority. This protects the jurisdiction's assets, services and boundaries in perpetuity.

13. Public Notice of 2023-2024 Annual Report

OLWS solicited public comment on this annual report in the following manner:

- Public Notice and Solicitation of Comments on the OLWS website: 2nd week, October 2024;
- North Clackamas Watersheds Council: OLWS's monthly report mentions availability of the report on the website for public review and comment: 3rd week, November 2024;
- The final 2023-2024 Annual Report was posted on OLWS website after submission to DEQ;
- Notice of the Annual Report Posting was sent to OLWS's *Interested Parties* list.

14. **Appendix A** - BMP Table on the following pages.
15. **Appendix B** - Water Quality Monitoring Data Sampling Summary. Data submission to DEQ occurred using the required online format.
16. **Appendix C** - See Attached Mercury Minimization Assessment and Winter Maintenance Activities on the following pages.
17. **Appendix D** - Low Impact Development/Green Infrastructure Strategy Document and Retrofit and Hydromodification Summary.
18. **Appendix E** - Technical Memo: Hydromodification and Retrofit Strategy Update to DEQ.
19. **Appendix F** - Updated Post-Construction Standards for Stormwater Design and Construction: updated to fulfill requirements in Schedule A.3.e **[2021-02-18 DesignAndConstructionStandards.pdf](#)** (**oaklodgewaterservices.org**).

Appendix A: BMP Table—OLWS 2023-2024 Summary of BMP Implementation

Best Management Practice	MS4 Permit Schedule A Requirement	BMP Description	Performance Measure	Annual Report 2023-2024
<p>Illicit Discharge Detection and Elimination</p> <p>Enforcement Response Plan and Pollution Parameter Action Levels</p>	<p>4.a.i – iii</p>	<p>BMP Description: In cases where an illicit discharge has resulted in a discharge that OLWS suspects resulted in a violation of state water quality standards, water quality samples may be collected at the suspected discharge point, as well as upstream and downstream of the discharge point. This is done in an effort to prove the impact on water quality that the illicit discharge has had. The samples will be tested at the laboratory based on field observations of the discharge in an effort to identify any pollutants present in the discharge. Staff will also investigate the source of the discharge by looking in the surface water system upstream of the discharge point; samples may be taken at locations suspected of originating the illicit discharge.</p> <p>In cases of an oily discharge, OLWS will notify DEQ through the OERS (Oregon Emergency Response System), which is in place to address oil spills into waterways and ditches. If the DEQ and/or EPA become involved, OLWS will provide a support role to these agencies. When the source of the illicit discharge is identified, OLWS will determine whether this discharge violated OLWS’s Surface Water Management Code, and if so, fines may be levied against the offending party, including all cleanup costs, investigative and sampling costs, and OLWS staff costs, including legal fees.</p> <p>OLWS will rely on State of Oregon water quality standards to determine a pollutant level that violates water quality as a trigger to initiate full enforcement action.</p>	<ol style="list-style-type: none"> 1. Documentation of Enforcement Plan 2. Response Procedures 3. Pollutant Parameter Action Levels 	<ol style="list-style-type: none"> 1. Illicit discharges are managed through OLWS’s documented Illicit Discharge Program. 2. OLWS maintains an SOP (Standard Operation Procedure) for staff to perform enforcement actions with illicit discharges. 3. OLWS has determined pollutant parameter action levels to match Oregon State water quality standards.
<p>Illicit Discharge Detection and Elimination</p> <p>Conduct Annual Dry Weather Field Screening</p>	<p>4.a.iv</p>	<p>BMP Description: The purpose of dry-weather outfall inspections is to detect an illicit discharge at the outfall or confirm that they are not present. If flow is detected during dry weather, District staff track it upstream through the storm sewer system to the source, and then address, or if necessary, control the discharge. Illicit discharges are detected during dry-weather inspections through the use of hand-held water quality measuring equipment and through visual inspections by the inspector. When a visual inspection or a pollutant level measured at an outfall indicates that an illicit discharge may be present, an upstream investigation through the storm sewer system is performed. When the discharge’s source is located, District staff work with the property owner and/or business owner to evaluate, and if necessary, control the discharge.</p>	<ol style="list-style-type: none"> (1) Number of outfalls inspected during dry weather. (2) Number and type of illicit discharges that were encountered and controlled. (3) Status of updating procedures to address new permit requirements <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Inspect major or priority outfalls for the presence of illicit discharges at least once per year. • Update maps of major outfalls on an annual basis. • Update dry weather field screening program to address new permit requirements by December 1, 2023. 	<ol style="list-style-type: none"> 1. All five Dry Weather Outfalls were inspected during the dry season quarter of the 2023-2024 Permit year. 2. No illicit discharges were noted from the outfall inspections. 3. Dry weather field screening program has been updated with the following information: <ul style="list-style-type: none"> • Priority locations remain as listed; • Field Screening and analysis procedures include photographs of CBs / outfalls each year; • Pollutant parameter action levels as described in screening; • Lab Analysis would occur through contracted lab relationship under the SWM monitoring program.

Appendix A: BMP Table—OLWS 2023-2024 Summary of BMP Implementation

Best Management Practice	MS4 Permit Schedule A Requirement	BMP Description	Performance Measure	Annual Report 2023-2024
<p align="center">Illicit Discharge Detection and Elimination</p> <p align="center">Implement the Spill Response Program</p>	<p align="center">4.a.v</p>	<p>BMP Description: OLWS’s Spill Response Program prevents, contains, and responds to spills of dangerous, hazardous and other materials. OLWS’s Spill Response Program ensures that the actual or possible release of dangerous/hazardous materials to the MS4 is properly addressed. Except for minor incidents, OLWS’s Spill Response Program personnel always coordinate closely with other agencies and departments, including Clackamas County Fire District No. 1 (and for certain incidents involving hazardous materials, the Gresham HazMat Team), DEQ, Oregon State Police, the Clackamas County Department of Transportation and Development (CCDTD), and the Oregon Department of Transportation (ODOT).</p>	<p>(1) Number of reported spills to the MS4 system. (2) Number and type of response to the reported spills.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> Implement the spill response program and associated protocols. 	<p>1. During the reporting period 2023-2024 OLWS received and investigated 3 storm water complaints of potential spills or illicit discharges. 2. District found that 3 of the reported complaints required an action response (see BMP below).</p>
<p align="center">Respond to reports involving illicit discharges</p>	<p align="center">4.a.v – 4.a.xii</p>	<p>BMP Description: Reports are often received from the Oregon DEQ, ODOT, Water Districts, Fire Districts, cities, citizens, district employees and others which allege that an illicit discharge has occurred or is occurring. When reports are received which allege that an illicit discharge has occurred or is occurring, OLWS will attempt to verify the allegation in a timely manner. If it can be confirmed that an illicit discharge has occurred or is occurring, OLWS staff will cooperate with the property owner and/or business owner to evaluate, and if necessary, control the discharge. Control options that may be applied or recommended by OLWS include, but are not limited to:</p> <ul style="list-style-type: none"> The removal of certain pollutants from the wastewater prior to discharge to the storm sewer system (i.e. cease usage of soap when washing). Issuance of the proper discharge permit from DEQ. A discharge that has been authorized and controlled by a DEQ water quality permit is not an illicit discharge. Application of the wastewater to dry land with no discharge to surface waters or storm sewers. This option is inappropriate for certain types of wastewaters, discharge rates, and soil types and may require the issuance of a WPCF permit from DEQ. Wastewater reuse without any discharge. Hauling the wastewater off-site for proper disposal. With the necessary permits, discharge the wastewater to OLWS’s sanitary sewer system. 	<p>(1) Number of alleged illicit discharges and non-stormwater discharges which were reported each year. (2) Number of illicit discharges that were controlled.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> Respond to reports involving alleged illicit discharges within two weeks. 	<p>OLWS responded to 3 reported Illicit discharge complaints during the reporting year 2023-2024. OLWS staff investigated all 3 complaints and took actions to resolve the discharges at all 3 of the sites.</p> <p>Tracking numbers of the IDDE complaints are:</p> <ul style="list-style-type: none"> 2021-1245: WASTE MANAGEMENT TRUCK REPORT 2023-24-25: 17206 SE RIVER RD 2023-24-24: 15008 SE KRONBERG AVE <p>Records include description and follow-up response actions taken to each incident. Records available on request.</p>

Appendix A: BMP Table—OLWS 2023-2024 Summary of BMP Implementation

Best Management Practice	MS4 Permit Schedule A Requirement	BMP Description	Performance Measure	Annual Report 2023-2024
Screen Existing and New Industrial Facilities	4.b.i – 4.b.iii	<p>BMP Description: Once during the permit term, OLWS will review new industrial development applications to determine whether any existing or new facilities would be subject to an industrial stormwater NPDES permit. This determination will occur based on a review of the facilities’ proposed activities and the applicable SIC codes related to the 1200-series NPDES permit. If a facility is identified that would be subject to an industrial stormwater NPDES permit, the facility and DEQ will be notified within 30 days.</p>	<p>(1) Track the number of existing or new industrial facilities subject to a stormwater industrial NPDES permit during the permit term.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> Review new industrial development applications once during the permit term to identify additional facilities needing to obtain 1200-Z permits. 	<p>OLWS currently has 2 1200Z permit holders within its boundaries.</p> <p>No new Industrial user accounts opened in 2023-2024.</p> <p>OLWS continually reviews all new industrial facilities through its development review process.</p>
Address Other Industrial Facilities	4.b.i – iii	<p>BMP Description: The facilities that are addressed by OLWS for this BMP are those that are not required to obtain a 1200Z permit, and/or are anticipated to contribute a substantial load of pollutants to the MS4.</p> <p>Facilities will primarily be inspected on a complaint-driven basis, but it is possible that some inspections will be conducted by OLWS during source tracking activities if OLWS’s storm event monitoring work or routine monitoring work shows that excessive levels of one or more pollutants are present. All facilities that are the subject of a complaint will be inspected in a timely manner by District staff. The implementation of control measures for stormwater discharges from these facilities will be deemed necessary by OLWS if the presence of excess levels of stormwater pollution can be confirmed by OLWS. For instances where the presence of excess levels of pollution in stormwater has been confirmed by OLWS, and in the event that the discharger’s initial attempts to improve stormwater quality do not produce the required improvement, then District personnel will continue to provide guidance and technical assistance until the facility’s stormwater quality improves.</p> <p>The presence of excess levels of pollution in stormwater can generally be confirmed by two general methods: visual and analytical. Analytical methodologies include hand-held meters, and those performed by an environmental laboratory. OLWS will use visual or analytical methods at OLWS’s discretion.</p> <p>Industrial users permitted under the pretreatment program 40CFR403 have an annual facility inspection which includes a review of storm water facilities.</p>	<p>(1) Track the number of inspections performed, and where applicable, monitoring data collected.</p> <p>(2) Track the number of letters, enforcement actions, or other contacts made.</p> <p>(3) Track the number of pretreatment inspections performed.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> Notify and work with industries to improve stormwater management if an inspection is conducted that indicates improvement is needed. 	<p>With no change from last year’s report, there are 4 commercial or industrial sites anticipated to contribute a substantial load of pollutants to the MS4 during 2023-2024.</p> <ol style="list-style-type: none"> 16600 SE Kens Ct. (Blue Sky Filters) 3901 SE Naef Rd. (NW Flex Space) 3810 SE Naef Rd. (Stanley Tools) 3701 SE Naef Rd. (Buffalo Welding) <p>No enforcement actions or IDDE reports were made related to these properties. Pretreatment monitoring or routine monitoring reflected no excessive levels of pollutants.</p> <p>Of OLWS commercial or industrial accounts, Blue Sky Filters performs routine stormwater monitoring on site. There were no excessive levels of concern from the monitoring results.</p>
Construction Site Runoff Control	4.c.i – 4.c.vi	<p>BMP Description: <i>OLWS Surface Water Management Code</i></p>	<p>(1) Implement Code</p> <p>Measurable Goals:</p>	<p>OLWS adopted revised Design and Construction standards on February 18, 2021 by Resolution Number 2024- 31</p>

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Best Management Practice	MS4 Permit Schedule A Requirement	BMP Description	Performance Measure	Annual Report 2023-2024
Erosion Control Ordinances		<p>OLWS updated the Surface Water Management Code (Rules and Regulations and Design and Construction Standards) in 2018 and 2024 to match updated requirements through the MS4 permit and reconcile the SWWMP. The combined documents address regulatory and review requirements related to erosion control, tree removal, undisturbed buffers, and flow control and treatment requirements. These regulations require submittal of an erosion prevention and sediment control plan containing methods and/or interim facilities to be constructed or used concurrently with land development. Plan submittals are required to provide details of erosion control measures, schedules for construction, and a maintenance schedule for erosion control activities. OLWS administers “small lot” erosion control permits less than one acre and 1200CN permits for sites between 1-5 acres. OLWS has an agreement with Oregon DEQ for administration of the 1200-C sites greater than five acres in size.</p>	<ul style="list-style-type: none"> Update SWMC and implement new code 	<p>October 10, 2024. This document contains much of OLWS’s post-construction regulations.</p> <p>OLWS adopted a new Surface Water Management Code (Rules and Regulations and Design and Construction Standards). OLWS adopted a modified version of the Water Environment Services’ code within the 2024-2025 reporting year. Updated information will be provided in next year’s Annual Report.</p>
<p>Public Education and Outreach</p> <p>Topic: Reduce Discharges of Pesticides, Herbicides and Fertilizers</p>	4.d.iii	<p>BMP Description: OLWS administers a public education program which provides information that attempts to motivate workers and residents to reduce stormwater pollution that is caused by the application of pesticides, herbicides, and fertilizers in OLWS. Educational information is shared with the public using:</p> <ul style="list-style-type: none"> Articles in newsletters District’s website. Through local public involvement campaigns. A recent example of a recent relevant public involvement campaign is the Oregon Environmental Literacy Plan (OELP), which is enacted as part of House Bill 2544 and lays out age-appropriate environmental literacy education. Brochures <p>Common topics that are addressed by this program include:</p> <ul style="list-style-type: none"> Less harmful alternatives to the use of pesticides, herbicides, and fertilizers are provided. For example, use of ladybugs to eat insect pests is encouraged as an alternative to pesticide application. Information about the potential hazards to water quality, public health, and aquatic life associated with the misuse of pesticides, herbicides, and fertilizers in OLWS. Users are reminded that pesticide and herbicide products need to be used in a manner consistent with the product’s label. 	<p>(1) Track programs messages delivered, type of communication piece, and where appropriate, the number of people affected.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> Continue to maintain relevant public education materials on the district’s website. Prepare a minimum of one relevant article per year for inclusion with customer billing statements. 	<p>The following outreach efforts occurred last year:</p> <p>Customer outreach: Six newsletters to all customers were distributed that included surface water education topics.</p> <p>Student Outreach:</p> <ul style="list-style-type: none"> Aves Compartidas provides Spanish immersion and dual language classroom lessons on ecology, restoration and land use, and offers field experiences where students engage in habitat enhancement projects. Programming supports the teachers and students at three dual language elementary schools: Candy Lane Elementary (4 classrooms), Riverside Elementary (3 classrooms), and Milwaukie El Puente Elementary (9 classrooms). This year, ECO delivered the Aves program at Candy Lane Elementary and Riverside Elementary schools. In total, the Aves program reached approximately 130 students across 5 different classrooms. ECO delivered 20 indoor lessons, 10 outdoor lessons, and 5 walking

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<i>Best Management Practice</i>	<i>MS4 Permit Schedule A Requirement</i>	<i>BMP Description</i>	<i>Performance Measure</i>	<i>Annual Report 2023-2024</i>
				<p>field trips, totaling 1,080 contact hours of engagement. At Riverside, the program integrated into dual language classrooms for 3rd-5th grades, focusing on migratory birds like the rufous hummingbird, yellow warbler, and great blue heron, which are indicator species for water quality.</p> <p>Candy Lane’s fourth graders focused on the yellow warbler and presented their projects at the year’s end.</p> <ul style="list-style-type: none"> This winter the Environmental Learning Center (ELC) at Clackamas Community College presented Livestream episodes to K-5 students. Each of ten episodes focused on wetland ecology, wildlife, and watershed health. Student activity sheets were developed to engage students in the content; each program has an accompanying sheet. Programs aligned with NGSS. Teachers were provided recordings of the sessions in addition to links for joining the live events. This enabled them view at a time that was convenient for them. Two episodes were delivered each week, one for grades K-3 (Wetland Wildlife) and the other for grades 4-5 (Wildlife in the Watershed). 52 students were reached each episode, for a total of 520 episode impressions. <p>The ELC also offered three field trips that allowed 1st-5th grade students to discover and explore wetland and forest ecosystems. In total, 268 North Clackamas School District and 32 Oregon City School District students were reached via field trips.</p> <ul style="list-style-type: none"> This year’s ECO programming engaged approximately 400 students across Oak Grove Elementary, View Acres Elementary, Candy Lane

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				<p>Elementary, Riverside Elementary, New Urban High, and Rex Putnam High, totaling 2,100 contact hours. ECO educators delivered 44 indoor lessons, 20 outdoor lessons, and 25 walking field trips.</p> <p>At Oak Grove Elementary, View Acres Elementary, New Urban High, and Rex Putnam High, ECO reached about 270 students. These students learned a broad range of ecology topics and participated in activities like planting native plants and visiting local parks. Feedback from students showed that 79% believed kids can change the environment’s health, and 94% liked nature. One student said, “I like ECO because it is important to teach kids about our planet,” while a teacher appreciated the program’s hands-on activities and multiple lesson structures.</p> <p>Adult outreach:</p> <ul style="list-style-type: none"> • OLWS partners with the Backyard Habitat Certification Program (BHCP) to support urban gardeners in their efforts to create natural backyard habitats. This includes working with homeowners to find stormwater solutions in their yards to mimic nature by allowing runoff to soak into the ground, helping to filter out pollutants and decrease or eliminate runoff on their property. This year, in the OLWS Service Area, BHCP visited 28 properties and 5 were certified. • OLWS partners with the North Clackamas Watersheds Council to offer the Streamside Stewards Program (SSP), which works to enhance and maintain watershed health by supporting landowners along OLWS streams. Along with annual maintenance in priority habitat areas, the SSP hosts seasonal workshops on topical streamside restoration activities, and online

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				<p>watershed education classes focusing on wildlife, stream health, and community engagement opportunities.</p> <ul style="list-style-type: none"> • OLWS has partnered with EcoBiz since 2020 to provide targeted outreach and education to automotive businesses with the goal of reducing the potential loading of pollutants into the storm/sewer systems. Over the course of the fiscal year, EcoBiz reached out to 49 businesses in the Oak Lodge community. <p>EcoBiz also performed targeted outreach to auto dealerships along McLoughlin Boulevard to enlist them in piloting the Washwater BMP video. 19 businesses were reached via email, phone calls, and in person. 5 businesses agreed to have their staff watch the video, take a corresponding quiz, and report back to us with any suggestions.</p> <p>Events: OLWS participated in several events that contained water quality education for students and adults. These included the following:</p> <ul style="list-style-type: none"> • This year’s in person Clean Water Festival welcomed 755 4th-grade students from 16 schools. The event included classroom presentations, exhibitions from 31 organizations, and a stage show. Oak Lodge was an exhibitor and had a live stormwater demonstration. • The North Clackamas Watersheds Council (NCWC) partnership continues to provide public outreach benefits to people living in our service area. OLWS partnered with NCWC at once again held in-person workshops about the importance of human actions and their impact on watershed health.

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Best Management Practice	MS4 Permit Schedule A Requirement	BMP Description	Performance Measure	Annual Report 2023-2024
				<ul style="list-style-type: none"> • OLWS partnered with the Clackamas Community College Environmental Learning Center to offer a six-part online gardening workshop series. The goal was to provide homeowners with information on how to adapt their gardening practices to benefit and attract wildlife while promoting watershed health. In total, 764 people attended one or more programs. • Outreach groups: Participated in local outreach groups and public involvement campaigns, including: the Clean Rivers Coalition’s <i>Follow the Water</i> statewide campaign, Clackamas County Water Education Team (CCWET), and the Regional Coalition for Clean Rivers and Streams <i>River Starts Here</i> regional campaign. We have final reports for each program available upon request. <p>The What’s Your Lawn Style project was also developed by the Clean Rivers Coalition. This project focused on delivering integrated pest management techniques for lawn care to reduce nonpoint source runoff of pesticides and quick release fertilizers by single family residents. The education and materials from this campaign were sent to OLWS customers through our bi-monthly newsletter, website, and social media.</p> <p>Virtual outreach: Presented and contributed to creating virtual content and social media outreach relevant to water quality education information for OLWS customers, property owners, tenants, educators, and students. This included creation of paid media with KPTV (FOX 12). Messages highlighted car washing tips to help keep soap and other pollutants out of our streams, and stormwater smart yard and garden maintenance.</p>

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<i>Best Management Practice</i>	<i>MS4 Permit Schedule A Requirement</i>	<i>BMP Description</i>	<i>Performance Measure</i>	<i>Annual Report 2023-2024</i>
Education and Outreach Privately Owned SWM Facility Education	4.d.iv	BMP Description: Privately owned SWM facilities require periodic inspection and maintenance to keep them working correctly. This effort focuses on outreach and education to those private landowners who own these types of facilities	(1) Number and Type of Education and Outreach efforts specific to privately owned facility inspection and maintenance.	<p>Outreach materials and letters sent to owners engaging them in awareness, cleaning, maintenance, and functionality of their catchment systems. Provided supplemental information to owners when owners reached out requesting additional information.</p> <p>Participation in the Stormdrain Cleaning Assistance Program (SCAP) with postcards sent to 254 property owners with private storm drains on their property/business. OLWS utilized a QR code and text to sign up as well as an online electronic signup option through the OLWS website to make the process easier for business owners.</p> <p>Continued to build emails to reach all previous participants as well as new accounts with privately owned facilities to increase participation.</p>
Education and Outreach Erosion Control Contractor Training Opportunities	4.d.v	BMP Description: Provide notice to construction site operators concerning where education and training to meet erosion prevention and sediment control requirements can be obtained.	(1) Describe efforts to provide this notice	<p>Oak Lodge has four CESCL certified erosion control staff members and provides construction site operators with notice and training opportunities on an ad hoc basis during initial inspections at the start of new erosion control permits.</p>
Education and Outreach Effectiveness Evaluation	4.d.vi	BMP Description: Over the permit term, OLWS will provide information related to an effectiveness evaluation. This may be conducted in coordination with other local Phase 1 jurisdictions. The effectiveness evaluation information will focus on assessing changes in targeted behaviors and will allow for additional information that can be used in adaptive management of the OLWS education and outreach strategy.	(1) Report on activities annually. Measurable Goals: <ul style="list-style-type: none"> • Provide/compile information regarding a public education effectiveness evaluation over the permit term. 	<p>During the 2013-2014 permit year, OLWS participated in a regional study about the effectiveness of various stormwater-related public outreach efforts within Oregon. The report was commissioned through Oregon Association of Clean Water Agencies. Refer to previously submitted Appendix B for a copy of the study.</p> <p>OLWS will work with the Clackamas County Phase I co-permittees to discuss a coordinated effectiveness evaluation based on requirements of the new MS4 Permit.</p>

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Best Management Practice	MS4 Permit Schedule A Requirement	BMP Description	Performance Measure	Annual Report 2023-2024
<p>Education and Outreach</p> <p>Employee Training</p>	4.d.vii	<p>BMP Description: A variety of training is provided to staff associated with surface water management. Training and advisory committee opportunities are made available through local agencies and groups involved with a broad range of water quality issues including stormwater (e.g., Oregon Association of Clean Water Agencies conferences). Such training is provided based on need and availability.</p>	<p>Track the number of employees receiving training in stormwater management annually.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> Attend relevant stormwater management related training based on need and availability. 	<p>Specific Staff Trainings included:</p> <ul style="list-style-type: none"> OLWS Water Quality Coordinator attended Oregon ACWA’s Annual Stormwater Summit. OLWS conducted an all-staff training for new and seasoned relevant staff and provided a comprehensive overview on the MS4 Stormwater Permit with a focus on sediment control and good housekeeping practices.
<p>Public Education and Outreach</p> <p>Facilitate Public Reporting of Illicit Discharges</p>	4.d.viii	<p>BMP Description: The District implements a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges and other types of improper disposal of materials into the MS4. After District staff have received a report which relates to one of these discharges, they investigate and, if appropriate, apply control measures. See BMP #3.</p>	<p>(1)Number illicit discharges reported. (2)Number of illicit discharges requiring action. (3)Number of educational events educating public about illicit discharges and procedures to report. (4)Number of publications educating public about illicit discharges and procedures to report.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> Create a page for public complaints on the District’s website and track number of complaints for reporting. 	<p>Potential illicit discharges reported: 3</p> <p>Actions taken: 3 (see IDDE above for details)</p> <p>Educational Events: 2 – IDDE outreach/education during public meetings with customers</p> <p>Educational Publications:</p> <ol style="list-style-type: none"> Dump Smart Campaign – Painting, Carpet Cleaning and Pressure Washing (Posted on OLWS website) Where to Properly Dispose of unwanted or expired medications (Posted on website) EPA/NOAA – Keep Salmon off Drugs (Poster) Clackamas River Water Providers – Keep Pesticides and Herbicides Out of the River (Pictorial Poster) Regional Coalition for Clean Rivers and Streams – River Starts Here Campaign (Web and paid media outreach) Clean Rivers Coalition – statewide social media campaign to raise awareness about pesticide reduction <p>Public submits complaints through the information email on the OLWS website or calls staff directly. Complaints are coded in Lucity, the district’s Computerized Maintenance Management System.</p>

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Public Involvement and Participation	4.e	<p>BMP Description: Schedule A.4.e of the District’s MS4 NPDES permit requires OLWS to provide opportunity for public participation in the development, implementation, and modification of the Storm Water Management Plan (SWMP). Prior to submittal of various milestone reports, OLWS will provide the public with an opportunity to comment for a period of 2 weeks prior to submittal dates. Comments on the documents will be collected and considered.</p> <p>Additionally, OLWS has many opportunities for members of the community to participate in various sub committees that provide oversight and guidance to OLWS management related to MS4 implementation.</p>	(1) Provide for public participation with the SWMP and pollutant load reduction benchmarks prior to the permit renewal application deadline.	SWM 2023-2024 Annual Report Public Notice: posted to the website on November 1, 2024, shared with OLWS Board Members on November 12, 2024, and at the North Clackamas Watersheds Council board meeting on November 20, 2024. In addition, the website contains MS4 Permit and supporting material, with ongoing opportunities for public to comment.
Construction Site Runoff Control	4.f.i - 4.f.iv	<p>BMP Description: <i>OLWS Development Review</i></p> <p>OLWS reviews all development plans for new construction or redevelopment projects in OLWS’s service area through the building permit process. All reviews are conducted in accordance with the OLWS Surface Water Management Code (SWMC). These regulations require submittal of a surface water management plan that addresses post-construction pollutant and runoff control measures.</p>	<p>(1) Annual number of permitted, active construction projects (i.e., those projects disturbing 500 s.f. or more).</p> <p>(2) Annual number of site plan reviews and approved plans.</p> <p>Measurable Goals: Review all applicable erosion and sediment control plans submitted as part of the building permit.</p>	<p>Number of development permits issued: 5</p> <p>Acreage of development activity: 5.57 Acres</p> <p>Number of erosion control permits issued: 31</p> <p>Number of erosion control inspections completed: 247</p> <p>Number of enforcements (violations that needed enforcement action): 0</p> <p>Identify any new industrial businesses in OLWS: 0</p> <p>Variance Requests: 3</p> <p>Appeals: 0</p> <p>Estimate of total new and replaced impervious surface area related to development projects: 9.42 acres</p>
Pollution Prevention for Municipal Operations Street Sweeping	4.g	<p>BMP Description: Major arterial curbed streets within the DTD service area (which includes OLWS) are swept on a regular basis by DTD. The frequency varies depending on a variety of factors (for example, traffic volumes). For information on their street sweeping activities, refer to the DTD MS4 NPDES SWMP.</p>	<p>(1) Number of miles that were swept within OLWS</p> <p>(2) Mass or volume of material removed during sweeping</p> <p>Measurable Goals: 7) For DTD roads, see tracking measures in the DTD MS4 NPDES SWMP.</p>	<p>Street Sweeping within OLWS Boundary (MOU with CCDTD):</p> <p>(1) 68.8 Curb/ Shoulder Miles</p> <p>(2) 28.14 Cubic Yards debris removed</p> <p>(3) OLWS contracts with the City of Milwaukie to have its impervious surfaces for facilities swept once a month.</p> <p>LARA FROM CCDTD</p>

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Operations & Maintenance for Public Streets	4.g	<p>BMP Description: Operations and maintenance of public streets within the DTD service area (which includes OLWS) is the responsibility of CCDTD. This includes Winter maintenance activities for roadway operations. For information on their activities, refer to the CCDTD MS4 NPDES SWMP.</p>	<p>Measurable Goals:</p> <ul style="list-style-type: none"> • DTD Roads: See DTD’s MS4 NPDES SWMP. • Remove illegal solid waste dumps as they are discovered. • Collect sand applied for ice/snow events within 10 days of the end of the event. 	Refer to CCDTD’s MS4 Annual Report for reference to measurable goals, including Winter maintenance activities.
Control Infiltration and Cross Connections to OLWS’s Stormwater System	4.g	<p>BMP Description: OLWS prevents exfiltration of flows from municipal sanitary through the presence of a rigorous maintenance program involving routine cleaning and inspection of lines to ensure that there are very few leaks. Lines are inspected with a television camera on a periodic basis. Tree roots, which could cause leakage, are removed whenever identified.</p> <p>OLWS prohibits cross-connections in new/redevelopments through the development and building permit review and issuance process. This system, which features plan review in the office and field inspections by certified plumbing inspectors, ensures that fixtures that need to be plumbed into OLWS’s sanitary sewer system or a private septic system are actually plumbed into those systems, preventing hundreds of illicit discharges per year. OLWS is able to identify and control the exfiltration of flows from municipal sanitary sewers when it occurs by:</p> <ul style="list-style-type: none"> • Performing dry-weather inspections at all major or priority outfalls on an annual basis to detect non-stormwater flows, and • Receiving and promptly responding to reports from citizens of unusual colors, odors and solids. 	<p>(1) Number of cross-connections/ sanitary discharges identified.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Eliminate any identified sanitary discharges to the storm system. 	No Cross-connections were found during the 2023-2024 permit year.
Flood Management Projects and Water Quality	4.g	<p>BMP Description: There are two Components to this BMP. The first is to ensure that water quality is assessed and addressed when developing capital improvement projects (CIPs) for flooding. The second is to examine the existing system to determine whether water quality retrofits would be beneficial and feasible.</p> <p><u>CIPs:</u> OLWS develops 5- and 10-year Capital Improvement Plans to identify major projects necessary to address water quality concerns. One of the main goals and outcomes of the CIP is to prioritize what stormwater management actions and activities should be conducted in specific sub-basin areas, such as where to assist the operations and maintenance program in targeting specific activities in various locales.</p>	<p>(1) Number of retrofits constructed that address water quality treatment.</p> <p>(2) Number of flood management projects implemented or constructed and the percentage of those projects that include water quality Components.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Ensure all planned stormwater CIPs include consideration of water quality. 	Oak Lodge Water Services continues to fund North Clackamas Watersheds Council’s (NCWC) Streamside Stewards Program which enhances water quality and streamside health. OLWS refers to and helps prioritize restoration and enhancement projects from NCWC’s Watershed Action Plan, to improve water quality and floodplain function. OLWS funds the Backyard Habitat Certification Program in partnership with the Columbia Land Trust and the Bird Alliance of Oregon. This program educates and informs the public on yard maintenance options that limit the use of herbicides and pesticides on

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		Another main goal of the CIP is to build projects to protect, restore, and enhance the health and function of a watershed.		private property which can get into our streams and reduce water quality.
Maintenance of Conveyance System Components and Structural Controls	4.g	<p>BMP Description: OLWS maintains conveyance and treatment components of the storm water system that are located outside the right-of-way of publicly owned roads in maintenance agreement subdivisions or that are owned by OLWS. The conveyance components include, but are not limited to, culverts, storm sewer lines (8" or greater in diameter) and inlets. The stormwater treatment components of the system include, but are not limited to, vegetated aboveground stormwater detention facilities, sedimentation manholes, and various types of underground proprietary pollution control systems. Maintenance records are kept by both DTD and OLWS.</p> <p>OLWS and DTD are working on the development of an intergovernmental agreement to clarify and coordinate maintenance activities.</p>	<ol style="list-style-type: none"> (1) Miles of ditches and storm lines maintained (2) Number and type of components inspected and/or cleaned, and (3) Mass or volume of material removed during cleaning 	<ol style="list-style-type: none"> (1) Ditch Cleaning by CCDTD: 614 ft (2) Culverts Cleaned by CCDTD: 3 culverts (3) Mass of Debris Removed by CCDTD: 2.16 cubic yards of material. <p>ELAINE AND CCDTD</p>
Catch Basin Cleaning and Maintenance	4.g	<p>BMP Description: OLWS cleans all District owned or District operated/maintained catch basins once every five years. Catch basin cleaning activities primarily occur during the dry weather season, but during the fall, certain catch basins may be cleaned more frequently if needed. Utility crews utilize a database to document inspection and maintenance activities for the annual reports. Repair or replacement of public catch basins is scheduled following inspection.</p>	<ol style="list-style-type: none"> (1) Track the number of District owned or District operated/maintained catch basins cleaned per year. (2) Track the mass or volume of debris removed during cleaning activities. <p>Measurable Goals:</p> <ul style="list-style-type: none"> • Clean OLWS District operated/maintained public catch basins on a 5-year rotational basis. • Schedule repair or replacement of catch basins based on inspection results. 	<p>During this reporting period, OLWS and CCDTD continued a coordinated approach to storm system inspection and maintenance (see updated SWMP Zone Map).</p> <ol style="list-style-type: none"> (1) Catch basin Inspections: 429 (2) Catch basins and Structures Cleaned: OLWS: 139 (3) Structures Cleaned by CCDTD: 5 (4) Structures Cleaned by SCAP contractor: 23 (5) Mass of Debris Removed by OLWS: 94.76 Cubic Yards (6) Mass of Debris Removed by CCDTD: 0.59 CY (7) Mass of Debris Removed by SCAP: SCAP 5.58 CY. <p>CCDTD</p>
Private Surface Water Facility Maintenance Program	4.g	<p>BMP Description: This BMP includes maintenance agreements for stormwater quality and detention structures in residential areas. There are very few of these facilities in OLWS.</p> <p>This infrastructure varies from subdivision to subdivision but may include any of the following: catch basins, below-ground stormwater detention tanks, above-ground storm water detention and/or water quality ponds, below-ground vortex separators, and swales.</p>	<ol style="list-style-type: none"> (1) Number of structures inspected and cleaned. 	<p>7 Ponds and 34 Private Facility assets inspections were completed in the 2023-2024 permit year.</p> <p>A letter was sent to 50% of owners of single-family private facilities with OLWS SWM Facility Agreements explaining the requirement to clean and maintain facilities.</p> <p>SWM Assets that required cleaning were completed.</p>

Appendix A: BMP Table—OLWS 2023-2024 Summary of BMP Implementation

<i>Best Management Practice</i>	<i>MS4 Permit Schedule A Requirement</i>	<i>BMP Description</i>	<i>Performance Measure</i>	<i>Annual Report 2023-2024</i>
Hydromodification Assessment	5.a – 5.d	<p>BMP Description: OLWS anticipates partnering with adjacent co-permittees (CCSD#1, CCDTD) to develop a simplified tool for development engineers to easily size LID BMPs to address the duration of elevated flow levels in addition to addressing flow volumes and peaks. Use of the tool in designing LID BMPS is expected to ultimately address the long-term impacts of increased runoff from development. To address flow durations, a long-term continuous simulation of hydrology is required. As a result, designing and sizing BMPs becomes more complicated than traditional design practices focused on a single design event. In order to make the BMP design process easier for the development community, neighboring states have developed a sizing tool. Currently, there are no BMP design/sizing tools to address the impacts of Hydromodification that are applicable to local conditions such as rainfall patterns and critical channel forming flows. This tool will provide a simple, consistent and defensible methodology for designing/sizing LID throughout Clackamas County and the region to address Hydromodification impacts.</p>	<p>(1) Net impervious area treated by LID. (2) Number of applications submitted using tool. (3) Customer Feedback/ Community Relations.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> The primary goal is to develop, by June 30, 2013, a tool to assist development engineers with the design/sizing of stormwater management facilities in order to reduce target pollutants and stream degradation impacts (i.e., Hydromodification) associated with the development of impervious surfaces. 	<p>In the OLWS SWMC code documents, stormwater management facility sizing guidelines accept two co-permittee tools; the WES sizing tool and the City of Portland PAC tool.</p> <p>OLWS's Design and Constructions standards require surface water detention and flow control. Most developments are required to detain to the 2-year, 24-hour post-developed runoff rate to a ½ of the 2-year, 24-hour pre- developed discharge rate. In areas of hydromodification concern, the standard is reduced to ½ of the 2-year, 24-hour predeveloped discharge rate.</p> <p>Additionally, in 2019, Oak Lodge implemented a permit review software system (Accela) which tracks impervious surfaces more accurately and precisely than previous systems for future hydromodification assessment and treatment tracking.</p>

