Underground Injection Control Management Plan

▪

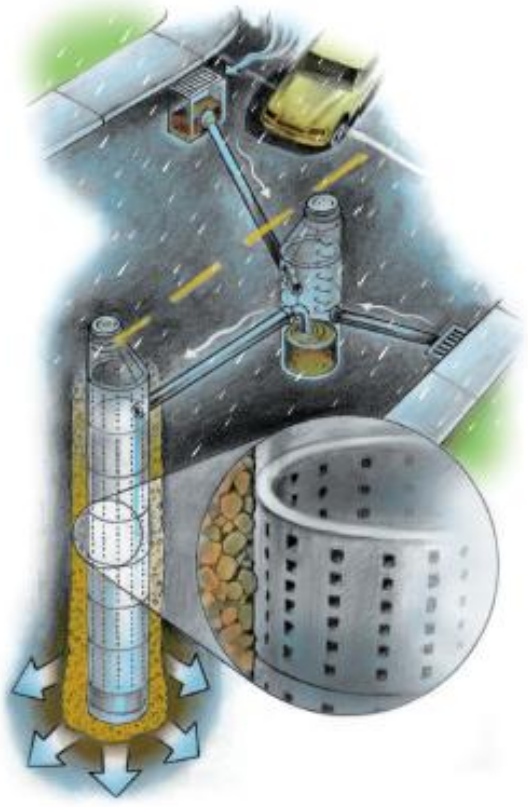
Annual Report No. 9

Fiscal Year 2013 – 2014
(July 1, 2013 – June 30, 2014)

Water Pollution Control Facilities (WPCF) Permit

Class V Stormwater Underground Injection Control Systems

DEQ Permit Number 102830



November 1, 2014

Prepared by

ENVIRONMENTAL SERVICES
CITY OF PORTLAND
working for clean rivers

CITY OF PORTLAND
ENVIRONMENTAL SERVICES
1120 SW Fifth Avenue, Room 1000, Portland, Oregon 97204 ▪ Nick Fish, Commissioner ▪ Dean Marriott, Director

November 1, 2014

Mr. Matt Kohlbecker, R.G.
UIC Senior Hydrogeologist
Oregon Department of Environmental Quality, Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, Oregon 97201

Subject: Submittal of UICMP Annual Report No. 9
City of Portland
DEQ Water Pollution Control Facilities Permit No. 102830

Dear Matt:

The City of Portland's Bureau of Environmental Services is pleased to submit the *Underground Injection Control Management Plan Annual Report No. 9 – Fiscal Year 2013-2014.* This document was prepared in accordance with the Water Pollution Control Facilities (WPCF) permit (DEQ Permit No.102830) for the City's Class V Stormwater Underground Injection Control Systems (UIC). The permit was issued on June 1, 2005.

The *UICMP Annual Report No. 9* summarizes programmatic activities implemented by the City in fiscal year (FY) 2013-14 (July 1, 2013 – June 30, 2014) and proposed activities for the coming FY 2014-15. Completed activities, key accomplishments, and activities for the coming fiscal year are organized and described relative to the following four UIC program elements:

- **System Management** summarizes citywide actions implemented under five BMP categories to prevent, minimize, and control pollutants prior to infiltration conducted during FY 13-14. It also identifies the main projected activities for FY 14-15.

- **System Monitoring** summarizes the results of UIC monitoring conducted under the *Stormwater Discharge Monitoring Plan* (SDMP) and submitted in the ninth-year *Stormwater Discharge Monitoring Report* (November 1, 2014).

- **Evaluation and Response** provides an overview of evaluation and response actions conducted during FY 13-14 and the main projected activities for FY 14-15.

- **Corrective Actions** summarizes the corrective actions implemented during FY 13-14 and projected main activities for FY 14-15 to address UICs that do not meet permit requirements.

The report also contains the following appendices:

Appendix A: UICs Identified, Constructed, or Removed during Fiscal Year 13-14 (including closure reports for decommissioned UICs)
Appendix B: Status of Category 3 UICs
Appendix C: Spills That Have Occurred within Areas Serviced by UICs

If you have questions or need additional information, please call me at 503-823-5737. I look forward to our continued collaboration on implementing the WPCF Permit.

Sincerely,

Barbara Adkins
UIC Program Manager
City of Portland
Bureau of Environmental Services

Enclosures:
Underground Injection Control Management Plan Annual Report No.9 – 1 hard copy (w/enclosed electronic copy)

cc: UIC project file w/ enclosures

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

Fiscal Year 2013-2014
(July 1, 2013 – June 30, 2014)

November 1, 2014

Prepared By:
City of Portland, Bureau of Environmental Services

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Executive Summary

Introduction

This *Underground Injection Control Management Plan (UICMP) Annual Report No. 9* is submitted to the Oregon Department of Environmental Quality (DEQ) to fulfill reporting requirements for the City of Portland's Water Pollution Control Facility (WPCF) Permit for Class V Stormwater Underground Injection Control Systems (UICs). The report summarizes UIC program activities during the ninth permit reporting year (July 1, 2013 through June 30, 2014).

Background

DEQ issued the WPCF permit to the City on June 1, 2005. As required by the permit, the City prepared a *UIC Management Plan* (UICMP) and submitted it to DEQ for approval on December 1, 2006. The UICMP describes the activities the City will implement throughout the permit term (June 1, 2005 – May 31, 2015) 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 City has organized the UICMP and the annual report into the following four major program elements:

- **System Management** includes ongoing, programmatic activities (best management practices [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.

- **Evaluation and Response** describes the process and criteria used to identify, evaluate, and prioritize actions needed to protect groundwater and meet permit requirements.

- **Corrective Action** includes the processes to evaluate, rank, select, and implement appropriate corrective actions to address UICs that do not meet WPCF permit requirements.

This annual report describes the activities that occurred in FY13-14 in each of these four areas. Key accomplishments are summarized below and described in more detail in the body of the report.

Key Accomplishments

System Management

- Submitted quarterly *UIC Registration Database* updates to DEQ on September 1, 2013, December 1, 2013, March 1, 2014, and June 1, 2014.
- Continued to implement *Systemwide Assessment Follow-up Actions*, specifically for UICs with inadequate separation distance from groundwater.
- Received and responded to 27 calls regarding spills located within or near an area where UICs are the primary method for stormwater disposal.
- Continued to provide oversight to ensure that commercial and industrial facilities comply with requirements under the Columbia South Shore Well Field Wellhead Protection Program.
- Continued to provide education, outreach, and technical assistance to residents and businesses affected by the Columbia South Shore Well Field Wellhead Protection Program, in conjunction with the Columbia Corridor Association and Columbia Slough Watershed Council.
- In accordance with the City's *Stormwater Management Manual* requirements, signed off on permits for approximately 1,205 source control measures (citywide) at sites with high-risk characteristics or activities.
- Conducted 4,552 erosion control-related inspections of private construction sites (citywide).
- Inspected 633 active public construction projects with erosion control components (citywide).
- Responded to 27 erosion control complaints.
- Through the Clean Rivers Education Program, involved approximately 12,200 students (citywide) in hands-on activities that teach them about the causes and effects of water pollution and how individuals can help protect water resources.
- Participated in numerous community activities and events involving stormwater management and watershed protection issues and actions.
- Continued to educate employees on permit requirements and groundwater protection.
- Continued to develop employee training and public education.
- Cleaned 1,903 sedimentation and sump manholes.

- Swept major arterials four to six times during the year.

- Continued evaluation of the review and approval process for private UICs to achieve a more streamlined and consistent registration process for both public and private UICs.

System Monitoring

- Submitted year 9 (October 2013 – May 2014) UIC compliance monitoring locations to DEQ on August 30, 2013.

- Implemented year 9 stormwater compliance monitoring. Fifteen UIC locations were sampled in year 9.

- Compiled and evaluated year 9 stormwater data. There were no year 9 annual mean concentration exceedances of the permit's maximum allowable discharge limits (MADLs).

- Prepared and submitted the *Annual Stormwater Discharge Monitoring Report – Year 9 – October 2013 – May 2014* to DEQ (November 1, 2013).

- Performed a preliminary stormwater discharge trend analysis for the 9 years of data, using box plots to identify potential differences in pollutant concentrations.

- Prepared and submitted year 10 (October 2014 – May 2015) UIC monitoring locations to DEQ.

Evaluation and Response

- Reviewed UICs that previously received a "no further action" (NFA) designation to ensure that no major changes have occurred in the City's depth to groundwater estimates and monitoring data and confirm groundwater protectiveness.
- Identified and evaluated additional UICs with potentially inadequate separation as new data became available. Performed compliance determinations on UICs identified to have potentially inadequate separation distance.

- Identified no MADL exceedances and no new Category 4 UICs in year 9.

Corrective Action

- Completed design activities for Category 3 UICs, in accordance with the scope of the *Systemwide Assessment Follow-Up Actions Workplan*.

- Removed five UICs from the Category 3 UIC list as a result of a determination of permit compliance during field investigations.

1 Introduction

1.1 Overview

The Oregon Department of Environmental Quality (DEQ) issued the City of Portland's Water Pollution Control Facility (WPCF) Permit for Class V Stormwater Underground Injection Control Systems (UICs) on June 1, 2005 (Permit No. 102830).

As required by Schedule D(1) of the WPCF permit, the City prepared a *UIC Management Plan* (UICMP), which was submitted to DEQ for approval on December 1, 2006 and revised in December 2012 (Version 2). The UICMP describes the activities the City will implement throughout the permit term (June 1, 2005 – May 31, 2015) to protect groundwater and meet WPCF permit requirements. (See Section 1.2 for additional information about the UICMP.)

The WPCF 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 summarizes activities that occurred during the ninth fiscal year of permit implementation (July 1, 2013 through June 30, 2014).

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

Table 1-1
Summary of WPCF Permit Annual Report Requirements[a]

Requirement	Permit Reference	Where Requirement is Addressed in Annual Report
General Requirements		
The Permittee must notify the Department of any changes in key personnel or areas of responsibility	D(5)(b)	Section 1.7
Unusual conditions encountered	D(15)(a)(i)	No unusual conditions were encountered.
Permit violations that may have occurred	D(15)(a)(ii)	No permit violations have occurred.
Minor and/or major permit modifications	D(15)(a)(vi)	Section 1.8
A demonstration of legal authority to implement the UICMP	D(15)(i)	Section 1.6
A discussion of significant land use changes that alter traffic volume, patterns of potential pollutants to a Permittee owned or operated public UIC. If the affected public UIC is a permanent trend monitoring point, then the Permittee must discuss the impact to the trend analyses and identify, for Department approval, a replacement UIC for trend analysis.	D(15)(j)	Included in *Annual Stormwater Discharge Monitoring Report - Year 9* (November 2014).
The status of implementing the UICMP and each of its components	D(15)(d)	Section 1.9
A discussion of any proposed changes to the UICMP or its components	D(15)(f)	Section 1.10
System Management		
Employee Training and Public Education program must be developed and implemented to educate Permittee's personnel and the public of the permit conditions and requirements	D(10)(d)	Section 2.4
…summarize any public UIC discovered or identified during or after the system-wide assessment	C(20)(b)	Section 2.2
A list of newly constructed …. public UICs during the reporting period	D(15)(k)	Section 2.2
A summary of BMPs implemented during the annual reporting period and the results of those BMPs and a description of BMPs to be employed during the next reporting year	D(15)(h)	Sections 2.2 through 2.6
Summarize the decommissioning of motor vehicle floor drains that discharge to public UICs.	C(13)(d)	Not applicable; no floor drains identified as draining to public UICs.
A summary of maintenance activities and supporting data	D(15)(c)	Information on inspections, cleaning, and repair activities included in Section 2.5. O&M conducted as a response action is described in *Stormwater Discharge Monitoring Plan*.

Requirement	Permit Reference	Where Requirement is Addressed in Annual Report
System Monitoring		
Any other information, finding, condition, spills and/or action that is relevant to the management of the Permittee's public UICs or groundwater protection during operation of the public UICs	D(15)(n)	Sections 3 and 4
A summary and analysis of BMP monitoring accumulated during the annual reporting period	D(15)(l)	Section 3
Provide BMP monitoring results in the annual UICMP reports	D(10)(c)(iv)	Section 3
Provide a brief overview summary of the monitoring results provided in the annual monitoring report for the reporting period	D(15)(b)	Section 3
Include a comparison of the data to data from previous annual reporting periods	D(15)(g)	Section 3
Violations (i.e., exceedances of permit established limits)	F(4)(d)	Section 3
Corrective Actions		
Identify Category 2 UICs	C(12)(d) C(20)(c)	As of November 1, 2011, all corrective actions for Category 2 UICs have been completed.
Identify Category 3 UICs	C(12)(e)	Sections 4 and 5 and Appendix B.
Identify Category 4 UICs	B(7)(j)	Sections 3, 4, and 5
Provide a summary of the UIC system management for the reporting period, including: (iii) Corrective actions taken to prevent further permit violations (iv) Other corrective actions taken or initiated	D(15)(a)	Section 5
An updated prioritized list of non-compliant public UICs with implementation and completion schedules	D(15)(a)(v)	Section 5 and Appendix B.
A discussion of any compliance response action taken during the reporting period	D(15)(e)	Included in *Annual Stormwater Discharge Monitoring Report – Year 9* (November 2014) and summarized in Section 5.
Provide a prioritized list of all non-compliant public UICs by category. Include a prioritized subset of the non-compliant public UICs that must be corrected during the CIP year.	D(15)(m)	Section 5
Any part of the UIC system placed under a Department Order for a regional corrective action and the nature of the Department Order (if applicable)	D(15)(a)(vii)	Section 5
[a] Where applicable, permit requirements are grouped by the UICMP categories developed by the City of Portland.		

1.2 Overview of the UICMP

As required by the WPCF permit, the UICMP identifies and discusses the best management practices (BMPs) the City will employ throughout the permit period to protect groundwater quality, support watershed health, and meet permit conditions. These include structural, non-structural, and institutional controls. In accordance with the permit, the UICMP also includes the following:

- UIC Registration Database
- Operations and Maintenance (O&M) Plan
- BMP Monitoring Program
- Employee Training and Public Education
- Spill Prevention and Pollution Control (SPPC) Plan
- Abandonment, Decommissioning, or Alteration of Public UIC Injection Systems Plan

The UICMP also meets the requirements of OAR 340-044-0018(3)(b)(C). These requirements specify that municipalities with 50 or more stormwater injection systems must prepare and implement a written UIC management plan that includes a systemwide assessment, system controls, monitoring, and a plan for record keeping and reporting.

The UICMP is organized into the following four major elements:

- **System Management** includes ongoing, programmatic activities (best management practices, or BMPs) that prevent, minimize, or control pollutants before they can be discharged to a UIC. BMPs are organized into the following five categories:

  - System Inventory and Assessment (SA)
  - Pollution Control (PC)
  - Education and Training (ET)
  - Operations and Maintenance (OM)
  - Policy and Regulation (PR)

- **System Monitoring** includes ongoing actions to demonstrate that UICs are operated in a manner that protects groundwater and meets WPCF permit conditions.

Information collected through implementation of System Management and System Monitoring activities are used to identify program improvements or UICs that may require additional evaluation, response action, or corrective action.

- **Evaluation and Response** uses data and information from System Management (e.g., UIC location, depth to groundwater) and System Monitoring (e.g., results of maximum allowable discharge limits [MADL] monitoring) activities 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 permit requirements.

- **Corrective Action** addresses UICs shown to be non-compliant with WPCF permit requirements through the Evaluation and Response process. It includes the process used to evaluate, rank, select, and implement appropriate corrective actions. A variety of corrective actions are available, including options that do not involve construction (such as institutional controls or an assessment to demonstrate protectiveness), structural/engineering controls, and UIC closure.

1.3 Relationship of the UICMP to the UIC Program and UICMP Annual Reports

The UICMP is a comprehensive plan that describes the City's overall UIC program. It includes processes, tasks, and, where possible, implementation schedules. In many cases, however, it is difficult to determine implementation details years in advance because so many variables are involved. For that reason, UICMP implementation details are included on a yearly basis in the UICMP annual reports. This annual report provides information about key accomplishments during FY13-14 (July 1, 2013 to June 30, 2014) and identifies activities planned for implementation in the next fiscal year (FY14-15).

1.4 Other UIC Program Documents

The WPCF permit requires the City to prepare a variety of documents that together describe the programmatic actions and management practices the City will implement to protect groundwater and meet permit requirements. Some of these documents are included as appendices to the UICMP, while others were submitted to DEQ separately. Table 1-2 shows the relationship of these documents to the four major UICMP elements.

1.5 Other Program Reporting Requirements

In addition to the UICMP annual report, the City fulfills reporting requirements specified in the WPCF permit by submitting the following reports to DEQ:

- *Annual Stormwater Discharge Monitoring Locations* (due September 1 of each year)
- *Annual Stormwater Discharge Monitoring Report* (due November 1 of each year)
- Interim compliance reporting:
  - Detection of priority pollutant screen (PSS) pollutants
  - Exceedance of MADLs for individual sampling events
  - Exceedance of annual mean concentration for any MADL
  - Quarterly reports

Table 1-2
UIC Program Documents Related to UICMP Elements

UICMP Element/Document	Submittal Information
System Management	
Systemwide Assessment	Submitted July 15, 2006
UIC Registration Database	Submitted September 1, 2005 and updated quarterly
UIC Management Plan	Submitted December 1, 2006 DEQ Public Comment Period: June 24-July 24, 2008 DEQ Approval: October 6, 2008 Revised December 2012 (Version 2)
UIC Management Plan Five Year Review Report	Submitted November 1, 2010
Operations and Maintenance Plan	Submitted December 1, 2006 (UICMP Appendix B) DEQ Public Comment Period: June 24-July 24, 2008 DEQ UICMP Approval: October 6, 2008
Spill Prevention and Pollution Control Plan	Submitted December 1, 2006 (UICMP Appendix C) DEQ Public Comment Period: June 24-July 24, 2008 DEQ UICMP Approval: October 6, 2008
Decommissioning Procedure for Underground Injection Control Systems	Draft submitted November 1, 2006 Final submitted December 1, 2006 (UICMP Appendix D) DEQ Public Comment Period: June 24-July 24, 2008 DEQ UICMP Approval: October 6, 2008 DEQ Permit Modification to update the Decommissioning Procedure (UICMP Appendix D): October 4, 2011
WPCF UIC Minor Permit Modification No. 1	DEQ Approval: November 6, 2006
WPCF UIC Major Permit Modification No.1	DEQ Approval: December 10, 2009
WPCF UIC Minor Permit Modification No. 2	DEQ Approval: July 27, 2011
WPCF UIC Minor Permit Modification No. 3	DEQ Approval: July 14, 2011
WPCF UIC Major Permit Modification No. 2	DEQ Approval: October 4, 2011
WPCF UIC Major Permit Modification No.3	DEQ Approval: April 19, 2012
WPCF UIC Major Permit Modification No. 4	DEQ Approval: December 6, 2012

UICMP Element/Document	Submittal Information
System Monitoring	
Stormwater Discharge Monitoring Plan (SDMP) - *Sampling Design Plan* - *Quality Assurance Project Plan (QAPP)* - *Sample Analysis Plan (SAP)*	Submitted July 15, 2005 Final submitted August 30, 2006 DEQ Public Comment Period: June 24-July 24, 2008 DEQ Approval: October 6, 2008 DEQ Permit Modifications to revise SDMP monitoring requirements: Modification No. 1: November 6, 2006 Modification No. 2: October 4, 2011 Modification No.3: April 19, 2012 Revised December 2012 (Version 2)
BMP Monitoring Program	Submitted December 1, 2006 (UICMP Appendix E) DEQ Public Comment Period: June 24-July 24, 2008 DEQ UICMP Approval: October 6, 2008
Annual Stormwater Discharge Monitoring Report – Year 1 (October 2005 - May 2006)	Submitted July 15, 2006
Annual Stormwater Discharge Monitoring Report – Year 2 (October 2006 - May 2007)	Submitted July 15, 2007
Annual Stormwater Discharge Monitoring Report – Year 3 (October 2007- May 2008)	Submitted July 15, 2008
Annual Stormwater Discharge Monitoring Report – Year 4 (October 2008- May 2009)	Submitted July 15, 2009
Annual Stormwater Discharge Monitoring Report – Year 5 (October 2009- May 2010)	Submitted July 15, 2010
Annual Stormwater Discharge Monitoring Report – Year 6 (October 2010- May 2011)	Submitted July 15, 2011
Annual Stormwater Discharge Monitoring Report – Year 7 (October 2011- May 2012)	Submitted November 1, 2012
Annual Stormwater Discharge Monitoring Report – Year 8 (October 2012- May 2013)	Submitted November 1, 2013
Annual Stormwater Discharge Monitoring Report – Year 9 (October 2013- May 2014)	Submitted November 1, 2014

UICMP Element/Document	Submittal Information
Evaluation and Response/Corrective Actions	
Corrective Action Plan (CAP)	Submitted July 15, 2006 DEQ Public Comment Period: June 24 – July 24, 2008 DEQ Approval: October 6, 2008
Corrective Action Plan Update	Submitted November 1, 2010
Corrective Actions: Category 1 Underground Injection Control Systems	Submitted July 15, 2005; completed July 2006
Compliance Determination Procedure	Submitted December 1, 2006 (UICMP Appendix F) DEQ Public Comment Period: June 24-July 24, 2008 DEQ UICMP Approval: October 6, 2008
Prioritization Procedure	Submitted December 1, 2006 (UICMP Appendix G) DEQ Public Comment Period: June 24-July 24, 2008 DEQ UICMP Approval: October 6, 2008
Evaluation and Response Guidelines	Submitted December 1, 2006 (UICMP Appendix H) DEQ Public Comment Period: June 24-July 24, 2008 DEQ UICMP Approval: October 6, 2008
Systemwide Assessment Follow-up Actions Workplan	Submitted December 1, 2006 DEQ Approval: October 6, 2008
Category 4 UIC Corrective Actions – Groundwater Protectiveness Demonstrations (UICs identified in sampling year 2)	Submitted May 30, 2008 DEQ No Further Action Determination – May 30, 2008
Category 4 UIC Corrective Actions – Groundwater Protectiveness Demonstrations (UICs identified in sampling year 3)	Submitted March 30, 2009 DEQ No Further Action Determination – May 30, 2009
Evaluation of Vertical Separation Distance – Groundwater Protectiveness Demonstration	Submitted May 27, 2008 DEQ Approval: June 5, 2008
Decision Making Framework for Groundwater Protectiveness Demonstrations	Submitted June 19, 2008 DEQ Approval: October 20, 2008
Category 3 UICs – Groundwater Protectiveness Demonstration – Vertical Separation Distance $\geq$5 Feet – No Further Action Request	Submitted June 18, 2008 DEQ Approval: October 6, 2008

UICMP Element/Document	Submittal Information
Evaluation and Response/Corrective Actions (continued)	
Ubiquitous Pollutants – Groundwater Protectiveness Demonstration	Submitted July 17, 2008 DEQ Approval: October 6, 2008
UICs within Permit-Specified Well Setbacks – Groundwater Protectiveness Demonstration – No Further Action Request	Submitted July 24, 2008 DEQ Approval: October 6, 2008
City of Portland Parks UICs Groundwater Protectiveness Demonstration No Further Action Request	Submitted July 13, 2009 DEQ Approval: October 21, 2009
Category 2 UIC Corrective Actions Request for Timeline Extension City of Portland WPCF Permit No. 102830	Submitted February 19, 2010 DEQ Approval: February 25, 2010
Groundwater Protectiveness Demonstration and Request for Approval of 5- foot Separation Distance for Three Category 2 UIC Corrective Actions	Submitted May 14, 2010 DEQ Approval: August 5, 2010
Groundwater Protectiveness Demonstration and Request for Approval of 5-foot Separation Distance for New UICs	Submitted July 20, 2011 DEQ Approval: July 28, 2011
Groundwater Protectiveness Demonstration and Request for Approval of Maintaining Category 3 UICs (Non-compliant due to less than 5 feet of Vertical Separation Distance)	Submitted May 31, 2012 DEQ Approval: June 14, 2012
Annual UICMP Reports	
Underground Injection Control Management Plan – Annual Report No. 1 - Fiscal Year 2005-2006 (July 1, 2005 – June 30, 2006)	Submitted December 1, 2006
Underground Injection Control Management Plan – Annual Report No. 2 - Fiscal Year 2006-2007 (July 1, 2006 – June 30, 2007)	Submitted November 1, 2007 DEQ Approval: October 14, 2008
Underground Injection Control Management Plan – Annual Report No. 3 - Fiscal Year 2007-2008 (July 1, 2007 – June 30, 2008)	Submitted November 1, 2008
Underground Injection Control Management Plan – Annual Report No. 4 - Fiscal Year 2008-2009 (July 1, 2008 – June 30, 2009)	Submitted November 1, 2009

UICMP Element/Document	Submittal Information
Annual UICMP Reports (continued)	
Underground Injection Control Management Plan – Annual Report No. 5 - Fiscal Year 2009-2010 (July 1, 2009 – June 30, 2010)	Submitted November 1, 2010
Underground Injection Control Management Plan – Annual Report No. 6 - Fiscal Year 2010-2011 (July 1, 2010 – June 30, 2011)	Submitted November 1, 2011
Underground Injection Control Management Plan – Annual Report No. 7 - Fiscal Year 2011-2012 (July 1, 2011 – June 30, 2012)	Submitted November 1, 2012
Underground Injection Control Management Plan – Annual Report No. 8 - Fiscal Year 2012-2013 (July 1, 2012 – June 30, 2013)	Submitted November 1, 2013
Underground Injection Control Management Plan – Annual Report No. 9 - Fiscal Year 2013-2014 (July 1, 2013 – June 30, 2014)	Submitted November 1, 2014

1.6 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 make and enforce *** [as] 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 regulation of stormwater discharges, building requirements, zoning, erosion and sediment control and public improvements in Chapters 10, 17, 24, 29, and 33. Chapters 17.38 and 17.39 specifically address Drainage and Water Quality and Stormwater Discharges, respectively.

1.7 UIC Program Staff

1.7.1 Key Roles and Responsibilities

The WPCF permit designates the Bureau of Environmental Services (BES) as the bureau responsible for implementing the WPCF 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 November 1, 2010, *UIC Management Plan Five Year Review Report.*

1.7.2 Personnel Changes

There were no personnel changes in FY 2013-14.

1.8 Minor and/or Major Permit Modifications

There were no minor or major permit modifications in FY 2013-14.

1.9 Status of Implementing the UICMP and Its Components

This annual report provides the status of implementing the UICMP and it components.

1.10 Proposed Changes to the UICMP or Its Components

The City will work on its permit renewal and updates to permit documents in FY 2014-15.

1.11 City Budget and Funding

The City of Portland has invested more than $1.116 billion in stormwater management services and facilities over the past 19 years.[1] The revenue requirements for FY13-14 totaled approximately $105 million, allocated as follows:

Major Program Category	**Requirements**	**Percentage Share**
Enforcement and Development Review	$ 13.6 million	13%
Watershed Program & Habitat Restoration	12.5 million	12%
Facilities Operations and Maintenance	24.5 million	23%
Capital Improvements*	55.0 million	52%
Total Revenue Requirements	**$ 105.6 million**	
* Includes debt service, facilities planning and engineering, construction engineering, and construction contracts.		

[1] The 19-year time period reflects the implementation period of the City's NPDES MS4 permit.

Ninety-three percent of these revenue requirements are financed through direct monthly user fees. The remaining revenue sources include direct charges for new private development (system development charges), service charges, permit fees, and regulatory charges and penalties. More details on City revenues are provided below.

In FY 2014-15, the City plans to invest $105.6 million in stormwater management services and facilities. Direct monthly user fees will pay for 93 percent of these investments.

Stormwater Management Charges

City Council approves revised stormwater monthly user fees and stormwater system development charges (SDCs) at the start of each fiscal year. Monthly user fees are adjusted to reflect 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 following table reports the monthly single-family stormwater management charge and the monthly stormwater rate per 1,000 square feet of impervious area for the last five permit years:

	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Single-Family Residential Charge	$19.80	$21.79	$22.36	$23.90	$24.88
Residential rate per 1,000 square feet of impervious area	$8.25	$9.08	$9.32	$9.96	$10.36
Non-residential rate per 1,000 square feet of impervious area	$8.86	$9.66	$9.97	$10.55	$10.97

At the close FY 2013-2014, City Council increased the monthly stormwater management charge for single-family residences from $24.88 to $25.72. The residential rate increased from $10.36 to $10.72 per 1,000 square feet of impervious surface per month, and the commercial rate increased from $10.97 to $11.19 per 1,000 square feet of impervious area per month.

Stormwater System Development Charges

The methodology for assessing system development charges (SDCs) for new development and significant redevelopment includes two components. One component represents the charge for stormwater facilities that handle runoff from individual properties. For FY 2013-14, this onsite portion was assessed based on $169.00 per 1,000 square feet of impervious area. Riparian properties that drain directly to the Columbia Slough, Columbia River, or Willamette River are exempt from this portion of the SDC. The other portion represents the cost of stormwater facilities that handle runoff from public rights-of-way. This portion was assessed based on the use of the transportation system, using road frontage and vehicle trips to allocate the costs. For permit year 19, the rates were $5.50 per linear foot and $2.91 per vehicle trip. At the end of permit year 19, City Council increased the rates for stormwater system development charges to $176.00 per 1,000 square feet of impervious area, $5.66 per linear foot of frontage, and $3.04 per daily vehicle trip.

Discounts may be granted only for the "onsite" part of the charge for facilities constructed as part of new development. Discounts range from 80 percent for retention of the 100-year event to no discount for control of the 10-year storm.

1.12 Organization of the Annual Report

The remainder of this annual report contains the following sections:

Section 2: System Management, identifies citywide actions implemented under the five BMP categories to prevent, minimize, and control pollutants prior to infiltration. Where relevant, it also identifies projected main activities for FY14-15.

Section 3: System Monitoring, summarizes compliance monitoring [as detailed in the *Annual Stormwater Discharge Monitoring Report, Year 9, October 2013-May 2014* (November 1, 2014)].

Section 4: Evaluation and Response, identifies evaluation and response actions conducted during FY13-14 and projected main activities for FY14-15.

Section 5: Corrective Actions, summarizes the corrective actions implemented during FY13-14 and projected main activities for FY14-15 to address UICs that do not meet permit requirements.

Appendix A identifies UICs identified, constructed, or removed during FY13-14 (including closure reports for decommissioned UICs).
Appendix B identifies the status of Category 3 UICs.
Appendix C identifies spills that occurred within areas serviced by UICs.

2 System Management

2.1 Overview

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

- System Inventory and Assessment
- Pollution Control
- Education and Training
- Operations and Maintenance
- Policy and Regulation

2.2 System Inventory and Assessment (SA)

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. Ongoing system inventory and assessment activities are important to manage all known public UICs within the City of Portland and to assess drainage to each UIC for potential impacts to groundwater. This BMP category focuses on updating and refining information related to the location and physical characteristics of existing and new UICs. It fulfills two WPCF requirements:

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

SA-1: Install, replace, retrofit, and decommission UICs as needed to provide public infrastructure for stormwater management. Maintain a comprehensive system inventory/data management system to register new UICs and track the location, physical characteristics, and status of all public UICs.

2.2.1 SA-1: Key Accomplishments for FY13-14

- Submitted quarterly *UIC Registration Database* updates to DEQ on September 1, 2013, December 1, 2013, March 1, 2014, and June 1, 2014.

- Identified 42 new public UIC[2] records in quarterly *UIC Registration Database* updates:
  - 10 new UIC records in the September 1, 2013 database update
  - 19 new UIC records in the December 1, 2013 database update
  - 8 new UIC records in the March 1, 20134 database update
  - 5 new UIC records in the June 1, 2014 database update

  These UIC records are listed in Appendix A.

- During FY 13-14, four UICs were decommissioned. Closure reports for decommissioned UICs are included in Appendix A of this report.

- Removed 10 public UIC records in quarterly UIC *Registration Database* updates. The removals may have been decommissioned or identified through field investigations as not existing. These records are listed in Appendix A.

2.2.2 SA-1: Projected Main Activities for FY14-15

- Continue to regularly update the *UIC Registration Database* to include new and decommissioned UICs and other relevant information.

- Continue to submit quarterly *UIC Registration Database* updates to DEQ.

[2] Some UICs identified as new facilities in quarterly reports may not be recently discovered or newly constructed UICs. UICs may be identified as new as a result of database management. For example, correcting a database identifier for a facility from a sedimentation manhole to a UIC would trigger the UIC to appear as a new sump in the BES database, even though the facility itself is not new.

SA-2: Evaluate the location of public UICs relative to factors that may create adverse impacts to groundwater.

2.2.3 SA-2: Key Accomplishments for FY13-14

- Continued to implement *Systemwide Assessment Follow-up Actions*, specifically for UICs with inadequate separation distance from groundwater (see Sections 4 and 5).

2.2.4 SA-2: Projected Main Activities for FY14-15

- Continue implementation of remaining actions identified in the *Systemwide Assessment Follow-up Actions Workplan*, specifically for UICs with inadequate separation distance from groundwater.

- Evaluate newly constructed or identified UICs for the four characteristics that may potentially create adverse impacts to groundwater. Incorporate the resulting information into the Evaluation and Response process, as appropriate.

- Integrate new system data into the *UIC Registration Database*, as appropriate.

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 WPCF permit requirements:

- Implement a *Spill Prevention and Pollution Control (SPPC) Plan*.
- Identify activities conducted on commercial/industrial properties or SARA Title III facilities that may result in a violation of MADLs in stormwater discharging to a public UIC.

PC-1: Identify, prevent, minimize, and control activities and practices that can increase pollutant discharges to public UICs.

2.3.1 PC-1: Key Accomplishments for FY13-14

Spill Prevention and Pollution Control (SPPC) Plan

- Continued to implement the SPPC Plan (submitted in December 2006), which includes improving ongoing citywide pollution control activities to identify and control activities on private properties, including commercial/industrial properties and SARA Title III facilities

where site activities (e.g., illegal disposal, improper storage and handling of materials, and erosion) could result in a violation of MADLs in stormwater discharging to a UIC.

Spill Protection-Citizen Response (SPCR) Team

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

- In FY13-14, received 27 calls regarding spills located within or near an area where UICs are the primary method for stormwater disposal. Only three of these spills reached a UIC system. Upon inspection, all of the spills were determined to have minimal to no impact. All of the systems were cleaned and inspected as appropriate. Appendix C shows this information in table format, including date, release type, volume, location, identification of the closest UIC, and if the spill entered a UIC.

- The BES Spill Section continued a communication protocol with the Portland Fire Bureau that automatically pages the BES duty officer for a two-alarm event. Upon receiving the page, the duty officer contacts the Fire Bureau to identify if the duty officer is needed by the fire responders. Many events do not require the duty officer to respond to the site. In FY12-13, no two-alarm fire events resulted in pages to the duty officer.

- The BES Spill Section continued a communication protocol with the towing companies on the City of Portland towing contract. This notification ensures that BES will be contacted for auto fluid clean-up actions and for events that threaten to impact a stormwater facility (catch basin and downstream stormwater system). The duty officer may respond to events, depending on the reported information. Many events do not require the duty officer to respond. In FY13-14, no after-hours calls were received by the duty officer from towing companies. No enforcement actions were taken.

- BES and the Water Bureau continued to implement Columbia South Shore Well Field (CSSW) Protection Area signage. The signs list the BES spill response hotline number and read: "TO REPORT SPILLS CALL (503) 823-7180."

Regional Spill Response Committee

- The Regional Spill Response Committee continued its coordination meetings, holding one quarterly meeting during permit year 19. The committee includes representatives from the Oregon Department of Environmental Quality (DEQ), Clean Water Services (CWS), Water Environment Services (WES), Port of Portland, City of Gresham, City of Milwaukie, City of Portland Water Bureau, and BES. BES chairs, and UIC staff attend, all meetings.

Columbia South Shore Well Field Wellhead Protection Program

The City continued to implement the Columbia South Shore Well Field Wellhead Protection Program and reference manual for the City of Portland (and also in effect in Gresham and Fairview). The program focuses on groundwater protection through the implementation of mandatory spill containment BMPs and facility inspections for commercial and industrial facilities located within the Columbia South Shore Well Field Wellhead Protection Area (WHPA) overlay zone. The program also includes education and outreach efforts to affected residents and businesses and one-on-one technical assistance to businesses to help them comply with program requirements. Program requirements include structural and operational BMPs to reduce the occurrence of spills and minimize spill impacts.

- Conducted 808 inspections (includes re-inspections, regular fire inspections, and building final inspections) of businesses in the wellhead protection area (including Gresham and Fairview), and conducted 56 plan reviews.

- Provided technical assistance to 65 businesses.

- Provided education and outreach to affected residents and businesses to help them comply with requirements of the program, in conjunction with the Columbia Corridor Association and Columbia Slough Watershed Council. Activities included:
  - Provided technical assistance to 65 businesses.
  - Published newsletter articles on the protection program.
  - Distributed free spill kits, required signs, secondary containment pallets, and stormdrain covers.
  - Maintained the CCA and PortlandOnline webpage on the protection program and requirements.

Source Control Measures

The City's *Stormwater Management Manual* (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 projects, redevelopment projects, tenant improvements, and existing sites proposing new offsite discharges.

- The City conducted 194 land use reviews and early assistance meetings for source control measures at sites subject to SWMM requirements and issued permits for approximately 1,205 source control measures at sites with high-risk characteristics or activities. These numbers are citywide and are not limited to areas draining to UICs. (Note: When the SWMM is applied, drainage from high-risk areas is prohibited from draining to public UICs, and stormwater is managed onsite.)

- Continued review of Chapter 4 of the SWMM to identify potential source control requirement updates.

Erosion Control

- There were 4,419 active private construction permits subject to erosion control inspection (citywide). The Bureau of Development Services (BDS) conducted 4,552 erosion control-related inspections of private construction sites (citywide). (Even though a permit is active, there may be times when no activities that require erosion control inspection are occurring.) This number includes only approved inspections.

- All private development sites with qualifying ground disturbance areas were inspected for temporary and permanent erosion control measures at the beginning and near or at completion of the project. At interim checks conducted during the course of regular building inspections, the inspector notes any identified erosion control deficiencies, and the site operator is required to implement corrective action.

- There were 633 active public construction projects (citywide) with erosion control components. In general, public sites are inspected daily during construction.

- Erosion control complaints (received through the complaint hotline or staff referrals) were tracked through the City's building permit tracking program, TRACS. A total of 27 cases were opened and responded to, with 21 cases closed (citywide).

- Continued the pre-permit-issuance site meeting program, where the applicant's team can choose to meet with staff onsite to discuss erosion control and other sensitive site issues. No applicants requested a pre-permit-issuance site visit this fiscal year.

Prevention of Illegal Disposal

- To help prevent illegal dumping, continued to implement curbside collection services (residential garbage, recycling, yard debris and food scrap collection). Continued the City's partnership with Neighborhood Coalition Offices and Metro to administer neighborhood cleanup collection events.

2.4 Education and Training (ET)

This BMP category fulfills the WPCF permit requirement for an employee training and public education program to educate City personnel and the public of the conditions and requirements of the permit.

ET-1: Implement public education activities that will raise awareness of groundwater protection and promote pollution prevention and control.

2.4.1 ET-1: Key Accomplishments for FY13-14

Clean Rivers Education Program

This program involves hands-on activities that teach students about the causes and effects of water pollution and what individuals can do to protect water resources. The programs also provide community service projects, teacher workshops, and curriculum resources. A number of the programs focus on stormwater and pollution prevention. An estimated 15,750 students participated in these activities citywide.

- Reached 6,063 students (grades K-12) with classroom programs that provide hands-on, interactive science education about stormwater and other environmental issues.

- Involved 4,348 students (K-12) in education field programs that offer watershed investigations and field assessments, stormwater tours, boat tours, and restoration experiences. Of these, 1,587 students combined education with natural area restoration service projects.

- Provided canoe trips to 435 students in the Columbia Slough and northern Willamette River watersheds. These included classroom studies and stewardship projects related to stormwater pollution.

- Checked out stormwater and watershed curriculum kits and field equipment to six Portland elementary and middle school teachers.

- Presented Stormwater - Soak it Up, a 75-minute classroom program for grades 4-12 and special interest groups, totaling 421 students and teachers.

- Presented Tours of Stormwater Solutions to 241 students. Students visited bioswales, stormwater planters, ecoroofs, porous pavement, and creative downspout disconnections.

- Presented Watershed Awareness to 453 students, grades 3-6. This program focuses on common non-point sources of pollution and pollution prevention.

- Continued the permanent storm drain curb marker program. Participating community and school volunteers also distributed doorhangers with stormwater pollution prevention messages and clean river tips to nearby residences. Number of participants: 9.

- Targeted schools with onsite stormwater facilities for extended outreach. Students learned about stormwater pollution prevention and their school's sustainable stormwater facilities and participated in maintenance activities for their facilities. Number of students: 109.

- Presented *Futures Working for Clean Rivers* career education programs and field programs to 70 students in the Columbia Slough watershed.

Stewardship Activities and Community Events

- Sponsored, co-sponsored, 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 presentation and activities, training, restoration projects). More than 27,000 people took part in these activities.

Regional Coalition for Clean Rivers and Streams

- In FY 2013-14, the coalition engaged in the following activities:
  - Engaged in a strategic planning process, resulting in a mission statement, goals, and a strategic plan and calendar for communications.
  - Developed plans for a creative campaign for FY 14-15 around the concept "The River Starts Here."
  - Conducted a limited-duration public awareness campaign using radio, television, and social media to distribute key messages about stormwater pollution prevention across the region.

Stormwater-related Information

- Included inserts in City water/sewer bills mailed to more than 200,000 customers:
  - First quarter of 2014: "Living in a Floodplain" provided information about flooding caused by fall and winter storms and included information on incentive programs to help residents and businesses manage stormwater on their property.
  - Second quarter of 2014: "Your Wastewater and Stormwater System" provided an overview of upcoming sewer improvement projects and how Environmental Services incorporates green stormwater management infrastructure in sewer improvement projects.
  - Third quarter of 2014: "Portland Has Changed a Lot Since the 1930s" provided information about the city's aging sewer system, current projects to replace older sewers in danger of failing, and a link to the online version of the spring 2014 Riverviews newsletter.
- Updated and posted fact sheets, brochures, and educational materials on the BES website about the Sustainable Stormwater Program (140,163 page views); Treebate Incentive for planting yard trees (13,233 page views); Green Street Stewards Program (11,258 page

views); Native Plant Resources (5,602 page views); and Brownfield Program (32,942 page views).

- The Green Street Steward Program continued to educate and recruit volunteer Green Street Stewards. Through June 2014, the program has reached over 1,800 individuals through tabling events, knock-and-talks, and trainings. Fifty people have volunteered to become Green Street Stewards and adopt 105 Green Street facilities.

- Distributed a variety of educational materials at community meetings and events.

Eco-logical Business Program

- Continued to work with the Regional Pollution Prevention Outreach Team (P2O Team), Automotive Eco-Logical Advisory Subcommittee, and Landscape Eco-Logical Advisory Subcommittee for the Portland metropolitan region to certify businesses under the Eco-Logical Business Program (EcoBiz). Program activities in Portland in FY 2013-14 included:

  - Certified one new landscape service business and recertified one.

  - Certified one new car wash.

  - Recertified four automotive shops.

  - Completed redesign and launch of the EcoBiz website (www.ecobiz.org).

  - Updated the EcoBiz Automotive Checklist.

  - Continued work on the BMP manuals and certification checklists for the stormwater facility maintenance sector. Made a presentation at the Portland chapter of the Oregon Landscape Contractor Association (OLCA) and provided an informational table at the annual OLCA conference.

  - Organized two sustainability-focused events for auto shop owners, called "Keep Your Shop in Tune."

  - Continued to participate in local environmental events, including the annual sustainability fair, to promote the use of certified businesses.

  - Continued to distribute EcoBiz newsletters every three months to more than 200 certified firms and program partners.

Sustainability at Work

- Sustainability at Work (formerly the BEST Business Center) continued to assist Portland businesses with resources and information to help them green their operations. The program is run by the Bureau of Planning and Sustainability, in partnership with the Portland Water

Bureau, Bureau of Environmental Services, Bureau of Transportation, Metro, Pacific Power, and the Energy Trust of Oregon. The program conducted the following activities in FY13-14:

- Conducted on-site assessments for 165 businesses and assisted a total of 1,013 businesses. Assisted over 140 businesses with water and stormwater-related topics, resulting in four referrals to the Bureau of Environmental Services.

- Collaborated with Sustainable Business Oregon to implement the statewide Innovation in Sustainability Awards, which replaces the BEST Awards in recognizing Portland's most sustainable businesses. Award categories were mapped to the Climate Action Plan's areas of focus. Twenty-one awards were presented in recognition of energy, equity, food, the natural environment, transportation, waste, water, and overall leadership. Winners were featured in a statewide publication that reaches over 55,000 readers and on the website, which has on average 136,400 monthly page views.

- Administered Sustainability at Work Certification, recognizing businesses that have taken measurable steps to reduce their greenhouse gas emissions through energy efficiency, renewable power, transportation incentives, water conservation, recycling and waste prevention. To date, 167 businesses have been certified.

ET-2: Conduct employee training to ensure that UICs on public property are designed, constructed, operated, and closed in ways that meet WPCF permit requirements and protect groundwater.

2.4.2 ET-2: Key Accomplishments for FY13-14

- Continued to educate employees on groundwater protection and permit requirements.
- Continued to develop employee training and public education.
- Provided ongoing coordination with bureaus that own UICs Responded to UIC site-specific questions and discussed O&M practices.
- Conducted training for new duty officer staff on the BES spill response hotline and staff response duties.

2.4.3 ET-2: Projected Main Activities for FY14-15

- Continue to develop information focused on groundwater protection and UICs for City staff.
- Continue to coordinate with various BES groups to identify any UIC process issues and data gaps.

- Continue to coordinate with BDS development review staff on UIC design standards and on the review and approval process for UICs registered on private property.

- Continue to work with other bureaus to coordinate with and provide training on source control, operations and maintenance, spill prevention and response, and development review.

- Continue evaluation of existing training approaches and schedules and revise/update as needed.

2.5 Operations and Maintenance (OM)

Operations and maintenance BMPs for City UICs are important in order to both remove pollutants from UICs (e.g., UIC cleaning) and prevent pollutant discharges into UICs (e.g., street sweeping). This BMP category identifies O&M practices both for UICs located in City-managed rights-of-ways and for UICs on other City-owned property. It fulfills the WPCF permit requirement to implement an O&M Plan for public UICs.

OM-1: Implement operations and maintenance practices to remove or prevent pollutants from entering public UICs located in City-managed rights-of-ways and on other City-owned property.

2.5.1 OM-1: Key Accomplishments for FY13-14

Facility Maintenance

- Implemented the UICMP *Operations and Maintenance Plan*.

- Continued discussions with other City bureaus to standardize operations and maintenance procedures for UICs on City property, based on the O&M templates established in the City's *Stormwater Management Manual*.

- Made debris screen/inlet inspection/maintenance visits to 349 locations citywide (multiple visits to some locations after major rain events). (This number includes, but is not limited to, UIC-specific visits.)

- Cleaned approximately 13,760 catch basins and inlets (citywide).

- Cleaned 1,903 sedimentation and sump manholes.

- Repaired or constructed 249 inlets and inlet leads and 1,162 linear feet of culvert (citywide).

- Continued to implement retrofits to the existing storm drainage system (roadside ditches to swales or porous shoulder).

- Continued to evaluate UIC stormwater quality monitoring data to evaluate the relationship between stormwater quality, maintenance frequency, and traffic volumes.

Street Sweeping

- Swept major arterials four to six times during the year.

Portland Bureau of Transportation Maintenance Operations (PBOT Maintenance Operations) BMPs

- Continued to implement BMPs within the right-of-way to protect water quality, including:
  - Following ODOT's *Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices.*
  - Using the trenchless liner repair system.
  - Using bio-pillows for sediment control on impervious surfaces to trap sediment during all sediment-disturbing activities.
  - Using low-disturbance sign installation methods to avoid or minimize digging.
  - Using mild cleaners, with no solvents, to clean signs.
  - Monitoring weather conditions during asphalt grinding.
  - Hand-applying asphalt where necessary to prevent these materials from entering the storm drain system.
  - Using rubberized mats on inlets to prevent fog seal material from entering the system.
  - Using water-based asphalt emulsions and biodegradable asphalt release agents.

- Continued to pilot test alternative methods, products, and practices to reduce pollutant discharges.

Site-specific O&M actions conducted as a response action are discussed in Section 4: Evaluation and Response.

2.5.2 OM-1: Projected Main Activities for FY14-15

- Continue to use UIC stormwater quality monitoring data to evaluate the relationship between stormwater quality, maintenance frequency, and traffic volume. Where appropriate, adjust current O&M Plan maintenance schedules and targets.

- Continue to standardize operations and maintenance procedures for UICs on City property, based on the O&M templates established in the *Stormwater Management Manual*. Develop applicable tracking systems.

2.6 Policy and Regulation (PR)

The development of policies, codes, and administrative rules is a key element in providing long-term protection of groundwater. 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.

PR-1: Review and modify City policies, codes, and regulations to enhance groundwater protection.

2.6.1 PR-1: Key Accomplishments for FY13-14

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.

Regional Coordination

- The City participated in the ACWA (Association of Clean Water Agencies) Groundwater Committee, including discussing monitoring proposals and permit negotiations with other municipal permittees and tracking the issuance of individual municipal WPCF permits.

Stormwater Management Manual Revision

- Participated in quarterly meetings for System Planning and *Stormwater Management Manual* revisions. A revised version of the *Stormwater Management Manual* was finalized in January 2014.

Administrative Rules

- Finalized the City of Portland Administrative Rules ENB-4.13 *Administrative Rules for Discharges to the City Storm Sewer and Drainage System* and ENB-4.15 *Enforcement Rules.*

- Developed a BES Storm Sewer and Drainage System Discharge Permit supporting Portland City Code Chapter 17.39 and Administrative Rules ENB-4.13.

Land Acquisition

- Acquired 46 acres of natural area through the Watershed Land Acquisition Program.
- Acquired approximately 2.56 acres of floodplain property through the Johnson Creek Willing Seller Program.

2.6.2 PR-1: Projected Main Activities for FY14-15

- Participate in the UIC rules revision process (OAR 340-044 and 340-040) when initiated by DEQ and OWRD.
- Continue to coordinate the review and approval process for private UIC registrations and development issues.

3 System Monitoring

The System Monitoring program element involves ongoing UIC monitoring conducted to demonstrate that UICs are operated in a manner that meets WPCF permit requirements and protects groundwater as a drinking water resource. System Monitoring includes two types of monitoring:

- Stormwater discharge monitoring of a representative subset of UICs, as identified in the *Stormwater Discharge Monitoring Plan* (SDMP). This is subsequently referred to as compliance monitoring and is discussed in section 3.1 below.

- Monitoring to determine the effectiveness of BMPs in controlling pollutant discharges to UICs and to identify technologies that can be used to improve stormwater quality. BMP monitoring to demonstrate reductions in pollutant discharges for a variety of structural and non-structural BMPs is documented in the *Effectiveness Evaluation of Best Management Practices for Stormwater in Portland Oregon* (September 2006). Since then, continued UIC monitoring has shown that stormwater discharge limits are in compliance with the permit and that the BMPs currently in use are meeting requirements.

3.1 Compliance Monitoring

3.1.1 Key Accomplishments for FY13-14[3]

- Submitted year 9 (October 2013 – May 2014) UIC compliance monitoring locations to DEQ on August 30, 2013.

- Implemented year 9 stormwater compliance monitoring. Fifteen UIC locations were sampled in year 9 and tested for common and priority pollutants as defined by the permit.

- Compiled and evaluated year 9 stormwater data. There were no year 9 annual mean concentration exceedances of the permit's maximum allowable discharge limits (MADLs)[4].

- Prepared and submitted the *Annual Stormwater Discharge Monitoring Report – Year 9 – October 2013 – May 2014* to DEQ (November 1, 2014). The report results are summarized in Section 3.1.2, below.

- Performed a preliminary stormwater discharge trend analysis for the 9 years of data, using box plots to identify potential differences in pollutant concentrations.

- Prepared and submitted year 10 (October 2013 – May 2014) UIC monitoring locations to DEQ on August 29, 2014, with 30 compliance monitoring locations selected in accordance with Permit Modification No. 3 (issued by DEQ on April 19, 2012).

[3] See the *Annual Stormwater Discharge Monitoring Report – Year 9 – October 2013 – May 2014* (November 1, 2014) for detailed monitoring results.

[4] Permit Modification No. 4 (dated December 6, 2012) increased MADLs one order of magnitude for four constituents [pentachlorophenol, di(2-ethylhexyl)phthalate, benzo(a)pyrene, and total lead].

3.1.2 UIC Stormwater Year 9 Monitoring Summary

The City of Portland's UIC monitoring program was implemented in accordance with the final SDMP. The monitoring program was designed to be representative of the estimated 9,000 City-owned/operated UICs. Fifteen UIC locations were sampled to implement the required year 9 monitoring (i.e., compliance monitoring) described in the SDMP: Panel 4 (15 rotating UIC locations sampled in permit years 4 and 9)

UIC monitoring locations were selected on the basis of two traffic flow categories: <1,000 trips per day (TPD) and ≥1,000 TPD. Year 9 locations included eight UIC locations in the <1,000 TPD category and seven locations in the ≥1,000 TPD category.

Year 9 Results[5]

Three sampling events were completed between October 1, 2013 and June 16, 2014.[6] Stormwater discharge samples were analyzed for common pollutant analytes (e.g., metals, volatile organic compounds, semivolatile organic compounds, and pesticides) as defined by the permit. Testing of priority pollutant screen (PPS) analytes is not required in permit year 8; however, three PPS analytes are reported because they were detected during analysis of the common pollutants by the U.S. Environmental Protection Agency (EPA) test methods.

- All nine common pollutants and two of three PPS analytes (2,4-D, total nitrogen) were detected in year 9.

- Twenty-four ancillary pollutants (i.e., analytes derived from the analytical methods for common pollutants) were generally detected at low concentrations. The nine ancillary pollutants detected at the highest frequencies (>50%) during all individual sampling events are polycyclic aromatic hydrocarbons (PAHs). PAHs are expected in urban rights-of-way. Generally, sources include fresh and used petroleum products associated with motor vehicle combustion, exhaust, and wear and tear; they also include other sources such as wood preservatives and cigarette filters.

Maximum Allowable Discharge Limit (MADL) Exceedances

- No common or PPS pollutants were detected in year 9 at concentrations above their respective MADLs.

[5] A full discussion of monitoring methodology and results can be found in the *Annual Stormwater Discharge Monitoring Report—Year 9* (November 2014).

[6] As a result of atypical (i.e., dry) climate conditions during Year 9, five locations in Event 3 were sampled in June 2014, which was outside the monitoring period of October through May, although still within the permit year. The City requested, and DEQ issued, a sampling waiver (October 2, 2014), allowing for the collection of samples outside the permit-defined monitoring dates.

Annual Geometric Mean Concentrations

- No UIC locations had annual geometric mean concentrations that exceeded MADLs for any pollutant.

- The annual geometric mean is calculated for pollutants detected at a concentration ≥50 percent of the MADL for an individual sampling location in at least one sampling event; therefore, geometric means were not calculated for any pollutant in year 9.

Preliminary Trend Analysis

The following general observations were made for PCP, DEHP, B(a)P, lead, chromium, and arsenic:

- Concentration ranges are similar for years 1 through 9.
- Patterns for both traffic categories (<1,000 TPD and ≥1,000 TPD) have similar concentration ranges between the two permit years (4 and 9) in which Panel 4 locations were sampled.
- All annual geometric mean concentrations of the evaluated compounds are less than 50 percent of their respective MADLs for both years 4 and 9.
- Pollutant concentrations are flat or downward trending. .

Year 9 Response Actions

- No new source investigations were initiated in response to Year 9 monitoring results.

Category 4 UICs

- No new Category 4 UICs were identified in year 9.

- A total of 17 locations have been identified as Category 4 UICs based on sampling results during years 1 through 9.

Additional Monitoring

- No UICs had annual geometric mean concentrations that exceeded the MADL for a pollutant in year 9 therefore no additional monitoring will be required in Year 10.

3.1.3 Projected Main Activities for FY14-15

- Select UIC locations for year 10 monitoring (i.e., Panel 5 and Panel 6). (UIC locations were submitted to DEQ on August 29, 2014.)

- Implement year 10 UIC compliance monitoring in accordance with Permit Modification No. 3 (issued by DEQ on April 19, 2012) and SDMP Version 2 (December 2012).

- Document, analyze, and report results of the 2014-2015 (year 10) stormwater monitoring in the *Annual Stormwater Discharge Monitoring Report – Year 10*. That report will be submitted to DEQ by November 1, 2015 (per DEQ Permit Action Letter dated July 14, 2011).

- Continue to work with DEQ to demonstrate through the SDMP-required compliance monitoring that discharges to public UICs meet permit MADLs and are protective of groundwater quality (see Section 4).

- Initiate planning and selection of new permit-required monitoring locations for year 11 for compliance with new permit.

4 Evaluation and Response

The Evaluation and Response program element uses data and information from System Management (e.g., UIC location, depth to groundwater) and System Monitoring (e.g., results of stormwater discharge monitoring) activities 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 permit requirements.

4.1 Decision Making Framework for Groundwater Protectiveness Demonstrations

During FY 07-08, a Groundwater Protectiveness Demonstration (GWPD) tool was developed by the City and approved by DEQ. This tool is a solute transport spreadsheet model that evaluates the reduction of stormwater pollutant concentrations entering the UIC by unsaturated soil before the infiltrated stormwater reaches groundwater. The tool is used to evaluate the fate and transport of pollutants in different geologic units by modifying the appropriate physical and chemical input parameters to characterize the properties of the geologic materials and pollutants.

In June 2008, the City submitted the *Decision Making Framework for Groundwater Protectiveness Demonstrations* to DEQ (approved October 20, 2008), which includes the protocols for applying the GWPD tool to UICs that fall within four specific categories identified during permit negotiations and permit implementation:

- UICs with inadequate vertical separation distance
- UICs located within permit-specified horizontal setbacks from domestic or public water wells
- UICs with stormwater concentrations exceeding permit-specified MADLs at end-of-pipe where stormwater enters the UIC
- UICs that have ubiquitous stormwater pollutants (e.g., PCP in stormwater)[7]

The City applied the decision-making framework to evaluate the four categories identified above. As a result, the City received "no further action" (NFA) determinations for UICs identified within those categories. Specific details about the framework development and applications for NFAs can be found in *UICMP Annual Reports No. 3, 4, 5, and 6* and in the reports listed in Table 1-2.

[7] Ubiquitous pollutants are defined as "pollutants frequently detected in stormwater as a result of their widespread, non-point source origin, such as PCP associated with treated wood utility poles found throughout the urban environment" (*Ubiquitous Pollutants Groundwater Protectiveness Demonstration,* submitted to DEQ July 17, 2008). They have also been defined as "a pollutant detected in the City's Year 1 and Year 2 Stormwater Discharge Monitoring Program at a detection frequency of > 75% and with a concentration of ≥50% of the MADL (*Decision Making Framework for Groundwater Protectiveness Demonstrations,* submitted to DEQ July 19, 2008).

As part of this UICMP annual report, UICs that received an NFA designation in each of the four categories were reviewed to verify that the previous NFA decisions are still protective of groundwater and ensure that additional analyses do not need to be performed (decision verification process). The following key assumptions of the GWPD were used as the basis of the review:

- **Vertical separation distance:** Separation distances are calculated using the most current total UIC depth and USGS-generated depth to groundwater estimates for the Portland area. If the depth-to-groundwater estimates are revised or modified, separation distances must be recalculated, and the minimum 5-foot separation distance must be verified.
- **Results of the stormwater discharge monitoring program**: Results must be reviewed to ensure that:
  - Pollutants detected are similar in concentration and frequency of detection to those identified in Year 1 – Year 8 monitoring.
  - New pollutants of interest are not identified.
  - Significant increases in pollutant concentrations or pollutant concentration trends are not identified.

In FY 12-13, two changes affected the decision verification process: 1) Permit Modification No. 4 (December 6, 2012), and 2) approval of a shallow groundwater protectiveness demonstration. These two changes had the following results:

- MADL concentrations for four common pollutants (pentachlorophenol, di(2-ethylhexyl)phthalate, benzo(a)pyrene, and lead) were increased by an order of magnitude.
- The required separation distance was reduced from 10 feet to 5 feet for all new UIC installations.
- Direct discharge to groundwater is no longer prohibited.

Because of these two changes, a number of Category 3 and Category 4 UICs are no longer considered to be out of compliance. As a result, these UICs do not require the original NFA designation and therefore do not require a decision verification process to be applied to them. In the future, the decision making framework will be reviewed, and updates will be made as appropriate to reflect these changes. Until this is completed, the decision verification process is still a valid way to document that the depth to groundwater values and the City's monitoring data (used as part of prior protectiveness demonstrations) are still consistent and valid, and that groundwater is still being protected.

Sections 4.2 to 4.4 provide the results of the decision verification process.

4.2 Further Evaluation of UIC Separation Distance

The WPCF permit (including Permit Modification No. 4) requires that UICs more than 5 feet deep must have a minimum separation distance of 5 feet between the bottom of the UIC and seasonal high groundwater unless otherwise approved by DEQ. See section 5.1 of this report for a current summary of UICs with inadequate vertical separation distance.

4.2.1 Decision Verification

During FY13-14, the City identified no new Category 3 UICs.

Of the list of Category 3 UICs identified in *UICMP Annual Report No.8*, three UICs have been removed through either the completion of a corrective action or determination of permit compliance (see Appendix B, Table B-2).

Section 5 of this report provides further details about the UICs removed from the Category 3 list, as well as the overall scope and schedule for the remaining Category 3 UICs.

Previous to this FY, the permit required a decision verification process to be applied to UICs that have a vertical separation distance between $\geq$ 5 feet and < 10 or are located in a City of Portland park, and that previously received an NFA confirmation. As discussed above, the City continued to apply the verification process this year to ensure that no major changes have occurred in the City's depth to groundwater estimates and monitoring data.

- **Verification of vertical separation distance:** USGS depth to groundwater data were used in combination with existing construction information to calculate 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 quarterly updates.
- **Verification of stormwater discharge monitoring results:** In general, pollutants detected in year 9 monitoring are similar to detections, frequency, and concentration ranges in years 1 - 8. Common pollutants detected in year 1 - 9 data are generally at low concentrations and below their respective MADLs. Concentration ranges for pentachlorophenol, DEHP, and lead are similar for years 1 - 9. Concentrations are generally low and within narrow ranges at individual UIC locations. Concentrations for the $\geq$1,000 trips per day (TPD) traffic category appear to be slightly higher than the <1,000 TPD traffic category in years 1- 9.

  For details, refer to *Annual Discharge Monitoring Report – Year 9 (October 2013 – May 2014).*

4.2.2 Key Accomplishments for FY13-14

- Continued evaluation and selection of corrective action alternatives for UICs determined to be non-compliant with the permit (see Section 5).
- Identified and evaluated additional UICs with potential inadequate separation as new data became available. Performed compliance determinations on UICs identified to have potentially inadequate separation distance.

4.2.3 Projected Main Activities for FY14-15

- Continue identification and evaluation of UICs as new data become available.
- Perform compliance determinations on any new UICs identified with potentially inadequate separation distance. Report and prioritize any newly identified Category 3 UICs to DEQ in accordance with the permit, as appropriate.
- Review and update as appropriate the *Decision Making Framework for Groundwater Protectiveness Demonstrations* to reflect the changes implemented as part of *Permit Modification No.4*.
- 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.

4.3 Further Evaluation of Stormwater Pollutants Exceeding MADLs

The WPCF permit requires the City to notify and report stormwater discharges that exceed the MADLs defined in Table 1 of the permit. Notification and reporting requirements of individual stormwater event and annual mean MADL exceedances are described in the *Quality Assurance Project Plan* (QAPP; City of Portland, 2006). In addition, annual monitoring reports must include (per Permit Schedule B, Section 7) identification and discussion of any exceedance of an individual storm event MADL or annual mean MADL concentration, including:

> (1) Any potential cause of the exceedance, to the extent practicable and if known; and
>
> (2) Actions taken during the wet season to reduce the concentration of the pollutant of concern.

Actions taken to assess the potential cause of the exceedance were evaluated in general accordance with *UICER Guideline No. 2: MADL Exceedances* and are described below. Actions taken during the wet season to reduce concentrations are described as response actions in Section 4.5.

4.3.1 Decision Verification

As discussed previously, Permit Modification No. 4 increased MADL levels for four common pollutants (pentachlorophenol, di(2-ethylhexyl)phthalate, benzo(a)pyrene, and lead) by an order of magnitude. As a result, UICs previously identified as Category 4 are no longer Category 4. To maintain consistency and confirm protectiveness, however, the decision verification process was still applied through the following steps:

- **Verification of vertical separation distance:** USGS depth to groundwater data (as described in Section 4.2) were used in combination with existing construction information to calculate vertical separation distance between the bottom of the UIC and seasonal high groundwater. Based on current USGS depth to groundwater information, all previous locations still have >10 feet vertical separation distance and meet the conditions of the groundwater protectiveness demonstration.

- **Verification of stormwater discharge monitoring results:** In general, pollutants detected in year 9 monitoring are similar to detections, frequency, and concentration ranges in years 1 - 8. Common pollutants detected in year 1 - 9 data are generally at low concentrations and below their respective MADLs. Concentration ranges for pentachlorophenol, DEHP, and lead are similar for years 1 - 9. Concentrations are generally low and within narrow ranges at individual UIC locations. Concentrations for the ≥1,000 trips per day (TPD) traffic category appear to be slightly higher than the <1,000 TPD traffic category in years 1- 9.

  For details, refer to *Annual Discharge Monitoring Report – Year 9 (October 2013 – May 2014).*

4.3.2 Key Accomplishments for FY13-14

- No exceedences were reported for the sampling events.

- No new Category 4 UICs were identified in FY13-14.

4.3.3 Projected Main Activities for FY14-15

- Implement year 10 stormwater compliance monitoring, and report MADL exceedances in accordance with the permit and QAPP.

4.4 Further Evaluation of UICs near Domestic Wells

The WPCF permit requires that stormwater discharges meet the MADLs defined in Table 1 of the permit for UICs that are located:

- Less than 500 feet from a domestic well;
- Within a 2-year time of travel of a public water well; or
- Less than 500 feet from a public water well without a delineated time of travel.

Stormwater quality discharge limits established in the WPCF permit are designed to protect groundwater as a drinking water resource in accordance with OAR 340-040.

4.4.1 Decision Verification

Previously, 398 UICs were identified within the permit-specified setbacks from confirmed and unconfirmed drinking water wells. These locations have received NFAs based on groundwater protectiveness demonstrations. The decision verification process was applied through the following steps:

- **Verification of vertical separation distance:** USGS depth to groundwater data were used in combination with existing construction information to calculate vertical separation distance between the bottom of the UIC and seasonal high groundwater. Based on that information, seven locations were identified with < 5 feet vertical separation distance and have been identified for corrective actions, as described in section 5. The remaining locations were determined to have > 5 feet vertical separation distance and still meet the conditions of the groundwater protectiveness demonstration.

- **Verification of stormwater discharge monitoring results:** In general, pollutants detected in year 9 monitoring are similar to detections, frequency, and concentration ranges in years 1 - 8. Common pollutants detected in year 1 - 9 data are generally at low concentrations and below their respective MADLs. Concentration ranges for pentachlorophenol, DEHP, and lead are similar for years 1 - 9. Concentrations are generally low and within narrow ranges at individual UIC locations. Concentrations for the ≥1,000 trips per day (TPD) traffic category appear to be slightly higher than the <1,000 TPD traffic category in years 1- 9.

  For details, refer to *Annual Discharge Monitoring Report – Year 9 (October 2013 – May 2014).*

4.4.2 Key Accomplishments for FY13-14

- Implemented corrective action engineering pre-design and design activities on Category 3 UICs identified as having inadequate separation distance and located near domestic wells.

4.4.3 Projected Main Activities for FY14-15

- Collect year 10 stormwater quality data. Compliance stormwater monitoring data will be used to evaluate the quality of stormwater entering UICs and confirm that groundwater is protected. Projected timeline: October 2014 – May 2015.

- Evaluate stormwater quality data. Continue evaluation of the results of the annual compliance monitoring program (described in the SDMP). Projected timeline: October 2014 – November 1, 2015.
  - Identify pollutants, if any, that exceed permit limits during individual sampling events or annual geometric mean concentration (see Section 4.3).

- Verify the results of the *UICs within Permit-Specified Well Setbacks - Groundwater Protectiveness Demonstration – No Further Action Request.* This document was prepared by the City of Portland Bureau of Environmental Services and submitted to DEQ for approval in July 2008. DEQ's approval was obtained on October 6, 2008.

- Continue corrective action engineering design activities on Category 3 UICs identified as having inadequate separation distance and located near domestic wells. The City is actively evaluating corrective action alternatives for these UICs to provide adequate separation distance, meet permit requirements, and protect groundwater in accordance with OAR 340-040, which protects all groundwater as a drinking water resource. A detailed description of the City's work to address Category 3 UICs is provided in Section 5 of this report.

4.5 Response Actions

Response actions are intended to reduce elevated stormwater discharge concentrations at the surface in order to meet permit discharge limits. Meeting permit limits (i.e., MADLs) 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.

Implementation of *UIC Evaluation and Response Guidelines* (UICER) Nos. 1 through 8 (see UICMP - Appendix H) is considered to be applicable and appropriate response actions. UICER guidelines implemented since July 2011 are described in this section.

4.5.1 Key Accomplishments for FY13-14

- No pollutants were detected above their MADLs for all sampling events.

4.5.2 Projected Main Activities for FY14-15

- Implement actions, as needed and appropriate, in response to any year 10 individual stormwater discharge monitoring MADL exceedances, unusual conditions observed during UIC sampling, inspections, or citizen complaints.

5 Corrective Actions

The Corrective Actions program element addresses UICs that are determined to be non-compliant with WPCF permit requirements through the Evaluation and Response process. This program includes the processes used to evaluate, rank, select, and implement appropriate corrective actions. A variety of corrective actions are available, including options that do not involve construction (such as institutional controls or an assessment to demonstrate protectiveness), structural/ engineering controls, and UIC closure.

5.1 Summary of UICs with Inadequate Separation Distance

UICMP Annual Report No 3 identified 308 Category 3 UICs. That group included 186 Category 3 UICs with < 5 feet vertical separation distance that would require corrective action; 119 Category 3 UICs that received NFA designations through the use of a groundwater protectiveness demonstration (GWPD); and three locations determined to be compliant based on updated construction information. For a summary of UICs with inadequate separation distance prior to FY 09-10, refer to *UICMP Annual Report No 4*.

In early 2009, the USGS modified the depth to groundwater information for the City of Portland. As a result of that modification, the City identified changes to the list of Category 3 UICs reported in *UICMP Annual Report No.4*. Updated information was reported to DEQ through written correspondence titled *Changes to USGS Depth to Groundwater Data Modifications to Category 3 UIC List* (April 1, 2009). As a result of those changes, the prioritized Category 3 list of UICs with < 5 feet vertical separation distance was updated to 190 UICs.

Since *UICMP Annual Report No. 4*, two of the 190 UICs have been removed from the Category 3 list. Twenty-two UICs located in City of Portland parks have also received an NFA designation (October 21, 2009) through application of the GWPD. In FY10-11, 33 UICs were removed from the Category 3 list through either completion of a corrective action or determination of permit compliance. In FY11-12, 9 UICs were removed from the Category 3 list through either completion of a corrective action or determination of permit compliance, and two new locations with less than 5 feet of separation distance were added. As part of major Permit Modification No. 1, one of the Category 2 UICs was included in the Category 3 list.

In FY 12-13, the City completed a groundwater protectiveness demonstration (GWPD) that showed that UICs with less than 5 feet separation distance are protective of groundwater. This allowed for the removal of 73 UICs from the Category 3 list. As part of the GWPD approval, the City agreed to increase separation distance on the seven UIC locations located within drinking water well setbacks. The City also agreed to add a sedimentation manhole in series to 47 UICs that have less than 5 feet of separation distance and currently do not have a sedimentation manhole. These changes brought the final total to 54 Category 3 UICs that still require a corrective action. The updated and prioritized list of Category 3 UICs is provided in Appendix B, Table B-1.

In FY 13-14, design work was implemented for the UICs requiring corrective actions. Based on field visits, it was determined that three UIC locations (ANA841, ADT454, and ADT453) could be removed from the list. All three were mapped incorrectly and currently have sedimentation manholes in series.

5.2 Category 3 UICs

The permit defines Category 3 UICs as those identified as non-compliant following completion of the *Systemwide Assessment*. The permit requires Category 3 corrective actions to be completed within three full CIP cycles following the annual report date for the reporting period in which the non-compliant public UICs are reported as discovered, or in accordance with a DEQ-approved regional corrective action. An updated Category 3 UIC list is provided in Appendix B (Table B-1). Specific changes to the Category 3 list are described in the following sections.

5.2.1 Key Accomplishments for FY13-14

- Completed design activities for Category 3 UICs, in accordance with the scope of the *Systemwide Assessment Follow-Up Actions Workplan*.
- Removed five UICs from the Category 3 UIC list as a result of a determination of permit compliance during field investigations.
- Met with DEQ on a periodic basis to provide an overview of work completed to date and discuss next steps.

5.2.2 Eliminated Category 3 UICs

Three Category 3 UICs were removed from the corrective action list, based on field observations confirming compliance. Appendix B, Table B-2 provides the details.

5.2.3 New Category 3 UICs

No new Category 3 UICs were identified during FY 13-14.

5.2.4 Projected Main Activities for FY14-15

- Implement construction of corrective actions for the remaining 51 Category 3 UICs with separation distance < 5 feet (see Appendix B, Table B-1). Projected timeline: Complete by May 31, 2015.
- Meet with DEQ on a periodic basis to provide an overview of work completed to date.

5.3 Category 4 UICs

The permit defines Category 4 UICs as those that become non-compliant by failing to meet the annual geometric mean MADL within one wet season after the exceedance or failing to satisfy any groundwater protection conditions of permit Schedule A.

5.3.1 Key Accomplishments for FY13-14

- Based on the results of the year 9 stormwater monitoring data, no new Category 4 UICs were identified (see Section 4.3.2).

5.3.2 Summary of Category 4 UICs

Previously Identified Category 4 UICs

UICs in which the annual mean concentration exceeds the MADL for two consecutive years are identified as Category 4 UICs. Table 5-1 lists Category 4 UICs that have been identified throughout the permit term. (No Category 4 UICs were identified in years 4, 7, 8, and 9.) Category 4 UICs are reported in the annual *Stormwater Discharge Monitoring Report*.

Corrective actions for the Category 4 UICs listed in Table 5-1 were identified, evaluated, and selected in accordance with the *Corrective Action Plan* (CAP) (2006). The corrective action for these Category 4 UICs was a groundwater protectiveness demonstration (i.e., risk assessment), performed in accordance with *UICER Guideline No. 6: Groundwater Protectiveness Demonstration*. The groundwater protectiveness demonstrations were developed with DEQ input, and the final documents were reviewed and approved by DEQ (see Section 4.1).

Category 4 UICs Identified in Year 9

Following completion of the year 9 monitoring, no new Category 4 UICs were identified.

5.3.3 Projected Main Activities for FY14-15

- Evaluate whether any year 10 UICs will be identified as Category 4 UICs.

Table 5-1
Category 4 UICs Identified through Year 9

Location Code	Approximate Address	BES UIC No.	Traffic Category (TPD)	Estimated Separation Distance Between UIC and Groundwater (ft)[a]	Year of Category 4 UIC Designation	Pollutant for Category 4 UIC Designation
P1_1	6940 N. Macrum Ave.	AAG769	< 1000	73	Year 2	PCP
P6_1	3500 SE 112th Ave.	ADW577	≥ 1000	64	Year 2	PCP
P6_7	608 NE 87th Ave.	ADV645	< 1000	148	Year 2	PCP
P6_14	4289 NE Prescott St.	ADQ252	≥ 1000	64	Year 2	PCP
P2_5	10150 SE Ankeny St.	ADR885	≥ 1,000	158	Year 3	PCP
P2_13	4107 SE Reedway St.	ADU790	≥ 1,000	58	Year 3	PCP
P2_14	8409 N. Woolsey Ave.	AAH289	≥ 1,000	55	Year 3	PCP
SP3_6	490 NE 133rd Ave.	ADS048	≥ 1,000	96	Year 5	PCP
SP3_8	12198 SE Holgate Blvd.	ADW251	≥ 1,000	8	Year 5	PCP
P5_15	5190 N Vancouver Ave.	ADP960	≥ 1,000	129	Year 6	PCP
SP4_2	8335 SE Division St	ADP094	≥ 1,000	106	Year 6	PCP
SP4_10	10475 SE Division St	ADW349	≥ 1,000	97	Year 6	PCP
SP5_2[b]	17020 SE Division St	ADS798	≥ 1,000	32	Year 6	PCP
SP5_9[b]	14741 SE Stark St	AMP103	≥ 1,000	78	Year 6	PCP/DEHP
SP5_10[b]	3341 SE 122nd Ave	ADW625	≥ 1,000	32	Year 6	PCP/DEHP
P1_10[b]	10647 E Burnside St	ADR905	≥ 1,000	118	Year 6	PCP/DEHP
P5_5	10331 Se Clinton St	ADW558	≤1000	84	Year 6	B(a)P

a 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 minus 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.

b UIC location exceeded a MADL for the first time in Year 6, but was identified as a Category 4 UIC in lieu of sampling for a second consecutive year in Year 7.

Appendix A
Public UICs Identified, Constructed, or Removed
FY13-14

APPENDIX A

Date UIC Reported	BES Unit ID [2]	UIC DEQ ID [4]	EPA UIC Classification	Current Status [1]	UIC Location	Traffic Volume [3]	Pre-treatment Type	Action Type
01-Sep-13	R00339	10102-9712**	Class V Injection Well	UC	4930 SE 115th Ave	736	Swale	ADD
01-Sep-13	AQG939	10102-9713	Class V Injection Well	UC	2010 N Interstate Ave	5610	Infiltration Gallery	ADD
01-Sep-13	AQG940	10102-9714	Class V Injection Well	UC	1900 N Interstate Ave	5610	Infiltration Gallery	ADD
01-Sep-13	AQG189*	10102-9715	Class V Injection Well	AC	8701 N Tyndall Ave	8700	No Sed MH MH	ADD
01-Sep-13	AQG191*	10102-9716	Class V Injection Well	AC	2215 N Going St	8644	No Sed MH MH	ADD
01-Sep-13	R00344	10102-9717**	Class V Injection Well	UC	7121 SE 64th Ave	736	Swale	ADD
01-Sep-13	R00345	10102-9718	Class V Injection Well	UC	12846 SE Ramona St	736	Sed MH	ADD
01-Sep-13	R00346	10102-9719	Class V Injection Well	UC	12846 SE Ramona St	<1000	Sed MH	ADD
01-Sep-13	R00347	10102-9720	Class V Injection Well	UC	13316 SE Ramona St.	<1000	Sed MH	ADD
01-Sep-13	R00348	10102-9721**	Class V Injection Well	UC	13336 SE Ramona St	3124	Swale	ADD
01-Dec-13	AQL350	10102-9722**	Class V Injection Well	UC	4452 NE 47th Ave	267	Swale	ADD
01-Dec-13	AQJ135	10102-9723	Class V Injection Well	UC	2916 SE 85th Ave	171	Sed MH	ADD
01-Dec-13	AQJ142	10102-9724	Class V Injection Well	UC	4452 NE 47th Ave	4060	Sed MH	ADD
01-Dec-13	AQJ141	10102-9725	Class V Injection Well	UC	8299 NE Jonesmore St	6543	Sed MH	ADD
01-Dec-13	AQJ139	10102-9726	Class V Injection Well	UC	8301 NE Halsey St	8335	Sed MH	ADD
01-Dec-13	AQJ137	10102-9727	Class V Injection Well	UC	5822 SE 46th Ave	754	Sed MH	ADD
01-Dec-13	AQL956	10102-9728**	Class V Injection Well	UC	6127 NE Hancock St	538	Swale	ADD
01-Dec-13	AQK328	10102-9729	Class V Injection Well	UC	3756 SE 136th Ave	551	Sed MH	ADD
01-Dec-13	AQK337	10102-9730	Class V Injection Well	UC	13604 SE Powell Blvd	194	Sed MH	ADD
01-Dec-13	AQK325	10102-9731	Class V Injection Well	UC	3928 SE 136th Ave	10205	Sed MH	ADD
01-Dec-13	R00359	10102-9732**	Class V Injection Well	UC	Lot 4 SE Glenwood St Swale C	596	Swale	ADD
01-Dec-13	R00360	10102-9733**	Class V Injection Well	UC	Lot 4 SE Glenwood St Swale D	974	Swale	ADD
01-Dec-13	AQJ559	10102-9734**	Class V Injection Well	UC	1853 SE 117th Ave	885	Swale	ADD
01-Dec-13	AQJ563	10102-9735**	Class V Injection Well	UC	1909 SE 117th Ave	1815	Swale	ADD
01-Dec-13	R00363	10102-9736**	Class V Injection Well	UC	2703 SE 71st Ave	1114	Swale	ADD

01-Dec-13	R00364	10102-9737**	Class V Injection Well	UC	2536 SE 87th Ave	389	Swale	ADD
01-Dec-13	AQN329	10102-9741	Class V Injection Well	UC	5180 NE Alberta St	263	Sed MH	ADD
01-Dec-13	AQN333	10102-9742	Class V Injection Well	UC	4927 NE 55th Ave	1324	Sed MH	ADD
01-Dec-13	R00370	10102-9743**	Class V Injection Well	UC	SE 133rd & SE Division	6091	Swale	ADD
01-Mar-14	R00371	10102-9744	Class V Injection Well	UC	3116 SE 136th Ave	11137	Sed MH	ADD
01-Mar-14	R00372	10102-9745	Class V Injection Well	UC	13521 SE Powell Blvd	5693	Sed MH	ADD
01-Mar-14	R00373	10102-9746	Class V Injection Well	UC	2804 SE 136th Ave	3648	Sed MH	ADD
01-Mar-14	R00374	10102-9747	Class V Injection Well	UC	5504 SE 136th Ave	4571	Sed MH	ADD
01-Mar-14	R00375	10102-9748	Class V Injection Well	UC	6022 SE 136th Ave	510	Sed MH	ADD
01-Mar-14	AQN233	10102-9749	Class V Injection Well	UC	SE 91St & SE Oak	521	Sed MH	ADD
01-Mar-14	R00377	10102-9750	Class V Injection Well	UC	5708 SE 136th Ave	8374	Sed MH	ADD
01-Mar-14	R00378	10102-9751	Class V Injection Well	UC	SE Schiller & SE 136th	8368	Sed MH	ADD
01-Jun-14	R00379	10102-9752**	Class V Injection Well	UC	SE Bush & SE 49th	609	Swale	ADD
01-Jun-14	R00380	10102-9753**	Class V Injection Well	UC	SE 49th & SE Bush	396	Swale	ADD
01-Jun-14	R00381	10102-9754	Class V Injection Well	UC	5310 N Williams Ave	5256	Sed MH	ADD
01-Jun-14	R00382	10102-9755	Class V Injection Well	UC	1012 NE 57th Ave	1034	Sed MH	ADD
01-Jun-14	R00383	10102-9756	Class V Injection Well	UC	7230 NE Tillamook St	3578	Sed MH	ADD
01-Sep-13	ADV573	10102-1456	Class V Injection Well	AC	2415 NE 132nd Ave	741	No Sed MH MH	REMOVE
01-Jun-13	ADV446	10102-3458	Class V Injection Well	AC	4735 NE 72nd Ave	3782	No Sed MH MH	REMOVE
01-Jun-13	ABD653	10102-4554	Class V Injection Well	AC	8035 NE Tillmook St	3337	No Sed MH MH	REMOVE
01-Sep-13	ANA808	10102-543	Class V Injection Well	AC	8321 NE HalseySt	8300	No Sed MH MH	REMOVE
01-Sep-13	ACP888	10102-5459	Class V Injection Well	AC	10324 SE Ellis St	142	No Sed MH MH	REMOVE
01-Sep-13	ADV324	10102-5753	Class V Injection Well	PA	4610 SE 111th Ave	2468	No Sed MH MH	REMOVE
01-Jun-13	ANB280	10102-752	Class V Injection Well	AC	16141 E Burnside St	NA	No Sed MH MH	REMOVE
01-Jun-13	ANB281	10102-753	Class V Injection Well	AC	16144 E Burnside St	NA	No Sed MH MH	REMOVE
01-Jun-13	AAV139	10102-9306	Class V Injection Well	AC	8724 NE Beech St	179	No Sed MH MH	REMOVE
01-Jun-13	ANS325	10102-9375	Class V Injection Well	AC	8808 N Tyndall Ave	8800	Not Applicable	REMOVE

Appendix B
Category 3 UIC Status

APPENDIX B

Table B-1 : Prioritized Category 3 UICs with < 5 feet Vertical Separation Distance

UIC Compliance Category	Non-compliant Condition	Hansen UIC Node Number	Location [1]	Hansen UIC Depth (ft) [2]	Sedimentation Manhole (yes/no)	Predominant Land use	Estimated Traffic Count	Separation Distance (ft)	Distance to Nearest Well (ft) [3]	Within 2 year time of travel (yes/no)	UIC Priority [4]	Target Compliance Date [5]	Anticipated Corrective Action [6]	FY13-14 Project Status	FY14-15 Planned Activities	DEQID
3	Separation Distance	ANA889	11305 SE HAROLD ST	Unkn	No	SFR	3295	-8	920	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-1036
3	Separation Distance	ANA899	1801 NE MARINE DR	10	No	SFR	11064	1	1196	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-1041
3	Separation Distance	ANA900	1839 NE MARINE DR	10.2	No	SFR	11064	2	1196	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-1042
3	Separation Distance	ADV974	10900 NE MARX ST	16.3	No	IND	1714	-2	1786	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-1316
3	Separation Distance	AAC311	1445 NE MARINE DR	14.9	No	SFR	11064	-4	567	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-1919
3	Separation Distance	AMY402	11246 SE HAROLD ST	Unkn	No	SFR	3295	-8	928	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-263
3	Separation Distance	ADV384	8111 NE HOLMAN ST	14	No	IND	2980	-10	2314	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-3106
3	Separation Distance	ADV193	5710 SE 115TH AVE	24	Yes	SFR	521	-1	313	No	Medium	May 2015	Increase Separation Distance or Decommission	Design / Construction	Construction	10102-5267
3	Separation Distance	ADW303	11501 SE FOSTER RD	19	No	IND	25775	-9	1249	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5272
3	Separation Distance	ADW304	11741 SE FOSTER RD	19	No	IND	25775	3	1281	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5273
3	Separation Distance	ACQ013	11716 SE FOSTER RD	20	No	MFR	25775	4	1333	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5279
3	Separation Distance	ADW312	11540 SE FOSTER RD	18	No	COM	25775	-6	1299	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5280
3	Separation Distance	ADW313	5601 SE 122ND AVE	20	No	MFR	11400	0	1181	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5281
3	Separation Distance	ADW321	5732 SE 122ND AVE	20	No	MFR	11195	-3	1544	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5311
3	Separation Distance	ADW286	3039 SE TOLMAN ST	30.2	No	SFR	1503	-2	3575	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5590
3	Separation Distance	ADW260	12199 SE LIEBE ST	17	No	MFR	12261	5	801	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-560
3	Separation Distance	ADW269	5211 SE 122ND AVE	20	No	MFR	11953	1	870	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-574
3	Separation Distance	ADW229	5436 SE 109TH AVE	20.5	No	SFR	461	2	444	No	Medium	May 2015	Increase Separation Distance or Decommission	Design / Construction	Construction	10102-5764
3	Separation Distance	ADW230	5440 SE 111TH AVE	19	No	SFR	1848	3	639	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5765
3	Separation Distance	ADW233	5500 SE 104TH AVE	Unkn	No	SFR	1872	0	1045	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5768
3	Separation Distance	ADW256	4745 SE 122ND AVE	20	No	MFR	12363	3	661	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5887
3	Separation Distance	ADW257	4754 SE 122ND AVE	22	No	MFR	12363	1	682	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5888
3	Separation Distance	ADW258	4857 SE 122ND AVE	20.6	No	MFR	12261	1	790	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5889
3	Separation Distance	ADW261	4919 SE 122ND AVE	21	No	MFR	12138	0	756	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5891

3	Separation Distance	ACK357	4918 SE 122ND AVE	20	No	MFR	12138	1	702	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5892
3	Separation Distance	ADW264	5450 SE 114TH PL	Unkn	No	SFR	3582	-5	419	No	Medium	May 2015	Increase Separation Distance or Decommission	Design / Construction	Construction	10102-5894
3	Separation Distance	ADW265	12150 SE RAYMOND ST	16.5	No	MFR	12138	4	778	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5895
3	Separation Distance	ADW266	5000 SE 122ND AVE	20	No	MFR	12138	0	691	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5896
3	Separation Distance	ADW267	5021 SE 122ND AVE	19.5	No	MFR	11953	1	777	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5897
3	Separation Distance	ADW271	5403 SE 122ND AVE	25	No	MFR	11646	-4	1048	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5900
3	Separation Distance	ADW272	5404 SE 122ND AVE	19.9	No	MFR	11646	1	1019	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5901
3	Separation Distance	ADW273	5436 SE 122ND AVE	17.5	No	MFR	11646	4	1212	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5902
3	Separation Distance	ADW274	5500 SE 122ND AVE	20.2	No	MFR	11646	1	1231	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5903
3	Separation Distance	ADW275	12122 SE HAROLD ST	20	No	COM	11646	1	1160	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5904
3	Separation Distance	ADU725	4908 SE 122ND AVE	19	No	MFR	12138	2	713	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-5915
3	Separation Distance	AMR771	4736 SE 115TH AVE	31	Yes	SFR	821	3	449	No	Medium	May 2015	Increase Separation Distance or Decommission	Design / Construction	Construction	10102-6110
3	Separation Distance	ADU749	12220 SE HOLGATE BLVD	24	Yes	COM	5249	4	275	No	Medium	May 2015	Increase Separation Distance or Decommission	Design / Construction	Construction	10102-619
3	Separation Distance	ADT433	12323 SE HOLGATE BLVD	21.8	Yes	MFR	5249	5	230	No	Medium	May 2015	Increase Separation Distance or Decommission	Design / Construction	Construction	10102-6298
3	Separation Distance	ADT451	4490 SE 125TH AVE	20.6	Yes	SFR	5249	3	487	No	Medium	May 2015	Increase Separation Distance or Decommission	Design / Construction	Construction	10102-6312
3	Separation Distance	ANA587	13008 SE HOLGATE BLVD	17	No	SFR	4710	-2	894	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-709
3	Separation Distance	ANA596	13033 SE HOLGATE BLVD	Unkn	No	SFR	4710	-16	928	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-714
3	Separation Distance	ANA598	4425 SE 130TH AVE	19	No	SFR	1606	-2	970	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-715
3	Separation Distance	ANB108	11020 NE MARX ST	16	No	IND	1714	2	1817	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-791
3	Separation Distance	ANB179	6015 NE 80TH AVE	19.5	No	IND	6658	-7	2423	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-868
3	Separation Distance	ANB182	6135 NE 80TH AVE	19.9	No	IND	2900	-16	2178	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-869
3	Separation Distance	ANB185	6245 NE 80TH AVE	14	No	IND	2900	-9	1978	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-870
3	Separation Distance	APJ198	848 N TOMAHAWK ISLAND DR	11	No	COM	5270	-3	2882	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-9243
3	Separation Distance	AAV769	4022 NE 142ND AVE	Unkn	No	SFR	220	-1	809	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-9474
3	Separation Distance	ANW740	6457 NE 66TH AVE	18	No	SFR	439	4	1089	No	Medium	May 2015	Upgrade system with addition of sedimentation manhole	Design / Construction	Construction	10102-9478

Table B-2: Removals from Category 3 UIC List

UIC Compliance Category	Non-compliant Condition	Hansen UIC Node Number	Location [1]	Updated Hansen UIC Depth (ft)	Sedimentation Manhole (yes/no)	Predominant Land use	Estimated Traffic Count	Separation Distance (ft)	Distance to Nearest Well (ft)	Within 2 year time of travel (yes/no)	Reason Removed from November 2012 Category 3 UIC List	DEQ ID
3	Separation Distance	ANA841	9956 SE HAROLD ST	30	Yes	SFR	3768	4	2354	No	Field inspection confirmed sedimnetation manhole part of system	10102-855
3	Separation Distance	ADV188	10310 SE ELLIS ST	22	Yes	SFR	982	0	1322	No	Field inspection confirmed sedimnetation manhole part of system	10102-5464
3	Separation Distance	AMQ114	8801 N VANCOUVER AVE	3	No	IND	9654	4	811	No	Field inspection determined inlet connected to private system	10102-9498
3	Separation Distance	ADT453	12920 SE HOLGATE BLVD	19.6	Yes	SFR	4814	0	1112	No	Field inspection confirmed sedimnetation manhole part of system	10102-6314
3	Separation Distance	ADT454	12830 SE HOLGATE BLVD	20.6	Yes	SFR	5035	0	1045	No	Field inspection confirmed sedimnetation manhole part of system	10102-6315

Notes:

[1] Addresses are not considered precise location information and are subject to change as city staff better describe the physical UIC locations relative to nearby properties.

Acronyms:

NA = Not Available TPD = Trips per Day

SFR = Single Family Residential MFR= Multifamily residential IND = Industrial COM = Commercial POS = Parks and Open Space

Appendix C
Spills That Have Occurred within Areas Serviced by UICs

APPENDIX C

Date	Release Type	Volume	Spill Location	Did Fluids Reach City-owned UIC? (Y/N)	Closest City-owned UIC Catchbasin
9/19/13	Oil	Quart	9024 N Tioga Ave	N	AAF106 ADN359
12/20/13	Heating Oil	Minimal	3926 NE 19th Ave	Unknown	AAU157 AAU174 ADQ648
4/8/14	Sudsy Discharge	Minimal	3617 NE 73rd Ave	Y	AAV119
9/24/13	Transmission Fluid	Minimal	15730 NE Schuyler St	N	ABE317
5/1/14	Lacquer Thinner and Solvent	2 gallons	4805 SE 128th Ave	N	ACK469
6/14/14	Burned Debris, Paint Cans, Various Liquids, possibly Auto Fluids	Minimal	SE Tolman St and 70th Ave	N	ACP069
5/22/14	Auto Fluids	Unknown	SE 85th Ave and Claybourne St	Unknown	ACU037 ADT945
6/19/14	Oil	Minimal	N Willis St and N Clarendon St	Unknown	ADN400 ADN401
9/5/13	Grease	Unknown	121 N Lombard St	N	ADN953
10/9/13	Oil	Minimal	15954 SE Hawthorne Blvd	N	ADP007
10/22/13	Paint Chips	Minimal	2420 N Bryant Ave	N	ADP206
8/18/13	Oily Substance	Unknown	300 N Killingsworth	N	ADP949
6/12/14	Paint	1 gallon	3971 NE 11th Ave	N	ADQ444
11/14/13	Soil/Concrete Washwater	Minimal	9140 N Buchanon St	N	ADQ453
11/14/13	Concrete Washwater	Minimal	1116 NE Failing St	N	ADQ453
8/16/13	Contractor Washwater	Unknown	1126 NE 58th Ave	Y	ADR482
6/16/14	Cigarette Butts	Unknown	10332 NE Oregon St	N	ADR633
3/9/14	Auto Fluids	Minimal	SE 102nd and SE Ankeny St	N	ADR885
4/23/14	Auto Fluids	Unknown	11341 SE Division St	N	ADS262
2/26/14	Motor Oil	Bucket	6742 SE Pardee St	N	ADT643
6/19/14	Debris	Unknown	SE 82nd Ave and Madison St	N	ADU368
3/31/14	Auto Fluids	Minimal	5009 NE Killingsworth St	N	ADV361
6/6/14	Food Grease	Unknown	12424 SE Division St	Unknown	ADW627
2/9/14	Auto Fluids	Unknown	NE 129th Ave and Halsey St	N	AMN806
6/18/14	Oil	Minimal	7413 SE Pine St	Unknown	AMP902
9/31/2013	Colored Water -Red Chalk	500 gal	1500 SE Duke St	Y	AMQ083
6/26/14	Paint	Unknown	23 NE 108th Ave	N	ANA704

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