

Underground Injection Control Management Plan

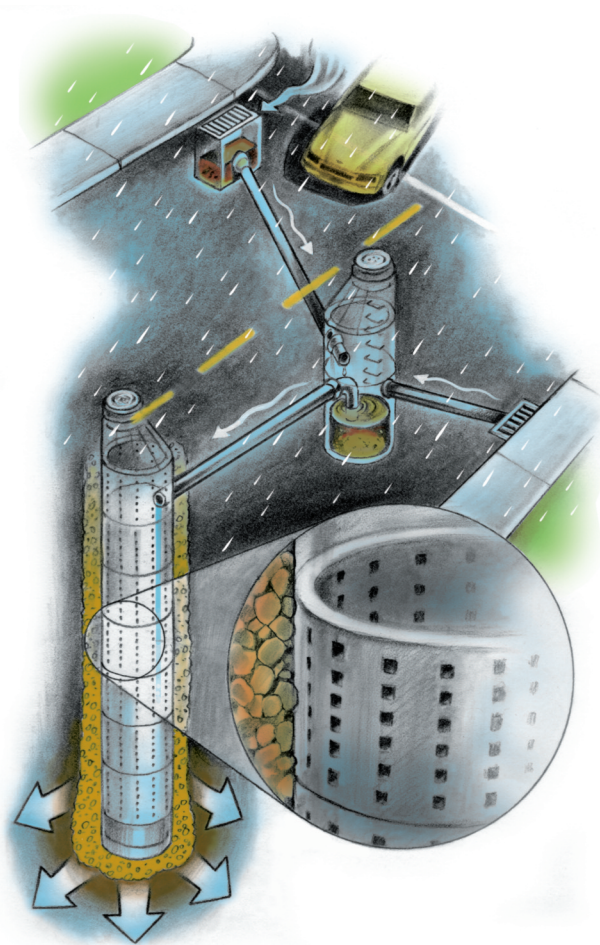
Water Pollution
Control
Facilities (WPCF)
Permit

Class V Stormwater
Underground
Injection Control
Systems

DEQ Permit
Number
102830

■

Annual Report Year 9 (2015 Permit) Fiscal Year 2023-2024 (July 1, 2023 – June 30, 2024)



November 1, 2024



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City of Portland, Oregon

**Water Pollution Control Facilities (WPCF) Permit For
Class V Stormwater Underground Injection Control Systems**

Permit Number: 102830

Underground Injection Control Management Plan Annual Report No. 9 (2015 Permit)

**Fiscal Year 2023–2024
(July 1, 2023, to June 30, 2024)**

November 1, 2024

Prepared By:
City of Portland, Bureau of Environmental Services

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Acronyms and Abbreviations

BDS	Bureau of Development Services
BES	Bureau of Environmental Services
BMP	best management practice
BPS	Bureau of Planning and Sustainability
CSSWF	Columbia South Shore Well Field
DEQ	Oregon Department of Environmental Quality
ET	Education and Training
FIT	Stormwater Facility Inspection Team
ft ²	square foot/feet
FY	fiscal year
GWPD	groundwater protectiveness demonstration
N2R	Neighborhood to the River
OM	operations and maintenance
PC	Pollution Control
PBOT	Portland Bureau of Transportation
PM	Program Management
PP&D	Portland Permitting and Development
PP&R	Portland Parks and Recreation
PWB	Portland Water Bureau
ROW	right-of-way
RV	recreational vehicle
SA	Systemwide Assessment
SCM	<i>Source Control Manual</i>
SDC	system development charge
SDMP	Stormwater Discharge Monitoring Plan
SMF	stormwater management facility
SPCR	Spill Protection-Citizen Response
SWMM	<i>Stormwater Management Manual</i>
UIC	underground injection control
UICMP	<i>UIC Management Plan</i>
WHPA	Wellhead Protection Area
WPCF	Water Pollution Control Facility

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Executive Summary

Introduction

This *Underground Injection Control Management Plan (UICMP) Annual Report No. 9 (2015 Permit)* is submitted to the Oregon Department of Environmental Quality (DEQ) to fulfill reporting requirements for the City of Portland's (City's) Water Pollution Control Facilities (WPCF) Permit for Class V Stormwater Underground Injection Control (UIC) Systems. This report summarizes UIC Program activities during the 2015 Permit reporting year, Year 9 (July 1, 2023, through June 30, 2024).

Background

DEQ issued the City's second WPCF Permit on May 19, 2015. As required by the Permit, the City submitted a UICMP, which DEQ approved on March 24, 2015. The UICMP describes the activities the City will implement throughout the second permit term (June 1, 2015, to May 31, 2025) to protect groundwater and meet WPCF Permit requirements. The Permit also requires the City to submit a UICMP annual report that summarizes the status of implementing the UICMP and each of its components.

The UICMP and the annual report are organized into the following major program elements:

- **System Management** includes ongoing, programmatic activities (best management practices, or BMPs) that prevent, minimize, or control pollutants.
- **System Monitoring** includes ongoing actions to demonstrate that UICs are operated in a manner that protects groundwater and meets WPCF Permit conditions.
- **Response** describes the process and criteria used to identify and implement actions needed to protect groundwater and meet Permit requirements. Corrective actions address UICs that do not meet WPCF Permit requirements.

This annual report describes the activities that occurred from July 1, 2023, through June 30, 2024 (Fiscal Year [FY] 2023–24) in each of these areas. Key accomplishments are summarized below and described in more detail in the body of the report.

Key Accomplishments

Many City stormwater programs focus on preventing adverse impacts to its stormwater management system. In turn, these programs increase the level of protection for groundwater and surface water and improve the overall health of the City's watersheds. Though some of the key accomplishments summarized below are UIC-specific management actions, many are implemented on a citywide basis and help the City manage stormwater as a whole and not just in the areas where stormwater is discharged through UICs.

System Management

UIC-Specific Management Actions

- Continued ongoing evaluation of City UIC characteristics to update the UIC Registration Database; submitted updates to DEQ with this report.
- Received and responded to 105 calls regarding spills located within or near an area where UICs are the primary method of stormwater management.
- Continued to educate and train employees on WPCF Permit requirements and groundwater protection, including duty officer training on the Bureau of Environmental Services (BES) spill-response hotline and procedures.
- Coordinated with other bureaus on source control, operations and maintenance (OM), spill prevention and response, and development review for UICs and groundwater protection.
- Provided ongoing coordination with other City bureaus that own UICs. Responded to UIC site-specific questions and discussed OM practices.
- Coordinated with the Portland Permitting and Development (PP&D), formerly the City's Bureau of Development Services, on UIC design standards and the City's review and approval process for UICs registered on private property.
- Continued evaluation that led to implementing improvements to the registration process for both public UICs in the ROW and private UICs on City property.
- Cleaned approximately 2,523 UIC sedimentation and sump maintenance holes.
- Repaired UIC sedimentation and sump maintenance holes, and storm inlets and inlet leads as needed.

Citywide Management Actions

- Issued 46 enforcement actions in response to pollution complaints citywide, with proposed penalties and costs totaling \$32,905.
- Conducted 148 groundwater-related inspections of regulated businesses in the Columbia South Shore Well Field Wellhead Protection Area (CSSWF WHPA).
- Partnered to provide technical assistance to 40 businesses affected by the CSSWF Wellhead Protection Program.
- Involved approximately 11,908 participants and volunteers in community events, including paddling events, natural planting projects for students in natural areas and developed parks, trash clean-ups and education for unhoused community members, and restoration events using Indigenous Traditional Ecological and Cultural Knowledge.
- Delivered 321 Clean Rivers Education programs to students, despite challenges affecting Portland Public Schools, such as a 1-month closure and school bus shortages.
- Conducted and approved 3,474 erosion control-related inspections of construction sites citywide. (Erosion control inspections resulted in 41 enforcement actions and corrections notifications).

- Approximately 1,785 development permits were issued that required erosion and sediment control plan review and inspection.
- Conducted 295 land use reviews at properties subject to *Stormwater Management Manual* (SWMM) requirements. Implemented 470 SWMM-related development projects with constructed stormwater management facilities (SMFs) citywide during the reporting period. Managed 145 acres of impervious area via SMFs constructed citywide area during the reporting period.
- Awarded Community Watershed Stewardship grants, Neighborhood to the River grants, and Percent for Green Program grants totaling over \$1.8 million.
- Updated and posted fact sheets, brochures, and educational materials on the BES website and Facebook page.
- Mailed 1,692 maintenance reminders to single-family residential homeowners with vegetated SMFs.
- Inspected 2,102 private SMFs for OM requirements.
- Recorded 232 OM Agreements for 519 SMFs.
- Issued eight enforcement actions (i.e., warning notices, notices of violation, and compliance orders) and 409 corrective actions.
- Implemented 470 citywide projects with constructed SMFs managing 145 citywide acres of impervious surface.
- Removed 5,928 cubic yards of material from storm inlets and catch basins.
- Cleaned and inspected 13,021 inlets and 1,615 trash racks.
- Swept arterial roadways five to six times during the year.
- Removed 3,672 tons of material from City roadways.

System Monitoring

- Implemented FY 2023-24 stormwater compliance monitoring. Sampled 15 UICs located in areas of shallow groundwater and tested for pollutants required by the 2015 Permit.
- Compiled and evaluated stormwater data included with this report. There were no FY 2023–24 exceedances of 2015 Permit action levels.

Response

- Evaluated UICs for corrective action response due to database updates, monitoring results, or spill response.
- Evaluated FY 2023–24 data to ensure that no major changes occurred in the City’s depth-to-groundwater estimates and evaluated monitoring data to confirm the results of groundwater protectiveness demonstrations conducted during the 2005 Permit term.
- Confirmed no new UICs needed corrective action during FY 2023–24.

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1 Introduction

1.1 Overview

The Oregon Department of Environmental Quality (DEQ) renewed the City of Portland’s (City’s) Water Pollution Control Facilities (WPCF) Permit for Class V Stormwater Underground Injection Control Systems (UICs; Permit No. 102830) on May 19, 2015.¹ As required by this 2015 Permit, the City submitted a UIC Management Plan (UICMP), which was submitted as part of the permit renewal package and DEQ approved on March 24, 2015. The UICMP describes the activities the City will implement throughout the 2015 Permit term (June 1, 2015, to May 31, 2025) to protect groundwater and meet WPCF Permit requirements.

The 2015 Permit also requires the City to submit a UICMP annual report that summarizes the status of implementing the UICMP and each of its components. Accordingly, this annual report provides information about key accomplishments during the ninth fiscal year (FY) of permit implementation (July 1, 2023, through June 30, 2024, also known as FY 2023–24) and identifies activities planned for implementation in the next fiscal year where applicable.

Table 1-1 summarizes the 2015 Permit requirements for the annual report and identifies where the requirements are addressed in this annual report.

Table 1-1. Summary of the City’s 2015 Permit Annual Report Requirements

Annual Report Requirement (as identified in Schedule B.5 of the 2015 Permit)	Where Requirement Is Addressed in this Annual Report
System Monitoring	
Results of stormwater monitoring conducted in accordance with the Stormwater Discharge Monitoring Plan	Appendix C and Section 3.1.1
Spreadsheet of all data from sampled UICs provided in analytical laboratory reports	
Evaluate and report trends in emerging pollutant types and concentrations required by Schedule D, Condition 6 (<i>fourth-year report and for permit renewal only</i>)	
Discuss any Schedule A, Table 1, action-level exceedances, and actions taken to address the exceedances	

¹ Information about the City’s first WPCF Permit term (2005–2015) can be found in its annual UICMP reports for 2005 through 2015.

System Management	
Description of actions taken to implement the UICMP. <i>UICMP requirements are as follows:</i>	Section 2: Key accomplishments are listed for each best management practice (BMP)
Decommissioning activities	Section 2.2.1 and Appendix A
Employee education and public outreach	ET-1, ET-2 (Section 2.4)
Operations and maintenance and inspection protocols	OM-1, OM-2, OM-3, ET-2 (Sections 2.4 and 2.5.3)
Accidental spills/illicit disposal	ET-1, ET-3, PC-1, PC-2 (Sections 2.4 and 2.6 and Appendix B)
Preventing discharge of stormwater from refueling areas, hazardous/toxic material storage/handling areas, materials storage/handling areas, or other discharges that may contain pollutants above levels of concern ²	ET-2, ET-3, OM-3, PC-1, SA-1 (Sections 2.4, 2.5.3, 2.3.1, and 2.2)
Housekeeping practices to protect groundwater quality	ET-2, ET-3, OM-1, OM-2 (Sections 2.4 and 2.5)
Facility designs and practices that block discharges to UICs	PC-1, PM-1 (Sections 2.3.1 and 2.6.1)
Site control measures and BMPs (Schedule A, Condition 7)	OM-1, PC-1 (Sections 2.5.1 and 2.3.1)
Description of any proposed modifications to the UICMP	Section 1.5
Description of any additional actions taken to manage the UIC system to ensure groundwater protection	Section 2.8
Description of any actions included in the UICMP that were not completed and why	Section 2.9
Identification of UICs closed, retrofitted, or installed during the year	Section 2.2.1 and Appendix A
Future (in the next year) plans to install, modify, convert, or close any UIC	Section 2.7
Changes to key personnel or areas of responsibility for the Permit	Section 1.4.2
Identification of any newly discovered UICs	Section 2.2.1 and Appendix A
Adaptive Management	Section 2.10

² The Systemwide Assessment (2015) did not identify any City-owned or -operated UICs located in refueling areas, hazardous or toxic material storage or handling areas, or materials storage or handling areas.

Response	
Progress reporting on corrective actions	Section 4
Report of all instances of noncompliance and other Permit violations that are not reported per Schedule F.4.e. (compliance schedule) or F.4.f (24-hour and 5-day reporting)	Section 4.5

1.2 Overview of the UICMP

The UICMP meets the requirements of the City’s 2015 UIC WPCF Permit. These requirements specify that the City prepare and implement a written UICMP that includes a systemwide assessment, system controls, monitoring, and a plan for recordkeeping and reporting.

The UICMP is organized into the following three major elements:

- **System Management** includes ongoing, programmatic activities (best management practices, or BMPs) that prevent, minimize, or control pollutants before they discharge to a UIC. BMPs include structural, nonstructural, and institutional controls. They are organized into the following five categories:
 - Systemwide Assessment
 - Pollution Control
 - Education and Training
 - Operations and Maintenance
 - Program Management
- **System Monitoring** includes ongoing actions to demonstrate that UICs are operated in a manner that protects groundwater and meets WPCF Permit conditions.
- **Response** uses data and information from system monitoring and system management to identify any UICs that may be a threat to groundwater protection and thus are out of compliance with the Permit. When a UIC is identified as such, corrective action is required to evaluate the threat and may result in either further action to bring the UIC into compliance or closure of the UIC. The objective of the response is to improve or correct conditions at a UIC or group of UICs.

1.3 Legal Authority

The Charter of the City of Portland grants broad authority to the City “to exercise any power or authority granted to the City by statute... and [provides that the City] may do any other act necessary or appropriate to carry out such authority, or exercise any other power implied by the specific power granted.” Such authority includes, among other things, “all powers commonly

known as the police power to the same extent as the State of Oregon has or could exercise said power... and to make and enforce... all necessary or appropriate water, local, police, sanitary and safety laws and regulations” (Chapter 2-105, *Charter of the City of Portland, Oregon*).

In addition, the Portland City Code addresses the regulation of stormwater discharges, building requirements, zoning, erosion and sediment control, and public improvements in Chapters 10, 17, 24, 29, and 33, respectively. Chapters 17.38 and 17.39 specifically address Drainage and Water Quality and Stormwater Discharges, respectively.

1.4 UIC Program Staff

1.4.1 Key Roles and Responsibilities

The 2015 Permit designates the Bureau of Environmental Services (BES) as the bureau responsible for implementing the Permit and for identifying and managing the regulatory and technical components of the UIC Program citywide and across bureaus. Key staff roles and responsibilities for the UIC Program are summarized in the UICMP.

1.4.2 Personnel Changes

There were no personnel changes in UIC Program staff in FY 2023–24. It is important to note that though there were no personnel changes in the past Permit year, the City is going through a change in structure, which is discussed in more detail in Section 2.6 (Program Management). It is not expected that this change will affect immediate UIC Program staff; however, it is expected that the overall leadership structure could be impacted in the upcoming year.

1.5 Proposed Changes to the UICMP

There are no proposed changes to the UICMP at this time.

1.6 City Budget and Funding

The City has invested more than \$2 billion in stormwater management services and facilities over the past 29 years.³ The revenue requirements for FY 2023–24 totaled approximately \$178.1 million.

In FY 2024–25, the City plans to invest \$219.5 million in stormwater management services and facilities, which reflects the updated cost-of-service results. Direct monthly user fees will pay for 83.6% of these investments.

³ The 29-year time period reflects the implementation period of the City’s National Pollutant Discharge Elimination System permit.

Stormwater Management Charges

Portland City Council approves revised stormwater system monthly user fees at the start of each fiscal year. Monthly system user fees are adjusted to reflect the operating, maintenance, and capital costs of the City’s sanitary sewer and drainage system. The rate adjustments are based upon cost-of-service principles, ensuring equity by charging ratepayers according to the amount of sewer and drainage service they use.

The City completed a rate study with implementation beginning in FY 2024–25. The rate study produced several revenue-neutral changes for stormwater charges:

- The term used for the rate per 1,000 square feet (ft²) is now “stormwater billable area” (SBA), as opposed to “impervious area.” These terms are defined in Portland City Code 17.36.020.
- The rate study added a new billing statistic to the stormwater charge—Equivalent Service Units (ESUs)—based on dwelling units for residential customers and the SBA for nonresidential customers. ESUs reflect impacts on the stormwater system that are not solely impacted by the built environment.
- Single dwelling customers are charged a tiered rate based on the SBA instead of a flat rate per dwelling.

Table 1-3 reports the change over the Permit term (2015–2025) in the monthly single-family stormwater management charge and in the monthly stormwater rate per 1,000 ft² of impervious area. It also includes the anticipated monthly stormwater management charges for the next fiscal year (2024–25), which were adopted in March 2024.

Table 1-3. Stormwater Management Charges and Rates

Stormwater Management Monthly Charges and Rates	2015	2023–24	Percent Change	Adopted 2024–25
Single-family residential charge	\$26.59	\$32.00	20.3%	\$38.59
Residential rate (\$/1,000 ft ² of stormwater billable area)	\$11.08	\$13.335	20.4%	\$13.680
Nonresidential rate (\$/1,000 ft ² of stormwater billable area)	\$11.55	\$13.907	20.4%	\$14.252
Residential and Nonresidential Rate (\$/service unit)	\$0	\$0	0	\$5.76

Stormwater System Development Charges

In addition to stormwater system monthly user fees, Portland City Council also approves revised stormwater system development charges (SDCs) for new development and significant redevelopment at the start of each fiscal year. All development projects that create a new or increased demand on the public sewer and drainage system are subject to SDCs. These charges are intended to promote equity between new and existing customers by recovering a proportionate share of the cost of existing and future capital facilities that serve or will serve the developing property.

Stormwater SDCs for residential and nonresidential development are based on the net increase of impact on the storm system using measured square feet of SBA on a site. The City determines the stormwater SDC by multiplying the development’s net increase of SBA by the current stormwater SDC rate.

Table 1-4 reports the change over the Permit term (2015–2025) in the monthly SDC charges. It also includes the anticipated monthly SDC charges for the next fiscal year (2024–25), which were adopted in March 2024.

Table 1-4. Stormwater System Development Charges (SDCs) and Rates

SDC Charges and Rates	2015	2023–24	Percent Change	Adopted 2024–25
Onsite portion (\$/1,000 ft ² of stormwater billable area)	\$183.00	\$259.00	41.5%	\$507
ROW portion (\$/linear foot of frontage)	\$5.84	\$8.36	43.1%	\$0
ROW portion (\$/vehicle trips)	\$3.12	\$4.67	49.7%	\$0

1.7 Organization of the Annual Report

The remainder of this annual report contains the following sections:

Section 2: System Management identifies citywide BMPs implemented to prevent, minimize, and control pollutants before infiltration. Where relevant, it also identifies projected main activities for FY 2024–25. The following appendices provide additional detail about System Management activities:

Appendix A identifies UICs added and removed from service during FY 2023–24 (including closure reports for decommissioned UICs, provided electronically).

Appendix B identifies spills that occurred within areas serviced by UICs.

Section 3: System Monitoring summarizes compliance monitoring.

Appendix C presents the annual results of the City’s 2015 Permit-required UIC monitoring.

Section 4: Response identifies response actions conducted during FY 2023–24 and those projected for the next fiscal year (FY 2024–25).

2 System Management

2.1 Overview

The System Management program element involves a series of actions, called BMPs, which serve to prevent, minimize, and control pollutants in stormwater prior to discharge to a UIC. These BMPs are organized into the following five general categories and are applied to the entire UIC system on an ongoing basis:

- Systemwide Assessment (SA-1)
- Pollution Control (PC-1 and PC-2)
- Education and Training (ET-1, ET-2, and ET-3)
- Operations and Maintenance (OM-1, OM-2, and OM-3)
- Program Management (PM-1 and PM-2)

These BMPs are presented in the following sections in bold and shaded text, together with key accomplishments for FY 2023–24. Additional information about each BMP can be found in the 2015 UICMP.

Although this report is focused on the City’s management of its UIC system, it is important to understand that many programs detailed in this section provide stormwater management benefits (improved water quality, groundwater and stormwater protection, and increases in overall watershed health) across the entire city and not just to areas that discharge stormwater to UICs.

2.2 Systemwide Assessment (SA)

The purpose of the SA BMP is to identify, evaluate, track, and report on spatial and physical characteristics of existing and new City-owned and -operated UICs. This enables the City to evaluate whether drainage entering individual UICs may pose a risk to groundwater, as well as to overall watershed health, as a result of these characteristics. Ongoing activities necessary to provide stormwater drainage infrastructure include the registration and construction of new UICs, replacement of existing UICs, and decommissioning of existing UICs. This BMP category focuses on updating information related to the location and physical characteristics of existing and new UICs. It fulfills two WPCF Permit requirements:

- Develop and implement a comprehensive UIC Registration Database.
- Evaluate UICs for factors that could present a risk to groundwater quality.

The 2015 Permit requires the SA to be revised at the end of the fifth year of the Permit term. A review was completed and the revised SA was submitted as part of the FY 2019–20 annual UIC report.

SA-1: Inventory and Assess City-Owned UICs

2.2.1 SA-1: Key Accomplishments

- Submitted UIC Registration Database updates to DEQ with this report. All updated UIC database information will be posted by November 1, 2024, to DEQ’s Your DEQ Online, the Environmental Data Management System for DEQ. The files provide information on all new and removed UICs as well as any attribute changes to existing information currently included in the UIC database.
- Identified 78 new public UIC⁴ records in UIC Registration Database updates. These UIC records are listed in Appendix A and include:
 - 15 UICs that were discovered in the field.
 - 5 of the 15 UICs that were found in the field (Well #10464, 10465, 10466, 10467, and 10468) and were both registered and decommissioned in FY 2023–24, and in both the UIC Records Added and the UIC Records Removed tables.
 - 63 new Active or Under Construction registrations.
- Removed or changed the status⁵ of 12 public UIC records in UIC Registration Database updates. These records are listed in Appendix A.
- Decommissioned 16 UICs during FY 2023–24. Of these 16, three UICs were found to have been removed in previous years, but notifications were sent to DEQ in FY 2023–24. Closure reports are provided electronically as part of Appendix A.
- Other changes to database records made as part of the update included the following:

Updates	Database Record
83	Maintenance period
79	Operational status
0	Addresses
72	Latitude
72	Longitude
0	Distance to the nearest water well
64	Distance to the nearest wetland
64	Distance to the nearest surface water
0	Size of impervious area
15	UIC pretreatment
371	Installation date

⁴ Some UICs identified as new facilities may not be recently discovered or newly constructed UICs. UICs may be identified as new due to database management. For example, correcting a database identifier for a facility from “sedimentation manhole” to “UIC” would make the UIC appear to be a new sump in the BES database, even though the facility itself is not new.

⁵ The reasons for removal may include being identified as not existing through field investigations, change in ownership, or data error. The reason for changing status (e.g., from “active” to “closed”) is UIC decommissioning.

Updates	Database Record
31	UIC depth and diameter
155	Depth-to-groundwater
10,375	Date updated
0	Discharge rate

2.3 Pollution Control (PC)

Activities and practices such as spills, illegal disposal, improper site management, and erosion can increase the discharge of pollutants to public UICs, with potential negative impacts to groundwater. This BMP category focuses on reducing such pollutant discharges from both public and private sites and activities. It fulfills two 2015 Permit requirements:

- Implement spill prevention and pollution control.
- Identify activities conducted on commercial/industrial properties that may result in a violation of action levels in stormwater discharging to a public UIC.

PC-1: Identify, prevent, minimize, and control activities that can increase pollutant discharges to public UICs. These activities include illegal dumping of solid and liquid wastes (such as paint, used motor oil, or solvents) into catch basins; accidental or unplanned discharges (such as car accidents and firefighting activities); site uses that may generate pollutants; and construction site activities.

2.3.1 PC-1: Key Accomplishments

Spill Prevention and Pollution Control

- Continued to respond to pollution complaints citywide and issued enforcement actions for violations of Portland City Code 17.39 for prohibited discharges. During FY 2023–24, 46 enforcement actions were issued citywide, with proposed penalties and costs totaling \$32,905.
- Continued to implement City programs, which included improving ongoing citywide pollution control activities to identify and control activities on private properties and commercial/industrial properties where site activities (e.g., illegal disposal, improper storage and handling of materials, and erosion) could result in a violation of action levels in stormwater discharging to a UIC.

Spill Protection-Citizen Response (SPCR) Team

The SPCR team responds immediately to spill emergencies and investigates pollution complaints regarding spills, illegal disposal, improper site management, and erosion. The team supports the entire City, including areas that use UICs for stormwater management. Citizens can call in reports on a dedicated spill-response hotline 7 days a week, and staff are available 24 hours a day to respond to spills, slicks, and other suspicious or inappropriate discharges. The program refers problems to other local or state agencies for response and enforcement as appropriate. The SPCR

team also provides education and technical assistance to property owners to improve site management and address work practices that may impact stormwater discharges (see ET-3, Education and Training, Key Accomplishments).

The SPCR team received 105 calls regarding spills located within or near an area where UICs are the primary method for stormwater disposal. Appendix B shows this information in table format, including date, release type, volume, location, identification of the closest City-owned UIC catch basin, and if the spill entered a City-owned UIC.

Of the 105 reported spills, 20 reached a UIC system.

- Sixteen UIC systems were inspected and cleaned. It was determined that once cleaned, the volumes of turbid water and recreational vehicle (RV) and auto fluids entering these UIC systems did not pose a threat to groundwater, and the cases were closed.
- One of the impacted UIC systems (four sumps in series) was located in Cully Park. This case was referred to DEQ for response, which included input from the DEQ UIC Program. Because the discharges were from an adjacent property, no cleaning was required.
- One of the UICs was impacted by wash water from a carpet cleaning business; it was not cleaned due to a major snowstorm.
- Lastly, two UIC systems were impacted by either soapy or chlorinated water. These UICs were inspected but not cleaned.

Follow-up activities were conducted regarding a release that occurred in 2018 at Starks Auto Shop at 5330 N Columbia Court. In FY 2019–20, the City worked with Starks to develop a stormwater pollution control plan that was accepted in June 2020. The City continues to inspect and review site management activities in accordance with the pollution control plan.

Regional Spill Response Committee

The Regional Spill Response Committee reconvened in FY 2023–24 after a 4-year hiatus due to a combination of the COVID-19 pandemic and SPCR’s prioritization of backlogged enforcement actions. SPCR participates in the committee, which solicits input about new participants and meeting topics, and increases coordination with emergency responders and planners. The committee typically includes representatives from various City bureaus, DEQ, the U.S. Coast Guard, Clackamas County Water Environment Services, the Port of Portland, and the City of Gresham.

Columbia South Shore Well Field Wellhead Protection Program

The City provides outreach and technical assistance to businesses and residents in the Columbia South Shore Well Field Wellhead Protection Area (CSSWF WHPA) to help them comply with local drinking water source protection regulations. These regulations are designed to prevent contamination of groundwater used as the drinking water source. During FY 2023–24, the City continued to implement the CSSWF Wellhead Protection Program and reference manual for the City of Portland (also in effect in Gresham and Fairview) within the CSSWF WHPA overlay zone. Businesses in the area are required to implement structural and operational BMPs to manage harmful chemicals, reduce the occurrence of spills, and minimize spill impacts. The

program also includes education and outreach efforts to affected residents and businesses and one-on-one technical assistance to help businesses comply with program requirements (See ET-3).

Key accomplishments included the following:

- Conducted 148 groundwater-related site inspections in the CSSWF WHPA of regulated businesses for compliance with the City’s *Wellhead Protection Area Reference Manual*.

Source Control Measures

Development Planning and Pollution Prevention Plan Review teams, now part of Portland Permitting and Development (PP&D), conduct land use and pollution source control permit reviews associated with commercial and industrial properties subject to requirements in the City’s *Source Control Manual (SCM)*. The SCM (formerly part of the SWMM) requires storm and sanitary source controls for site uses and characteristics that generate, or have the potential to generate, specific pollutants of concern. These requirements apply to new development and post-development activities that are considered “high-risk” or pollutant-generating. The manual identifies structural, operational, and treatment BMPs designed to prevent or control conventional and toxic pollutants in stormwater, groundwater, and wastewater.

Also, in Spring 2021, BES hired a new Toxics Reduction Program Manager to oversee the SCM and develop a program to inspect and ensure proper maintenance of required BMPs.

Key accomplishments included the following:

- Conducted 295 land use reviews at properties subject to SWMM requirements. Implemented 470 SWMM-related development projects with constructed stormwater management facilities (SMFs) citywide during the reporting period. Managed 145 acres of impervious area using SMFs constructed citywide during the reporting period.
- Continued to require and install source control measures at commercial and industrial properties. (Note: When the SWMM is applied, drainage from high-risk areas is prohibited from entering public UICs, and stormwater is managed onsite.) Continued to implement the SCM during the reporting period.
- Continued to implement the City’s 2020 SWMM and 2020 SCM.
 - Completed substantive revisions to the SWMM, conducted public outreach, and hosted an associated public comment period during this reporting period. Progress is underway for SWMM revisions to be adopted early 2025.
 - Completed a technical evaluation of the SWMM impervious area threshold. BES developed technical memos related to this evaluation, and presented findings to the leadership team that ultimately supported a change to a standardized 1,000-ft² impervious area threshold and removal of this threshold from City Code. This change is consistent with the City NPDES MS4 Permit and will be implemented in FY 2024–25.

- The SWMM prevents offsite migration of stormwater that could impact public UICs in the right-of-way (ROW). That is, City-owned UICs are not approved discharge points for offsite drainage from private sites. The SWMM requires that UICs constructed to manage stormwater in the public ROW have a sedimentation maintenance hole.
- For the protection of groundwater from potential discharges to private UICs, the SWMM also requires that UICs constructed to manage stormwater on private streets have a sedimentation maintenance hole. UICs in driveways or small parking lots must have either a sedimentation maintenance hole or a lynch-style catch basin. If these are not possible, a vegetated stormwater management facility is required for pollution reduction.
- City staff ensure implementation of these requirements through extensive development plan review and site inspection procedures, as well as enforcement activities.

Prevention of Illegal Disposal

To help prevent illegal dumping, the City continued to implement curbside collection services (residential garbage, recycling, yard debris, and food scrap collection). In addition, Solid Waste & Materials Management Outreach & Education staff of the Bureau of Planning and Sustainability (BPS) conducted the following related outreach activities about proper disposal:

- Contacted about 50,000 individuals weekly using garbage day reminder emails.
- Participated in 23 citywide events, totaling 1,043 community interactions (conversations).
- Mailed the annual newsletter *Curbsider* to approximately 190,000 residential homes in June 2024. Topics included proper waste management, instructions on how to handle “other wastes” (used oil, e-waste, etc.), collection schedules and reminders, and recycling and reuse options for bulky materials.

PC-2: Focus on erosion control during construction activities, on both public and private sites.

2.3.2 PC-2: Key Accomplishments

The City has an erosion control program that applies to both public and private construction projects. Portland Permitting and Development, formerly Bureau of Development Services (BDS), Site Development staff review permit applications with ground-disturbing activities to determine if erosion control plan review and inspection are required. When plans are required, the staff review submitted materials, which consist of either a graphical plan or a new simple site plan form, for compliance with the City's 2022 *Erosion and Sediment Control Manual* and Portland City Code Title 10.

These documents outline requirements and provide technical guidance for temporary and permanent erosion prevention and construction-related sediment and pollution control. Program requirements apply to all ground-disturbing activities, regardless of whether a development permit is required unless such activities are otherwise exempted by Portland City Code. As part of its comprehensive plan to manage stormwater, protect water quality, and promote watershed health, the City implemented the following erosion control actions citywide:

- Conducted 3,474 erosion control-related construction site inspections.
- Issued 41 enforcement actions for erosion control violations.
- Issued approximately 1,785 development permits requiring erosion and sediment control plan review and inspection.

A significant challenge during this reporting period was a reduction in staffing starting in January 2024, due to a decrease in construction activity. This resulted in a reduction of Site Development Plan review staff from five to four engineers.

2.4 Education and Training (ET)

The purpose of this Education and Training (ET) BMP category is to inform and educate the public; businesses; and City employees about UICs, groundwater protection, and WPCF Permit conditions. It is also used to promote pollution prevention and source control.

ET-1: Provide education and outreach to members of the public living and working in areas served by UICs. Implement public information, education, involvement, and stewardship activities that will raise awareness, foster community stewardship, and promote pollution prevention, stormwater and groundwater management, and environmental protection.

2.4.1 ET-1: Key Accomplishments

As part of its comprehensive plan to manage stormwater, protect water quality, and promote watershed health, the City has implemented the following actions citywide.

Clean Rivers Education Program

- Delivered 321 education programs to students, despite challenges affecting Portland Public Schools, such as a 1-month closure and school bus shortages.
- Developed partnerships with equity-priority organizations and BES staff from multiple work groups to provide 11 career-based field and classroom programs. Staff with expertise in natural area restoration, water quality monitoring, engineering, and stormwater taught students about their work and career paths.
- Continued partnerships to engage elementary students and high school peer mentors in the hands-on restoration of a local natural area. The program enabled high school students to complete graduation requirements while gaining valuable work experience.

- Continued to develop web-based resources for educators for background information, student research, and curricular extensions. Recorded 2,355 Clean Rivers Education webpage views by 985 users.
- With the BES Toxics Program Manager, developed a fact sheet on mercury pollution prevention for students and families. The fact sheet was provided to Portland Public Schools Sustainability Team for distribution and will be available on the Clean Rivers Education webpage.
- Equity criteria designed to track access to the program's education and information showed:
 - 60% of Clean Rivers Education programs were delivered to groups and schools meeting equity criteria.
 - 85% of student field trip transportation funding was spent on groups and schools meeting equity criteria.

Stewardship Activities and Community Events

- Sponsored, cosponsored, funded, and participated in numerous community activities and events throughout the City's watersheds that involved stormwater management and watershed protection issues and actions (e.g., workshops, educational presentations and activities, training, and restoration projects). FY 2023–24 examples included the following:
 - Awarded Community Watershed Stewardship grants for eight projects, totaling \$92,946, and mini-grants totaling \$7,500. Grant recipients included the Ethiopian and Eritrean Cultural Resource Center, SOLVE, Black Men in Training, and Division Midway Alliance. Projects included education, restoration activities, and clean-ups.
 - Awarded Neighborhood to the River (N2R) grants for six projects, totaling \$90,981. Grant recipients included Verde, Blueprint Foundation, Color Outside the Lines, Friends of Trees, and Bird Alliance of Oregon, formerly Portland Audubon. Future N2R activities or reporting is not expected since this program has been sunsetted.
 - Awarded Percent for Green Program grants totaling \$1,648,321, which included stormwater facilities at Creston and Glencoe schools and a Street Tree pilot in the curb zone in partnership with the Portland Bureau of Transportation (PBOT).
 - Provided funding for planting and clean-up events in all watersheds and in partnership with Columbia Slough Watershed Council, Johnson Creek Watershed Council, Westside Watershed Center, Tryon Creek Watershed Council. Also aligned with events such as the Leach Back5 Project, Blueprint Mindfulness, Children's Clean Water Festival, Portland State University Oak Savannah, Slough Celebration and Explorando, Vanport Spaces at Rose Cup Races, among many others.

- Involved approximately 11,908 participants and volunteers in community events, workshops, stewardship projects, and restoration events. These included paddling events, natural planting projects for students in natural areas and developed parks, trash clean-ups and education for unhoused community members, and restoration events using Indigenous traditional ecological and cultural knowledge.

BES Community Engagement Initiative

In FY 2023-24, findings from the Fall 2022 BES Community Engagement Initiative supported extensive outreach to gather feedback and refine recommendations for improving the way BES charges its customers. BES staff engaged with hundreds of individuals and organized more than 40 outreach events to reach residential; multi-family; commercial and industrial customers; and the broader community, including nonprofit and affinity organizations. Feedback revealed widespread support for many of the proposed changes, as well as opposition from some highly impacted communities. Input gathered will inform future decision-making. The BES Community Engagement Initiative concluded in FY 2022-23 and future reporting of outcomes is not expected.

Stormwater-Related Information

- Updated and posted fact sheets, brochures, and educational materials on the BES website and Facebook page.

Toxics Reduction Program

BES maintains a Toxics Reduction Program, which focuses on source control and pollution prevention activities, including outreach and education. Program activities evolve based on bureau needs. Recent actions include:

- Updated detailed BMP fact sheets for industrial businesses, which were posted on the City's website and are available for distribution by other City programs.
- Participated in and coordinated on regional pollution prevention activities, such as an educational mailing about BMPs for regional carpet cleaners.
- Contributed technical information to a mercury minimization fact sheet for use in school curricula.
- Provided educational webinars for City staff regarding emerging contaminants.

Alternative Transportation

PBOT promotes carpooling, public transportation, and alternative commuting strategies to reduce emissions of toxic pollutants and to support climate change prevention measures. Specific activities during FY 2023–24 included the following:

- Open Streets and Active Transportation Program: This program engaged community members through bike rides, bike workshops, and events. The focus on bike rides and

workshops was intentionally shifted to communities of color and people new to biking. Over 60,000 attendees participated in three Sunday Parkways events.

- Partnerships: The City partnered with community organizations to offer Portlanders more transportation programming and information. AARP led 10 walks with a total of 347 walkers, and OPAL hosted a Bus Riders Unite program with travel workshops. PBOT hosted 13 community bike rides and eight workshops to help educate and encourage the community to ride for daily trips. Through the mail marketing program SmartTrips and via partner organizations, the City distributed 35,105 Portland Walk & Bike Maps, which provide climate-friendly travel information.
- Community bike fairs: PBOT hosted five neighborhood-scale community bike fairs that helped people new to biking connect with this transportation option. Events were held in partnership with schools and community organizations. Across all events, 56 people learned to ride a bike for the first time or greatly improved their riding skills, and 94 bikes were repaired.
- Transportation Wallet Access for All program: This program offers a package of free transportation options, such as transit fare, bike or scooter-share rides, and ride-shares (Uber/Lyft) or taxi rides for people and households living on low incomes. The program is focused on reducing barriers to using transportation options such as cost, technology access, credit/debit card requirements, and low-income verification processes for different providers. In FY 2023–24, PBOT staff provided over 1,300 transportation wallets for people across 18 community partner organizations.

ET-2: Promote knowledge of WPCF Permit conditions and requirements for City staff responsible for implementing UIC Program elements and BMPs and ensure that City practices related to UICs are protective of groundwater.

2.4.2 ET-2: Key Accomplishments

- Continued to educate employees and develop training on groundwater protection and WPCF Permit requirements, including duty officer training on the BES spill-response hotline and specific duty officer procedures.
- Coordinated with other bureaus on source control, erosion control, OM, spill prevention and response, and development review for UICs and groundwater protection.
- Provided ongoing coordination with bureaus that own UICs. Responded to UIC site-specific questions and discussed OM practices.
- Coordinated with PP&D development review staff on UIC design standards and the review and approval process for UICs registered on private property.
- Erosion Control staff conducted internal training related to new digital inspection reports and enforcement fees.
- SWMM staff attended trainings, including ongoing peer learning circles hosted by the Green

Infrastructure Leadership Exchange, and the Oregon Association of Clean Water Agencies stormwater conference.

- The Stormwater Facility Inspection Team (FIT), formerly the Maintenance Inspection Program, continued to train on new asset management software for tracking onsite SMFs and associated OM activities and in-field inspection software for tracking inspection activities. Staff attended the bi-annual Sustainable Stormwater Symposium that focuses on the most current research, studies, and program implementation of sustainable stormwater strategies. Other internal training and education occurred across groups, including:
 - Development Review on the permitting process.
 - Changes to the forthcoming 2025 SWMM.
 - Confined Space Entry-Competent Persons for inspections.
- Stormwater OM field crew training during FY 2023–24 focused on safety and community hazards.

ET-3: Provide outreach and technical assistance to businesses to reduce and control pollutant discharges from industrial and commercial facilities to protect groundwater quality.

2.4.3 ET-3: Key Accomplishments

As part of its comprehensive plan to manage stormwater, protect water quality, and promote watershed health, the City has implemented the following actions citywide.

Facility Inspection Team (FIT)

FIT ensures that property owners follow site-specific, BES-approved OM agreements. Program staff conduct inspections, provide technical assistance to property owners on the OM of their onsite SMFs, and provide guidance on pollution prevention BMPs for site activities that may impact the functionality of SMFs. In September 2019, FIT changed the method of retrieving new OM agreements to include only finalized permits, to more accurately track the number of SMFs installed on private properties. The program also collects information on SMF deficiencies and corrective actions taken.

FIT activities in FY 2023–24 included the following:

- Inspected 2,102 private SMFs for OM requirements.
- Recorded 232 OM agreements for 519 new SMFs.
- Issued 417 corrective and enforcement actions, including three notices of violation and five warning notices, and 409 corrective actions with deadlines to correct.
- Mailed 1,692 maintenance reminders to single-family residential homeowners with vegetated SMFs. This is done on an annual basis for properties with OM agreements.

- Mailed 997 informational notices to residents and owners at shared facility locations (private streets, condominium associations, homeowners associations, and multi-family complexes). This mailer is largely informational and provided information on the shared ownership and responsibility to maintain various types of SMFs, both vegetated and structural.
- Maintained a webpage with program information and links to standard OM tools and resources.

CSSWF Wellhead Protection Program

The City’s CSSWF Wellhead Protection Program provides education and outreach to affected residents and businesses to help them comply with local drinking water source protection requirements of the program, which are designed to prevent contamination of groundwater. The Program works in conjunction with the Columbia Corridor Association and Columbia Slough Watershed Council. Businesses in the area are required to implement structural and operational BMPs to manage harmful chemicals, reduce the occurrence of spills, and minimize spill impacts. Activities in FY 2023–24 included the following:

- Provided technical assistance to 40 businesses within the CSSWF. Provided technical assistance to 20 businesses at one groundwater protection compliance workshop, which included spill control content.
- Distributed five free spill kits and approximately 18 free spill-response signs, with increased demand for Spanish language signage. Additional signage and kits were distributed at the groundwater protection compliance workshop. Efforts to advance the reach of the groundwater protection program resulted in multiple new language translations of the free spill-response sign, which is now available in English, Spanish, Russian, Mandarin, and Vietnamese.
- Maintained the City of Portland and Columbia Corridor Association webpages on the Groundwater Protection Program, with information for businesses and residents.

Erosion Control Program

The City’s erosion control program applies to both public and private construction projects. Portland City Code Title 10 and the City’s *Erosion and Sediment Control Manual* outline requirements and provide technical guidance for temporary and permanent erosion prevention, sediment control, and control of other site development activities that can cause pollution during the construction process. The City’s erosion control requirements apply to all ground-disturbing activities, regardless of whether a development permit is required unless such activities are otherwise exempted by City Code.

The City continues to provide educational training to staff on OM and construction practices to protect water quality. The COVID-19 pandemic resulted in the cancellation of the annual construction inspector training for BES staff. PP&D staff continue to pursue continuing education credits for current erosion control certifications.

2.5 Operations and Maintenance (OM)

OM BMPs for City UICs are important to both remove pollutants from UICs (e.g., UIC cleaning) and prevent pollutant discharges into UICs (e.g., street sweeping and catch basin cleaning). This BMP category identifies OM practices both for UICs located in City-managed ROWs and for UICs on other City-owned properties.

OM-1: Address the inspection, maintenance, cleaning, and repair of City-owned UICs in public ROWs.

2.5.1 OM-1: Key Accomplishments

UIC Inspection, Maintenance, Cleaning and Repair

- Removed 5,928 cubic yards of material from storm inlets and catch basins citywide.
- Cleaned 2,523 UIC sedimentation and sump maintenance holes.
- Cleaned and inspected 13,021 inlets and 1,615 trash racks.
- Repaired UIC sedimentation and sump maintenance holes, storm inlets, and inlet leads as needed.

On June 1, 2022, a 7-mile stretch of 82nd Avenue in East Portland changed from state to local control. The City of Portland now owns the 7-mile stretch of 82nd Avenue from Killingsworth Street to Clatsop Street and is responsible for maintenance and upgrades. The transfer agreement included a state funding commitment to help the City with street and asset improvements needed to bring the corridor up to City standards. The City is finishing construction on some projects and is on track to upgrade most UIC systems that were part of the initial transfer within the next 4 years. However, a few remaining UIC systems will be upgraded by FY 2030–31.

OM-2: Address operation and maintenance activities that are conducted in public ROWs and may affect City-owned UICs.

2.5.2 OM-2: Key Accomplishments

The City implements practices in and around ROWs to prevent and limit pollutant discharges, such as street sweeping, spill control, erosion control, and material testing, and the City also conducts leaf removal. PBOT is the primary bureau responsible for maintaining the City's roads and other transportation-related facilities and infrastructure. The PBOT *Maintenance Environmental Handbook* is a guide provided to PBOT Maintenance and Operations (PBOT-MO) field crews to ensure they have easily accessible information on waste handling, erosion control measures, spill control and prevention practices, and vehicle washing.

Street Sweeping

- Swept arterial roadways five to six times.

- Removed 3,672 tons of material from City roadways.

PBOT-MO BMPs

- Continued to implement BMPs within the ROW to protect water quality, including:
 - Following the Oregon Department of Transportation *Routine Road Maintenance Water Quality and Habitat Guide*.
 - Controlling erosion during all sediment-disturbing activities.
 - Using cured-in-place pipe technology when replacing stormwater piping in the ROW to reduce the amount of excavation needed.
 - Using low-disturbance sign installation methods to avoid or minimize digging.
 - Using mild, solvent-free cleaners to clean signs.
 - Using a UV-protection and anti-graffiti coating on new street signs to reduce the need for chemical cleaners.
 - Monitoring weather conditions during asphalt grinding to avoid runoff.
 - Hand-applying asphalt where necessary to prevent these materials from entering the storm drain system.
- Coordinated with BES on environmentally responsible practices for the use of roadway anti-icers and deicers, including road salt. PBOT used approximately 2,658 cubic yards of salt and 99,794 gallons of magnesium chloride anti-icing liquid throughout the city for snow and ice events in FY 2023–24. Deicing procedures and BMPs were integrated into overall winter road maintenance activities, including adaptive management of priority route identification and evaluation of application rates. More information about how PBOT manages winter road maintenance activities can be found at [Winter Weather Basics and FAQ | Portland.gov](#).
- Implemented the *PBOT Snow and Ice Response Plan 2023*. In addition to providing guidance on best practices, the Response Plan requires supervisors and field personnel to receive training and perform an equipment dry run on their assigned routes prior to November each year.
- Continued to provide staff training on the use of the 2011 *PBOT Maintenance Environmental Handbook* for street maintenance. The Handbook includes guidance to ensure that field crews have easily accessible information on waste handling, erosion control measures, spill control and prevention practices, and vehicle washing.

Water Bureau

- Maintained the program that requires the Portland Water Bureau (PWB) to submit requests to BES for potable water discharges from hydrants and water mains to ROWs. Discharges are approved on a case-by-case basis with a letter of authorization. The authorization requires DEQ/BES BMPs to reduce the impacts of flow rate, volume, and suspended solids from these activities, in addition to the state guidelines for chlorinated discharges. A report is required for each discharge to track volume and respond to any complaints.

- The City’s stormwater compliance staff has increased coordination with PWB staff responsible for training employees who work in the ROW. This coordination has resulted in a mutual agreement that more training is needed and the development of *Water Bureau Maintenance and Construction Erosion Control Best Management Practices (4/17/2023)* to reduce the discharge of suspended solids and hydraulic loading and complete de-chlorination for planned and emergency work.

OM-3: Address OM of UICs on other City property, as well as good housekeeping practices that may affect UICs.

2.5.3 OM-3: Key Accomplishments

- Continued discussions with other City bureaus to standardize OM procedures for UICs on City property, based on the OM templates established in the City’s SWMM.
- The City’s Procurement Services engaged in green purchasing best practices to spend public funds on goods and services that minimize negative impacts on human health and the environment. In FY 2023–24, the program included environmentally preferable product and service specifications in City solicitations and contracts, such as the use of untreated wood for boardwalks and similar exterior wood features. Additional specifications include zero-sediment runoff at construction sites and onsite stormwater management (eco-roofs, rain gardens, etc.).
- Continued to incorporate electric and other low-carbon fuel vehicles into the City fleet to promote sustainability.
- Portland Fire and Rescue continued to control discharges from equipment washing, maintenance, and nonemergency firefighting training by routing discharges to the sanitary sewer system. Washwater is discharged typically through an oil/water separator to the sanitary sewer.
- PBOT-MO and Portland Parks and Recreation (PP&R) inspected and maintained, as necessary, all stormwater and stormwater containment and pollution prevention facilities in City maintenance yards. The City employs a variety of structural stormwater and nonstructural source controls in its maintenance yards. Typical controls include the use of covers, berms, and other containment strategies for waste and recyclables; sweeping and good housekeeping practices; installation of filtration and absorbent inlet inserts in catch basins; and use of oil-water separators and other pollution prevention facilities.
- PP&R holds a Salmon-Safe certification and continues to comply with practices for certification, including integrated pest management, reduction of water and fertilizer inputs on park properties, riparian and upland habitat restoration, and use of pesticide alternatives. Facility managers are committed to additional actions to limit water pollution, conserve water use, and restore habitats. BES is also coordinating with the BPS to strengthen the City’s salmon recovery efforts through more landscape-level and zoning code improvements.

PP&R continued to implement practices and City-integrated pest management activities in parks, which reduce fertilizer and pesticide inputs. These activities include:

- Utilizing plants with natural resistance to pests.
- Proper mowing and irrigation of park turf to increase vigor and reduce weed populations.
- Mulching of planting beds to reduce the establishment of weeds.
- Application of selected herbicides to control invasive weeds and prevent their spread.
- Release of natural biological control insects to minimize invasive weed infestations.
- Aerating and overseeding athletic fields to reduce the need for fertilizers.

Site-specific OM actions conducted as a response action are discussed in Section 4: Response.

2.6 Program Management (PM)

The purpose of the Program Management (PM) BMP is to ensure effective program management, coordination, and reporting for effective implementation of the UICMP and compliance with the WPCF Permit. This approach involves strong relationships and coordination with multiple City bureaus, state agencies, and other jurisdictions and organizations. This BMP category includes City initiatives, such as policies that promote the implementation of green streets as alternatives or retrofits for UICs, as well as code and administrative rules pertaining to groundwater protection.

PM-1: Facilitate internal City coordination regulations to enhance groundwater protection.

2.6.1 PM-1: Key Accomplishments

Development Review Process and UICs

- Continued evaluation of the review and approval process for private UICs, identifying issues and process gaps and identifying strategies for a more streamlined and consistent registration process for both public and private UICs.

SWMM Revision

- Continued to participate in quarterly meetings for System Planning and SWMM revisions, which provide policy and design requirements for stormwater management citywide. Participation enables the UIC Program to provide input on new and retrofitted UICs on private and public property and in the public ROW. The most recent update to the SWMM went into effect on December 14, 2020. This manual was being updated, and underwent public comment in August 2024. It is expected to go into effect in early 2025. This manual is revised every 2 to 5 years and provides implementation requirements for stormwater management activities within the City of Portland.

Climate Change Planning

- In June 2020, the City declared a climate emergency and prioritized key actions for climate and community health. In July 2020, the City Council adopted a Climate Emergency Declaration that acknowledges that the Portland metro area faces a human-made climate emergency, with frontline communities being the least responsible for but most impacted by climate change. The 2015 Climate Action Plan was replaced by the Climate Emergency Workplan (CEW) in August 2022. Since City Council adopted the CEW, multiple City bureaus have worked to advance the 47 priority actions to work toward achieving Portland’s collective decarbonization and community resilience goals. Over the past year, City staff notably advanced these CEW priorities:
 - Invested \$600 million into City projects and \$700 million in community-wide projects over five years from the Portland Clean Energy Fund.
 - Led the way on industrial decarbonization.
 - Acquired approximately \$7 million in external grant funds
 - Made the most of one-time general fund investments.
- The City will continue to work on these actions and develop strategies to help reach net zero carbon by 2050. The newly formed Sustainability and Climate Commission and Chief Sustainability Officer will direct the next iteration of Portland’s climate plan, informed by the findings of the climate justice audit underway from the City Auditor’s Office.

City Organization

- All development-focused BES personnel were moved from BES into a new permitting bureau, PP&D, on July 1, 2024. This includes all land use review, building plan review, and public works permitting staff. PP&D reviews and approves UICs on private property.
- Portland is changing its form of government and updating the organizational structure so that all bureaus and offices will report to a City Administrator instead of five City Council members. To support the new form of government, a public works service area was approved November 2023 that will include PBOT, PWB, and BES and went into effect July 2024. Ongoing conversations between these bureaus will lead to recommendations for the City’s best approach to protect natural resources and the environment, including the climate. This may align with the desired outcome for greater coordination and standardization of related goals, plans, resolutions, and policies that have citywide impacts.
- The schedule for the change in City government that occurred leading up to and including FY 2023–24 is as follows:
 - Early 2023: Ranked-choice voting implementation underway.
 - January 2023: Independent District Commission appointed to begin establishing geographic districts.

- September 2023: New geographic districts adopted, elected official salaries established.
- In November 2024, Portland voters will elect new leaders using ranked-choice voting and geographic districts. The mayor and half of the Portland City Council will run for 4-year terms; the City Auditor and the other half of the City Council will run for initial 2-year terms. In January 2025, a new City Council will enter the new form of government’s roles and responsibilities.

PM-2: Coordinate with external partners, including state agencies, other jurisdictions, and outside organizations.

2.6.2 PM-2: Key Accomplishments

Regional Coordination

- The City is an acting member of the Association of Clean Water Agencies (ACWA). UIC Program staff currently co-chair the Groundwater Committee as well as attend this and other ACWA committee meetings. The Groundwater Committee discusses and tracks many topics, such as monitoring proposals and permit negotiations with other municipal permittees, tracking the issuance of individual and general municipal WPCF Permits and permit conditions, and promoting consistency in required Permit activities (e.g., adaptive management).
- Participated in coordination activities for the statewide Clean Rivers Coalition clean water communications campaigns. The initial campaign focus is on pesticides and insecticides. The City’s participation in FY 2023–24 included a \$5,000 sponsorship contribution supporting website design and maintenance, outreach campaign tools, and digital advertising focusing on values-based storytelling and residential pesticide use reduction.
- Participated in the Regional Coalition for Clean Rivers and Streams campaign, “The River Starts Here.” This coalition seeks to help Portland residents make informed home and automobile care decisions that reduce stormwater pollution and features clean-up events. The City’s participation in FY 2023–24 included a \$5,000 sponsorship to support online tools and community events.
- Participated in and contributed to the development and delivery of the “Clean Water — It’s Our Future” campaign with a group of regional clean water partners. The campaign comprises a series of public service announcements (PSAs), social media posts, and website content focusing on practical advice for implementing clean water practices such as alternatives to herbicide use. The PSAs air during KPTV news segments and complementary information is posted on the KPTV Community webpages and shared via Facebook posts. The City contributed \$5,000 to this campaign in FY 2023–24 and also participated in the development of messages. The PSAs aired throughout the year in the Portland metropolitan area.

2.7 Projected Main Activities for FY 2024–25

All stormwater management BMPs discussed in Sections 2.2 through 2.6 are intended to help prevent, minimize, and control pollutants in stormwater prior to discharge to a UIC. Unless otherwise noted as a one-time activity, implementation of these BMPs is expected to continue and be tracked in FY 2024–25. As discussed further in Section 2.10, citywide budget forecasts may result in changes to some BMPs; however, these are not expected to affect WPCF Permit compliance. The following additional PM activity may also be added:

- Participate in the UIC rules revision process (which will include revision of Oregon Administrative Rules [OAR] 340-044, UIC Rules, and OAR 340-040, Groundwater Quality Protection Rules) when initiated by DEQ.

Due to the large amount of development and redevelopment in the City of Portland, the City UIC Program is unable to forecast how many new UICs will be added or removed from the system a year in advance. For UIC construction, the City has a registration process to track proposed UICs although these UIC may not get constructed during the year. This process allows the City to approve the UICs for construction to ensure that all new UIC installations meet the conditions of its current WPCF Permit prior to construction. As of October 2, 2024, 62 new UICs have either been approved for installation or were newly discovered in the field. This total reflects currently available project information on UICs added after July 1, 2024.

In addition, for UIC closure, part of the City’s decommissioning process is to inform DEQ directly (either by phone or email) prior to any actions in the field. The date that DEQ is informed is not necessarily within the same year that the UIC is closed; DEQ can be informed a year or more in advance of the closure evaluation. As of October 2, 2024, 69 UICs are currently in the closure process and expected to be closed. Reports for these will be included in FY 2024-25. DEQ was informed about 67 pending closures prior to July 1, 2024, and two additional closures since that time.

All newly constructed or identified UICs will continue to be evaluated for characteristics that may potentially create adverse impacts on groundwater. The resulting information will be incorporated into the Response process, as appropriate.

2.8 Additional Actions Taken to Manage the UIC System

Additional actions taken to manage the UIC system to ensure groundwater protection for this reporting year included the following:

- UIC Program policy requires adding pretreatment to a UIC system when a construction project impacts a UIC that does not have a sedimentation maintenance hole or other form of pretreatment. Of the 16 decommissioned UICs in FY 2023–24, 11 were replaced with new standard sump systems that include pretreatment, and five were not replaced with UICs. The UIC Program will continue to work with BES Engineering staff to ensure that pretreatment is added.

2.9 UICMP Actions Not Completed

All actions identified in the UICMP have been completed for this reporting year.

2.10 Adaptive Management

Adaptive management measures are evaluated annually. To fulfill this requirement, the City collects and evaluates annual monitoring data to assess the need to modify its management approach (Section 3). Based on the City’s UIC water quality monitoring, discharges to City-owned UICs from ROWs are protective of groundwater and do not require changes to the City’s UIC management strategy as described in the UICMP.

In addition to stormwater monitoring, the City evaluates its available resources to implement the UIC Program. The evaluation for FY 2024–25 indicates that Portland continues to face funding limitations. The FY 2024–25 Adopted Budget forecasts funding limitations due, in part, to efforts to reduce and respond to the local homelessness crisis, inflation impacts on project and staffing costs as well as partnerships, the City governance structure overhaul and the associated reallocation of budget and resources, and the investment needed in aging and failing infrastructure.⁶

Limited funding and increased expenses mean that City budget reductions will occur at levels that may affect stormwater programs and necessitate modifications to management activities. Implementation of a BES rate increase is projected to address higher current and expected costs over the next few years related to environmental remediation, deferred capital investment, increased capital construction costs, as well as manage commitments to other large projects. However, due to the change in form of government, it is uncertain whether adequate increases will be approved in the FY2025-26 budget and beyond. The feasibility is being investigated of a “OneWater” model to determine if integrating water management services is practical and beneficial, as well as of an EPA-supported concept called “[Effective Utility Management](#)”. These efforts could prompt both large and small-scale changes to the City’s stormwater programs and organization to improve alignment and collaboration.

Details about the events and dynamics influencing the need for these modifications are described in Section 3 of the City’s 2023–2024 *Municipal Separate Storm Sewer System (MS4) Annual Report*.⁷ Modifications that occurred in 2023 to 2024 relevant to the UIC Program include the curtailment of residential street sweeping due to budget constraints, the replacement of P2O/EcoBiz Program participation with the City’s Toxics Reduction Program for source control and pollution prevention, and the reduction in education and outreach relative to MS4 Permit-required activities. These changes are not expected to affect WPCF Permit compliance.

⁶ City of Portland FY 2023-24 Adopted Budget, Volume I: <https://www.portland.gov/cbo/2023-2024-budget/documents/fy-2023-24-adopted-budget-volume-1-citywide-summaries-and-bureau/download>.

⁷ City of Portland Annual Compliance Report No. 29, FY 2023-2024. National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Discharge Permit No. 10134. Prepared for Oregon Department of Environmental Quality. November 2024.

Budget-related constraints beyond FY 2024–25 are expected. The City WPCF Permit manager will continue to communicate with the DEQ WPCF Permit manager regarding any changes to activities that may impact future WPCF Permit compliance.

To prepare for Permit renewal in 2025, the City is evaluating potential changes to the UICMP that would address new draft WPCF Permit requirements, address the implications of significant findings from the September 2022 *Emerging Pollutants Evaluation for Individual UIC Permit Renewals* (GSI, 2022), and align more closely with the City’s NPDES MS4 Stormwater Management Plan (SWMP). The UICMP and SWMP both provide information about citywide stormwater management strategies.

3 System Monitoring

The System Monitoring program element involves ongoing UIC monitoring to demonstrate that UICs are operated to meet WPCF Permit requirements and protect groundwater as a drinking water resource. Stormwater discharge monitoring is conducted annually on a representative subset of UICs, as identified in the *Stormwater Discharge Monitoring Plan* (SDMP). This is referred to as “compliance monitoring” and is discussed in Section 3.1 below.

3.1 Compliance Monitoring

3.1.1 UIC Stormwater Discharge Monitoring Summary – Year 9 (2015 Permit)

The City’s UIC monitoring program was implemented in accordance with the 2015 SDMP. The monitoring program under the City’s 2015 Permit was designed to focus on UICs located in areas of shallow groundwater, defined as having less than 5 feet of separation distance between the UIC and estimated seasonal high groundwater. Fifteen UIC locations were sampled between July 1, 2023, and June 30, 2024, to implement the required compliance monitoring described in the SDMP. Stormwater discharge samples were analyzed for pollutants as defined in Table 1 of the 2015 Permit. Specific information concerning site details, monitoring results, and quality assurance/quality control can be found in Appendix C.

Year 9 (2015 Permit) Results

- All six pollutants in Table 1 of the City’s 2015 Permit were detected in Year 9 (2015 Permit). Specific constituent concentrations are provided in Appendix C.

Action-Level Exceedances and Response Actions

- No pollutants were detected in Year 9 (2015 Permit) at concentrations above their respective action levels and, thus, no response actions were required.

3.1.2 Key Accomplishments

- Implemented Year 9 (2015 Permit) stormwater compliance monitoring. Fifteen UICs were sampled and tested for pollutants as defined by the Permit.

- Compiled and evaluated Year 9 (2015 Permit) stormwater data; there were no exceedances of the Permit’s action levels.
- Prepared and submitted annual stormwater discharge monitoring results to DEQ with this report (Appendix C).

3.1.3 Projected Main Activities

- Implement Year 10 (2015 Permit) UIC compliance monitoring in accordance with the 2015 WPCF Permit and 2015 Permit SDMP. As described in the SDMP, Year 10 monitoring will repeat the shallow groundwater locations sampled in Year 5 (2015 Permit). Year 10 will be the final year of the 2015 Permit. Work to prepare for the 2025 Permit is noted in Section 2.10, Adaptive Management.
- Document, analyze, and report results of Year 10 (2015 Permit) stormwater monitoring to DEQ by November 1, 2025 (per the 2015 WPCF Permit).
- Continue to work with DEQ to demonstrate (through SDMP-required compliance monitoring) that discharges to public UICs meet Permit action levels and are protective of groundwater quality (see Section 4).

3.2 Stormwater Discharge Monitoring Plan Update

The 2015 Permit required the SDMP to be evaluated and updated after 5 years. The evaluation conducted at that time did not result in any monitoring changes to the current SDMP. As part of the WPCF UIC permit renewal process to be conducted in 2025, the City will review the current SDMP and propose changes and updates at that time.

4 Response

The Response program element uses data and information from System Management and System Monitoring activities (Sections 2 and 3) to assess UIC compliance status. It also defines the process and criteria used to identify, evaluate, and prioritize actions necessary to protect groundwater and meet WPCF Permit requirements.

During the first Permit term (2005 to 2015), the City completed numerous actions to ensure UICs were compliant with the state and federal UIC rules and protective of groundwater. Actions included required and voluntary annual monitoring, on-the-ground UIC retrofits, and decommissioning, as well as data evaluation and numerous modeling efforts to demonstrate groundwater protectiveness for various discharge scenarios. Detailed information about these activities can be found in the annual UICMP reports for 2005 through 2015.

In addition, detailed information about response activities conducted so far during the second Permit term can be found in the annual UICMP reports for 2016 through 2023. Ongoing evaluation and annual response activities for FY 2023–24 are discussed in this section.

4.1 Assessment Response

Data generated through the systemwide assessment and ongoing database updates and evaluations are used to identify whether spatial and physical characteristics of UICs could result in drainage that may pose a risk to groundwater. Assessment response includes an evaluation of the appropriate actions to correct the condition and protect groundwater quality. Responses may include a variety of corrective actions, and they may apply to individual UICs or groups of UICs.

4.1.1 Key Accomplishments

- No UICs were identified that required a corrective action.

4.1.2 Projected Main Activities

- Implement actions as appropriate to respond to any Year 10 (2015 Permit) UICs identified as needing correction.

4.2 Monitoring Response

Response actions are intended to reduce elevated stormwater discharge concentrations at the ground surface to meet Permit action levels. Meeting Permit action levels at the “end of pipe” demonstrates compliance with state and federal requirements for the protection of “underground sources of drinking water” and “waters of the state.” Response actions are intended to be implemented in a timely manner and are considered interim in nature until a final compliance determination is made or a final corrective action is implemented.

4.2.1 Key Accomplishments

- No monitoring response actions were needed during FY 2023-24.

4.2.2 Projected Main Activities

- Implement actions, as needed and appropriate, in response to any Year 10 (2015 Permit) individual stormwater discharge monitoring action-level exceedances, unusual conditions observed during UIC sampling, inspections, or citizen complaints.

4.3 Spill Response

Spills and illicit discharges are reported to the SPCR team through the spill-response hotline or by the Oregon Emergency Response System, or they are discovered by staff during site inspections. If a spill that could impact a UIC is discovered, the City will undertake a response as identified in the UICMP.

4.3.1 Key Accomplishments

- Continued to operate the BES 24-hour spill-response hotline. Activities in FY 2023–24 included the following:
 - Received approximately 2,071 calls (citywide) regarding pollution complaints. Out of this total, 644 were related to a spill or an illicit discharge, 55 were erosion-control related, and 788 resulted in investigations.
 - Received 108 calls/emails related to RV discharges and complaints of RV discharges or requests for information regarding the RV pump-out program. The SPCR program provided individual RV occupants with referrals to the RV pump-out program and left a door hanger on RVs whenever possible.
 - Promoted pump-out services for individuals living in RVs in the ROW. BES and associated contractors performed 1,266 sewage pump-outs of RVs and collected 705 bags of trash.

During FY 2023–24, no spills of note occurred that required larger response actions (see Section 2.3 of this report for details).

Appendix B contains a table of all spills during FY 2023–24 that occurred within areas serviced by UICs, including any triggered response-related activities that are described in Section 2.3.1.

4.3.2 Projected Main Activities

- Implement actions as needed and appropriate in response to any FY 2024–25 spills that may impact a UIC.

4.4 Groundwater Protectiveness Demonstration and Verification

During the first Permit term (2005 to 2015), the City completed multiple groundwater protectiveness demonstrations (GWPDs). These GWPDs showed that the operation of all City-owned UICs is protective of groundwater, including UICs with direct discharge and UICs that are within close proximity to a drinking water well. To maintain the validity of the demonstrations, the City evaluates monitoring data and depth-to-groundwater information

annually to confirm that the basis of the protectiveness demonstrations has not changed and that groundwater continues to be protected.

4.4.1 GWPD Verification

The following data were evaluated to ensure that the City's GWPDs are still valid.

- **Verification of vertical separation distance:** U.S. Geological Survey depth-to-groundwater data were used in combination with existing construction information to calculate the vertical separation distance between the bottom of the UIC and seasonal high groundwater. All vertical separation distances are reported and updated as part of the UIC database annual reporting.
- **Verification of stormwater discharge monitoring results:** In general, pollutants detected in Year 9 (2015 Permit) monitoring are similar to the detections, frequency, and concentration ranges identified during the first Permit term. Common pollutants detected during the first Permit term and Year 9 (2015 Permit) are at low concentrations and below their respective action levels. Concentrations are generally low and within narrow ranges at individual UIC locations.

4.4.2 Key Accomplishments

- Evaluated UICs for WPCF Permit compliance.
- Evaluated Year 9 (2015 Permit) monitoring information for compliance.

4.4.3 Projected Main Activities

- Continue identification and evaluation of UICs as new data become available.
- Perform compliance determinations on any new UICs.
- Review and update as appropriate the Decision Making Framework for Groundwater Protectiveness Demonstrations to reflect any identified changes.
- Apply the protocols in the Decision Making Framework for Groundwater Protectiveness Demonstrations to any new UICs as appropriate to determine if groundwater is protected or corrective action is required.

4.5 Other Noncompliance or Violations

No instances of noncompliance or other unreported Permit violations were identified.



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Appendix A
UICs Added and Removed from Service
During FY 2023-24

(Closure reports for decommissioned UICs are provided electronically)

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Appendix A: UIC Records Added to the UIC Registration Database (2023-2024)

UNIT ID	UIC #	Well #	DEQ Type Code	Well Depth (feet)	Well Diameter (feet)	Max Discharge Rate (gpm)	DEQ Waste Type ¹	Operational Status ²	Install Date ³	Maintenance Period (years)	Location	Latitude	Longitude	Distance to Nearest Water Well (feet)	Distance to Nearest Wetland (feet)	Distance to Nearest Surface Water (feet)	Separation Distance to Groundwater (feet)	Size of Impervious Area (square feet)
R00888	10102	10464 ⁴	5D2	11	4	<Null>	1	PA		10 Years	7878 N Missouri St	45.580226	-122.678144	3262	2994	2304	59	<Null>
R00889	10102	10465 ⁴	5D2	15.6	4	<Null>	1	PA		10 Years	7900 N Missouri St	45.580419	-122.678137	3192	2926	2236	53	<Null>
R00890	10102	10466 ⁴	5D2	7	4	<Null>	1	PA		10 Years	10420 SE Foster Rd	45.476016	-122.555381	1737	184	141	17	<Null>
R00891	10102	10467 ⁴	5D2	7	4	<Null>	1	PA		10 Years	10420 SE Foster Rd	45.476011	-122.555361	1732	186	136	17	<Null>
R00892	10102	10468 ⁴	5D2	30	4	<Null>	1	PA		10 Years	6420 SE 110th Ave	45.475851	-122.549154	1072	372	398	-8	<Null>
R00893	10102	10469	5D2	30	4	160	1	UC		4 years	3240 N Borthwick Ave	45.546519	-122.673377	9005	13497	3381	70	3000
ATP221	10102	10470	5D2	30	4			AC		10 years	824 NE 109TH AVE	45.528370	-122.550397	1779	7607	9413	118	<Null>
R00894	10102	10471	5D2	30	4	<Null>	1	AC	1/1/2018	As needed	5810 NE 72nd Ave	45.566242	-122.589677	442	1856	1510	26	<Null>
R00895	10102	10472	5D2	30	4	<Null>	1	AC	1/1/2018	As needed	5810 NE 72nd Ave	45.566327	-122.589669	415	1825	1479	25	<Null>
R00896	10102	10473	5D2	30	4	<Null>	1	AC	1/1/2018	As needed	5810 NE 72nd Ave	45.566304	-122.589593	431	1834	1484	25	<Null>
R00897	10102	10474	5D2	30	4	<Null>	1	AC	1/1/2018	As needed	5810 NE 72nd Ave	45.566279	-122.589455	456	1844	1490	24	<Null>
ATR294	10102	10475	5D2	30	4	932	1	AC		4 years	8958 SE CLINTON STREET	45.502628	-122.570557	342	9080	6162	87	17600
ATQ088	10102	10476	5D2	4.5	0.67	<Null>	1	AC	12/3/2021	4 years	5792 SE 134TH AVE	45.480079	-122.525075	1143	2798	2594	28	<Null>
ATQ084	10102	10477	5D2	4.5	0.67	<Null>	1	AC	12/3/2021	4 years	5792 SE 134TH AVE	45.480155	-122.525396	1198	2834	2680	28	<Null>
ATQ066	10102	10478	5D2	4.5	0.67	<Null>	1	AC	12/3/2021	4 years	5720 SE 134TH AVE	45.480766	-122.525372	1094	2819	2729	26	<Null>
R00899	10102	10479	5D2	30	4	1110	1	UC		4 years	1120 SE 89th Ave	45.514929	-122.572094	3699	9888	5738	118	21521
R00900	10102	10480	5D2	30	4	574	1	UC		4 years		45.549011	-122.578817	3208	2796	3047	162	10821
R00901	10102	10481	5D2	30	4	570	1	UC		4 years		45.548867	-122.578486	3131	2706	3024	162	10754
R00902	10102	10482	5D2	30	4	879	1	UC		4 years		45.547809	-122.578764	3274	2431	2638	162	16567
R00903	10102	10483	5D2	30	4	200	1	UC		4 years		45.544492	-122.578517	2721	1582	1610	160	3774
R00904	10102	10484	5D2	30	4	1003	1	UC		4 years		45.544192	-122.578906	2574	1623	1462	159	18918
R00905	10102	10485	5D2	30	4	877	1	UC		4 years		45.544044	-122.578736	2569	1565	1449	159	16538
R00906	10102	10486	5D2	30	4	1338	1	UC		4 years		45.5423	-122.578944	2149	1216	1008	153	25229
R00907	10102	10487	5D2	30	4	645	1	UC		4 years		45.541356	-122.578794	2033	1162	941	139	12163
R00908	10102	10488	5D2	30	4	735	1	UC		4 years		45.540831	-122.578594	2021	1204	987	132	27711
R00909	10102	10489	5D2	30	4	735	1	UC		4 years		45.540831	-122.578497	2045	1229	1012	132	27711
R00910	10102	10490	5D2	30	4	309	1	UC		4 years		45.540567	-122.578806	1945	1157	945	128	11633
R00911	10102	10491	5D2	30	4	309	1	UC		4 years		45.5405	-122.578806	1939	1160	949	128	11633
R00912	10102	10492	5D2	30	4	376	1	UC		4 years		45.540239	-122.578989	1874	1130	927	128	14161
R00913	10102	10493	5D2	30	4	376	1	UC		4 years		45.540169	-122.578989	1870	1136	935	128	14161
R00914	10102	10494	5D2	30	4	997	1	UC		4 years		45.540117	-122.578489	1994	1265	1063	129	18790
R00915	10102	10495	5D2	30	4	737	1	UC		4 years		45.540089	-122.578986	1866	1144	946	127	13900
R00916	10102	10496	5D2	30	4	1230	1	UC		4 years		45.539453	-122.578822	1888	1263	1085	128	23191
R00917	10102	10497	5D2	30	4	409	1	UC		4 years		45.539083	-122.579203	1792	1242	1083	128	7719
R00918	10102	10498	5D2	30	4	644	1	UC		4 years		45.538594	-122.578836	1903	1421	1272	130	12143
R00919	10102	10499	5D2	30	4	709	1	UC		4 years		45.538022	-122.578719	1972	1575	1442	129	26732
R00920	10102	10500	5D2	30	4	709	1	UC		4 years		45.538022	-122.578622	1997	1594	1459	129	26732
R00921	10102	10501	5D2	30	4	361	1	UC		4 years		45.537558	-122.579033	1944	1636	1524	126	6800
R00922	10102	10502	5D2	30	4	489	1	UC		4 years		45.537436	-122.578889	1994	1694	1581	126	9223
R00923	10102	10503	5D2	30	4	372	1	UC		4 years		45.537281	-122.579261	1926	1676	1575	125	7007
R00924	10102	10504	5D2	30	4	899	1	UC		4 years		45.537192	-122.578567	2103	1816	1702	126	16955
R00925	10102	10505	5D2	30	4	650	1	UC		4 years		45.536694	-122.579056	2065	1878	1771	124	12245
R00926	10102	10506	5D2	30	4	620	1	UC		4 years		45.536558	-122.579058	2088	1918	1786	124	11696

UNIT ID	UIC #	Well #	DEQ Type Code	Well Depth (feet)	Well Diameter (feet)	Max Discharge Rate (gpm)	DEQ Waste Type ¹	Operational Status ²	Install Date ³	Maintenance Period (years)	Location	Latitude	Longitude	Distance to Nearest Water Well (feet)	Distance to Nearest Wetland (feet)	Distance to Nearest Surface Water (feet)	Separation Distance to Groundwater (feet)	Size of Impervious Area (square feet)
R00927	10102	10507	5D2	30	4	929	1	UC		4 years		45.536386	-122.578719	2194	2020	1888	124	17511
ATR298	10102	10508	5D2	30	4	440	1	AC		4 years	NE 86th and NE Skidmore	45.55362	-122.574349	2427	4032	4850	86	<Null>
ATR301	10102	10509	5D2	30	4	1260	1	AC		4 years	SE Clay and SE Millmain	45.511614	-122.504246	1014	7792	9544	28	<Null>
ATR302	10102	10510	5D2	30	4	1170	1	AC		4 years	15444 SE Millmain Dr	45.51091	-122.50469	1292	7530	9628	27	<Null>
R00931	10102	10511	5D2	30	4	606	1	UC		4 years	N DEPAUW AND N STANFORD	45.579871	-122.724479	2867	6424	3353	63	<Null>
R00932	10102	10512	5D2	30	4	667	1	UC		4 years	8524 NE HALSEY ST	45.533359	-122.575337	3532	3287	3161	144	25146
R00933	10102	10513	5D2	30	4	515	1	UC		4 years	8705 NE HALSEY ST	45.533597	-122.573595	3845	3151	3503	142	9692
R00934	10102	10514	5D2	30	4	697	1	UC		4 years	1437 NE 88TH AVE	45.533394	-122.572636	3974	3224	3739	142	26275
R00935	10102	10515	5D2	30	4	697	1	UC		4 years	1437 NE 88th AVE	45.53328	-122.572651	3950	3265	3767	143	26275
R00936	10102	10516	5D2	30	4	840	1	UC		4 years	8811 NE HALSEY ST	45.533578	-122.572276	3950	3161	3754	140	15825
R00937	10102	10517	5D2	30	4	1225	1	UC		4 years	4600 NE 62ND AVE	45.556832	-122.599042	1564	5689	5398	122	23091
R00938	10102	10518	5D2	30	4	448	1	UC		4 years	4600 NE 62ND AVE	45.557011	-122.59923	1580	5645	5345	121	8452
R00939	10102	10519	5D2	30	4	1441	1	UC		4 years	6402 NE GOING ST	45.556804	-122.59704	1134	5541	5267	118	27163
R00940	10102	10520	5D2	30	4	1594	1	UC		4 years	6405 NE WYGANT ST	45.558224	-122.59712	928	5050	4773	109	30057
R00941	10102	10521	5D2	30	4	724	1	UC		4 years	6536 NE GOING ST	45.556781	-122.595593	881	5463	5195	115	13646
R00942	10102	10522	5D2	30	4	2173	1	UC		4 years	6606 NE GOING ST	45.556799	-122.59494	788	5426	5160	113	40961
R00943	10102	10523	5D2	30	4	1523	1	UC		4 years	6616 NE WYGANT ST	45.558159	-122.59503	429	4942	4675	105	28721
R00944	10102	10524	5D2	30	4	920	1	UC		4 years	5103 NE 66TH AVE	45.559759	-122.595273	574	4385	4115	94	17338
R00945	10102	10525	5D2	30	4	1491	1	UC		4 years	6724 NE WYGANT ST	45.558011	-122.59318	283	4927	4629	102	28118
R00946	10102	10526	5D2	30	4	2460	1	UC		4 years	6723 NE ALBERTA ST	45.55921	-122.593211	196	4493	4208	94	46370
R00947	10102	10527	5D2	30	4	2460	1	UC		4 years	6723 NE ALBERTA ST	45.559282	-122.593208	220	4466	4182	93	46370
R00948	10102	10528	5D2	30	4	3053	1	UC		4 years	7008 NE GOING ST	45.556792	-122.590852	994	5303	4959	102	57549
R00949	10102	10529	5D2	30	4	1485	1	UC		4 years	7010 NE WYGANT ST	45.557982	-122.591132	683	4882	4544	94	28005
R00950	10102	10530	5D2	30	4	2542	1	UC		4 years	7010 NE ALBERTA ST	45.558882	-122.59116	620	4555	4220	88	47916
R00951	10102	10531	5D2	30	4	2542	1	UC		4 years	7010 NE ALBERTA ST	45.558812	-122.59116	618	4581	4245	88	47916
R00952	10102	10532	5D2	30	4	898	1	UC		4 years	6934 NE SUMNER ST	45.559812	-122.591192	725	4218	3886	79	16938
R00953	10102	10533	5D2	30	4	1842	1	UC		4 years	5256 NE 73RD AVE	45.561041	-122.587738	1714	3631	3222	54	34735
R00954	10102	10534	5D2	30	4	1080	1	UC		4 years	5404 NE 73RD AVE	45.562099	-122.587728	1935	3314	2866	49	20369
R00955	10102	10535	5D2	30	4	978	1	UC		4 years	7108 NE ALBERTA ST	45.559049	-122.5901	897	4480	4123	81	18430
R00956	10102	10536	5D2	30	4	1657	1	UC		4 years	7138 NE ALBERTA ST	45.559061	-122.589192	1128	4404	4032	77	31234
R00957	10102	10537	5D2	30	4	1657	1	UC		4 years	7138 NE ALBERTA ST	45.559059	-122.589288	1104	4421	4042	77	31234
ATR349	10102	10538	5D2	Unknown	4	1690	1	AC		10 Years	14717 SE 148th Ave	45.519294	-122.510759	2638	9493	11590	99	33000
R00959	10102	10539	5D2	30	4	720	1	UC		4 years	631-635 SE 81ST AVE	45.518246	-122.580343	5597	8284	4556	131	1400
R00960	10102	10540	5D2	30	4	1500	1	UC		4 years	7707 NE ALAMEDA ST	45.542747	-122.583592	1412	584	635	148	29320
R00961	10102	10541	5D2	30	4		1	AC		As needed	933 SE 174TH AVE	45.515614	-122.48475	3453	6891	4796	27	<Null>

Notes¹ Stormwater = 1² AC = Active, PA = Permanently abandoned, UC = Under construction or not yet built³ Install date is not applicable to UICs under construction.⁴ Five wells (well #10464, 10465, 10466, 10467, 10468) were both registered and decommissioned in FY24. Therefore these wells are in both the UIC Records Added and the UIC Records Removed tables.

Subbasin is the Lower Willamette River.

gpm = gallons per minute

Data last updated July 1, 2024.

Appendix A: UIC Records Removed from the UIC Registration Database (2023-2024)

UNIT ID	UIC #	Well #	DEQ Type Code	Well Depth (feet)	Well Diameter (feet)	Max Discharge Rate (gpm)	DEQ Waste Type ¹	Operational Status ²	Install Date ³	Maintenance Period (years)	Location	Latitude	Longitude	Distance to Nearest Water Well (feet)	Distance to Nearest Wetland (feet)	Distance to Nearest Surface Water (feet)	Separation Distance to Groundwater (feet)	Size of Impervious Area (square feet)
ANA864	10102	977	5D2	Unknown	Unknown	1000	1	NB	<Null>	10 Years	10420 SW 35TH AVE	45.45052	-122.712686	2467	935	790	161	1266
R00857	10102	10327	5D2	30	4		1	PA	<Null>	As needed	1949 SE 122ND AVE	45.509182	-122.537994	1396	10475	12167	75	22000
R00858	10102	10328	5D2	30	4		1	PA	<Null>	As needed	1949 SE 122ND AVE	45.509217	-122.538221	1442	10473	12171	75	22000
R00859	10102	10329	5D2	30	Unknown		1	NB	<Null>	As needed	1949 SE 122ND AVE	45.509231	-122.538269	1454	10475	12174	75	22000
ANH198	10102	9510	5D2	Unknown	Unknown	1000	1	PA	<Null>	As needed	2232 SE 98TH AVE	45.506022	-122.562257	2350	9360	7933	86	37472
ADV734	10102	8013	5D2	Unknown	Unknown	1000	1	PA	<Null>	10 Years	9901 SE STARK ST	45.519192	-122.562285	2123	8831	8653	136	73837
R00877	10102	10449 5	5G30	4	2		5	PA	<Null>	1 year	E MAIN & SE 155TH AV	45.513534	-122.505182	545	8514	9899	62	
R00888	10102	10464 ⁴	5D2	11	4		1	PA	<Null>	10 Years	7878 N Missouri St	45.580226	-122.678144	3262	2994	2304	59	
R00889	10102	10465 ⁴	5D2	15.6	4		1	PA	<Null>	10 Years	7900 N Missouri St	45.580419	-122.678137	3192	2926	2236	53	
R00890	10102	10466 ⁴	5D2	7	4		1	PA	<Null>	10 Years	10420 SE Foster Rd	45.476016	-122.555381	1737	184	141	17	
R00891	10102	10467 ⁴	5D2	7	4		1	PA	<Null>	10 Years	10420 SE Foster Rd	45.476011	-122.555361	1732	186	136	17	
R00892	10102	10468 ⁴	5D2	30	4		1	PA	<Null>	10 Years	6420 SE 110th Ave	45.475851	-122.549154	1072	372	398	-8	

Notes¹ Stormwater = 1² PA = Permanently abandoned, NB = Never Built (Data Error)³ Install date is not applicable to UICs under construction.⁴ Five wells (well #10464, 10465, 10466, 10467, 10468) were both registered and decommissioned in FY24. Therefore these wells are in both the UIC Records Added and the UIC Records Removed tables.

Subbasin is the Lower Willamette River.

gpm = gallons per minute

Data last updated July 1, 2024.

Appendix B
Spills That Have Occurred within Areas Serviced by UICs

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Appendix B: Spills That Have Occurred within Areas Serviced by UICs

SPCR Incident ID	Date	Release Type	Volume	Spill Location	CloseStreetCity-owned UIC	Did Fluids Reach City-owned UIC? (Y/N)
36046	5/5/2024	Erosion	Unknown	3806 NE 79th Avenue	ADQ927	Unknown
34403	7/18/2023	RV Fluids	Unknown	SE 28th Avenue and SE Steele Street	ANK055	N
34418	7/21/2023	RV Fluids	Unknown	SE 133rd Avenue and Center Street	ADT467	N
34432	7/24/2023	RV Fluids	Unknown	NE 34th Avenue and Emerson Street	ADQ214	N
34462	7/27/2023	Gas	Unknown	7701 N Woolsey Avenue	ADN729	N
34510	8/5/2023	Oil	Unknown	8706 SE Flavel Street	ASP431 ASP432	N
34512	8/6/2023	RV Fluids	Unknown	17020 SE Division St	ADS798	Y
34560	8/14/2023	Erosion	Unknown	1010 N Buffalo Street	AMP9222	N
34567	8/16/2023	Sewage	Unknown	332 SE 81st Avenue	ADP252	N
34613	8/23/2023	Erosion	Unknown	5315 SE 89th Avenue	ADU662	Y
34641	8/28/2023	Erosion	Unknown	NE 14th Avenue and NE Alberta Street	ANB481	N
34676	9/1/2023	Erosion	Unknown	3220 SE 56th Avenue	ADO080	N
34682	9/2/2023	RV Fluids	De Minimis	5511 NE 38th Avenue	ADQ203	N
34696	9/8/2023	RV Fluids	Unknown	7921 NE M L King Boulevard	AAJ188	N
34768	9/20/2023	RV Fluids	De Minimis	6955 N Maryland Avenue	ADX212	N
34798	9/26/2023	Sewage and Auto Fluids	Unknown	SE 117th Avenue and SE Ash Street	ANA718	N
34907	10/13/2023	Erosion	Slight impact to UIC	4034 NE 9th Avenue	AAU033	Y
34936	10/18/2023	Erosion	Unknown	14343 NE Alton Street	ARN534	N
34940	10/19/2023	Erosion	Unknown	3995 NE 42nd Avenue	ADQ782	N
34943	10/20/2023	Sewage	Unknown	2510 NE Liberty Street	ADP450	N
34982	10/27/2023	Concrete slurry	Track out	7740-7742 SE Long Street	ADU596	N
35014	11/3/2023	Erosion	Unknown	NE Glisan Street and 74th Avenue	AMP864 AMP956	N
35026	11/6/2023	RV Fluids	Unknown	1320 NE 106th Avenue	ADR669	N
35027	11/6/2023	Gas	2 gal	6545 N Commercial Avenue	ADP318	N
35038	11/8/2023	Oil	Unknown	12210 SE Ellis Street	ADT686	Y
35085	11/19/2023	Insulation foam	Unknown	6886 N McKenna Avenue	AAH064 ADN657	N
35103	11/22/2023	Erosion	Unknown	2646 SE 101st Avenue	ADW549	N
35120	11/29/2023	Turbid water	Unknown	10008 SE Ramona Street	ACP670 ADV133	N
35123	11/30/2023	Turbid water	Unknown	9810 SE Harrison Street	ADU556	Y
35133	12/1/2023	Turbid water	Unknown	1346 NE 134th Avenue	ADR776	N
35137	12/2/2023	Sewage	Unknown	8646 NE Broadway	ABD773 ADR228	Y
35149	12/5/2023	RV Fluids	Unknown	SE 166th Avenue and Bush Street	ADT528	N

SPCR Incident ID	Date	Release Type	Volume	Spill Location	CloseStreetCity-owned UIC	Did Fluids Reach City-owned UIC? (Y/N)
35155	12/5/2023	Turbid water	Unknown	7817 N Portsmouth Avenue	ADN675	N
35197	12/11/2023	Gray water	Unknown	324 NE 105th Avenue	ADR929	Unknown
35203	12/11/2023	Erosion	Unknown	104 NE 80th Avenue	ASP063	N
35213	12/14/2023	Erosion	Unknown	5949 NE Cully Boulevard	Cully Park UICs no Unit IDs	Y
35216	12/14/2023	Turbid water	Unknown	4208 SE 75th Avenue	ADT320	Y
35217	12/14/2023	Tires	Unknown	5527 NE 75th Avenue	ADP900	N
35221	12/14/2023	Turbid water	Unknown	NE 55th Avenue and Prescott Street	ADQ807	N
35248	12/20/2023	RV Fluids	Unknown	SE 80th Avenue & SE Center Street	ADT307	N
35262	12/21/2023	Turbid water	Unknown	NE 47th Avenue and Skidmore Street	ADQ788	N
35271	12/22/2023	Turbid water	Unknown	N Midway Avenue and Seneca Street	ADN287	N
35272	12/24/2023	Turbid water	Unknown	4611 SE 78th Avenue	ADU591	N
35282	12/27/2023	Sewage and Auto Fluids	Single pile feces	6635 SE Flavel Street	ADV881	N
35295	12/29/2023	Oil	Unknown	6226 SE 62nd Avenue	ACN796 ADU884	N
35301	12/31/2023	Oil	Unknown	4574 NE 78th Avenue	ADQ347	N
35331	1/8/2024	Turbid water	Unknown	4540 NE 99th Avenue	AAS322	N
35367	1/12/2024	Unknown	Unknown	10346 SE Ellis Street	ADV188	Unknown
35385	1/16/2024	Turbid water	Unknown	2709 SE 71st Avenue	ADU129	Y
35419	1/23/2024	Turbid water	Unknown	SE 113th Avenue and SE Division Street	ADS266	Y
35441	1/22/2024	Turbid water	Unknown	6700 N Gay St	ADP487	Y
35442	1/22/2024	Turbid water	Unknown	N Buffalo & N Campbell	ADP212	N
35443	1/22/2024	Turbid water	Unknown	SE 59th Ave and SE Mall St	ADS905	N
35445	1/22/2024	Turbid water	Unknown	NE 70th and NE Morris St	ADW089	N
35452	1/22/2024	Turbid water	Unknown	746 NE Buffalo St	ADP383	Y
35453	1/22/2024	Turbid water	Unknown	4941 N Yale St	AAJ734 ADN965	N
35457	1/22/2024	Turbid water	Unknown	6615 NE Prescott	ADQ322	N
35458	1/22/2024	Turbid water	Unknown	3930 SE 98th Ave	ADT382	N
35460	1/22/2024	Turbid water	Unknown	3805 SE 99th Ave	ADT383	N
35461	1/22/2024	Turbid water	Unknown	4759 N Syracuse	AAJ889 ADP116	N
35464	1/25/2024	Turbid water	Unknown	10939 SE Tibbetts Street	ADW566	N
35467	1/22/2024	Turbid water	Unknown	908 NE 109th Ave	ADR652	N
35468	1/22/2024	Turbid water	Unknown	12019 SE Pardee Street	ANA601	N
35466	1/22/2024	Turbid water	Unknown	12032 SE Holgate	ADW250	N
35471	1/22/2024	Turbid water	Unknown	2807 NE Ainsworth Street	ADP807	N

SPCR Incident ID	Date	Release Type	Volume	Spill Location	CloseStreetCity-owned UIC	Did Fluids Reach City-owned UIC? (Y/N)
35472	1/22/2024	Turbid water	Unknown	4035 NE 72nd Avenue	ADQ837	N
35476	1/22/2024	Turbid water	Unknown	3207 NE Jarrett Street	ADP824	N
35479	1/24/2024	Turbid water	Unknown	2426 NE 136th Avenue	ADQ584	N
35483	1/24/2024	Turbid water	Unknown	141 NE Buffalo Street	ADP348	N
35513	1/31/2024	Auto Fluids	Spill/Discharge	SE 170th Avenue and SE Franklin Street	ADS817	N
35514	1/31/2024	Transformer fluid	6 gal	431 NE Sumner Street	ADP998	N
35560	2/7/2024	Fire fighting activities	Unknown	5406 N Albina Avenue (Killingsworth Ct)	AMT147 ADP934	N
35576	2/9/2024	RV Fluids	Unknown	7023 N Jersey Street	AAF117 ADN367	N
35592	2/13/2024	Erosion	Unknown	4429 NE Mason Street	AAU624 ADQ789	N
35618	2/19/2024	Hot chlorinated water	Unknown	3533 NE Klickitat Street	ADR088 ADR089	Y
35628	2/21/2024	Auto Fluids	Unknown	7939 SE Bybee Boulevard	ADT927	N
35663	2/28/2024	Auto Fluids	Unknown	4600 N. Suttle Road	ATN143	Y
35665	2/28/2024	Auto Fluids	Unknown	2400 block of Wygant	ADQ109	N
35675	2/29/2024	Auto Fluids	Unknown	4400-4489 SE Glenwood Street	ADT767	N
35676	2/29/2024	Gas/Burnt debris	Unknown	8311 NE Going Place	ADQ366	N
35682	3/3/2024	Auto Fluids	Unknown	SE Harold Street and SE 128th Avenue	ADU738	Y
35686	3/4/2024	Sewage	Unknown	44 SE 126th Avenue	ADS003	N
35694	3/5/2024	Auto Fluids	Puddle under car	1844 NE 61st Avenue	ADR156	N
35698	3/6/2024	Gas	Unknown	N Albina Avenue and Farragut Street	ADN935	Y
35701	3/7/2024	Auto Fluids	Unknown	SE 6th Avenue and SE Spokane Street	AEG776	N
35718	3/8/2024	Cleaning agents	Unknown	3560 NE Lombard Court	ANS695	N
35745	3/15/2024	Concrete slurry	De Minimis	NE Madrona Street and NE 8th Avenue	ADP378	Y
35753	3/17/2024	Burned clothing	Unknown	NE Alberta Street and NE 27th Avenue	ADQ106	N
35774	3/20/2024	RV Fluids & debris incl. needles	Unknown	8800-8899 SE Duke Street	ADT960	Y
35834	3/31/2024	Turbid water	Unknown	5248 Cesar E Chavez Boulevard	ARF574	N
35875	4/9/2024	RV Fluids	Unknown	6140 N Kerby Avenue	ADX437	N
35951	4/22/2024	RV Fluids	Unknown	4606 SE Martins Street	ADU861	N
35970	4/25/2024	Oil	Jug	5421 SE Mitchell Street	ADV282	N
35992	4/29/2024	Gas	Gas tank	NE 42nd Avenue and NE Simpson Court	AMS674	N
36018	5/1/2024	RV fluids	Unknown	SE 85th & Claybourne St	ADT944	N
36043	5/3/2024	RV fluids	Unknown	SE Claybourne Street and SE 85th Avenue	ADT945 ACU037	N
36080	5/8/2024	Unknown	Unknown	SE 72nd Avenue and Flavel Street	ARB760	N

SPCR Incident ID	Date	Release Type	Volume	Spill Location	CloseStreetCity-owned UIC	Did Fluids Reach City-owned UIC? (Y/N)
36091	5/10/2024	Sewage	Unknown	SE Claybourne Street and SE 85th Avenue	ADT945 ACU037	N
36272	6/10/2024	Bark chips	Unknown	6510 SE Reedway Street	AMZ950	N
36287	6/11/2024	RV Fluids	Unknown	NE 103rd Avenue and Weidler Street	ADR306	N
36288	6/9/2024	Sewage	100 gal	NE 129th Avenue and Fremont Street	AMU061	N
36304	6/13/2024	RV Fluids	Unknown	13339 SE Raymond Street	ADU770	N
36309	6/16/2024	Non-PCB mineral oil	10-12 gal	NE 122nd Avenue and NE Shaver Street	ASQ097	N
36356	6/24/2024	Sewage	Bag	10740 SE Francis Street	AMX845	N
36381	6/28/2024	Plastic	Unknown	7338 N Knowles Avenue	ADP142	N

Notes

gal = gallon

PCB = polychlorinated biphenyl

RV = recreational vehicle

Appendix C
Year 9 (2015 Permit)
Stormwater Discharge Monitoring Data,
Shallow Groundwater UICs

(Laboratory reports and Excel spreadsheet
are provided electronically)

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Appendix C

Year 9 (2015 Permit), Stormwater Discharge Monitoring Data, Shallow Groundwater UICs

This report presents the stormwater discharge monitoring data collected in Year 9 (July 1, 2023, to June 30, 2024) of the City of Portland (City) 2015 Water Pollution Control Facilities (WPCF) Permit No. 102830 for Class V Stormwater Underground Injection Control (UIC) Systems. Year 9 (2015 Permit) sampling was performed in accordance with the City's 2015 *Stormwater Discharge Monitoring Plan* (SDMP). This report is divided into the following sections detailing the locations sampled and the results from the laboratory analysis:

1. Introduction
2. Sampling Design
 - Year 9 Monitoring Locations
 - Chemical Analysis
3. Results, Exceedances, and Response Actions
4. Analytical Data Validation

As required in Schedule B.5 of the 2015 Permit, data provided in the analytical laboratory reports are included as Table 2. A field audit report, laboratory reports, and an Excel spreadsheet are also provided electronically on a flash drive.

Introduction

The City has prepared this report to be included as part of the UIC Management Plan annual report in compliance with Schedule B.5 its 2015 WPCF Permit.¹ The Oregon Department of Environmental Quality (DEQ) issued the City's second WPCF Permit Number 102830 in June 2015, which approved the City's required SDMP dated March 24, 2015. The SDMP describes the stormwater monitoring strategy that the City will use throughout its second WPCF Permit term (June 2015 to May 2025) to evaluate stormwater discharges from public rights-of-way to City-owned UICs in areas of shallow groundwater.² Monitoring is conducted to demonstrate that the City's UIC Program protects beneficial uses of groundwater, meets WPCF Permit requirements, and satisfies requirements of the federal Safe Drinking Water Act and state UIC and groundwater regulations.

¹ The full name of the permit is the "Water Pollution Facilities Permit for Class V Stormwater Underground Injection Control Systems."

² Areas of shallow groundwater refer to locations where UICs have < 5 feet of vertical separation distance between the bottom of the UIC and the seasonal high groundwater level. Seasonal high groundwater is discussed in Snyder's USGS Report 2008-5059, *Estimated Depth to Ground Water and Configuration of the Water Table in the Portland, Oregon, Area* (2008), <http://pubs.usgs.gov/sir/2008/5059>.

Sampling Design

To comply with the monitoring requirements of the 2015 Permit, the City implements a program to sample stormwater entering the City's UIC system from a subset of UICs located in areas of shallow groundwater and compare stormwater data to permit Action Levels.

There are approximately 120 UICs located in areas of shallow groundwater. Over the length of the 2015 Permit, a sample of 75 UICs will be selected from the list of UICs located in shallow groundwater. The 75 UICs will be broken up into five panels of 15 UICs each. Over the course of the 10-year permit, each panel will be sampled twice to achieve monitoring objectives in the SDMP. With a sample size of 75, approximately 61 percent of the UICs located in shallow groundwater will be sampled at the end of the 10-year period. A finite population correction³ will reduce the width of confidence intervals associated with this design by almost 50 percent, in comparison to a sample size of 75 UICs selected from a population of 10,000. This design therefore has the equivalent power of a much larger sample from the entire UIC population.

A Generalized Random Tessellation Stratified (GRTS) survey design⁴ will be used to select the 75 locations from the list of UICs in areas of shallow groundwater. A GRTS design will result in a random sample that is spatially balanced (i.e., a sample with a spatial distribution that is similar to the spatial distribution of the population).

The GRTS design also allows for simplifying the implementation of a sample design when some UICs are not suitable for sampling. A GRTS sample draw is an ordered list of sample locations that can be evaluated for sampling sequentially. The first 75 UICs on the list that are suitable for sampling are used as the sample, with sequential blocks of 15 UICs making up each of the five panels. For the purpose of choosing 75 UICs to sample, the entire population of UICs located in shallow groundwater areas was placed into random order using the R package *spsurvey*.⁵

Year 9 Monitoring Locations

Year 9 (2015 Permit) sampling was developed in accordance with the SDMP. As this is the second permit term, locations were selected to assist in evaluation of UICs located in shallow groundwater (<5 feet of vertical separation distance). Year 9 (2015 Permit) monitoring includes 15 sites that were previously sampled during the fourth year of the 2015 Permit. As detailed in the SDMP, shallow groundwater sites monitored in Years 1 to 5 under the permit are to be repeated in Years 6 to 10. See Table 1 and Figures 1 and 2 for site-specific information.

³ When sampling more than approximately 5 percent of a finite population, a finite population correction is applied to the standard error of parameter estimates (e.g., annual trends, means, or population percentiles). This correction can significantly increase the precision of parameter estimates when a large proportion of the population is sampled (http://en.wikipedia.org/wiki/Standard_error#Correction_for_finite_population).

⁴ Stevens, D.L., Jr., and A.R. Olsen. 2004. "Spatially-balanced sampling of natural resources." *Journal of the American Statistical Association*. 99: 262–278. In collaboration with the U.S. Environmental Protection Agency, the City utilized the GRTS design to select its UIC stormwater monitoring program locations sampled for 2005 Permit compliance.

⁵ Kincaid, T. M., and A.R. Olsen. 2013. *spsurvey: Spatial Survey Design and Analysis*. R package version 2.6 (<http://www.epa.gov/nheerl/arm>).

Chemical Analysis

As identified in Table 1 of the 2015 Permit, six pollutants (Benzo[a]pyrene, Pentachlorophenol, Di(2-ethylhexyl)phthalate, total lead, total zinc, and total copper) must be sampled and analyzed for each monitoring location. The list of pollutants and sampling and analytical methods can be found in the SDMP. Monitoring results are summarized below.

Results, Exceedances, and Response Actions

The analytical results from the 15 shallow groundwater monitoring locations are attached in Table 2. All laboratory data sheets are included electronically with this report. This data has also been submitted through DEQ's Your DEQ Online system. Review of the data indicated no Permit Table 1 Action Levels were exceeded, and thus no response actions were required. Collected data were also consistent with UIC monitoring that was conducted in the first WPCF Permit term.

Analytical Data Validation

Analytical results were reviewed to ensure that the data quality objectives defined in the Quality Assurance Project Plan were achieved, and they were determined to be acceptable and usable. A data usability report is attached.

Attachments:

- Table 1 - Year 9 (2015 Permit) UIC Monitoring Location Information
- Table 2 - Year 9 (2015 Permit) Monitoring Results
- Figures 1 and 2 - Year 9 (2015 Permit) UIC Monitoring Location Site Maps
- Data Usability Report
- Flash drive containing field audit report, lab data sheets and Microsoft Excel database

Table 1: Year 9 (2015 Permit) UIC Monitoring Location Information

Location Code	Approximate Address ^a	Traffic Category ^b	Predominant Land Use ^c	DEQ UIC ID	BES UIC ID ^d	Latitude	Longitude	UIC Depth (feet)	Pretreatment System ^e	Separation Distance ^f	Distance to Nearest Well (feet) ^g	Within Two-year Time of Travel from public drinking water well?
SG-065	4745 SE 122ND AVE	> 1000	MFR	10102-9809	AQT804	45.48761749	-122.53787994	20.3	Sed MH	3	848	NO
SG-066	8318 SE 78TH AVE	< 1000	SFR	10102-4830	ADV950	45.46357727	-122.58353424	27.5	Sed MH	-13	1849	NO
SG-068	13250 SE HOLLGATE BLVD	> 1000	MFR	10102-712	ANA591	45.48958969	-122.52690887	10	Sed MH	-1	1062	NO
SG-069	12210 SE ELLIS ST	> 1000	SFR	10102-5291	ADT686	45.48255157	-122.53763580	17	Sed MH	4	1268	NO
SG-071	5404 SE 122ND AVE	> 1000	COM	10102-9783	AQT793	45.48406600	-122.53781890	20.5	Sed MH	0	2538	NO
SG-073	4857 SE 122ND AVE	> 1000	SFR	10102-9807	AQT802	45.48686599	-122.53791046	20.3	Sed MH	2	877	NO
SG-078	6457 NE 66TH AVE	< 1000	SFR	10102-9785	AQT756	45.57010269	-122.59515380	26.33	Sed MH	-3	1070	NO
SG-079	12204 SE STEELE ST	> 1000	COM	10102-5931	ADU751	45.48472213	-122.53757476	20.4	Sed MH	0	1405	NO
SG-080	5608 SE 99TH AVE	< 1000	SFR	10102-5407	ACP660	45.48171615	-122.56162261	30	Sed MH	4	2534	NO
SG-081	11080 SE HAROLD ST	> 1000	SFR	10102-5468	ADV191	45.48280334	-122.54930877	22.9	Sed MH	-3	711	NO
SG-084	4100 SE 133RD AVE	<1000	SFR	10102-6326	ADT466	45.49248333	-122.52741667	30	Sed MH	-1	1289	NO
SG-083	10310 SE ELLIS ST	> 1000	SFR	10102-5464	ADV188	45.48180389	-122.55689239	22	Sed MH	0	1322	NO
SG-085	12506 SE REEDWAY ST	< 1000	SFR	10102-5296	ADT691	45.48175430	-122.53427124	25	Sed MH	-4	2151	NO
SG-087	5021 SE 122ND AVE	> 1000	COM	10102-9803	AQT798	45.48545837	-122.53794860	16.9	Sed MH	4	1119	NO
SG-090	13250 SE HOLLGATE BLVD	> 1000	MFR	10102-710	ANA589	45.48958969	-122.52696228	9	Sed MH	0	1054	NO

Notes:

^a Addresses should not be considered precise location information and are subject to change as City staff better describe the physical UIC locations relative to nearby properties. UIC street addresses are assigned relative to nearby properties for general locating purposes. Latitude and longitude should be relied upon for accurate locating of UICs.

^b Traffic Category (Residential = <1000 trips per day, Collector or greater >1000 trips per day).

^c COM = commercial; POS = Parks and Open Space; SFR = Single Family Residential; MFR = Multifamily Residential; IND = Industrial

^d BES UIC number is obtained from the BES Hansen database.

^e Sed MH = Sedimentation maintenance hole

^f The estimated separation distance is defined as the approximate depth in feet from the bottom-most perforation in the UIC to the approximate seasonal-high groundwater level. The bottom-most perforation is defined as the bottom of the UIC – 2 feet. Two feet were added to all separation distance calculations to account for the standard depth of the sediment trap ring on standard City UIC design. This information is reported to DEQ by the City as “Depth to groundwater” (UIC Database Report) for inclusion in DEQ’s UIC database. Reported to nearest foot. Separation distances are based on December 2008 USGS depth to groundwater data (Snyder, D.T., 2008, Estimated depth to ground water and configuration of the water table in the Portland, Oregon area: U.S. Geological Survey Scientific Investigations Report 2008-5095, 40p. Available at <http://pubs.usgs.gov/sir/2008/5059>).

^g Horizontal distance to nearest groundwater drinking water well (e.g., municipal, domestic, irrigation).

Underground Injection Control Management Plan Annual Report No. 9 (2015 Permit)
July 2023 - June 2024

Table 2: Year 9 (2015 Permit) Monitoring Results

Site id	Location Description	Traffic (trips per day)	Node	Date	Analyte		Pentachlorophenol		DEHP		Benzo(a)pyrene		Copper		Lead		Zinc	
					Action Level (ug/L)		10		300		2.0		1,300		500		50,000	
					Method		EPA 515.4		EPA 8270-SIM		EPA 8270-SIM		EPA 200.8		EPA 200.8		EPA 200.8	
SG-065	4745 SE 122nd Ave (>1000)	>1000	AQT804	11/06/2023 13:59	=	0.452	=	6.2	=	0.035	=	30.3	=	14.7	=	182		
SG-066	8318 SE 78th Ave (<1000)	<1000	ADV950	12/05/2023 12:27	=	0.147	=	0.81	=	0.032	=	6.44	=	3.73	=	28.5		
SG-068	13250 SE Holgate Blvd (>1000)	>1000	ANA591	12/05/2023 10:49	=	0.375	=	0.74	=	0.019	=	5.33	=	1.86	=	31.3		
SG-069	12210 SE Ellis St (>1000)	>1000	ADT686	11/06/2023 12:53	=	0.0806	=	2	=	0.15	=	4.79	=	1.72	=	33.6		
SG-071	5404 SE 122nd Ave (>1000)	>1000	AQT793	11/06/2023 13:15	=	0.421	=	3.8	=	0.038	=	20.9	=	7.86	=	121		
SG-071 DUP	5404 SE 122nd Ave (>1000)	>1000	AQT793	11/06/2023 13:15	=	0.409	=	3.2	=	0.033	=	19.4	=	7.47	=	117		
SG-073	4757 SE 122nd Ave (>1000)	>1000	AQT802	11/06/2023 14:10	=	0.659	=	1.3	=	0.015	=	7.1	=	1.79	=	43.9		
SG-078	6547 NE 66th Ave (<1000)	<1000	AQT756	12/05/2023 08:17	=	0.144	<	<0.50	=	0.016	=	4.49	=	3.28	=	17.1		
SG-079	12204 SE Steele St (>1000)	>1000	ADU751	11/06/2023 13:37	=	0.252	=	2.9	=	0.022	=	14.4	=	6.13	=	82.5		
SG-080	5608 SE 99th Ave (<1000)	<1000	ACP660	12/05/2023 11:48	=	0.607	<	<0.50	<	<0.010	=	1.89	=	0.579	=	10.6		
SG-081	11080 SE Harold St (>1000)	>1000	ADV191	01/08/2024 10:50	=	0.0891	=	1.6	=	0.025	=	9.2	=	5.3	=	71.7		
SG-083	10310 SE Ellis St (>1000)	>1000	ADV188	10/10/2023 10:06	=	0.0581	<	<0.50	<	<0.010	=	5.35	=	1.19	=	28.7		
SG-083 DUP	10310 SE Ellis St (>1000)	>1000	ADV188	10/10/2023 10:06	=	0.0666	<	<0.50	<	<0.010	=	5.16	=	1.2	=	29.3		
SG-084	4100 E 133rd Ave (<1000)	<1000	ADT466	12/05/2023 10:03	=	0.0516	<	<0.50	<	<0.010	=	1.21	=	0.292	=	5.33		
SG-085	12506 SE Reedway St (<1000)	<1000	ADT691	12/05/2023 09:04	=	0.0778	<	<0.50	<	<0.010	=	4.29	=	2.27	=	20.7		
SG-087	5021 SE 122nd Ave (>1000)	>1000	AQT798	11/06/2023 14:20	=	0.541	=	2.2	=	0.018	=	8.7	=	2.63	=	51		
SG-090	13250 SE Holgate St (>1000)	>1000	ANA589	12/05/2023 10:39	=	0.403	=	1.1	=	0.018	=	5.85	=	2.94	=	34.3		

Notes:

All concentrations are in micrograms/per liter (ug/l)

DUP = Field Duplicate

DEHP = Bis(2-ethylhexyl)phthalate

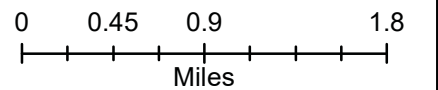
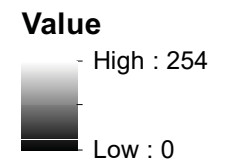
Figure 1

2023-24 Year 9 (2015 Permit) UIC Monitoring Locations

Explanation

- Shallow Groundwater Panel 4 (Event 1)

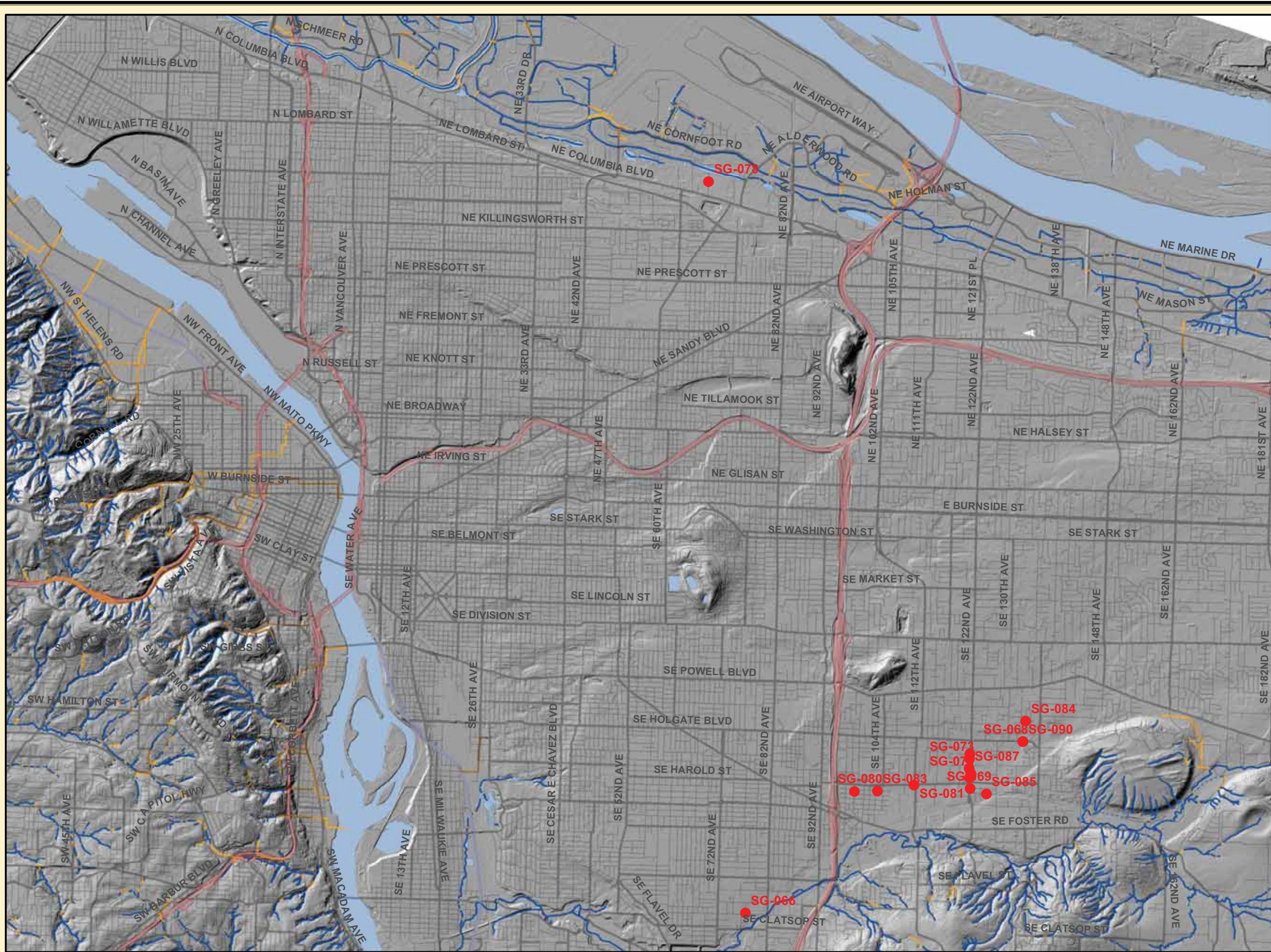
LiDAR DEM Hillshade



Monitoring Coordination & Analysis
Bureau of Environmental Services
City of Portland, Oregon



Source: ESRI Data & Maps CD
Created in ArcGIS 10.2 using
ArcMap



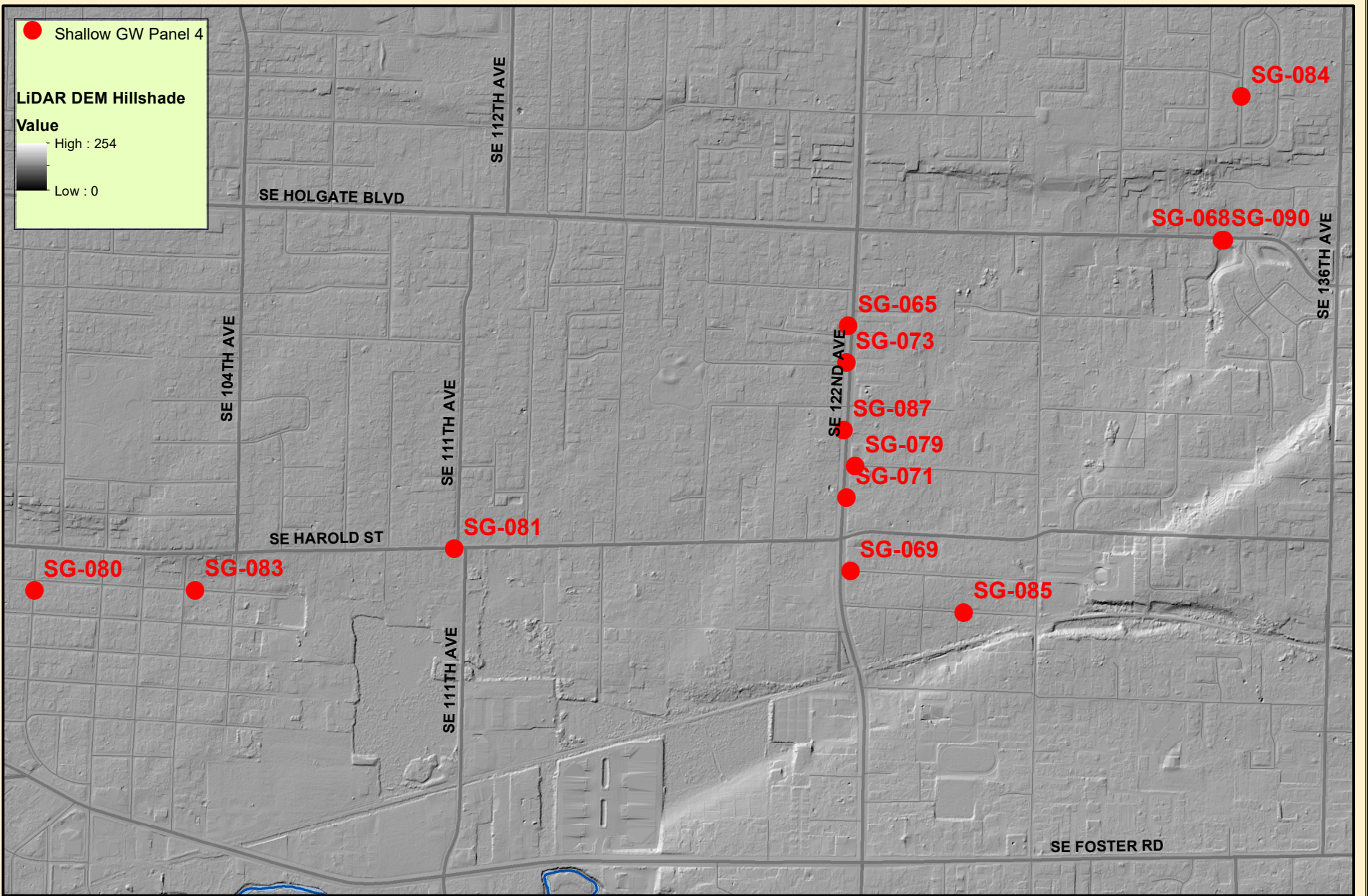


Figure 2
2023-24 Year 9 (2015 Permit) UIC SE Monitoring Locations

Monitoring Coordination & Analysis
 Bureau of Environmental Services
 City of Portland, Oregon

Source: ESRI Data & Maps CD
 Created in ArcGIS 10.2 using ArcMap



**CITY OF PORTLAND BUREAU OF ENVIRONMENTAL SERVICES
UIC PROGRAM STORMWATER MONITORING
DATA USABILITY REPORT**

**YEAR 19 MONITORING
OCTOBER 2023 – JANUARY 2024**

1.0 INTRODUCTION

Analytical results for stormwater samples collected during Permit Year 19 (PY 19) were reviewed to evaluate data usability and adherence to project data quality objectives (DQOs). All data were evaluated using the project *Quality Assurance Project Plan (QAPP)* and *U.S. EPA Contract Laboratory Program National Functional Guidelines (NFGs) for Data Review (BES 2015, EPA 2017a, 2017b)* for guidance in evaluating the following:

- Field practices, field quality control (QC) samples, daily activity logs, and sample collection logs;
- Sample COC and receipt documentation, preparation and analytical holding times, and reporting and detection limits for chemicals of interest; and
- Laboratory data quality, in terms of precision, accuracy, representativeness, completeness, and comparability (PARCC) as described in Section 2.5 of the QAPP.

2.0 SAMPLING SUMMARY

The City Bureau of Environmental Services (BES) Field Operations section performed sample collection and field parameter measurements for all compliance monitoring. Samples were collected from 15 locations during one “event” from October 10, 2023 through January 8, 2024. Sample locations are presented in Table 1 attached to this summary.

Samples were collected in general accordance with the *Sampling and Analyses Plan (SAP)* and QAPP, contained in the final *UIC Stormwater Discharge Monitoring Plan (SDMP)*. The SDMP includes all stormwater monitoring conducted at City UICs for UIC permit compliance.

3.0 ANALYTICAL SUMMARY

WPCL performed analyses for all compliance samples collected for PY 19. Laboratory procedures were performed in general accordance with the QAPP except as noted below. The permit-required and PPS analytes measured during PY19 are listed below.

Analyte	Method	MRL (µg/L)	MADL (µg/L)	Lab
Pentachlorophenol	EPA 515.4	0.04	10	WPCL
Di(2-ethylhexyl)phthalate	EPA 8270-SIM	1.0	60	WPCL

Analyte	Method	MRL (µg/L)	MADL (µg/L)	Lab
Benzo(a)pyrene	EPA 8270-SIM	0.01	2.0	WPCL
Total Copper	EPA 200.8	0.2	1,300	WPCL
Total Lead	EPA 200.8	0.1	500	WPCL
Total Zinc	EPA 200.8	0.5	5,000	WPCL

MRL = method reporting limit

MADL = maximum allowable discharge limit

4.0 QAPP COMPLIANCE AND DATA USABILITY

BES Monitoring Coordination & Analysis (MCA) conducted an independent data usability assessment to ensure the data are usable. Findings are summarized below.

4.1 Field Practices

Field Data Sheets

Field data sheets (FDSs) are included in this report as Attachment 1. FDSs are used to record general and sample-specific information regarding site conditions, time of sample collection, visual stormwater observations, sample collection difficulties, deviations from the SDMP, and any information relating to potential pollutant sources. These logs were reviewed by both the Field Operations team leader and by MCA for completeness and consistency. No significant issues were identified during review of field documents.

Field measurements including temperature, conductivity, and pH are recorded on WPCL COCs so that field data can be entered into the LIMS by the WPCL sample custodian. COCs are included with the analytical laboratory reports.

Field and Lab QC Samples

One equipment blank per year and one field decontamination blank per event were collected and analyzed for the same parameters as stormwater samples. Field duplicate samples are collected at a frequency of one duplicate for every 10 locations sampled. Results of field and laboratory QC samples are discussed in respective sections below.

No issues were encountered that required resampling.

4.2 Data Usability Assessment

General

Discrete samples were collected at 15 sample locations, in addition to two field duplicates, one field decontamination blanks, and one equipment blank. Samples were delivered to WPCL on the same business day that they were collected. Laboratory sample receipt forms indicate that all sample containers arrived intact, and all container labels matched the COC documentation.

Some data were flagged as estimated using various flags to illustrate specific laboratory QC failures. Following review of laboratory reports, case narratives, and field QC data by IMS, some of these flags were carried through as appropriate, and replaced with qualifiers presented below. Additional qualifiers were added, where necessary. Qualified data are still considered valid and

usable (though should be used with caution), except for results that may have been qualified with an “R” (rejected). Qualifiers used for PY 19 Event reporting are listed below:

J	Estimated concentration
U	Not detected above MDL

Note that laboratory PARCC review for this report is generally limited to permit-required analytes and analyses necessary for reporting. For example, laboratory QC is reviewed for all samples analyzed by EPA Method 8270-SIM; however, RPDs for field duplicates are only calculated for UIC permit-required analytes. Additional review may be conducted where laboratory QC issues indicate more pervasive issues that may impact data quality for analytes not required for permit compliance monitoring.

Method Detection Limits

All method reporting limit (MRL) and detection limit (MDL) targets for permit-required analytes were met as specified in the QAPP (BES 2015).

MRLs were increased for selected analytes on individual samples where dilution was required in order to quantify analytes detected that were outside initial instrument calibration. Several samples required dilutions due to matrix interference for individual analytes. MRLs and MDLs did not exceed MADLs for any “non-detect” sample analytical results.

4.2.1 Holding Times

Maximum allowable holding times, measured from the time of sample collection to the time of preparation or analysis, were met for each project sample collected for PY19 permit compliance.

4.2.2 Blanks

In accordance with EPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is less than or equal to 10 times (10x) the amount in any blank for metals and the common organic laboratory contaminants (methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters), or 5 times (5x) the amount for other target compounds. Target compounds were not detected in associated blank samples (trip, equipment, method) prepared and analyzed concurrently with the project samples.

4.2.3 System Monitoring Compounds

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters by EPA methods 8270-SIM and 515.4 to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. All surrogate recoveries were within the acceptance limits specified in the QAPP.

4.2.4 Laboratory Control Samples

For Laboratory Control Samples (LCSs), samples of deionized water are analyzed following the addition of a known amount of analyte in order to confirm the ability of the analytical instrument to

accurately quantify target compounds. LCSs were analyzed at the appropriate QAPP-specified frequency. Additionally, all LCS recoveries were within the acceptance limits for accuracy specified in the QAPP.

4.2.5 Matrix Spike/Matrix Spike Duplicates

For Matrix Spikes (MS)/Matrix Spike Duplicates (MSD), stormwater samples are analyzed following the addition of a known amount of analyte in order to evaluate any matrix effects that interfere with the ability of the analytical instrument to accurately quantify target compounds. Typically, results are not qualified based on MS/MSD results alone unless recoveries are well outside control limits. MS/MSDs were analyzed at the appropriate QAPP-specified frequency. Additionally, all MS recoveries and MS/MSD relative percent differences (RPDs) were within the acceptance limits for accuracy specified in the QAPP except as noted below:

Analysis	Batch	Samples Affected	Comments
8270-SIM	B23J281	none	Eight MS/MSD results were slightly low, RPDs were acceptable, results generally within NFG criteria, no other QC issues for those analytes, no action taken.
8270-SIM	B23K109	none	Two MS/MSD results were slightly low, one for bis(2-ethylhexyl) phthalate very low (-6%), RPDs were acceptable, no other QC issues for those analytes, no action taken.
8270-SIM	B24A126	none	Two MSD results were slightly high, RPDs were acceptable, results generally within NFG criteria, MSD surrogate recovery slightly high, no action taken.

No action was taken where MS/MSD results were above acceptance limits and all associated sample results were non-detect, or where spike amounts were too low relative to sample concentrations.

4.2.6 Duplicates

Field and laboratory duplicate samples were analyzed at the appropriate frequency and all recoveries were within the ranges specified in the QAPP.

4.3 Data Usability Summary

Appropriate sample collection and analytical methods were used for all samples and analyses, ensuring good comparability with other data. Analytical accuracy and precision were determined to be generally acceptable, with noted exceptions.

All other data reported should be considered valid as reported, representative of the samples collected, and acceptable for further use.

5.0 REFERENCES

- City of Portland Bureau of Environmental Services (BES). 2015. *Quality Assurance Project Plan - Stormwater Underground Injection Control System Monitoring*. Prepared for Oregon Department of Environmental Quality (ODEQ). August 2006, revised March 2015.
- City of Portland Bureau of Environmental Services (BES). 2015. *Final Stormwater Discharge Monitoring Plan* – consists of *Sampling and Analysis Plan* and *Quality Assurance Project Plan*. Prepared for Oregon Department of Environmental Quality (ODEQ). August 2006, revised March 2015.
- City of Portland Bureau of Environmental Services (BES). 2023. Memo to File: *Missed Holding Times for 22/23 UIC Permit Monitoring*. Prepared for Oregon Department of Environmental Quality (ODEQ). March 13, 2023.
- EPA 2002. Guidance on Environmental Data Verification and Data Validation. EPA-240-R-02-004 (EPA QA/G-8). Office of Environmental Information. November 2002.
- EPA 2017a. USEPA National Functional Guidelines for Superfund Inorganic Methods Data Review. EPA-540-R-2017-001 (OLEM 9335.0-135). Office of Superfund Remediation and Technology Innovation (OSTRI). January 2017.
- EPA 2017b. USEPA Contract Laboratory Program National Functional Guidelines for Organic Superfund Data Review. EPA-540-R-2017-002 (OLEM 9335.0-136). Office of Superfund Remediation and Technology Innovation (OSTRI). January 2017.

6.0 GENERAL

This summary report was prepared by the MCA sections of BES. For any questions concerning this report, contact Aaron Wieting at 503-823-5437.

Date of Final Report: July 16, 2024

Prepared by: Aaron B. Wieting, R.G., BES MCA

Reviewed by: Joel Bowker, R.G., BES UIC Program

TABLE 1: UIC Permit Year 19 Monitoring Locations

Location Code	Location Address	Traffic	Node
SG-018	5803 SE 122nd Ave	>1000	ADT682
SG-028	13515 SE Holgate Blvd	>1000	AMR622
SG-030	10402 SE Ellis St	<1000	ADV190
SG-034	12319 SE Ramona St	>1000	ADT696
SG-047	4022 NE 142nd Ave	<1000	AQT762
SG-048	4241 SE 136th Ave	>1000	ADT475
SG-049	5211 SE 122nd Ave	>1000	AQT796
SG-053	4919 SE 122nd Ave	>1000	AQT800
SG-054	5440 SE 111th Ave	>1000	AQT767
SG-055	11741 SE Foster Rd	>1000	AQT811
SG-057	5500 SE 122nd Ave	>1000	AQT785
SG-059	4656 NE 118th Ave	<1000	ADQ418
SG-060	4144 SE 132nd Ave	<1000	ADT426
SG-061	12246 SE Ellis St	<1000	ADT687
SG-063	13820 SE Gladstone St	<1000	ADT473

TABLE 2: UIC Permit Year 19 Field Duplicate Precision

UIC Permit Monitoring Year 19 Event 1 October 10, 2023 - January 8, 2024 Field Duplicate Precision								
Constituent	Units	Precision DQO	SG-071			SG-083		
			Primary	DUP	RPD	Primary	DUP	RPD
Benzo(a)pyrene	µg/L	30	0.038	0.033	14.1	< 0.01	< 0.01	0.0
Bis(2-ethylhexyl) phthalate	µg/L	30	3.8	3.2	17.1	< 0.5	< 0.5	0.0
Copper	µg/L	20	20.9	19.4	7.4	5.35	5.16	3.6
Lead	µg/L	20	7.86	7.47	5.1	1.19	1.2	0.8
Pentachlorophenol	µg/L	30	0.421	0.409	2.9	0.0581	0.0666	13.6
Zinc	µg/L	20	121	117	3.4	28.7	29.3	2.1

Notes:

RPD = Relative Percent Difference