

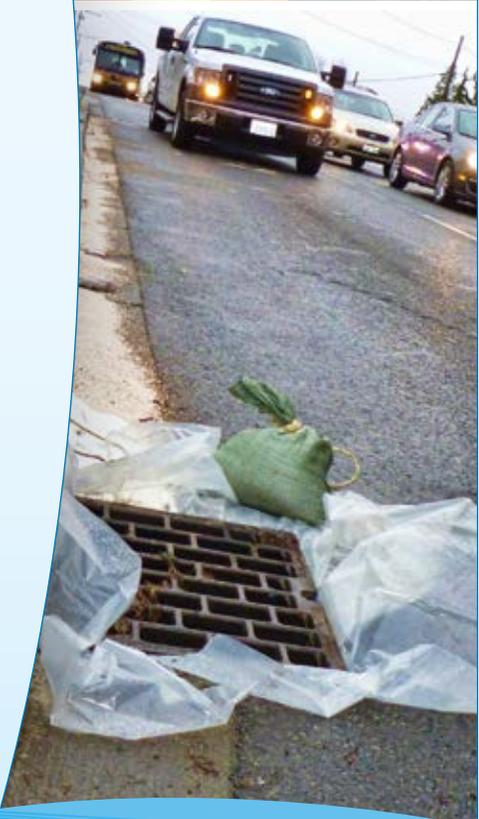
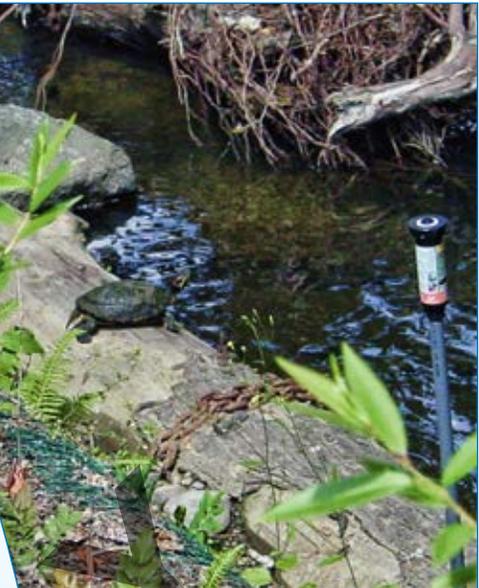


2013

STORMWATER MANAGEMENT PROGRAM (SWMP)

Prepared March 2013

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CITY OF KIRKLAND

2013 STORMWATER MANAGEMENT PROGRAM (SWMP)

Prepared February 2013

1. Introduction

1.1 The Purpose of the Stormwater Management Program Document

This document constitutes the City of Kirkland 2013 Stormwater Management Program (SWMP) as required under condition S5 of the *Western Washington Phase II Municipal Stormwater Permit* (the Permit). The purpose of the document is to detail actions that the City of Kirkland will take between January 1, 2013 and December 31, 2013 to maintain compliance with conditions in the Permit. This SWMP will be an attachment to the Annual Compliance Report for the Permit for 2012, which is due at the Department of Ecology on March 31, 2013.

1.2 The NPDES Program

The National Pollutant Discharge Elimination System (NPDES) is a program created under the Federal Clean Water Act with the intent of protecting and restoring water quality in lakes and stream so that they can support “beneficial uses” such as fishing and swimming. Governmental and private entities wishing to discharge water or wastewater to surface waters regulated by the Federal Government (Waters of the US) must obtain permits and comply with certain conditions or face fines and other penalties. NPDES permits have been written for discharges from construction sites, concentrated animal feeding operations, industrial activities, publicly-owned wastewater treatment plants, and municipal stormwater systems.

In Washington State, the US Environmental Protection Agency has delegated the authority over NPDES permits to the Washington State Department of Ecology (Ecology). Ecology has issued several general permits for discharges from stormwater systems that apply to municipalities with different sizes of populations and that are located in different regions of the State (Eastern and Western Washington). Phase I refers to municipalities of >100,000, and Phase II to those with a population of less than 100,000 according to the 1990 census.

1.3 The Western Washington Phase II Municipal Stormwater Permit

Kirkland has a population of less than 100,000 and is in Western Washington. Thus our stormwater program must comply with conditions in the *Western Washington Phase II Municipal Stormwater Permit*. The Permit was issued on February 16th, 2007, and will remain in effect until February 15th of 2012. During the 2011 session, the State legislature extended the Permit term from February 2012 to July 2013 in order to provide fiscal relief to municipalities from new unfunded mandates during the current economic downturn (Engrossed Substitute House Bill 1478). A Permit allows municipalities to discharge stormwater from municipal systems into “waters of the state” such as rivers, lakes and streams, as long as we implement programs to reduce pollutants in stormwater to the “maximum extent possible” by conducting programs and activities in the following program areas:

- Public Education and Outreach
- Public Involvement
- Illicit Discharge Detection and Elimination
- Construction and Post-construction runoff controls
- Pollution Prevention and Municipal Operations and Maintenance
- Monitoring

1.3 The Western Washington Phase II Municipal Stormwater Permit (Continued)

The SWMP must be prepared and submitted annually and must contain the planned actions and activities that will be used in the following year to gain compliance with the permit. In addition, the Permit requires the City to submit an Annual Compliance Report by March 31st of each year that details actions taken in the previous year to achieve compliance. The full text of the Permit is available at: <http://www.ecy.wa.gov/programs/wq/stormwater/municipal/phasellww/wwphiiipermmit.html> or can be viewed upon request by contacting the City of Kirkland at (425) 587-3850.

1.4 Implementation Timing

The original Permit was valid for 5 years, from February 17, 2007 to February 15, 2012, and allowed for phased implementation of stormwater management programs and actions. Table 1 provides an overall of schedule and due dates.

In 2012, Ecology extended the existing Permit to July 31, 2013 with no new permit conditions, and issued a new 5-year NPDES Permit (2013-2018) that will take effect August 1, 2013. Kirkland continues to be in position to meet deadlines and maintain Permit compliance.

1.5 Current and Planned Activities

Each of sections 2 through 7 describes permit requirements, current activities, and planned activities for a specific piece of the SWMP.

Although the focus of the SWMP document is on identifying upcoming deadlines and required actions to meet those deadlines, it should be noted that the bulk of on-going compliance activities are noted and discussed in the "current activities" section. Now that we are near the end of the permit cycle, all deadlines have been met and programs have been fully implemented. For this reason, a greater number of items appear in the "current activities" section, while fewer items appear in the "planned activities" section.

1.6 City Coordination and Responsibilities

Compliance with the Permit will require coordination and documentation of activities in several City departments. The Public Works Department Surface Water Utility staff will coordinate City efforts, and will meet with staff from other departments regularly to insure that on-going and planned activities meet Permit requirements. It is anticipated that activities required for Permit compliance will be carried out largely by the Public Works, Information Technology, Planning, Parks, City Manager's Office (City Attorney), and Finance departments. The Fire/Building and Police departments will be involved to a lesser extent.

1.7 The Surface Water Management Utility – Other Activities

This SWMP details activities that are planned and that fall under the purview of the Permit. Stormwater management is one part of the City's overall surface water management strategy. The Surface Water Utility conducts a suite of programs that reduce flooding, protect and improve water quality, and protect and restore aquatic habitat in the City's streams and lakes. Although not directly required, flood reduction and aquatic habitat restoration efforts can often further stormwater management goals. For details on Surface Water Utility activities not addressed in this SWMP, see the City website at http://www.kirklandwa.gov/depart/Public_Works/Storm_Surface_Water.htm or contact the Public Works Department at (425) 587-3800.

1.8 The Permit as Document Map

The remainder of this document details the required elements of the SWMP as noted in Condition S5C of the Permit, and notes current and planned compliance activities. The subsection of Condition S5C associated with each section is noted in parentheses in the section on Permit Requirements.

2. Public Education and Outreach

2.1 Permit Requirements

The Permit (Section 55C.1) requires the City to provide a stormwater education and outreach program that will:

- Prioritize and address the target audiences and subject areas listed in the Permit based on stormwater issues and practices currently existing in Kirkland.
- Develop education and outreach programs that are designed to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.
- Measure changes in the understanding and adoption of behaviors by the target audience, and use that information to evaluate past programs, and to direct future programs.
- Maintain records of public education and outreach activities.
- Summarize activities in the Annual Report.

2.2 Current Activities

The City currently has activities and programs that meet the Permit requirements. Table 2.1 lists target audiences and behaviors that are currently being addressed by education and outreach programs.

Table 2.1 Current Education and Outreach Programs and Activities

Item	Target Audience	Goal and/or Behaviors Promoted
Car Wash Kits and Charity Car Wash Monitoring	General Public (Fundraising Groups)	Proper discharge of wastewater into the sanitary sewer
Storm Drain Stenciling	General Public	Awareness, prevention of discharge of non-stormwater materials into the stormwater system
Natural Yard Care Neighbors Program	Homeowners	Reduce or eliminate use of herbicides and pesticides, reduce water usage, develop healthy soil
Newspaper inserts and newsletters	General Public, Homeowners	General awareness of stormwater impacts and issues
Elementary schools workshops program	General Public	General awareness of stormwater impacts and issues
Business license issuance/renewal information on best management practices	Businesses, Property Managers	Use of management practices that prevent discharge of pollutants into the stormwater system
Hazardous waste management/reduction	Businesses	Reduce waste creation, and dispose properly of hazardous waste that is created
Private drainage system inspection and technical assistance	Property Managers	Reduce discharge of sediment and uncontrolled high flows into the public stormwater system
Developers Forum	Engineers, Contractors, Developers, Review Staff, Land Use Planners	Increase awareness of technical standards for stormwater site and erosion control plans, Low Impact Development (LID) techniques and tools
Booths and displays at various special and on-going events	General Public	Raise awareness of stormwater impacts and ways that citizens can reduce these impacts

Source control technical assistance	Businesses	Work with businesses to develop practical methods of reducing or eliminating discharge of non-stormwater materials into the stormwater system
Pet Waste Outreach	General Public (Dog Owners & Walkers)	Proper disposal of pet waste
Volunteer Stewardship Projects	General Public	Raise awareness of the importance of stream buffers & ways that citizens can help improve them
Low Impact Development	Residents, Developers	Provide education and incentives for property owners to construct rain gardens on their property, and to include rain gardens in their project designs.

In addition, the City participates with several other local jurisdictions in the Natural Yard Care Neighborhoods Program, and has conducted a survey of Kirkland participants in these workshops to determine their effectiveness at changing yard care behaviors and specifically pesticide use.

Kirkland has also been an active participant in the STORM (Stormwater Outreach for Regional Municipalities) Group to help identify appropriate program evaluation techniques.

The City tracks education and outreach efforts, and informally evaluates costs vs. benefits.

2.3 Planned Activities

The end of the Permit term was extended from February 2012 to August 2013 during the 2011 state legislative session in order to provide fiscal relief to municipalities during the current economic downturn. Municipalities are required to continue full implementation of current Permit requirements in 2013.

Activities planned for continued compliance are shown in Table 2.2.

Table 2.2 Education and Outreach Work Plan for 2013

Item ID	Item Title	Additional Departments Involved	Schedule Notes
EDUC-1	Continue to refine and implement public education outreach activities and programs	none	On-going
EDUC-2	Summarize annual activities for "Public Education and Outreach" portion of Annual report; update SWMP as needed	none	The SWMP and Annual Compliance Report submittal is due on or before March 31 of each year

3. Public Involvement and Participation

3.1 Permit Requirements

The Permit requires the City to :

- Create opportunities for public involvement through advisory councils, watershed committees, participation in developing rate-structures, stewardship programs and environmental activities of other similar activities. At a minimum, the public must be able to participate in the decision-making processes involving the development, implementation and update of the SWMP.
- Make the SWMP and Annual Compliance Report available to the public, including posting on the City's website.
- Summarize activities for the Annual Compliance Report.

3.2 Current Activities

The City currently has activities and programs that meet the Permit requirements. Such activities include:

- Posting of the draft SWMP on the City's website along with an invitation to the public to submit comments on the document. The public was also invited to comment on the City's overall Surface Water Management Program (which encompasses the SWMP) through the 2013-2014 budget process.
- The City plans to post the final SWMP and Annual Compliance Report on the City website.

3.3 Planned Activities

The end of the Permit term was extended from February 2012 to July 2013 during the 2011 state legislative session in order to provide fiscal relief to municipalities during the current economic downturn. Municipalities are required to continue full implementation of current Permit requirements in 2013.

Activities planned for continued compliance are shown in the Table 3.1.

Table 3.1 Public Involvement Work Plan for 2013

Item ID	Item Title	Additional Departments Involved	Schedule Notes
PUB-1	Conduct public involvement process for 2013 SWMP	City Manager's Office	To be complete by March 31, 2013
PUB-2	Post SWMP and Annual Report on City website	Information Technology	To be complete by March 31, 2013
PUB-3	Refine public involvement process for overall stormwater management program	City Manager's Office	On-going
PUB-4	Summarize annual activities for "Public Education and Outreach" portion of Annual Compliance Report; update SWMP as needed	none	The SWMP and Annual Compliance Report submittal is due on or before March 31st of each year

4. Illicit Discharge Detection and Elimination

4.1 Permit Requirements

The Permit (Section S5C.3) requires that the City:

- Develop an ongoing program to detect and remove illicit connections, discharges, and improper disposal including spills into the municipal stormwater system.
- Develop a municipal storm sewer map that includes attributes of stormwater system outfalls and notes receiving waters.
- Develop and implement an ordinance to prohibit non-stormwater discharges and dumping into the stormwater system.
- Publicly list and publicize a hotline or other local telephone number for public reporting of spills and other illicit discharges. Track reports of discharges and actions taken to address the reported problem.
- Provide training for municipal field staff on the identification and reporting of illicit discharges into the stormwater system.
- Conduct process to identify and prioritize areas likely to have illicit discharges. Such a process could include evaluating land uses and associated business/industrial areas, noting areas where complaints have been registered in the past, and identifying areas where large quantities of materials are stored that could result in spills.
- Conduct visual inspection of at least three high-priority water bodies by February 17, 2011, and then conduct visual inspection of at least on high-priority water body each year thereafter.
- Adopt and implement procedures for program evaluation and assessment.
- Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.
- Summarize activities for the Annual Compliance Report.

4.2 Current Activities

The City currently conducts activities that meet the Permit requirements. Current illicit discharge detection and elimination (IDDE) activities that are part of Permit compliance include:

- Maps and an associated GIS database have been created for the municipal separate stormwater system. Mapping of the private stormwater system continues. Standard procedures are in place for maintaining the GIS database to document new connections, changes/alterations to existing system, and changes based on field verification. Drainage areas and land use have been identified for outfalls 24" or greater in size. Maps are available to Ecology and to co-permittees and secondary permittees upon request in electronic format.
- Kirkland Municipal Code Chapter 15.52 prohibits illicit discharges, and provides for progressive enforcement actions and penalties. Code was updated in 2009 to meet Permit requirements.
- The city has taken steps to identify and eliminate illicit discharges including the following:
 - Completed the study *Stormwater Pollutant Hot Spots Assessment for the City of Kirkland* (Parametrix, January, 2008) that identifies potential pollutant sources based on land use, traffic volumes and other data and makes recommendations for addressing potential hot spots.
 - Field assessment and screening of outfalls was completed for three high-priority water bodies by 2/15/2011, and was completed for 1 additional high-priority water body in 2012.
 - Water quality complaints and reports of spills or dumping are investigated on average within 7 days of receipt and are resolved by referring the call to the appropriate party and/or by tracing pollutant sources and working with the responsible party or property owner to remove the source of the discharge.

- A phone number 425-587-3800 (the public works front counter) is publicly listed for public reporting of spills and other illicit discharges, and is publicized as a reporting hotline. Records are kept of calls received, and actions taken as a result of these calls.
- The City has programs to educate businesses, and the general public about the hazards associated with improper disposal of waste through the King County Local Hazardous Waste Management Program, source control visits to businesses by City staff, and general awareness campaigns. Public feedback is tracked and compiled each year.
- Source control visits to businesses are on-going.

4.3 Planned Activities

The end of the Permit term was extended from February 2012 to July 2013 during the 2011 state legislative session in order to provide fiscal relief to municipalities during the current economic downturn. Municipalities are required to continue full implementation of current Permit requirements in 2013.

Activities planned for continued compliance are shown in Table 4.1.

Table 4.1 Illicit Discharge Detection and Elimination Work Plan for 2013

Item ID	Item Title	Additional Departments Involved	Schedule Notes
IDDE-1	Continue to implement and refine the IDDE program	Police, Fire/Building, City Manager's Office	On-going
IDDE-2	Conduct field assessment of one high-priority water body(outfall screening)	none	To be completed each year
IDDE-3	Summarize annual activities for "Illicit Discharge Detection and Elimination" portion of Annual Compliance Report; update SWMP as needed	none	The SWMP and Annual Compliance Report submittal is due on or before March 31st of each year

5. Controlling Runoff from New Development, Redevelopment and Construction Sites

5.1 Permit Requirements

The Permit requires that Kirkland develop, implement and enforce a program to reduce pollutants in stormwater runoff from new development, redevelopment, and construction site activities. This program must include:

- Adopt an ordinance that addresses runoff from new development, redevelopment and construction sites.
- Adopt minimum stormwater design standards that are equivalent to the minimum technical requirements in Appendix 1 of the permit (i.e 2005 Ecology Stormwater Management Manual for Western Washington, equivalent Phase I Manual or one of the Manual options with a Kirkland-specific basin-planning overlay).
- Implement a program (permitting process) to review plans, inspect sites during construction, and to take enforcement action against those failing to follow approved guidelines or to provide facilities as required during plan review.
- Adopt codes and standards and develop practices to allow for non-structural preventative actions and source reduction practices such as Low Impact Development Techniques (LID) that use amended or native soils and vegetation to minimize runoff and remove pollutants from stormwater.
- Adopt an ordinance, maintenance standards, inspection procedures, and enforcement provisions to verify long-term operation and maintenance of permanent stormwater control facilities constructed after the effective date of the Permit.
- Provide for training staff on new/revised regulations, standards, processes and procedures.
- Provide training and outreach to the public including engineers and developers on the new codes, processes and procedures.
- Develop a process for centralized recordkeeping of activities associated with regulation of new development, redevelopment, and construction sites as required in the Permit.
- Summarize activities for the Annual Report.

5.2 Current Activities

- Kirkland currently has a program that meets Permit requirements. Current activities associated with controlling runoff from new development, redevelopment, and construction sites associated with Permit compliance include:
- The Kirkland Municipal Code Chapter 15.52 was amended in 2009 to meet Permit requirements. Effective January 1, 2010, Kirkland adopted the 2009 King County Surface Water Design Manual, which has been deemed equivalent to the 2005 Ecology Stormwater Manual. The 2009 King County Surface Water Design Manual allows for use of LID practices and facilities.
- The City implements a program to review plans, inspect sites during construction, and to take enforcement action against those failing to follow approved guidelines or to provide facilities as required during plan review.
- The City maintains records of review, inspection, and enforcement actions by staff.
- Kirkland makes copies of the Notice of Intent for Construction Activity and Notice of Intent for Industrial Activity available to the applicants for development permits.
- Staff continue to increase their knowledge by attending trainings on erosion control, LID techniques, and stormwater design models, standards and practices.
- Outreach to the development community and the public is on-going to insure that they are adequately aware of both Kirkland requirements and LID requirements/opportunities.
- The City inspects post-construction stormwater facilities to meet Permit requirements.
- The program is continuously being reviewed and refined to ensure consistent application of regulations and to create appropriate documentation.
- The City developed a summary of LID barriers and a report on LID practices and submitted these documents with the 2010 Annual Compliance Report.

5.3 Planned Activities

The end of the Permit term was extended from February 2012 to July 2013 during the 2011 state legislative session in order to provide fiscal relief to municipalities during the current economic downturn. Municipalities are required to continue full implementation of current Permit requirements in 2013.

Activities planned for continued compliance are shown in Table 5.1.

Table 5.1 Controlling Runoff from New Development, Redevelopment and Construction Sites Work Plan for 2013

Item ID	Item Title	Additional Departments Involved	Schedule Notes
CTRL-1	Continue to refine and implement program for Controlling Runoff from New Development, Redevelopment and Construction Sites	none	On-going
CTRL-2	Summarize annual activities for "Controlling Runoff from New Development, Redevelopment and Construction Sites" portion of Annual Compliance Report; update SWMP as needed	none	The SWMP and Annual Compliance Report submittal is due on or before March 31st of each year

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6. Pollution Prevention and Operation and Maintenance for Municipal Operations

6.1 Permit Requirements

The Permit (Section 55C.5) requires the City to:

- Develop and implement a municipal operations and maintenance program that has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.
- Adopt maintenance standards that are as protective as those noted in the *2005 Stormwater Management Manual for Western Washington*.
- Perform inspection of municipally owned and operated water quality treatment and flow control facilities and catch-basins at frequency required in the Permit.
- Establish and implement practices to reduce stormwater impacts associated with maintenance operations for streets, parking lots, roads or highways owned or maintained by the City.
- Establish and implement policies to reduce pollutants in runoff from all lands owned or maintained by the City.
- Develop and provide training to assist staff in implementing practices and policies to reduce pollutants in runoff from maintenance operations.
- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage yards, and material storage facilities owned or operated by the City.

6.2 Current Activities

Kirkland currently has programs that meet Permit requirements including the following:

- The City Operations and Maintenance (O&M) Program takes steps to minimize pollutants in runoff from City activities as noted in the *ESA Regional Road Maintenance Program Guidelines*, which are being used though they have not been formally adopted.
- The 2009 King County Surface Water Design Manual was adopted in 2009, and includes maintenance standards for stormwater facilities.
- Water quality treatment and flow control facilities are inspected, and are cleaned and repaired to meet Permit requirements.
- Catch-basins are inspected and cleaned at a rate that will meet Permit requirements.
- O&M staff have attended training associated with pollutant reduction.
- A Stormwater Pollution Prevention Plan (SWPPP) has been developed and implemented for City Maintenance Facilities that qualify as "heavy equipment maintenance or storage yards, and materials storage facilities."
- The Parks Department and Public Works Departments use Integrated Pest Management and other techniques to minimize pollutant discharge from landscaped areas on City properties.
- The City has a list of all publicly-owned properties for use in evaluating potential for and reducing pollutant runoff.
- Through the Developer's Forum and associated listserv, Kirkland provides information and updates on proposed changes to design requirements, and discussion and information concerning Low Impact Development techniques.

6.3 Planned Activities

The end of the Permit term was extended from February 2012 to July 2013 during the 2011 state legislative session in order to provide fiscal relief to municipalities during the current economic downturn. Municipalities are required to continue full implementation of current Permit requirements in 2013.

Activities planned for continued compliance are shown in Table 6.1.

Table 6.1 Pollution Prevention and Operation and Maintenance for Municipal Operations Work Plan for 2013

Item ID	Item Title	Additional Departments Involved	Schedule Notes
MUNI-1	Continue to refine and implement Pollution Prevention and Operation and Maintenance activities and programs	none	On-going
MUNI-2	Summarize annual activities for "Pollution Prevention and Operation and Maintenance for Municipal Operations" portion of Annual report; update SWMP as needed		The SWMP and Annual Compliance Report submittal is due by March 31st of each year

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7. Monitoring

7.1 Permit Requirements

The Permit (Section S8) requires jurisdictions to prepare for future comprehensive long-term monitoring of both stormwater and of Stormwater Management Program (SWMP) Effectiveness. Stormwater monitoring is intended to characterize stormwater runoff quantity and quality at a limited number of locations in a manner that allows analysis of loadings and changes in conditions over time and generalization across the permittees' jurisdictions. SWMP effectiveness monitoring is intended to improve stormwater management efforts by evaluating issues that significantly affect the success of, or confidence in, stormwater controls. Monitoring is not technically part of the SWMP, but is required by the Permit. Specifically, Kirkland must prepare for monitoring by doing the following:

- Identify two outfalls (representing commercial and high-density residential land uses) where permanent stormwater sampling stations could be established.
 - Document why these stormwater sampling sites were selected; possible site constraints for installation of an access to monitoring equipment; a brief description of the contributing drainage basin including size in acreage, dominant land use, and other contributing land uses; any water quality concerns in the receiving water of each selected outfall or conveyance.
- Identify two suitable questions concerning SWMP effectiveness and select sites where monitoring to answer these questions will be conducted. The questions shall be designed to answer 1) how effective is a targeted action or narrow suite of actions? and 2) Is the SWMP achieving a targeted environmental outcome? Develop a monitoring plan for each question.

Kirkland is required to provide information in the Annual Report concerning the following:

- Any stormwater monitoring or studies conducted by the City during the reporting period.
- An assessment of the appropriateness of the best management practices identified by the City for components of the Stormwater Management Program and any changes that are made or are anticipated to be made to the practices that were previously selected to implement the Program and why those changes are desirable.

7.2 Current Activities

Kirkland currently has activities and programs that meet the Permit requirements. The current compliance activities associated with the above include:

- The City participates in regional and state monitoring forums to develop feasible and effective future monitoring requirements as an alternative to those proposed in the current Permit.
- Identified two outfalls (representing commercial and high-density residential land uses) where permanent stormwater sampling stations could be established.
- Identified two questions regarding SWMP effectiveness and site where monitoring can be conducted and develop a monitoring plans for the questions.
- A report detailing why the two stormwater sampling outfalls were selected; possible site constraints for installation of an access to monitoring equipment; a brief description of the contributing drainage basin including size in acreage, dominant land use, and other contributing land uses; any water quality concerns in the receiving water of each selected outfall or conveyance was submitted along with the 2011 Annual Compliance Report.
- A report detailing the identified SWMP effectiveness questions and where monitoring can be conducted was submitted along with the 2011 Annual Compliance Report.

7.3 Planned Activities

The end of the Permit term was extended from February 2012 to July 2013 during the 2011 state legislative session in order to provide fiscal relief to municipalities during the current economic downturn. Municipalities are required to continue full implementation of current Permit requirements in 2013.

Activities planned for continued compliance are shown in Table 7.1.

Table 7.1
Monitoring Work Plan for 2013

Item ID	Item Title	Additional Departments Involved	Schedule Notes
MNTR-1	Continue to implement and refine Monitoring activities and programs	none	On-going
MNTR-2	Summarize annual activities for "Monitoring" portion of Annual Compliance Report; update SWMP as needed	none	The SWMP and Annual Compliance Report submittal is due on or before March 31st of each year

Appendix A

Public Comment: