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Executive Summary
The National Pollutant Discharge Elimination System (NPDES) permit program’s intent is to protect and restore waters. It is required under the federal Clean Water Act by the authority of the federal Environmental Protection Agency (EPA). EPA has delegated its permit authority to Washington State Department of Ecology. In fulfillment of the permit the City has prepared a Surface Water Management Plan (SWMP).

The City’s SWMP describes the implementation of 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 Plan 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

Public Education and Outreach is designed to reach a particular suite of targeted audiences based on research conducted concerning BMP’s. Audiences include the general public, businesses, homeowners and their landscapers, developers, engineers, planners, and contractors. Key to this strategy is the employment of social marketing techniques. City programs at Bothell began with educating audiences about our water quality issues and establishing a level of basic education concerning watersheds, stormwater, and the water cycle. For the ongoing program, at least one targeted audience in one subject area is evaluated to determine the current level of understanding and adoption of targeted behaviors overtime. The results will be used to direct future education and outreach efforts most effectively.

Public Involvement is encouraged in the development of the SWMP. Citizen involvement can promote awareness of and create a sense of responsibility towards the health of affected watersheds. The City actively encourages participation of citizens. Citizens may review and comment on the SWMP by visiting the City’s web page.

Illicit Discharge Detection and Elimination efforts focus on discharges that are not entirely composed of stormwater. Investigations and response actions to illicit discharges are designed to detect, remove, and prevent illicit discharges. The City adopted an ordinance and penalty schedule to prohibit non-stormwater or other illegal or illicit discharges to the city’s surface and stormwater. Illicit connections, i.e. interior floor drains, etc. that are connected to stormwater system, will be investigated.
using a systematic survey. Training has been developed for and given to City staff, who were selected for training based on their likelihood of encountering illicit discharges.

Runoff controls for new and redevelopment have been established. Ordinances were adopted, a training program was established for plan review staff, construction inspections standards improved, and efforts were initiated to prioritize the use of low impact development techniques (LID). A timeline has been prepared to address the obstacles and barriers regarding LID implementation.

Pollution prevention activities have been developed to reduce and eliminate polluted discharges from City maintenance and operations divisions. The City has an annual inspection program of all City-owned or operated stormwater treatment and flow control facilities. Work performed by the City on roads, sidewalks and stormwater systems follows industry wide NPDES permit approved standards. The City has acquired a programmatic Hydraulic Permit Approval from State Department of Fish and Wildlife for work occurring in or along streams. A Stormwater Pollution Prevention Plan (SWPPP) was created for Shop 1 and the City’s Operations Center. Training on the use of BMPs is routinely provided to staff.

Monitoring of natural water bodies is an important aspect of the SWMP. The City has embarked on three primary types of monitoring: 1) North and Swamp Creek are monitored to address highecal coliform bacteria concentrations. The fecal bacteria monitoring is coordinated under WDOE’s Total Maximum Daily Load (TMDL) guidelines, 2) In 2010, the City initiated a long term ambient monitoring and bioassessent program for city streams. The program will develop a baseline of data. This will provide the City a method to track future trends and assess the effectiveness of the SWMP, 3) The City prepared a Stormwater monitoring plan to assess stormwater treatment BMPs.

The SWMP is revisited annually to provide progress updates and future plans. The desired outcome of all these efforts is improved water quality throughout the city for the benefit of all citizens.
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 our Nation’s 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 (WDOE). The City must comply with the Phase II Municipal Stormwater Permit requirements issued to us by Ecology.

The Permit allows discharge of stormwater runoff from municipal drainage systems into the State’s water bodies (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 Plan (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 Permit 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 31, 2011, the City of Bothell meets the initial Permit requirements.

This report is the City’s Stormwater Management Program compliance document. The remainder of this 2011 SWMP document describes actions Bothell will take to maintain compliance over the fifth year of the Permit term for 2012.

Additional Permit information is located on Ecology’s web site:
1. 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 our affected watersheds. While difficult, changing behavior is a cost-effective programmatic solution to surface water pollution.

The minimum measures are:

A) No later than two years after the effective date of this Permit, the Permittee shall provide an education and outreach program for the area served by the MS4. The outreach program shall be designed to achieve measurable improvements in the target audience’s understanding of the problem and what they can do to solve it. Education and outreach efforts shall be prioritized to target the following audiences and subject areas:

I. 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.

II. General public and 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 report them.

III. 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.
IV. 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.

B) Each Permittee shall measure the understanding and adoption of the targeted behaviors for at least one targeted audience in at least one subject area. The resulting measurements shall be used to direct education and outreach resources most effectively, as well as to evaluate changes in adoption of the targeted behaviors.

C) Each Permittee shall track and maintain records of public education and outreach activities.

Goal
The goal of the education and outreach program is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.

Overview
The City of Bothell has chosen to utilize a social marketing strategy to illicit behavior change as this has been proven highly successful for Phase I jurisdictions and has been used for over forty years in the realms of social services, public safety, and disease prevention.

There are several steps to changing behavior patterns. They involve understanding the problem, education of the problem, simple and appropriate alternatives, removal of barriers to behavior change, show of benefits for applied change, cost of competing behaviors, tangible goods and services that can be derived from change, two-way communication, and goals for success.

Time, reach, and frequency of messaging also play a key role in the initial phases of establishing change. Broad outreach strategies were initiated for all target audiences in 2008 to provide understanding and awareness concerning several different water quality topics and BMPs. The goal is to give our target audiences a clear view of the abundance of water quality issues facing our community and establish a level of basic education concerning watersheds, stormwater, and the water cycle.
Targeted Emphasis Outreach

The City of Bothell began planning an outreach strategy to encourage adoption of target behaviors among the target audiences concerning stormwater pollution BMPs in 2008. Specific outreach strategies to measure adoption were tailored using successful social marketing strategies and were initially focused on the resident target audience. Information was gathered from several outreach coordinators in surrounding cities, as well as our county coordinators, and combined with our past research findings to assess initial behaviors. The current emphasis areas include:

- **Resident Target Audience**
  - Natural yard care
  - Car washing
  - Pet waste
  - Septic system maintenance
  - Youth stormwater and water quality awareness education
  - Landscaping and buffers
  - Hazardous material use, storage, and disposal

- **Business Target Audience**
  - Carpet cleaning
  - Natural yard care
  - Illicit discharge identification and reporting
  - Fleet Maintenance

- **General Public**
  - Vehicle leaks
  - LID
  - Environmental stewardship actions and opportunities
The emphasis programs are designed to follow a common path:

- Research and development
- Program implementation
- Adaptive management

Most programs are derived from successful Phase I and II permittee implementation efforts, as our jurisdiction lacks sufficient funding to field several new pilot programs. Research and development for existing programs will be spent gathering local data and tailoring for local implementation. The City will conduct an evaluation survey in 2012 to assess current awareness and behaviors for most existing emphasis programs and will revise our outreach efforts according to these findings. On newer emphasis topics, the City will work with surrounding jurisdictions whenever possible to create a sub-regional outreach program. This will allow for sub-regional evaluation, fielding, and refinement to reduce program cost. The long term goals for each emphasis topic are planned as follows:
## Table 1.1- Schedule for Emphasis Outreach

<table>
<thead>
<tr>
<th>Category</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
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<tr>
<td><strong>Residential</strong></td>
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<td>Natural Yard Care</td>
<td>Implementation</td>
<td>Research and Dev</td>
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<td>Car Washing</td>
<td>Research and Dev</td>
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<td>Pet Waste</td>
<td>Implementation</td>
<td>Adaptive Mgmt</td>
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<td>Septic System Maintenance</td>
<td>Implementation</td>
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<td>Youth Stormwater Education</td>
<td>Implementation</td>
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<tr>
<td>Landscaping and Buffers</td>
<td>Research and Development</td>
<td>Implementation</td>
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<td>Hazardous Material Use, Storage and Disposal</td>
<td>Implementation</td>
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<td><strong>Business</strong></td>
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<tr>
<td>Carpet Cleaning</td>
<td>Res &amp; Dev</td>
<td>Implementation</td>
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<tr>
<td>Natural Yard Care</td>
<td>Research and Dev</td>
<td>Implementation</td>
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<tr>
<td>Illicit Discharge Identification and Reporting</td>
<td>Implementation</td>
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<td><strong>General Public</strong></td>
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<tr>
<td>Vehicle Leaks</td>
<td>Research and Dev</td>
<td>Implementation</td>
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<tr>
<td>Low Impact Development</td>
<td>Implementation</td>
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<tr>
<td>Environmental Stewardship Actions and Opportunities</td>
<td>Implementation</td>
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</table>
The City’s Surface Water Management Program is tracking outreach efforts as well as maintaining records of current public education and outreach activities. Please see the Bothell’s Education and Outreach Summary Report 2011 (http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement/NPDESdocumentation.ashx?p=1652) for a complete list of activities, actions, and outreach materials.

2. Public Involvement and Participation

Per Permit Section S5.C.2:

City of Bothell citizens are encouraged to participate in the development of this NPDES Phase II Surface Water Management Plan. The City of Bothell has established a Web site to review the latest plan and has provided an online form to allow for comment at:

http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement.ashx?p=1292

The Web site is one of several media sources being used for the dissemination of pertinent information regarding public workshops, volunteer involvement, and public hearings regarding the affected watersheds to foster direct involvement and communication with the local communities. The City shall continue its collection and retention of information received from participants at these forums and will present them in Appendix B.

Public involvement can promote awareness of and create a sense of responsibility for the health of the affected watersheds. The City’s NPDES Phase II SWMP shall include ongoing opportunities for public involvement and may include, but may not be 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.

Other opportunities for engaging the public to participate occurred at several public outreach events: the Spring Garden Fair at various locations and Riverfest in Bothell. These outreach BMPs resulted in few comments received. People had questions at the events and wished to be informed, but they were not active in providing comments on the plan. We will continue to solicit input at events with modifications, such as
offering an executive summary with an easy fill-in comment form, to encourage the general public to provide comments.

Reacting to the lack of response and input, the City has developed and implemented new BMPs each year in an effort to determine which outreach method solicited the best response. Past efforts to included an open house, volunteer and festival events, utility mailer, local newspaper articles, social media posts, and continued online outreach to disseminate the SWMP and solicit participation by Bothell’s citizens.

In November 2010, the City enclosed a flyer in a sewer and water utility billing mailed to 5,300 citizens in King County. The flyer asked citizens to go to the City’s Web site to review and comment on the SWMP. The citizens were then directed to answer four questions on the web page. Those who responded to the questions became eligible to choose and receive an incentive, either a pet waste bag dispenser or a car wash ticket.

A total of ten responses were received (See appendix B).

- **What type of non-point source pollution do you feel is the biggest problem for the city?** The most common answer (five respondents) was vehicles and their associated impacts. Others mentioned lawn care and pet wastes.
- **Where would you like to see City efforts focused over the next four years?** Respondents overwhelmingly, seven out of ten, identified citizen education and outreach. Some mentioned protection of critical areas and addressing vehicle impacts.
- **What is the best way to reach out to the general public?** Over half of the respondents, six, said mailers, brochures, and flyers. Several others referred to providing a citizen accessible source of information on the health of the City’s surface waters.
- **How would you like to be involved in this process?** The majority, seven, responded with being unable to be involved in the process. The remaining respondents indicated they wanted to stay informed.

The common theme was the mentioning of wanting active and effective education and outreach programs as a key component to the SWMP. The City will look into expanding this style of outreach method to other residents of the City, Snohomish County and Alderwood Water and Wastewater District to solicit further comments.

The City will revisit development of new BMPs to engage citizens. The use of a BMP to identify neighborhoods of watershed importance in order to hold open houses at the local school grounds is an example of possible
future BMPs. The intent is to make it as convenient as possible for
citizen involvement and participation.

The City will continue to 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 via the City’s Surface Water Program Web
page.

3. Illicit Discharge Detection and Elimination
Per Permit Section S5.C.3:

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 and remove illicit discharges into the
municipal storm and surface
water system. The permit
required full implementation of
an IDDE Program by August
2011. Minimum performance
measures include:

"The SWMP shall include an 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."

An MS4 map is required (due in February 2011). There are three major
categories of requirements for this map. Attached are three figures that
highlight each of the categories within the City’s mapping data set (as
seen in Figures 1-3). We continue to improve the quantity and quality of
data contained within them. The three categories are:

1) The MS4 Itself: This map is to include all known pipes, their
outfalls, and structural BMPs that the City owns, operates, or
maintains. In addition, outfalls greater than 24” are to also include
the following attributes:
• Tributary Conveyances (indicate type, material, and size where known)
• Associated drainage areas
• Associated land uses within those drainage areas

While the City has had a GIS map of our storm and surface water system for some time, the City spent 2011 preparing for this requirement by examining the data set history, identifying where gaps are likely to exist, improving procedures for updating the data set, and identifying areas to programmatically examine for improvements in the upcoming year.

2) **All connections to the MS4 authorized or allowed after the permit effective date.**

Our GIS program currently includes a process to enter the as-builds from completed construction projects, which includes private storm systems and their connections to Bothell’s MS4. Our GIS map includes private systems connected to the MS4 prior to the permit effective date and continues to add connections from that date forward. Procedures are periodically evaluated to ensure the capture of all connections.

3) **Geographic areas served by the MS4 that do not discharge stormwater to surface waters.**

Our data set shows infiltration facilities and also areas that lack a developed storm drainage system. Our map set will be continuously updated as new infiltration facilities are brought online and other areas are better mapped.

The map of Bothell’s MS4 is available upon request and the map products will be posted with the publication of this report.
**Ordinances for IDDE:**

In accordance with Section S5.C.3.b and due August 16, 2009, the City of Bothell developed, adopted, and implemented ordinances to prohibit non-stormwater or other illegal or illicit discharges to the City’s surface and stormwater and developed enforcement provisions for the ordinance, Bothell Municipal Code (BMC) Title18, Utilities.

The ordinance includes escalating enforcement procedures and actions BMC 11.20.010 (A) (3) Special Penalties for BMC Title 18, Utilities. The City developed an enforcement strategy to implement the enforcement provisions of the ordinance. During the 2010 year, new procedures and policies were used by leveraging fines as appropriate.

In 2011, procedures were revised slightly to put more emphasis on compliance rather than enforcement, allowing first time offenders to evaluate how their discharge occurred and what they could do to prevent a similar discharge in the future. If they were willing to do this analysis, the City waived any fines.

**Illicit Discharge Detection Program:**

An ongoing program for detecting and addressing non-stormwater illicit discharges and connections into Bothell’s MS4 has been fully implemented, prior to the August 19, 2011 permit deadline.

Currently, the City responds to illicit discharge reports from citizens, staff and other agencies. In other words, response activities are reactive. The program is ready to move the City to a more proactive approach, seeking to find potential discharges that need addressing prior to becoming a problem.

One major addition to the program in 2012 will be access to a Local Source Control Specialist through grants awarded from Ecology and EPA. The specialist will provide technical assistance and outreach to targeted business populations in an effort to be proactive against spills and illicit discharges.

Requirements of this program include:

- *Procedures for locating priority areas likely to have illicit discharges.*

  This tabletop exercise, repeated periodically, includes evaluating land uses, business/industrial activities, areas with large quantities of materials storage, and areas with higher complaints.
Areas that will be focused on in 2012 include restaurants, car repair shops, landscaping companies, and mobile businesses.

- **Field Assessment Activities.**

  This requirement runs hand in hand with the mapping program. The field assessments include dry weather screenings, verifying outfall locations, identifying previously unknown outfalls, and detecting illicit discharges.

  In summer and fall 2010, stream walks were conducted to satisfy field assessment requirements along three stream course centerlines: Horse Creek, Little Swamp Creek, and Perry Creek. In 2011, the City hired two interns to complete the remainder of the city’s streams and outfall screenings.

  In 2012, efforts for field assessment will focus on identifying previously unknown segments of MS4 and screening them as they are identified.

- **Procedures for responding to illicit discharges.**

  In 2009, a spill response manual and tracking system for investigations related to surface water were implemented. There were 50 illicit discharge calls in 2010 and 29 calls in 2011. On average, the response time was less than 24 hours.

  The permit requires an investigation within seven days, on average, for complaints, reports, or monitoring information that indicate a potential illicit discharge; and immediate investigations for those situations that are emergencies, urgent, or severe.

  In 2011, a new spill response manual, City of Bothell, Illicit Discharge Detection and Elimination Program Manual 2011, was written and introduced to the program. This manual will be further revised in 2012 as the program grows.

- **Procedures for tracing the source of an illicit discharge and procedures for its removal.**

  Currently the City uses The City of Bothell Illicit Discharge Detection and Elimination Program Manual 2011. This manual is based on a template collaboratively written by Redmond, Woodinville, Kirkland and Bothell. Many of the methods were taken from The City of Bainbridge Island’s manual and the Illicit Discharge Detection and Elimination: A Guidance Manual for
Public Employee, Business, and General Public IDDE Education:

Education regarding the hazards associated with illicit discharges and improper disposal of waste is an ongoing task within the City of Bothell. Our Surface Water Coordinator and Special Projects Administrator work with the general public to utilize recycling events and educate citizens about recycling and proper disposal of wastes.

In 2008, the City added a spill hotline, and in 2009 made that hotline one number 24-hours a day. Although the number is continuously publicized, we have not received a report via the hotline. Most callers call the Public Works front desk or Operations and Maintenance.

In 2012, the City is expanding its capabilities with a Local Source Control Specialist through grants awarded from Ecology and EPA. The specialist will provide technical assistance and outreach to targeted business populations in an effort to be proactive against spills and illicit discharges.

IDDE Program Evaluation and Assessment:

The program currently meets the minimum requirements of the permit by tracking the number and types of spills and illicit discharges, the number of inspections made, and feedback received from public education efforts. The City met the expected average timelines for response to illicit discharge incidents. For 2011, the results of our IDDE public education efforts are summarized within the education and outreach program report. In 2012, a broader program evaluation will be completed and an IDDE specific report created, summarizing the findings separately.

Training Municipal Field Staff on IDDE:

The City met the August 2009 deadline requirement to train municipal field staff who are responsible for all aspects of IDDE activities. Follow-up training was developed in 2010, and training will be repeated as needed to address changes in procedures, techniques, or requirements.

Throughout 2009 and 2010 training opportunities were offered to all Public Works field staff in IDDE identification and reporting. Subsequently in 2010, 2011, and now in 2012, staff is completing
mandatory training by workgroup throughout the entire City for field staff.

Training records are collected and retained.

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

Per Section S5.C.4:

The City of Bothell, on June 16, 2009, adopted the 2009 Bothell Surface Water Management Manual that is primarily the 2005 Stormwater Management Manual for Western Washington. The manual applies to all construction sites, and meets the “Technical Thresholds” in accordance with Appendix 1 of the NPDES Permit for sites that disturb a land area one acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale.

The City anticipates that the newly adopted standards will, in general, decrease peak flows and increase the quality of storm water runoff discharge(s) into Bothell’s rivers, streams, ponds, and wetlands.

The minimum performance measures adopted include:

- An ordinance that addresses runoff from new development, redevelopment, and construction site projects. This was accomplished in Bothell Municipal Code Chapter 17.04 and the Bothell Surface Water Design Manual.

- The program includes a permitting process with plan review, inspection, and enforcement capability to meet the standards listed within the permit for both private and public projects, using qualified personnel. The process was adopted by August 16, 2009, and includes:
  - Review of all stormwater site plans for proposed development activities.
  - 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. Identify Construction Site Sediment Transport Potential.

- 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.
- 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 percent of scheduled inspections.
- An enforcement strategy has been developed and implemented to respond to issues of non-compliance.

- The program includes 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 were adopted by August 16, 2009, and 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, see Appendix C, BMC Title 18 and BMC Chapter 11.02.
  - 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 and King County Surface Water Design Manual, Appendix A, 2009 for flow control, conveyance, and water quality facilities. 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:
  o Within one year for wet pool facilities and retention/detention ponds.
  o Within six months for typical maintenance.
  o Within nine months for maintenance requiring re-vegetation.
  o Within two 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 will document the circumstances and how they were beyond its control.

• Inspections of post construction 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 will provide 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 six months during the period of heaviest house construction (i.e., one to two years following subdivision approval) to identify maintenance needs and enforce compliance with maintenance standards as needed.

The program includes 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 will be maintained. The City will 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 NPDES Phase II 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.

Prior to February 16, 2010, the City verified 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,
were 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:**

The City has an ongoing storm water Maintenance and Operations program that was upgraded in 2010 to include a training component with the primary goal to prevent and/or reduce polluted runoff from City of Bothell facilities.

- The minimum maintenance performance measures include:

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

Use of maintenance standards of Chapter 4 of Volume V of the 2005 Stormwater Management Manual for Western Washington. For maintenance and operations standards for conveyance systems, the City adopted the King County Surface Water Design Manual, Appendix A, 2009. Whether a facility has individual maintenance standards or not, all shall minimally be maintained using the prior-referenced documents. For additional details, see Appendix C for annual audit reports and Policies and Procedures for All Lands Owned or Maintained by City of Bothell Public Works Department, January 20, 2010. The latter is available on city web page: [http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement/NPDESdocumentation.ashx?p=1652](http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement/NPDESdocumentation.ashx?p=1652)

The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of a facility’s 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 one (1) year for typical maintenance of facilities, except catch basins.
• Within six (6) months for catch basins.
• Within nine (9) months for maintenance requiring revegetation.
• Within two (2) years for maintenance that requires capital construction of less than $25,000.

The above standards are annually attained. To ensure achievement the program evaluates performance through the use of the NPDES Phase II annual report. An important component to successful tracking of performance is the use of an asset management software database. The Maintenance and Operations Division and SWM program anticipate acquiring a software program to ensure that needed work is timely performed and easily tracked.

The City has initiated an annual inspection program of all City-owned or operated, permanent stormwater treatment and flow-control facilities, other than catch basins. The program began in 2008 and is staffed with one Surface Water Inspector with oversight provided by an Environmental Engineer. Work orders are written and submitted to City of Bothell Street/Storm Division field staff to take appropriate maintenance actions in accordance with the adopted maintenance standards. The work orders are returned to the Surface Water Inspector after the maintenance work is completed.

Maintenance and Operations Division staff routinely perform 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 and/or maintenance needs, inspections are performed on all stormwater treatment and flow-control facilities that may be affected. Staff conducts repairs or takes appropriate maintenance action in accordance with maintenance standards established above, based on the results of inspections. There are seventeen such facilities that are routinely checked before and after major storm events.

City Wide Catch Basin and Inlet Maintenance Program
The NPDES Phase II Permit requires the City to perform inspections of all catch basins and inlets owned or operated by the City at least once before the end of the Permit term, February 15, 2012. The Maintenance and Operations Division is responsible for this Permit element.

The City shall 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.
The City may inspect catch basins on a “circuit basis,” whereby a sampling of catch basins and inlets within each circuit is inspected to identify maintenance needs. Emphasis includes inspection of the catch basin immediately upstream of any system outfall. Staff cleans 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 at times may inspect all catch basins, cleaning only those 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 percent of all sites.

There are approximately 6,553 catch basins (CBs) within the city. Some of the CBs drain into regional stormwater control facilities and others drain directly to surface waters with no treatment. The annual rate of cleaning CBs has increased since 2008. In 2008 590 CBs were cleaned; and in 2010 the annual cleaning rate had risen to 998 CBs. The three-year total for 2008, 2009, and 2010, is 2,382 CBs. In 2011 the City increased by nearly two fold its effort with 4,830 CBs inspected and 3,012 CBs having been cleaned.

In 2011 by hiring two summer interns and one full time staff the City was able to complete the inspection of all City owned and maintained CBs as required by the permit standards. Staffing requirements will be reviewed annually to ensure adequate coverage exists to meet the many different demands of the Street/Storm program of Maintenance and Operations Division.

The City lacks an adequate computer database system to efficiently track which CBs have been serviced. The current system relies on paper documentation and highlighted maps showing areas serviced. It is anticipated that in the future the ability to track inspections and work performed can be improved with the acquisition of an asset management database system.

**Reduction of Stormwater Impacts by Public Works Department**
The City successfully established and implemented 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, by February 15, 2010.
The document: National Pollution Discharge Elimination System, Phase II Permit, Goals, Policies, Procedures, and Practices for All Lands Owned or Maintained by City of Bothell Public Works Department, Appended 2011 & 2012, can be viewed on the City web site. The document addresses all Public Works Department activities, and is summarized below:

- The following activities have been addressed for the Maintenance and Operations Division:
  - 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.

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

- These policies and procedures address, but are not limited to:
  - Application of fertilizers, pesticides, and herbicides, including the development of nutrient management and integrated pest management plans.
  - Sediment and erosion control.
  - Garbage management.
  - Building exterior cleaning and maintenance.
  - Landscape management and vegetation disposal.

**Training Program for Public Works Department**

The City has developed and implements an ongoing training program for employees of the City whose construction, operations, or maintenance
job functions may impact stormwater quality. The training program began in the summer of 2009. It addresses the importance of protecting water quality, the requirements of this Permit, operation and maintenance standards, inspection procedures, selecting appropriate BMPs, ways to perform job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns, including potential illicit discharges. Follow-up training is to be periodically provided as needed (i.e., new staff hires, or changes in procedures, techniques, or requirements). The City will document and maintain records of training provided and can be found in the NPDES Annual Report filed annually with WDOE. It also accessible from the City’s web page: http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement.ashx?p=1292.

**Stormwater Pollution Prevention Plans**

The City has developed and implemented a Stormwater Pollution Prevention Plan (SWPPP) for the heavy equipment maintenance storage yard and Shop 1 (City of Bothell, January 2011). Implementation of non-structural BMPs began in 2010. A schedule for implementation of structural BMPs is included in the SWPPP. The SWPPP includes provisions for periodic visual observation of discharges from the facility to evaluate the effectiveness of the BMPs. Late in 2010 the Maintenance and Operations, Facilities, and Parks Divisions moved to a new facility that is co-managed and owned with the Northshore School District (NSD) Transportation facility. In 2011 the City and NSD began a collaborative effort to co-write a SWPPP for the Operation Center. In 2011 Shop 1 was reassigned as a storage warehouse facility. It retains its SWPPP as a means to address site specific circumstances, i.e. decant facility.

The SWPPPs are to be audited annually. See City web page for individual audit reports. http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement.ashx?p=1292.

Records of inspections and maintenance or repair activities conducted by the City will be maintained in accordance with the Permit requirements.
6. Compliance with Total Maximum Daily Load (TMDL) Requirements

Per Permit Section S7:

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

**North Creek Fecal Coliform Bacteria TMDL, Strategy A (Option 1)**

In 2007, the City submitted a Quality Assurance Program Plan (QAPP), Kalenius, 2007, to conduct monitoring within North Creek’s high priority tributaries. The QAPP has been reviewed by WDOE and was accepted in 2008. Key provisions of the QAPP are to initiate the approved monitoring within nine months of Permit issuance. Monitoring was initiated in October 2007. The City provides an annual summary monitoring report to WDOE and can be found on City Web page: [http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement/NPDESdocumentation.ashx?p=1652](http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement/NPDESdocumentation.ashx?p=1652).

Under Option 1 the City prepared in 2010 a Bacteria Pollution Control Plan. The City conducted public review of the Bacterial Pollution Control Plan throughout 2011. The public may review and comment on the plan by visiting the City’s web page at: [http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement.ashx?p=1292](http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement.ashx?p=1292). A final plan was submitted to WDOE in December 2011. The plan contains action plans and action updates. The most notable was the plan to review adoption of a pet waste ordinance. The outcome was that the City did adopt in 2011 a pet waste ordinance for private and public property.

To help determine sources of fecal bacteria, the City in 2010, through an interlocal agreement with Snohomish County Surface Water Management Program, conducted a source tracking survey for bacteria sources within Perry Creek. A complete summary of findings can be found on the City Web site (City of Bothell, Loch 2011, and Snohomish County SWM, 2011). In general the sources of bacteria pollution were found to be diffused,
with no one site being identified as highly likely sole contributor to bacteria pollution with Perry Creek (Snohomish County SWM, 2010). Future source tracking surveys will be conducted if levels of fecal bacteria exceed certain thresholds. The thresholds are part of the source tracking protocol developed by Snohomish County Surface Water Management Program.

**Swamp Creek, Fecal Coliform Bacteria TMDL (Option 2)**

Option 2 required monitoring of specific jurisdictions, but the City of Bothell was not required to monitor. However, in 2010 the City began monitoring Little Swamp Creek near 7th Avenue SE. The monitoring was in response to WDOE finding high levels of fecal coliform bacteria in the local area. In a collaborative effort with WDOE and the City, a sampling strategy was employed to determine possible sources of the bacteria. Sampling indicated a duck feeding pond to be the most likely source. Efforts have been underway since late summer 2010 to work with the owner to discourage duck feeding at the pond. The City will continue to long term monitor of Little Swamp Creek at 7th Avenue SE for fecal coliform bacteria. The monitoring results are annually included in the North and Swamp Creek Sample Results TMDL Report. For a complete report on the results visit City Web site, (City of Bothell, Loch 2011).

**7. Monitoring**

**Per Permit Section S8:**

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 the effectiveness of the SWMP in attaining the primary goal, the City has begun to implement 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.
  - 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. Any changes made, or anticipated to be made, to the BMPs that were previously selected to implement the SWMP, and why.
• Information required in regard to future long-term monitoring.

Preparation for future long-term monitoring shall include three elements:

• Stormwater.
• SWMP effectiveness.
• Surface water.

**Stormwater Monitoring**
The City has selected potentially three outfalls to conduct long-term storm water monitoring. The site characteristics are given in Table 7.1. The basin maps can be found in Appendix D.

A site’s selection was based on several key factors. How representative it is of the city’s current land use and the likelihood that it might be redeveloped in the near future. A secondary factor was the ability to access and monitor the site. At least one commercial site and one high density residential (four-dwelling units per acre) site were selected. The dominant land use in the city is zoning for R-9,600, residential 9,600 square foot minimum lot size.

The Downtown Revitalization Plan area was selected due to its likelihood to be redeveloped. Two locations were selected. Though neither basin is dominated by commercial land use, it could be possible to isolate the contribution of the new development, either by a physical location, or by employing an upstream and a downstream sampling strategy. At the time when the area nears design completion, a final location or set of locations will be chosen. The two current selected locations appear suitable for permanent installation and operation of a flow meter and flow-weighted composite sampling equipment. The high-density residential site is a roadside ditch that may prove difficult to establish continuous flow monitoring and collecting flow weighted samples. Other jurisdictions (i.e., King County) have pioneered methods to monitor roadside ditches. Their techniques will be assessed for applicability.

Storm water outfall 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.

Table 7.1: Stormwater outfall land use descriptions

<table>
<thead>
<tr>
<th>Sub-Basin Total Catchment</th>
<th>City Hall Basin</th>
<th>East Main Street</th>
<th>23rd Ave SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downtown Commercial</td>
<td>3</td>
<td>11</td>
<td>0.0</td>
</tr>
<tr>
<td>High Density Residential</td>
<td>12</td>
<td>17</td>
<td>24</td>
</tr>
</tbody>
</table>

SWMP Effectiveness and Surface Water Monitoring

The City is required to develop two questions in regard to measuring SWMP effectiveness. This component of the monitoring program is 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?

Water quality monitoring complements the City of Bothell’s Comprehensive Plan, Imagine Bothell, which calls for “...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.

In 2010 the City identified two suitable questions and selected sites where monitoring could be conducted.

Question 1:  
How effective is the Surface Water Design Manual (adopted 2009), as applied to the Downtown Revitalization Plan area towards improving water quality?

A description of the monitoring plan designed to answer the question can be found in Appendix C.

Question 2:  
Has the City’s Surface Water Management Plan improved in-stream water quality as measured by in-stream physical, chemical, and biological characteristics?
In regards to question 2, the City began in 2010 to conduct surface water quality monitoring to determine the effectiveness of the City’s SWMP at controlling stormwater-related problems that are directly addressed by actions in the SWMP. The 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 is built upon long-term monitoring consisting of ambient monthly data collection and periodic stream bioassessments. The results of the monitoring program shall be used to support the adaptive management process and lead to refinements of the SWMP. The bioassessment and ambient monitoring approach provides a watershed scale effectiveness monitoring tool that measures the integration of all land use effects to receiving waters.

The City selected 18 sites (Figure 7.1) for long-term surface ambient water quality monitoring. Sites were selected based on their representativeness of watershed characteristics. Streams that were selected have watersheds predominantly or wholly within city boundaries. Streams such as North Creek or Sammamish River were not included, as their watersheds are predominantly influenced by other jurisdictions. The number of sites may change as sites are assessed for their effectiveness and relevant contribution to the overall data collection.

The 2010 monitoring results are available on the City web page, 2010 Stream Health Assessment for City Streams:  
www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement/NPDESdocumentation.ashx?p=1652
Figure 7.1 Water Quality Monitoring Sites City of Bothell
The 18 ambient water quality sites are sampled monthly for dissolved oxygen, temperature, conductivity, salinity, pH, turbidity, and estimated flow.

Out of the 18 sites, 7 sites in 2010 received bioassessment surveys. The bioassessment data, in conjunction with ambient monitoring data, shall be used to:

- Quantify degraded watershed and surface water conditions and quantify levels observed.
- Document
  - Stream channel conditions.
  - Habitat.
  - Water quality.
  - Macroinvertebrates and fish populations.

The City anticipates using the monitoring information to:

- Facilitate improved program policy and land use rules.
- Prioritize watershed restorative actions based on severity of water quality.
- Direct future monitoring efforts.

The monitoring of sites will be reviewed annually and sites may be added or deleted based on quality and usability of information collected.

**Financial Costs to Implement SWMP**

Beginning in 2008, the City began to establish accounting codes to track staff time, equipment purchases, contracts, and related expenditures by program component. For 2008 the City surface and storm water staff expenses totaled $100,739. In 2009 the City refined and expanded its accounting practices to track additional costs. Table 7.2 details individual program costs by year. The annual costs were offset by a WDOE Local Government Storm Water grant. Beginning in 2008 through the end of 2011 the City has received $242,273 from WDOE. These funds were primarily used to fund duties performed by Surface Water Management staff positions. The City’s Surface Water and Operations Divisions combined have spent over the same three year time period, 2008-2011, approximately $5,850,485. A more detailed financial account by year can be found in appendix C.
Table 7.2: Annual Program Costs for NPDES Permit Phase II

<table>
<thead>
<tr>
<th>Program Elements</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>General NPDES Actions: Annual Report &amp; Program</td>
<td>$42,687</td>
<td>$73,078</td>
<td>$94,242</td>
<td></td>
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<tr>
<td>Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SWMP Development</td>
<td>$6,611</td>
<td>$17,908</td>
<td>$11,091</td>
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</tr>
<tr>
<td>Public Education and Outreach</td>
<td>$46,356</td>
<td>$67,079</td>
<td>$133,115</td>
<td></td>
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<tr>
<td>Public Involvement and Participation</td>
<td>$11,140</td>
<td>$16,361</td>
<td>$1,260</td>
<td></td>
</tr>
<tr>
<td>Illicit Discharge Detection Elimination</td>
<td>$25,855</td>
<td>$84,717</td>
<td>$113,831</td>
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</tr>
<tr>
<td>New and Redevelopment</td>
<td>$55,698</td>
<td>$43,135</td>
<td>$48,825</td>
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<tr>
<td>Pollution Prevention Municipal Operations</td>
<td>$1,381,794</td>
<td>$1,414,876</td>
<td>$2,063,237</td>
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</tr>
<tr>
<td>TMDL</td>
<td>$9,547</td>
<td>$26,097</td>
<td>$17,287</td>
<td></td>
</tr>
<tr>
<td>Ambient Monitoring</td>
<td>N/A</td>
<td>$4,725</td>
<td>$13,726</td>
<td></td>
</tr>
<tr>
<td>Stormwater Monitoring</td>
<td>N/A</td>
<td>$2,098</td>
<td>$1,599</td>
<td></td>
</tr>
<tr>
<td>Annual Total</td>
<td>$1,579,688</td>
<td>$1,750,074</td>
<td>$2,520,723</td>
<td></td>
</tr>
</tbody>
</table>

**Reporting Requirements**

**Per Permit Section S9:**

No later than March 31st of each year beginning in 2008, the City shall submit an annual report. The reporting period for the first annual report will be from the effective date of this Permit, February 15, 2007 through December 31, 2007. The reporting period for all subsequent annual reports will be the previous calendar year. This report covers January 1, 2010 to December 31, 2010.

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

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 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 upon completion and submittal of a City of Bothell Request for Public Records form.

- 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. Current copy charges are $0.15/page for sheets sized 11” x 17” and smaller; and $2.00/page for sheets sized over 11” x 17”.
  - The City may require reasonable advance notice of intent to review records related to this Permit.

- Each annual report, available on City’s web page (http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement.ashx?p=1292) 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 deadlines were not met.
      - Corrective steps proposed and taken.
      - 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 tracked and reported, City of Bothell (2011), on obstacles related to the use of LID practices in March 2011.

Included in the LID obstacle report the City described the following:

- LID practices that are currently available and that can reasonably be implemented within this permit term.
- Potential or planned non-structural actions and LID techniques to prevent stormwater impacts.
- Goals and metrics to identify, promote, and measure LID use.
- Potential or planned schedules to require and implement the non-structural and LID techniques on a broader scale in the future.

With the annual report, the City will include 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.
Glossary of Definitions and Acronyms

**BMPs – Best Management Practices:** The schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by the Department of Ecology that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State. For example, a structural BMP is the use of catch basin cloth inserts to capture sediment from turbid water prior to the water being discharged into the stormwater system.


**Illicit Connection:** Any man-made conveyance that is connected to a municipal separate storm sewer without a permit, excluding roof drains and other similar type connections. Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets or outlets that are connected directly to the municipal separate storm sewer system.

**Illicit Discharge:** Any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to an NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities.

**LID – Low Impact Development:** A stormwater management and land development strategy applied at the parcel and subdivision scale that emphasizes conservation and use of onsite natural features integrated with engineered, small-scale hydrologic controls to more closely mimic predevelopment hydrologic functions.

**MEP – Maximum Extent Practicable:** Currently, MEP is a concept, as the full meaning has yet to be determined.

**MS4 – Municipal Separate Storm Sewer System:** A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

(i) Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State Law) having jurisdiction over disposal of wastes, stormwater, or other wastes, including special districts under State
Law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe of an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to water of the United States;

(ii) Designed or used for collecting or conveying stormwater;

(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

**NPDES – National Pollution Discharge Elimination System:** The national program for issuing, modifying, revoking, and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the state from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington State Department of Ecology.

**Stormwater:** Runoff during and following precipitation and snowmelt events, including surface runoff and drainage.

**Surface Water:** includes lakes, rivers, ponds, streams, inland waters, salt waters, wetlands, other surface waters, and water courses as well as shallow groundwater.

**SWMP – Stormwater Management Plan:** A set of actions and activities designed to reduce the discharge of pollutants from the regulated small MS4 to the maximum extent practicable and to protect water quality, and comprising the components listed in S5 and S6 of the NPDES permit and any additional actions necessary to meet the requirements of the NPDES permit.

**TMDL – Total Maximum Daily Load:** A water cleanup plan. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant’s sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the water body can be used for the purposes the state has designated. The calculation must also account for seasonable variation in water quality. Water quality standards are set by states, territories, and tribes. They identify the uses for each water body (i.e. drinking water supply, contact recreation such as swimming, and aquatic life support such as fishing), and the scientific criteria to support that use. The Clean Water Act, Section 303, establishes the water quality standards and TMDL programs.
References


City of Bothell, Loch, A. (2011). *Bacteria Pollution Control Plan, Total Maximum Daily Load for Fecal Coliform Bacteria*. Version 9-11, City of Bothell

City of Bothell, (2010 Appended 2011). *National Pollution Discharge Elimination System, Phase II Permit: Policies and Procedures for All Lands Owned or Maintained by City of Bothell Public Works Department*. City of Bothell

City of Bothell, (2010 Appended 2012). *National Pollution Discharge Elimination System, Phase II Permit: Policies and Procedures for All Lands Owned or Maintained by City of Bothell Public Works Department*. City of Bothell


Snohomish County SWM. (2011). *2011 Water Quality Monitoring Report North Creek @ NCLD*. Provided to the City of Bothell under ILA #9710070097, Snohomish County Public Works Surface Water Management


Pollutant Discharge Elimination System and State Waste Discharge General Permit for Discharges from Small Municipal Separate Storm Sewers in Western Washington.

Wilson, D., Henderson, D., Andersen, H., Buckley, J. (2002). *Small Streams Toxicity/Pesticide Study 2000*. King County Department of Natural Resources.
Appendix A

Bothell’s Public Involvement and Participation

- Received comments and thoughts on SWMP 2009, 2010, and 2011.
Comments Received via City Web Site 2009:

From: Janet Geer
To: Amanda Thompson; Sarah and Hans
CC: Andy Loch; Gary Sund
Date: 4/3/2009 11:53 AM
Subject: Re: From City Web site – additional comments to survey

Hello Sarah,

I am happy to answer your comments to the best of my ability:

First, your index of acronyms is a great idea and will be noted for our revisions. We are hosting an open house to discuss our Surface Water Management Plan (SWMP) on Wednesday, September 30 from 5:00 p.m. - 9:00 p.m. and would appreciate any further comments before, during or after this event.

Second, we have discussed mailing out a GIS map along with targeted watershed information to each neighborhood, and are working on upgrading our system to accommodate this type of request. Our outreach program has several target mailers, articles, BCTV segments, etc. on the docket for 2009 to help raise awareness on non-point source pollution and urban drainage systems.

Third, I understand your concerns with the drainage ditch on your property and applaud your willingness to manage and filter your stormwater. This problem is complex as there are many variables which effect the answer. Drainage ditches are designed to convey water away from property and are “generally speaking” not designed to hold water for an extended period of time. Rain gardens and bioswales are designed to capture and hold water so that it can slowly infiltrate the soil. If your drainage ditch conveys a lot of water from your neighborhood, and you modify it to capture water, a large storm event could potentially destroy your rain garden and cause flooding to your property and surrounding neighbors. Also, some ditches convey natural water sources so stopping this flow could have consequences downstream. That being said, many people maintain their own ditches by mowing, planting native trees and shrubs along the edge away from the street or divert some of the water to a rain garden on their property. Your unique site conditions would determine what could be done to improve the esthetics and infiltration of your drainage ditch.

Thank you again for your thoughtful input.

Sincerely,

Janet Geer
Comments Received from City Employee Survey 2009:

From: <citystaff@ci.bothell.wa.us>
To: <janet.geer@ci.bothell.wa.us>
CC: <citystaff@ci.bothell.wa.us>
Date: 4/3/2009 7:14 AM
Subject: Form Submission: Surface Water Mgmt. Plan Comments

What type of non-point source pollution do you feel is the biggest problem for the City of Bothell? Septic tanks, fertilizer

Where would you like to see our efforts focused over the next four years? Public Education

What would you think is the best way of reaching out to the general public? Direct mail followed by video on Bothell TV, Links on web site with information on specifically how to change habits, getting added to an e-mailing list so that you can send out incentives electronically to those interested

How would you like to be involved in this process? I am a new member of the Shoreline Board (Sarah Larsen) and will be working on an update of the shoreline master program. I think the two topics are connected and would like to ensure that we are working together.

Other comments? This comment box provided on the web page is entirely too small, The comments section should just be a nice big button on the first page and then lead to a whole other page with much more space.

Received 4/3/2009 7:55 AM >>>

Hi Amanda,

I just wanted to continue some comments that I was entering in on the tiny slots of your web survey.

I had a couple of comments Surface Water Management Plan. The first one is that it would be nice to include an index of acronyms at the front of the document. This is also a comment for an element that I think should be added to the template for all city documents. Working in the electronics industry which is riddled with acronyms, usually our documents start with a table of contents, followed by a list of tables and figures and a list of acronyms. With the list of acronyms, you still write out the phrase in its entirety the first time you use it, but it eliminates the need to go searching 18 pages back to try and figure out what the heck MS4 means. The first time I found that term used was in the Public Education section, and I defined. I will grant that perhaps I missed it as I scanned back over the previous 4 pages, but it is a detail that prevents the public from being able to fully participate in the process.

One of the public education elements that I would like to see is a house by house, drain by drain map of where our storm water goes and how it connects to the Sammamish Slough or North Creek or Swamp Creek and then have it mailed out to the neighborhoods. I think that would really have an impact when people see that the little drain grate in the road is connecting directly to our rivers. A comment to the effect that if that drain connects directly to open water without any retention, it is as if your house is as far from open water as that drain, may really open some eyes.

I would also like to see some ways that owners with a drainage ditch in their yard can maintain it so that they feel it is off limits an eye sore and need to let reed canary grass fill it up, catch all the sediment, finally flood and then the city comes out and scrapes out the ditch again. Is there a way that those can be made into a series of rain gardens or mini water retention ponds to slowly let the water soak in with native plantings and a slightly deeper ditch ? I know what the mosquito impact would be but it seems that there would be ways to mitigate that and create some nice hedge rows/friendly fences which look nice from both sides. This would help keep water at its source rather than flushing it down stream.

Thanks for being open to comments,

“Hence forth I whimper no more, postpone no more, need nothing... strong and content I travel the open road” – Walt Whitman
Comments Received from flyer invite to City Web Site 2010:

From: <citystaff@ci.bothell.wa.us>
To: <janet.geer@ci.bothell.wa.us>
CC: <citystaff@ci.bothell.wa.us>
Date: 11/16/2010 5:17 PM
Subject: Form Submission: Surface Water Mgmt. Plan Comments

What type of non-point source pollution do you feel is the biggest problem for the City of Bothell?
Pet/animal waste

Where would you like to see our efforts focused over the next four years?
I enjoy the educational, brochures, on how to conserve water and have seen pet waste flyers from other areas, that I think are helpful. Not sure if this has been done in the downtown area of Bothell, or around UW Bothell Campus, yet as we are relatively new to the neighborhood.

What would you like to be involved in this process?

Other comments?
Name and Address:

Alynda Silcox, 10714 Beardslee Pl, Bothell, WA 98011

Would you like to receive a free car wash ticket or pet waste bag dispenser for providing your comment? If so, please be sure to provide us with your contact information and let us know which option you would prefer.
Pet waste bag dispenser please.

Date: 11/16/2010 5:47 PM
Subject: Form Submission: Surface Water Mgmt. Plan Comments

What type of non-point source pollution do you feel is the biggest problem for the City of Bothell?
Car/truck pollutant runoff on streets and highways

Where would you like to see our efforts focused over the next four years?
Educating the public

What would you like to think is the best way of reaching out to the general public?
Frequently publish statistics of water pollutants in our area

How would you like to be involved in this process?
Yes; however, my age and health would pose limitations

Other comments?
Too many people are either unaware or don’t care about storm water pollution. They only consider their own contribution which is minor. We need to think about the whole community and need a way to accurately measure the total pollution

Name and Address:

Would you like to receive a free car wash ticket or pet waste bag dispenser for providing your comment? If so, please be sure to provide us with your contact information and let us know which option you would prefer.
Car wash.

Date: 11/17/2010 8:03 PM
Subject: Form Submission: Surface Water Mgmt. Plan Comments

What type of non-point source pollution do you feel is the biggest problem for the City of Bothell?
Stagnant rain water

Where would you like to see our efforts focused over the next four years?
Fix pot holes

What would you think is the best way of reaching out to the general public?
Mailer, email

How would you like to be involved in this process?
Feedbacks?

Other comments?

Name and Address:

Would you like to receive a free car wash ticket or pet waste bag dispenser for providing your comment? If so, please be sure to provide us with your contact information and let us know which option you would prefer.

Date: 11/18/2010 6:19 PM
Subject: Form Submission: Surface Water Mgmt. Plan Comments
What type of non-point source pollution do you feel is the biggest problem for the City of Bothell?

**Lawn care and over watering. Poor drainage and soil quality**

Where would you like to see our efforts focused over the next four years?

**Household awareness and incentives to change behaviors.**

What would you think is the best way of reaching out to the general public?

**Postcard, easy to read and give them a reason to want to participate**

How would you like to be involved in this process?

**I would be willing to give input on ways to engage residents in a way that would encourage participation**

Other comments?

**In the past I have taken advantage of low cost rain barrels and composers. I think that rainwater reclamation is something that anyone can do, but it is expensive to purchase the rain barrels, I saw them this summer for about 100 dollars, which for most is cost prohibitive. It is also expensive to re-landscape to create rain gardens, although I would love to transition there, it is again cost prohibitive. Incentives to implement and water wise gardening would encourage more people to re-evaluate their own space. Offering no or low cost start up materials could be the instinctive many people would take advantage of, including myself.**

**Name and Address:**

Kathrine Raines, 19308 127th PL NE, Bothell 98011

Would you like to receive a free car wash ticket or pet waste bag dispenser for providing your comment? If so, please be sure to provide us with your contact information and let us know which option you would prefer.

**Pet waste bag dispenser**

Date:   11/21/2010 2:21 PM

Subject:   Form Submission:  Surface Water Mgmt. Plan Comments

What type of non-point source pollution do you feel is the biggest problem for the City of Bothell?

Where would you like to see our efforts focused over the next four years?

**Preserving and restoring wetlands, prohibiting development until all land that has already been developed is used to its best capacity**

What would you think is the best way of reaching out to the general public?

**Banners with web site info, visiting schools**

How would you like to be involved in this process?
You tell me

Other comments?

Name and Address: 

Would you like to receive a free car wash ticket or pet waste bag dispenser for providing your comment? If so, please be sure to provide us with your contact information and let us know which option you would prefer.

 PET waste bag dispenser

Date: 11/22/2010 8:27 AM  
Subject: Form Submission: Surface Water Mgmt. Plan Comments

What type of non-point source pollution do you feel is the biggest problem for the City of Bothell?

Vehicle leaks

Where would you like to see our efforts focused over the next four years?

Public Education for increased awareness

What would you think is the best way of reaching out to the general public?

I think the collaboration with the Bothell King County Library on the rain garden is a success. I would like to see more installations around town that showcase Permeable pavement/concrete, Applications of collected rainwater (rooftops), and green rooftops to absorb peak rain loads. Having these spread around Bothell as working examples with information for education is a great way to reach out to the public

How would you like to be involved in this process?

Other comments?

Is there a published calendar for Storm and surface water testing for 2011? It was noted in the SWMP that some testing would occur, but I did not see how often or where.

Name and Address: 

Would you like to receive a free car wash ticket or pet waste bag dispenser for providing your comment? If so, please be sure to provide us with your contact information and let us know which option you would prefer.

 CAR wash

Date: 11/24/2010 8:10 AM
Subject: Form Submission: Surface Water Mgmt. Plan Comments

What type of non-point source pollution do you feel is the biggest problem for the City of Bothell?
Vehicle leaks

Where would you like to see our efforts focused over the next four years?
Vehicle issues and car washing

What would you think is the best way of reaching out to the general public?
Mail and bylines (don’t have own computer)

How would you like to be involved in this process?
Don’t have time to be involved

Other comments?
Some people like me don’t have a computer so I would like to have the option of replying by mail.

Name and Address:
Betty Wade 19186 130th Ave NE Bothell, WA 98011

Would you like to receive a free car wash ticket or pet waste bag dispenser for providing your comment? If so, please be sure to provide us with your contact information and let us know which option you would prefer.
Car wash ticket

Date: 11/24/2010 1:45 PM
Subject: Form Submission: Surface Water Mgmt. Plan Comments

What type of non-point source pollution do you feel is the biggest problem for the City of Bothell?
Urban runoff

Where would you like to see our efforts focused over the next four years?
Awareness and easy and economical alternatives

What would you think is the best way of reaching out to the general public?
Through their bills (which is how I discovered this)

How would you like to be involved in this process?
Kept informed

Other comments?

Name and Address:
Would you like to receive a free car wash ticket or pet waste bag dispenser for providing your comment? If so, please be sure to provide us with your contact information and let us know which option you would prefer.

**Free car wash ticket**

*Date: 11/27/2010 4:06 PM
Subject: Form Submission: Surface Water Mgmt. Plan Comments*

What type of non-point source pollution do you feel is the biggest problem for the City of Bothell?

**Yard chemicals and household chemicals poured into the drains**

Where would you like to see our efforts focused over the next four years?

**The two issues mentioned above**

What would you think is the best way of reaching out to the general public?

**Hold a fair selling natural products for yard care**

How would you like to be involved in this process?

**Receiving mailers and reminders about events to protect surface water**

Other comments?

*I generally like to be involved in ways to protect the environment, but have no recollection of any notices/updates. Please include me in the future*

**Name and Address:**

**Ross Ehrmantraut, 19501 92nd Ave NE Bothell, WA 98011**

Would you like to receive a free car wash ticket or pet waste bag dispenser for providing your comment? If so, please be sure to provide us with your contact information and let us know which option you would prefer.

**Car wash ticket**

*Date: 12/28/2010 8:20 AM
Subject: Form Submission: Surface Water Mgmt. Plan Comments*

What type of non-point source pollution do you feel is the biggest problem for the City of Bothell?

**Car/truck oil leaks**

Where would you like to see our efforts focused over the next four years?

**Educate public on keeping cars properly maintained**

What would you think is the best way of reaching out to the general public?
Everyone picks up on difference sources, so you have to try to do them all

How would you like to be involved in this process?
**Personally keep surface water in mind when buying and using products**

Other comments?

Name and Address:

Would you like to receive a free car wash ticket or pet waste bag dispenser for providing your comment? If so, please be sure to provide us with your contact information and let us know which option you would prefer.
2011 Comments Received
On August 28, 2011 Surface Water Management staff promoted the Surface Water Management Plan (SWMP) booth at the city’s annual Festival of the River. The booth highlighted current ambient monitoring results and SWMP to solicit input from attendees at the festival.
The one day event resulted in 24-people visiting the booth. The following are the issues expressed by booth visitors:

- Horse Creek is getting higher flows and they are concerned as to how it might affect Stonebrook Condos.
- Wanted to know how they could be more involved in the SWMP.
- The Surface Water Management fee is a concern for the potential annexation area to the city. They felt it might be too high compared to what they currently pay to Snohomish County.

In general the people who visited the booth were unaware of the program and how the Surface Water Management program is involved in surface water issues. There was an expressed disconnect that management of storm water can affect streams. They were curious about monitoring and felt it was an important feature of the surface water management program, “your work is very important”.

Future changes to the booth should be reviewed. It was noted that the adjacent interactive booth, games and interactive displays, drew people’s attention. It was observed that as people approached the SWMP, non-interactive booth, they would veer away to the adjacent interactive booth. This represented a lost opportunity to engage people in the fundamental task, a program development through public participation. People like free things and this might enhance and attract people to a booth.
Appendix B

Monitoring

- Monitoring Plan Surface Water Management Effectiveness.
- Maps of City Hall and E. Main Street Basins.
- Map of potential stormwater monitoring location, Basin 23rd Avenue SE.
- Annual Program Financial Summary Tables
Introduction
In fulfillment of the City’s National Pollution Discharge Elimination System Permit Phase II, Washington Department of Ecology (WDOE), the City shall prepare a monitoring plan to determine the effectiveness of the Permittee’s Surface Water Management Plan (SWMP) at controlling storm water-related problems. The monitoring program shall be designed to answer two questions based on issues significant to the City and its significance to other Permittee’s. This monitoring plan addresses question one of the two questions. The second question is addressed in a separate document, “Surface Water Quality Monitoring: BioAssessment”, City of Bothell 2010.5-07.

Question

- How effective is the Surface Water Design Manual (adopted 2009) as applied to the downtown development area towards improving water quality?

Method
The City will measure storm water quality and quantity. It is anticipated that the sites will be located within downtown re-development planning area. The base line parameters shall include: temperature, dissolved oxygen, conductivity, pH and turbidity. During run off events others can be added dependent upon the expected pollutants. Typically, in urban settings the following are measured in storm water due to their prevalence and known adverse impacts: Total Suspended Solids, copper, zinc, cadmium, oils/grease, and nutrients phosphorus and nitrogen.

Sample Schedule
Baseline parameters will be monitored once per month. Various water quality meters will be used to take readings. Storm event monitoring will occur during three storm events each year. Storm events must generate runoff to the extent that sampling can occur over a 6-hour period. There should be a measurable hydrograph, with a beginning, midpoint and tail. Typically that is a precipitation event of ¼-inch to ½-inch within 24-hour period.

Sampling Locations
Primary site location shall be within the downtown development planning area. Two basins have been initially identified (see Storm Water Monitoring Outfall map), City Hall Basin and East Main Street Basin. The plan is to install a permanent vault suitable for collection of flow rates, and installation of continuous water quality samplers. The basins are currently in different phases of engineered storm water design. The City anticipates that prior to 60% design that locations within each basin will be selected for monitoring. Monitoring shall begin prior to development to establish pre and post pollutant levels. Due to upstream influences and the need to isolate the downtown plan there may be a need to establish a monitoring station upstream of the downtown redevelopment planning
It is not anticipated that continuous flow measures will be collected at the upstream sample locations. The cost benefit to collecting this information is not sufficient to the analysis of the data collection.

**Sampling Protocol**

Sampling shall be conducted by City staff. Storm water samples will be collected either by qualified City staff or through a qualified consultant. Samples will be transported to an accredited lab to perform the analysis using appropriate Environmental Protection Agency and WDOE approved standards and procedures for laboratories. A Quality Assurance Project Plan will be prepared using WDOE’s “Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies”, Ecology Publication No. 01-03-003 (or most recent version).
## 2009 NPDES Program Costs

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<th>Program Elements</th>
<th>SWM Staff</th>
<th>Maintenance Operations &amp; Equipment</th>
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*This sum includes $78,951 in Maintenance and Operations costs associated with street sweeping, maintenance performed at City-owned and operated stormwater facilities, vactoring catch basins and pipes in City right-of-ways, operation of a decant facility, and training of staff. Included in the sum is $251,670 for storm vehicle maintenance and $1,028,099 for Maintenance and Operations Storm Division crew, administrative staff, and management staff salaries and benefits.*
### 2010 NPDES Program Costs

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*This sum includes $71,994 in Maintenance and Operations costs associated with street sweeping, maintenance performed at City owned and operated stormwater facilities, vacctoring catch basins and pipes in City right-of-ways, operation of a decant facility, and training of staff. Included in $1,382,867 is $67,920 for stormwater vehicle maintenance and $1,242,952 for Maintenance and Operations Storm Division crew, administrative staff, and management staff salaries and benefits.*
### 2011 NPDES Program Costs

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* This sum includes $69,073 in Maintenance and Operations costs associated with street sweeping, maintenance performed at City owned and operated stormwater facilities, vactoring catch basins and pipes in City right-of-ways, operation of a decant facility, and training of staff. Included in $2,063,237 is $118,853 for stormwater vehicle maintenance and $1,875,311 for Maintenance and Operations Storm Division crew, administrative staff, and management staff salaries and benefits.