

Surface Water Management Program (SWMP)



**By
City of Bothell**

**City of Bothell
18305 101st Avenue NE
Bothell, WA 98011
Version 2008-3.0**



City of Bothell™

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Table of Content

Introduction	1
Public Education and Outreach Program	4
Public Involvement and Participation	6
Illicit Discharge Detection and Elimination	7
Controlling Runoff from New Development, Redevelopment and Construction Sites	12
Pollution Prevention and Operation and Maintenance for Municipal Operations	17
Compliance with Total Maximum Daily Load Requirements (TMDL)	21
Monitoring	22
Reporting Requirements	26

Introduction

The National Pollutant Discharge Elimination System (NPDES) permit program is a requirement of the federal Clean Water Act, which is intended to protect and restore waters. The federal Environmental Protection Agency (EPA) has delegated permit authority to state environmental agencies. In Washington, the NPDES-delegated permit authority is the Washington State Department of Ecology (Ecology). The City must comply with the Phase II Municipal Stormwater Permit.

The Permit allows discharge of stormwater runoff from municipal drainage systems into the State's waterbodies (i.e., streams, rivers, lakes, wetlands, etc.) as long as municipalities implement programs to protect water quality by reducing the discharge of "non-point source" pollutants to the "maximum extent practicable" (MEP) through application of Permit-specified "best management practices" (BMPs). The practices specified in the Permit are collectively referred to as the Stormwater Management Program (SWMP) and grouped under the following Program components:

1. Public Education and Outreach
2. Public Involvement
3. Illicit Discharge Detection and Elimination
4. Runoff Controls
5. Pollution Prevention and Municipal Operations and Maintenance
6. Monitoring

The Permit requires the City to report annually (March 31st of each year) on progress in Program implementation for the prior year. The Permit also requires submittal of documentation that describes proposed program activities for the coming year. Implementation of various Permit conditions is phased throughout the five-year Permit term from February 16, 2007 through February 15, 2012. The Permit will be revised and reissued at the end of this period. As of December 31st, 2008 the City meets the initial Permit requirements.

This report is the City's Stormwater Management Program compliance document. The remainder of this 2008 SWMP document describes actions Bothell will take to maintain compliance over the third year of the Permit term for 2009.

Additional Permit information is located on Ecology's website:

http://www.ecy.wa.gov/programs/wq/stormwater/municipal/phase_II_ww/ww_ph_ii-permit.html.

1. Bothell's Public Education and Outreach Program

Per Permit Section S5.C.1:

"The SWMP shall include an education program aimed at residents, businesses, industries, elected officials, policy makers, planning staff and other employees of the Permittee."

Many stormwater issues are caused by the everyday actions of people that live in or visit the affected watersheds. While difficult, changing behavior patterns is a cost-effective programmatic solution to surface water problems. Imperative to these education programs is establishing public knowledge between human activities and the health of the surrounding watershed.

The City of Bothell's NPDES Phase II SWMP includes education programs aimed at:

- Residents
- Businesses and industries
- Elected officials and policy makers
- Planning staff and other employees of the City

The goal of the education program is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. An education program has been developed locally with input from regional organizations such as the STORM group, and from local Phase I Permittees such as Snohomish County, for the area served by the MS4.

The outreach program is designed to achieve measurable improvements in the target audience's understanding of the problem and how they can be part of its solution. The City of Bothell is also collaborating regionally to prioritize education and outreach efforts for the following subject areas:

1) General public

- General impacts of stormwater flows into surface waters.
- Impacts from impervious surfaces.
- Source control BMPs and environmental stewardship actions and opportunities in the areas of pet waste, vehicle maintenance, landscaping and buffers.

- 2) General public, businesses, including home-based and mobile businesses
 - BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials.
 - Impacts of illicit discharges and how to properly report them.
- 3) Homeowners, landscapers and property managers
 - Yard care techniques protective of water quality.
 - BMPs for use and storage of pesticides and fertilizers.
 - BMPs for carpet cleaning and auto repair and maintenance.
 - Low Impact Development techniques including site design, pervious paving, and retention of forests and mature trees.
 - Stormwater pond maintenance.
- 4) Engineers, contractors, developers, review staff and land use planners
 - Technical standards for stormwater site and erosion control plans.
 - Low Impact Development techniques including site design, pervious paving, and retention of forests and mature trees.
 - Stormwater treatment and flow control BMPs.

In order to effectively measure the adoption of specific target behaviors, the City will be following a standard procedure for disseminating knowledge and affecting change:

1. Research and Program Development
2. Information
3. Education
4. Technical Assistance
5. Program Evaluation
6. Monitoring

Within selected areas, studies were conducted to establish initial knowledge of certain BMPs and to discover the best ways to reach the target audiences. The results are being compared with significant findings from local surrounding municipalities and have been used to focus education and outreach resources most effectively, as well as to evaluate changes in adoption of the targeted behaviors.

The City's Surface Water Management Program is tracking outreach efforts as well as maintaining records of current public education and outreach activities.

2. Bothell's Public Involvement and Participation

Per Permit Section S5.C.2:

"The SWMP shall include ongoing opportunities for public involvement through advisory councils, watershed committees, participation in developing rate-structures, stewardship programs, environmental activities or other similar activities."

Citizens from City of Bothell shall be encouraged to participate in the development of this NPDES Phase II Stormwater Management Program. The results shall be used to most accurately assess watershed conditions and problems, and to address local needs and expectations. City of Bothell has established a website:

<http://www.ci.bothell.wa.us/dept/pw/StormSurface/index.html>

The website is being used for the dissemination of pertinent information regarding public workshops, volunteer involvement, and public hearings regarding the

affected watersheds to allow for the most direct involvement and communication to the local communities. The City shall continue its collection and retention of information received from participants at these forums and will incorporate them when and where appropriate.

Public involvement can promote awareness of and foster a sense of responsibility for the health of the affected watersheds. The City of Bothell's NPDES Phase II SWMP shall include ongoing opportunities for public involvement and may include but not limited to advisory councils, watershed committees, participation in developing rate-structures, stewardship programs, environmental activities, or other similar activities. The City shall comply with applicable State and local public notice requirements when developing its SWMP.

The minimum performance measures are:

- No later than February 16, 2008 the City shall create opportunities for the public to participate in the decision-making processes involving the development, implementation, and update of the City's NPDES Phase II SWMP. The City will develop and implement

a process for consideration of public comments. To date, the City allows public comment on this document via the City's web page.

The City shall make its NPDES Phase II SWMP, the annual report required under S9.A and all other submittals required by this Permit, available to the public. The annual report and SWMP shall be posted on the City's Surface Water Program website.

3. Illicit Discharge Detection and Elimination

Per Permit section S5.C.3:

"The SWMP shall include ongoing program to detect and remove illicit connections, discharges as defined in 40 CFR 122.26(b)(2), and improper disposal, including any spills not under the purview of another responding authority, into the municipal separate storm sewers owned or operated by the Permittee."

Illicit discharge detection and elimination (IDDE) is an NPDES Phase II Permit requirement. The permit requires the City to have an ongoing program to detect, remove, and prevent illicit connections, discharges, and improper disposal, including spills, into the municipal surface and storm water system. The permit requires full implementation of an IDDE Program by September 2011.

The following key components shall be included in the City's IDDE program.

- 1) Baseline Drainage System Inventory:
 - Stormwater drainage facilities include the stormwater conveyance system (i.e., stormwater pipes, ditches, catch basins, and other structures) and retention/detention facilities. The City of Bothell has an incomplete inventory map of the drainage systems. The inventory shall be updated and kept current by the City upon completion of this NPDES Phase II Stormwater Management Program.
 - Developers shall submit mapping information detailing new construction as it occurs. The City shall integrate this information

into a digital Geographic Information System (GIS) and database by February 2011.

2) Ordinances for IDD&E:

In accordance with (section S5.C.3.b) by 8-16-2009, the City of Bothell shall develop and implement an ordinance to prohibit non-stormwater or other illegal or illicit discharges to the City's surface and storm water and develop enforcement provisions for the ordinance. The City shall have the program fully implemented by August 16, 2011.

- The ordinance shall not need to prohibit the following categories of non-stormwater discharges:
 - Diverted stream flows.
 - Rising ground waters.
 - Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)).
 - Uncontaminated pumped ground water.
 - Foundation drains.
 - Air conditioning condensation.
 - Irrigation water from agricultural sources that is commingled with urban stormwater.
 - Springs.
 - Water from crawl space pumps.
 - Footing drains.
 - Flows from riparian habitats and wetlands.
 - Non-stormwater discharges covered by another NPDES permit.
 - Discharges from emergency fire fighting activities in accordance with S2 Authorized Discharges.

- The ordinance shall prohibit the following categories of non-stormwater discharges unless the stated conditions are met:
 - Discharges from potable water sources, including water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted, if necessary, and volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4.
 - Discharges from lawn watering and other irrigation runoff. These shall be minimized through, at a minimum, public education activities (see section S5.C.1) and water conservation efforts.

- Dechlorinated swimming pool and spa discharges. The discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted and reoxygenized if necessary, volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.
- Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents. The City will reduce these discharges through, at a minimum, public education activities (see section S5.C.1.) and/or water conservation efforts. To avoid washing pollutants into the MS4, Permittees must minimize the amount of street wash and dust control water used. At active construction sites, street sweeping must be performed prior to washing the street.
- Other non-stormwater discharges. The discharges shall be in compliance with the requirements of the stormwater pollution prevention plan reviewed by the Permittee, which addresses control of construction site de-watering discharges.

The City of Bothell shall further address any category of discharges than those listed above if the discharges are identified as significant sources of pollutants to waters of the State.

- The ordinance shall include escalating enforcement procedures and actions. The City shall develop an enforcement strategy to implement the enforcement provisions of the ordinance.

3) An Illicit Discharge Detection Program

- Procedures for locating priority areas to detect illicit discharges will at a minimum include:

- An ongoing program to detect and address non-stormwater discharges, spills, illicit connections and illegal dumping into the City's storm drainage system.
- Land uses and associated business/industrial activities present
- Areas where complaints have been registered in the past
- Areas with storage of large quantities of materials that could result in spills.

- Field assessment activities, shall include:

- Visual inspection of priority outfalls identified above, during dry weather and for the purposes of verifying outfall locations,
- identify previously unknown outfalls,

- and detecting illicit discharges.

The City shall by February 16, 2010 visually prioritize receiving waters. Field assessments of three high priority water bodies will be done no later than February 16, 2011. Field assessments on at least one high priority water body will be done each year thereafter.

The screening for illicit connections will be conducted using the “Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments, Center for Watershed Protection, October 2004” or another methodology of comparable effectiveness.

The City shall develop procedures for characterizing the nature of, and potential public or environmental threat posed by, any illicit discharges found by or reported to the City. Procedures will include detailed instructions for evaluating whether the discharge must be immediately contained and steps to be taken for containment of the discharge. Compliance with this provision will be achieved by investigating (or referring to the appropriate agency) within 7 days, on average, any complaints, reports or monitoring information that indicate a potential illicit discharge, spill, or illegal dumping. Immediately investigating (or referring) problems and violations determined to be emergencies or otherwise judged to be urgent or severe.

- Procedures for tracing the source of an illicit discharge include:
 - Visual inspections
 - When necessary opening manholes
 - Using mobile cameras
 - Collecting and analyzing water samples
 - Other site specific inspection procedures
- Procedures for removing the source of the discharge include:
 - Notification of appropriate authorities
 - Notification of the property owner
 - Technical assistance for eliminating the discharge
 - Follow-up inspections
 - Escalating enforcement and legal actions, if the discharge is not eliminated.

Compliance with this provision shall be achieved by initiating an investigation within 21 days of a report or discovery of a suspected illicit connection to determine the source of the connection, the nature and the

volume of discharge through the connection, and the party responsible for the connection. Upon confirmation of the illicit nature of a storm drain connection, termination of the connection shall be verified within 180 days, using enforcement authority as needed.

- The City shall inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste, and do the following:
 - No later than February 16, 2011, distribute appropriate information to target audiences identified.
 - No later February 16, 2009, the City shall publicly list and publicize a hotline or other local telephone number for public reporting of spills and other illicit discharges.
 - No later August 19, 2011 keep records of calls received and follow-up actions taken.
 - Include a summary in the annual report (in accordance with section S9 Reporting and Recordkeeping Requirements).

4) An IDDE Program Evaluation and Assessment

- No Later than August 19, 2011 the City will develop and implement procedures for program evaluation and assessment, including:
 - Tracking the number and type of spills or illicit discharges identified.
 - Inspections made.
 - Feedback received from public education efforts.
 - Include a summary in the annual report (in accordance with section S9 Reporting and Recordkeeping Requirements).

5) Training Staff

- The City shall provide appropriate training for municipal field staff on the identification and reporting of illicit discharges into MS4s.
 - No later than August 16, 2009, the City will ensure that all municipal field staff who are responsible for identification, investigation, termination, cleanup, and reporting illicit discharges, including spills, improper disposal and illicit connections are trained to conduct these activities.
 - Follow-up training shall be provided as needed to address changes in procedures, techniques or requirements. The City

shall document and maintain records of the training provided and the staff trained.

- No later than February 16, 2010 an ongoing training program shall be developed and implemented for all municipal field staff, which, as part of their normal job responsibilities, might come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system shall be trained on the identification of an illicit discharge/connection, and on the proper procedures for reporting and responding to the illicit discharge/connection.
- Follow-up training shall be provided as needed to address changes in procedures, techniques or requirements.
- The City shall document and maintain records of the training provided and the staff trained.

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

Per section S5.C.4:

“Each Permittee shall develop, implement, and enforce a program to reduce pollutants in stormwater runoff to a regulated MS4 from new development, redevelopment, and construction site activities.”

The City of Bothell shall develop, implement, and enforce a program to reduce pollutants in stormwater runoff to regulated small MS4's from new development, redevelopment, and construction site activities. This program will be applicable to all sites that disturb a land area 1 acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale. The program

shall apply to private and public development, including roads. The “Technical Thresholds” in accordance with Appendix 1 shall be applied to all sites 1 acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale.

- The minimum performance measures are:
 - The program shall include an ordinance that addresses runoff from new development, redevelopment, and construction site projects. In accordance with permit section S5.A.2, in adopting this ordinance, existing local requirements to apply stormwater

controls at smaller sites, or at lower thresholds than required pursuant to S5.C.4, will be retained.

- The ordinance shall be in place no later August 16, 2009. The ordinance shall include:
 - The Minimum Requirements, technical thresholds, and definitions in Appendix 1 or an equivalent approved by Ecology under the NPDES Phase II Municipal Stormwater Permit, for new development, redevelopment, and construction sites. Adjustment and variance criteria equivalent to those in Appendix 1 shall be included. More stringent requirements may be used, and/or certain requirements may be tailored to local circumstances through the use of basin plans or other similar water quality and quantity planning efforts. Such local requirements shall provide equal protection of receiving waters and equal levels of pollutant control to those provided in Appendix 1.
 - A site planning process and BMP selection and design criteria that, when used to implement the minimum requirements in Appendix 1 (or equivalent approved by Ecology under the Phase I Permit) will protect water quality, reduce the discharge of pollutants to the maximum extent practicable and satisfy the State requirement under Chapter 90.48 RCW to apply all known, available and reasonable methods of prevention, control and treatment (AKART) prior to discharge. The City shall document how the criteria and requirements shall protect water quality, reduce the discharge of pollutants to the maximum extent practicable, and satisfy State AKART requirements.
 - The City may choose to use the site planning process and BMP selection and design criteria in the 2005 *Stormwater Management Manual for Western Washington*, or an equivalent manual approved by the Department under the Phase II Permit, and may cite this as their documentation to meet this requirement.
 - The legal authority, through the approval process for new development, to inspect private stormwater facilities that discharge to the City's MS4.
 - The City may choose to allow construction sites to apply the "Erosivity Waiver" in Appendix 1, Minimum Requirement #2. The ordinance shall include appropriate, escalating enforcement sanctions for construction sites that provide notice to the City of their intention to apply the waiver but do not meet the requirements, (including timeframe restrictions, limits on activities that result in non-stormwater discharges, and

implementation of appropriate BMPs to prevent violations of water quality standards) to qualify for the waiver.

- Provisions to allow non-structural preventive actions and source reduction approaches such as Low Impact Development Techniques (LID), measures to minimize the creation of impervious surfaces and measures to minimize the disturbance of native soils and vegetation. Provisions for LID should take into account site conditions, access and long term maintenance.

In the Fitzgerald Subarea watershed the City has required the use of Low Impact Development Techniques (LID) restrictions. Land clearing activities shall comply with specific phasing, soil stabilization, tree canopy retention and seasonal

- The program shall include a permitting process with plan review, inspection and enforcement capability to meet the standards listed below, for both private and public projects, using qualified personnel. The process shall be in place no later than August 16, 2009. At a minimum, this program shall be applied to all sites that disturb a land area 1 acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale.
 - Review of all stormwater site plans for proposed development activities. Unless, the City allows the construction site(s) to apply the “Erosivity Waiver” see conditions below.
 - Inspect, prior to clearing and construction, all known development sites that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7, Identifying Construction Site Sediment Transport Potential. Unless, the City allows the construction site(s) to apply the “Erosivity Waiver” see conditions below.
 - Inspect all known permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls. Enforce as necessary based on the inspection. Unless, the City allows the construction site(s) to apply the “Erosivity Waiver” see conditions below.
 - Inspect all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater controls

such as stormwater facilities and structural BMPs. Also, verify a maintenance plan is completed and responsibility for maintenance is assigned. Enforce as necessary based on the inspection.

- Compliance with the inspection requirements above shall be determined by the presence and records of an established inspection program designed to inspect all sites and achieving at least 95% of scheduled inspections
 - An enforcement strategy shall be developed and implemented to respond to issues of non-compliance.
 - If the City chooses to allow construction sites to apply the “Erosivity Waiver” the City is not required to review the construction stormwater pollution prevention plans as part of the site plan review above, and is not required to perform the construction phase inspections identified above related to construction sites which are eligible for the “Erosivity Waiver”.
- The program shall include provisions to verify adequate long-term operation and maintenance (O&M) of post-construction stormwater facilities and BMPs that are permitted and constructed pursuant to above. These provisions shall be in place no later than August 16, 2009 and shall include:
- Adoption of an ordinance that clearly identifies the party responsible for maintenance, requires inspection of facilities in accordance with the requirements below, and establishes enforcement procedures.
 - The City will establish maintenance standards that are as protective as or more protective of facility function than those specified in Chapter 4 of Volume V of the 2005 Stormwater Management Manual for Western Washington. For facilities which do not have maintenance standards, the City will develop a maintenance standard.
 - The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facilities required condition at all times between inspections. Exceeding the maintenance standard between the period of inspections is not a permit violation.
 - Unless there are circumstances beyond the City’s control, when an inspection identifies an exceedance of the maintenance standard, maintenance shall be performed:
 - Within 1 year for wet pool facilities and retention/detention ponds.
 - Within 6 months for typical maintenance.

- Within 9 months for maintenance requiring re-vegetation, and
- Within 2 years for maintenance that requires capital construction of less than \$25,000.

Circumstances beyond the City's control include denial or delay of access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to emergency work. For each exceedance of the required timeframe, the City must document the circumstances and how they were beyond their control.

- Inspections of post construction shall include:
 - Annual inspections of all stormwater treatment and flow control facilities (other than catch basins) permitted by the City according to S5.C.4.b. unless there are maintenance records to justify a different frequency.

Reducing the inspection frequency shall be based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the City may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with signing authority granted within the NPDES Phase II permit.

Inspections of all new flow control and water quality treatment facilities, including catch basins, for new residential developments that are a part of a larger common plan of development or sale, every 6 months during the period of heaviest house construction (i.e., 1 to 2 years following subdivision approval) to identify maintenance needs and enforce compliance with maintenance standards as needed.

The program shall include a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities shall be maintained. Permittees shall keep records of all projects disturbing more than one acre, and all projects of any size that are part of a common plan of development or sale that is greater than one acre that are approved after the effective date of this Permit.

The program has made available copies of the "Notice of Intent for Construction Activity" and copies of the "Notice of Intent for Industrial

Activity" to representatives of proposed new development and redevelopment. The City shall continue to enforce local ordinances controlling runoff from sites that are also covered by stormwater permits issued by Ecology.

No later than August 16, 2009 the City shall verify that all staff responsible for implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. Follow-up training shall be provided as needed to address changes in procedures, techniques or staffing. The City shall document and maintain records of the training provided and the staff trained.

5. Pollution Prevention and Operation and Maintenance for Municipal Operations

Per Permit Section S5.C.5

By February 15, 2010: "each Permittee shall develop and implement an operations and maintenance (M&O) program that includes training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations."

By February 15, 2010 the City of Bothell shall develop and implement a Maintenance and Operations program that has a training component and the ultimate goal of preventing or reducing runoff from City of Bothell facilities.

- The minimum performance measures are:
 - The City's Maintenance & Operations Division shall establish maintenance standards that are as protective as, or more protective, of facility function than those specified in Chapter 4 of Volume V of the 2005 Stormwater Management Manual for Western Washington. For facilities which do not have

maintenance standards, the City shall develop a maintenance standard.

The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facilities required condition at all times between inspections. Exceeding the maintenance standard between inspections and/or maintenance is not a permit violation.

- Unless there are circumstances beyond the City's control, when an inspection identifies an exceedance of the maintenance standard, maintenance shall be performed:
 - Within 1 year for wet pool facilities and retention/detention ponds.
 - Within 6 months for typical maintenance.
 - Within 9 months for maintenance requiring re-vegetation.
 - Within 2 years for maintenance that requires capital construction of less than \$25,000.

Circumstances beyond the City's control include denial or delay of easement access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to emergency work. For each exceedance of the required timeframe, the City must document the circumstances and how they were beyond their control.

The City shall conduct annual inspections of all City owned or operated permanent stormwater treatment and flow control facilities, other than catch basins, and take appropriate maintenance actions in accordance with the adopted maintenance standards. The annual inspection frequency requirement may be reduced based on inspection records.

Reducing the inspection frequency shall be based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the City may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with signing authority granted within the NPDES Phase II permit.

Spot checks of potentially damaged permanent treatment and flow control facilities (other than catch basins) after major (greater than 24-hour-10-year recurrence interval rainfall) storm events. If spot checks indicate widespread damage/maintenance needs, inspect all stormwater

treatment and flow control facilities that may be affected. Conduct repairs or take appropriate maintenance action in accordance with maintenance standards established above based on the results of inspections.

Inspection of all catch basins and inlets owned or operated by the City at least once before the end of the Permit term. Clean catch basins if the inspection indicates cleaning is needed to comply with maintenance standards established in the 2005 *Stormwater Management Manual for Western Washington*. Decant water shall be disposed of in accordance with *Street Waste Disposal*.

Inspections may be conducted on a “circuit basis” whereby a sampling of catch basins and inlets within each circuit is inspected to identify maintenance needs. Include in the sampling an inspection of the catch basin immediately upstream of any system outfall. Clean all catch basins within a given circuit at one time if the inspection sampling indicates cleaning is needed to comply with maintenance standards established under S5.C.4.c.

As an alternative to inspecting catch basins on a “circuit basis,” the City may inspect all catch basins, and clean only catch basins where cleaning is needed to comply with maintenance standards.

Compliance with the inspection requirements noted above shall be determined by the presence of an established inspection program designed to inspect all sites and achieving inspection of 95% of all sites. Establishment and implementation of practices to reduce stormwater impacts associated with runoff from streets, parking lots, roads or highways owned or maintained by the City, and road maintenance activities conducted by the City.

- The following activities shall be addressed:
 - Pipe cleaning
 - Cleaning of culverts that convey stormwater in ditch systems
 - Ditch maintenance
 - Street cleaning
 - Road repair and resurfacing, including pavement grinding
 - Snow and ice control
 - Utility installation
 - Pavement striping maintenance
 - Maintaining roadside areas, including vegetation management
 - Dust control

- Establishment and implementation of policies and procedures to reduce pollutants in discharges from all lands owned or maintained by the City and subject to this Permit, include but not limited to:
 - Parks
 - Open space
 - Road right-of-way
 - Maintenance yards
 - Stormwater treatment and flow control facilities

- These policies and procedures will address, but are not limited to:
 - Application of fertilizer, pesticides, and herbicides including the development of nutrient management and integrated pest management plans
 - Sediment and erosion control
 - Trash management
 - Building exterior cleaning and maintenance
 - Landscape Management and Vegetation Disposal

The City shall develop and implement an on-going training program for employees of the City whose construction, operations or maintenance job functions may impact stormwater quality. The training program will address the importance of protecting water quality, the requirements of this Permit, operation and maintenance standards, inspection procedures, selecting appropriate BMPs, ways to perform their job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns, including potential illicit discharges. Follow-up training shall be provided as needed to address changes in procedures, techniques or requirements. The City shall document and maintain records of training provided.

The City shall develop and implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the City in areas subject to this Permit that are not required to have coverage under the Industrial Stormwater General Permit. Implementation of non-structural BMPs shall begin immediately after the pollution prevention plan is developed. A schedule for implementation of structural BMPs shall be included in the SWPPP. Generic SWPPPs that can be applied at multiple sites may be used to comply with this requirement. The SWPPP will include periodic visual observation of discharges from the facility to evaluate the effectiveness of the BMP.

Records of inspections and maintenance or repair activities conducted by the City will be maintained in accordance with the Permit requirements.

Section (6) Compliance with Total Maximum Daily Load Requirements (TMDL)

Per Permit Section S7:

“All Permittees shall be in compliance with the requirements of applicable TMDLs”

Applicable TMDLs are TMDLs which have been approved by EPA on or before February 15, 2007. Currently, City of Bothell is subject to two TMDLs. Each TMDL has individual options in which a course of required actions are outlined.

- The City has selected and been approved by WDOE the following options:

North Creek Fecal Coliform Bacteria TMDL, Strategy A (Option A).

The city submitted a Quality Assurance Program Plan (QAPP) to conduct monitoring within North Creek’s high priority tributaries. The QAPP has been reviewed by WDOE and accepted. Key provisions of the QAPP are to initiate the approved monitoring within 9-months of permit issuance. Monitoring was initiated in October 2007.

- The city shall prepare by Aug 15, 2010 a Bacteria Pollution Control Plan that will include at a minimum the following:
 - Pet Waste Ordinance
 - Evaluation of water pollution control enforcement capabilities,
 - Evaluation of critical areas ordinance in relation to TMDL goals,
 - Educational program directed at reducing bacterial pollution,
 - Investigation and implementation of methods that prevent additional stormwater bacterial pollution through stormwater treatment, reducing stormwater volumes, and preventing additional sources of stormwater in association with new development,
 - Implementation of activities in the North Creek Watershed Management Plan,
 - Ambient water quality and stormwater quality sampling to specifically indentify the most significant pollution sources, i.e.

bacterial, peak flows, physical modifications, or toxins from urban runoff.

No later than December 2010 the City shall conduct public review of the Bacterial Pollution Control Plan. The final plan will be submitted by August 15, 2011.

Swamp Creek, Fecal Coliform Bacteria TMDL, Option 2

Option 2 requires monitoring of specific jurisdictions but the city of Bothell is not required to monitor. The city will perform the other 7-items outlined in the permit appendix 2 and summarized here:

- 1) Pollution Source Control Activities: prevent non stormwater discharges.
- 2) Public Involvement: prepare a bacterial Pollution Control Plan as par of our Stormwater Management Program (see the 7-action items above)
- 3) TMDL Activity Documentation and Tracking
- 4) Public Outreach and Education on the need to prevent bacterial pollution and protect water quality.
- 5) Water Quality Monitoring: for specifics review North Creek and Swamp Creek Quality Assurance Program Plan as approved by WDOE.
- 6) Coordination of Stormwater Management Activities: where feasible coordinate with other affected cities and Snohomish County.
- 7) Illicit Discharge and Elimination: designate high priority water bodies for further assessments.

Section (7) Monitoring

Per section S8:

Permittees are not required to conduct water sampling or other testing except that: to meet TMDL requirements or sampling to characterize illicit discharge.

The City recognizes that the primary goal of NPDES Phase II permit is to “... reduce discharges of pollutants to the maximum extent practicable and to protect water quality” (NPDES Phase II permit, 2007). To determine effectiveness of SWMP in attaining the primary goal the City shall prepare to participate in the implementation of a comprehensive long-term monitoring program.

- The City is not required to conduct water sampling or other testing during the effective term of this NPDES Phase II Permit, with the following exceptions:

- Any water quality monitoring required for compliance with TMDLs, and
 - Any sampling or testing required for characterizing illicit discharges.
- The City shall provide the following information in each annual report:
- A description of any stormwater monitoring or studies conducted by the City during the reporting period. If stormwater monitoring was conducted on behalf of the City, or if studies or investigations conducted by other entities were reported to the City, a brief description of the type of information gathered or received shall be included in the annual report(s) covering the time period(s) the information was received.
 - An assessment of the appropriateness of the BMPs identified by the City for each component of the SWMP; and any changes made, or anticipated to be made, to the BMPs that were previously selected to implement the SWMP, and why.
 - Information required in-regards to future long-term monitoring.
- Preparation for future long-term monitoring shall include 3-elements:
- Stormwater,
 - SWMP effectiveness, and
 - Surface water

Stormwater Monitoring

The City shall identify sites for long-term stormwater monitoring. Adequate sites shall be those completely mapped and suitable for permanent installation and operation of flow-weighted composite sampling equipment, no later than December 31, 2010.

- Storm water monitoring shall include the following components:
- The City by December 31, 2010 shall identify two outfalls or conveyances where stormwater sampling could be conducted. One outfall or conveyance shall represent commercial land use, the second shall represent low-density residential land use and the third will represent medium-to-high density residential land use.
 - The City shall document how sites are selected and justify the basin size, based on comparison of the times of concentration

with rainfall durations for typical seasonal storms. Each site shall represent a discernible type of land use, but not be a single industrial or commercial complex. Ideally, to represent a particular land use, no less than 80% of the area served by the outfall or conveyance will be classified as having that land use. The City may move upstream in the conveyance system to achieve the desired land use, or, if a primarily industrial or commercial area is not present, an area of mixed industrial and commercial land use may be selected.

- Stormwater outfall monitoring - monitoring is intended to characterize both surface and 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 City.

SWMP effectiveness monitoring

The City will prepare to conduct monitoring to determine the effectiveness of the City's SWMP at controlling stormwater-related problems that are directly addressed by actions in the SWMP. Targeted Stormwater Management Program (SWMP) effectiveness monitoring is intended to improve stormwater management efforts by evaluating issues that significantly affect the success of, or confidence in, stormwater controls. The monitoring program can include long-term monitoring and short-term studies. The results of the monitoring program shall be used to support the adaptive management process and lead to refinements of the SWMP.

- This component of the monitoring program shall be designed to answer the following types of questions:
 - How effective is a targeted action or narrow suite of actions?
 - Is the SWMP achieving a targeted environmental outcome?

No later than December 31, 2010, the City will identify at least two suitable questions and select sites where monitoring shall be conducted. This monitoring shall include, at a minimum, plans for stormwater, sediment or receiving water monitoring of physical, chemical and/or biological characteristics. This monitoring may also include data collection and analysis of other measures of program effectiveness, problem identification and characterizing discharges for planning purposes.

- For each question, the City will develop a monitoring plan containing the following elements:

- A statement of the question, an explanation of how and why the issue is significant to the City and a discussion of whether and how the results of the monitoring may be significant to other MS4s.
- A specific hypothesis about the issue or management actions that will be tested.
- Specific parameters or attributes to be measured.
- Expected modifications to management actions depending on the outcome of hypothesis testing.

Surface Water Monitoring

The City of Bothell's Comprehensive Plan, Imagine Bothell, calls for actions of "...identification, protection, preservation/conservation, and enhancement of those natural environment features which are most sensitive to human activities and which are critical to fish and wildlife survival and proliferation.". Collection of data and observations, i.e. monitoring, is one means to determine attainment of the goal.

The City by December 31, 2010 shall develop and implement a program to monitor surface waters using targeted water quality measures to develop base line data for future trend identification.

The City shall identify a limited number of sites, approximately 8 to 12, for long-term surface water quality monitoring. These sites shall be assessed using bio-assessment methodology. The approach provides a watershed scale effectiveness monitoring tool that measures the integration of all landuse effects to receiving waters.

- The data shall be used to assess for occurrences of:
 - degraded watershed and surface water conditions and quantify levels observed,
 - document stream channel conditions, bank erosion or armoring,
 - habitat,
 - water quality,
 - macroinvertebrates, and fish populations.

- The City anticipates using the monitoring information to:
 - facilitate improved program policy and land use rules,
 - prioritize restorative actions, and
 - direct future monitoring efforts.

Monitoring program reporting requirements

- The 2011 annual report shall:
 - Describe the status of identification of sites for stormwater monitoring.
 - A summary of proposed questions for the SWMP effectiveness monitoring, and
 - describe the status of developing the surface water, stormwater and SWMP effectiveness monitoring plan, including the proposed purpose, design, and methods.

To comply with the requirements of all or part(s) of this section, City may choose to submit a collaborative report or reports with other adjoining jurisdictional entities in lieu of separate reports.

Section (8) Reporting Requirements

Per Permit Section S9

“No later than March 31st of each year beginning in 2008, each Permittee shall submit an annual report”.

No later than March 31 of each year beginning in 2008, The City shall submit an annual report. The reporting period for the first annual report shall be from the effective date of this permit through December 31, 2007. The reporting period for all subsequent annual reports shall be the previous calendar year.

Two printed copies and an electronic (PDF) copy of each document will be submitted to Ecology. All submittals shall be delivered to:

Department of Ecology
Water Quality Program
Municipal Stormwater Permits
P.O. Box 47696
Olympia, WA 98504-7696

The City shall be required to keep all records related to this permit and the SWMP for at least five years. Except for the requirements of the annual reports described in this permit, records shall be submitted to Ecology only upon request,

The City will make all records related to this permit and the City’s SWMP available to the public at reasonable times during business hours.

- The City will provide a copy of the most recent annual report to any individual or entity, upon request.
 - A reasonable charge may be assessed by the Permittee for making photocopies of records.
 - The City may require reasonable advance notice of intent to review records related to this Permit.

- Each annual report shall include the following:
 - A copy of the City's current Stormwater Management Program.
 - Submittal of *Annual Report Form for Cities, Towns, and Counties*, which is intended to summarize the City's compliance with the conditions of this permit, including:
 - Status of implementation of each component of the SWMP in section S5 *Stormwater Management Program for Cities, Towns and Counties*.
 - An assessment of the City's progress in meeting the minimum performance standards established for each of the minimum control measures of the SWMP.
 - A description of activities being implemented to comply with each component of the SWMP, including the number and type of inspections, enforcement actions, public education and involvement activities, and illicit discharges detected and eliminated.
 - The City's SWMP implementation schedule and plans for meeting permit deadlines, and the status of SWMP implementation to date. If permit deadlines are not met, or may not be met in the future, include:
 - Reasons why
 - Corrective steps taken and proposed
 - Expected dates that the deadlines will be met
 - A summary of the City's evaluation of their SWMP.
 - If applicable, notice that the MS4 is relying on another governmental entity to satisfy any of the obligations under this permit.
 - Updated information from the prior annual report plus any new information received during the reporting period.
 - Certification and signature, and notification of any changes to authorization.

The City will include with the annual report, notification of any annexations, incorporations or jurisdictional boundary changes resulting in an increase or decrease in the City's geographic area of permit coverage during the reporting period, and implications for the SWMP.

