

**Stormwater Management Program Plan
Snohomish County, Washington**

March 2016

**Prepared in partial fulfillment of requirements of the
National Pollutant Discharge Elimination System
(NPDES) Municipal Stormwater Permit**

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Introduction

The Washington State Department of Ecology has issued a National Pollutant Discharge Elimination System (NPDES) Phase 1 municipal stormwater permit effective August 1, 2013 to July 31, 2018, with modifications effective January 16, 2015. This Stormwater Management Program Plan, or SWMP, describes the actions that Snohomish County will take in 2016 to meet the requirements of the permit.

The modifications to the permit were in response to appeals made to the Washington State Pollution Control Hearings Board (PCHB) and a subsequent PCHB ruling issued in March, 2014. All appeal issues, decisions, and previous versions of the permit are presented on the Ecology web site at:

<http://www.ecy.wa.gov/programs/wq/stormwater/municipal>

The Stormwater Management Program plan

The permit requires the preparation and annual update of a Stormwater Management Program plan (SWMP). Special Condition S5.A.1 of the permit requires the SWMP to include descriptions of

- Planned activities for each of the program components in Special Condition S5.C
- Additional actions planned to meet the requirements of Special Condition S7 related to Total Maximum Daily Loads (TMDLs)
- Additional actions planned to meet requirements of Special Condition S8 related to monitoring.

The main purpose of the SWMP is to inform various audiences about the permit and what the County will do to comply with it. These audiences include the Department of Ecology, County elected officials, and the public.

The SWMP is not intended to serve as a single operational manual for all actions under the permit. Numerous other documents, such as Quality Assurance Plans for monitoring, maintenance standards for drainage systems, and specific field procedures for storm sewer inspections have been developed. Some of these are noted in the SWMP, and many of these documents are on the Snohomish County NPDES web site at:

<http://snohomishcountywa.gov/1180/National-Pollutant-Discharge-Elimination>

The SWMP is organized according to the sequence of requirements in Special Condition S5.C, with the first ten numbered chapters corresponding to S5.C.1 to S5.C.10. Additional actions planned to meet requirements of TMDLs are described in these chapters, with the exception of TMDL-related monitoring, which is described in chapter 11 of the SWMP.

For each requirement, the SWMP contains a summary of the permit requirements followed by a summary of related actions Snohomish County will take, with a focus on actions to be taken in the current year (in this case, 2016). The summaries may not contain all details of the permit requirements, as the summaries are intended to facilitate general understanding by the targeted audiences, and on programs with which the public

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is likely to come into contact or may wish to provide input. For example, several permit requirements involve administrative or recordkeeping processes, or state that all County staff who perform a task shall receive appropriate training. Typically, such requirements have not been included in the summaries.

The basic requirements of the permit apply to the entire unincorporated portion of Snohomish County. In addition, as noted above, the permit contains some more specific requirements pursuant to Total Maximum Daily Load plans, referred to herein as TMDLs. TMDLs are developed by the Washington State Department of Ecology in response to documented violations of specific state water quality standards in specific water bodies. For Snohomish County, the current NPDES permit contains requirements pertinent to fecal coliform bacteria in North Creek, Swamp Creek, Little Bear Creek, Snohomish River Tributaries, and the Stillaguamish River basin. These requirements are set forth in Appendix 2 of the NPDES permit. Each of the TMDL requirements is essentially an area-specific and pollutant-specific version of one of the programmatic requirements of the NPDES permit. For reference, Table 1 shows the requirements of the TMDLs.

For further discussion of any of the County's NPDES programs, please contact Bill Leif at (425) 388-3148 or b.leif@snoco.org.

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Table 1 - NPDES permit TMDL Requirements

Snohomish Tributaries / North Creek / Swamp Creek	Little Bear Creek	Stillaguamish River
<p><u>Business Inspections</u> Inspect all commercial composting facilities and commercial animal handling facilities in TMDL area to ensure implementation of stormwater pollution source control BMPs by August 1, 2016. Inspect facilities with identified fecal coliform problems every three years thereafter.</p>	<p><u>Business Inspections</u> Inspect all commercial composting facilities and commercial animal handling facilities in TMDL area to ensure implementation of stormwater pollution source control BMPs by August 1, 2016. Inspect facilities with identified fecal coliform problems every three years thereafter.</p>	<p><u>Business Inspections</u> Inspect all commercial composting facilities and commercial animal handling facilities in TMDL area to ensure implementation of stormwater pollution source control BMPs by August 1, 2016. Inspect facilities with identified fecal coliform problems every three years thereafter.</p>
<p><u>Public Education and Outreach</u> Conduct public education and outreach activities to increase awareness of bacterial pollution problems and promote proper pet waste management behavior.</p>	<p><u>Public Education and Outreach</u> Conduct public education and outreach activities to increase awareness of bacterial pollution problems and promote proper pet waste management behavior, and install animal waste collection and/or education stations at County properties expected to have substantial dog and/or horse use.</p>	<p><u>Public Education and Outreach</u> Conduct public education and outreach activities to increase awareness of bacterial pollution problems and promote proper pet waste management behavior.</p>
<p><u>IDDE Field Screening</u> Include fecal coliform bacteria in IDDE field screening performed in subbasins of the TMDL watersheds.</p>	<p><u>IDDE Field Screening</u> Conduct IDDE field screening for fecal coliform bacteria sources in high priority subbasins, or combine this work with surface water monitoring in accordance with the QAPP for the microbial water quality assessment program.</p>	<p><u>IDDE Field Screening</u> Conduct IDDE field screening for fecal coliform bacteria sources in 50% of rural subbasins, or combine this work with surface water monitoring in accordance with the QAPP for the microbial water quality assessment program. Implement source identification and elimination actions in MS4 subbasins, and implement required actions under S5.C.8.</p>

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Table 1 - NPDES permit TMDL Requirements, continued

<p><u>Targeted Source Identification and Elimination</u></p> <p>By February 2, 2014, review fecal coliform data collected in accordance with the QAPP approved under the 2007 NPDES permit, and identify at least one high priority area for fecal coliform source identification and elimination. This requirement can be combined with surface water monitoring in accordance with the QAPP for the microbial water quality assessment program</p> <p>By August 1, 2014, begin to implement source identification and elimination actions in MS4 subbasins, and implement required actions under S5.C.8.</p>	<p><u>Targeted Source Identification and Elimination</u></p> <p>[No TMDL requirement]</p>	<p><u>Targeted Source Identification and Elimination</u></p> <p>[No TMDL requirement]</p>
<p><u>Surface Water Monitoring</u></p> <p>Review fecal coliform data collected in accordance with the QAPP approved under the 2007 NPDES permit and select at least one surface water monitoring location for continued characterization and long term trend evaluation of fecal coliform bacteria concentrations.</p> <p>By Feb 2, 2015, submit QAPP to Ecology.</p> <p>By August 1, 2015, begin sampling per QAPP</p> <p>Submit data to Ecology annually by May 31</p>	<p><u>Surface Water Monitoring</u></p> <p>Select at least one surface water monitoring location for continued characterization and long term trend evaluation of fecal coliform bacteria concentrations.</p> <p>By Feb 2, 2015, submit QAPP to Ecology.</p> <p>By August 1, 2015, begin sampling per QAPP</p> <p>Submit data to Ecology annually by May 31</p>	<p><u>Surface Water Monitoring</u></p> <p>Select at least one surface water monitoring location for continued characterization and long term trend evaluation of fecal coliform bacteria concentrations.</p> <p>By Feb 2, 2015, submit QAPP to Ecology.</p> <p>By August 1, 2015, begin sampling per QAPP</p> <p>Submit data to Ecology annually by May 31</p>

1. Legal Authority (Special Condition S5.C.1)

Permit requirements

Snohomish County is required to demonstrate that it can operate pursuant to legal authority that authorizes or enables the County to control discharges to and from municipal separate storm sewers owned or operated by the County. This legal authority, which may be a combination of statute, ordinance, permit, contracts, orders, interagency agreements, or similar means, shall authorize or enable the County, at a minimum, to:

- Control through ordinance, order, or similar means, the contribution of pollutants to municipal separate storm sewers owned or operated by the County from stormwater discharges associated with industrial activity, and control the quality of stormwater discharged from sites of industrial activity;
- Prohibit through ordinance, order, or similar means, illicit discharges to the municipal separate storm sewer owned or operated by the County;
- Control through ordinance, order, or similar means, the discharge of spills and the dumping or disposal of materials other than stormwater into the municipal separate storm sewers owned or operated by the County;
- Control through interagency agreements among co-applicants, the contribution of pollutants from one portion of the municipal separate storm sewer system to another portion of the municipal separate storm sewer system;
- Require compliance with conditions in ordinances, permits, contracts, or orders; and,
- Within the limitations of state law, carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition on illicit discharges to the municipal separate storm sewer and compliance with local ordinances.

In addition to this generally stated legal authority requirement, the permit contains the following specific actions related to regulatory authority:

- Adoption of the equivalent of specific requirements set forth in Special Condition S5.C.5.a, effective no later than January 22, 2016.
- Review of development codes to identify needed revisions to incorporate low impact development (LID) principles and LID best management practices (BMPs), so as to make LID as the preferred and commonly used development approach. The range of issues considered in this review must include those outlined in *Integrating LID into Local Codes: A Guidebook for Local Governments* (Puget Sound Partnership, 2011). Needed code revisions must be effective no later than January 22, 2016. The County must include a summary of this review and any related regulatory revisions in the 2015 annual report.
- Adoption of regulatory revisions related to pollution source control and illicit discharge control as set forth in Special Condition S5.C.8.b, effective no later than February 2, 2018.

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Stormwater management program

Snohomish County relies on a mixture of codes, contracts, and interlocal or interagency agreements to meet the basic requirements set forth in permit section S5C1.

Stormwater regulations related to new development and redevelopment are embodied in several chapters of Snohomish County Code (SCC) Title 30, in the County's Engineering Design and Development Standards, and in the Snohomish County Drainage Manual.

The County adopted regulations meeting the requirements of Special Condition S5.C.5.a on January 11, 2016. The revised stormwater codes are available at:

<http://wa-snohomishcounty.civicplus.com/1489/NPDES-Permit-Reissue-Project>, in the links to ordinances 15-102 and 15-103.

Pursuant to Special Condition S5.C.5.b, the County reviewed its regulations regarding LID Principles and LID BMPs, and in 2014 adopted revisions to its tree retention code. The ordinance is available at:

<http://www.snohomishcountywa.gov/DocumentCenter/View/20875>

A summary of the review process is included in the 2015 annual report.

Regulatory revisions pursuant to Special Condition S5.C.8.b were adopted in 2013.

All chapters of Snohomish County Code are available at:

<http://www.codepublishing.com/wa/snohomishcounty>

The Snohomish County Engineering Design and Development Standards are available at:

<http://www.snohomishcountywa.gov/492/Design-Standards-EDDS>

The Snohomish County Drainage Manual is available at:

<http://www.snohomishcountywa.gov/1130/Drainage-Manual>

The County is not a co-applicant with any other NPDES municipal permittee and thus does not have any related interlocal agreements.

2. Municipal Separate Storm Sewer System Mapping and Documentation (Special Condition S5.C.2)

Permit requirements

The County must have an ongoing program to map and document a variety of things related to the County's municipal storm sewer, including:

- known County storm sewer outfalls;
- receiving waters (other than groundwater);
- stormwater treatment and flow control facilities owned, operated, or maintained by the County;
- geographic areas served by the County's storm sewer that do not discharge stormwater to surface water;
- certain tributary conveyances and connections described in the permit;
- connections between the County storm sewer and storm sewers of other municipalities or public entities; and
- connections authorized or allowed by the County after February 16, 2007.

Mapping of some tributary conveyances and connections specified in the permit must be performed by December 31, 2017.

Stormwater management program

Snohomish County is implementing an ongoing program as described above. Further, the County developed a GIS-based map and database system containing information about the drainage system within the unincorporated urban growth areas. This system includes information about storm sewer structures and facilities, including their location, elevation, material, type, size, and condition. Schematic maps of the County drainage system are available on the internet at:

<http://snohomishcountywa.gov/1129/Drainage-GIS>

3. Coordination (Special Condition S5.C.3)

Permit requirements

Snohomish County must implement coordination mechanisms among County departments to eliminate barriers to compliance with the terms of this permit.

The County must also coordinate stormwater-related policies, programs and projects with other NPDES municipal permittees with which the County shares one or more watersheds.

Stormwater management program

On February 4, 2008, the Snohomish County Executive issued Executive Order 2008-49 requiring department directors or their designees to attend twice-annual meetings at which NPDES issues will be discussed. These meetings are typically held in April and October.

Snohomish County participates in a variety of coordination efforts with other NPDES municipal permittees. Permit coordinators from the seven Washington State Phase 1 permittees meet bimonthly to discuss permit implementation issues. Also, Snohomish County meets in a quarterly meeting that includes the NPDES Phase 2 permittees in or adjacent to Snohomish County, Ecology staff, and other Phase 2 permittees from the north Puget Sound area.

4. Public Involvement and Participation (Special Condition S5.C.4)

Permit requirements

Snohomish County must provide ongoing opportunities for the public to participate in processes involving the development, implementation and update of the SWMP, including a process for consideration of public comments on the SWMP. The County must make the SWMP and all other submittals required by this permit available to the public, and must post the SWMP and annual reports on the County website.

Stormwater management program

The County performs the actions described above. SWMPs and annual reports are posted on the County's NPDES website at:

<http://snohomishcountywa.gov/1180/National-Pollutant-Discharge-Elimination>

5. Controlling Runoff from New Development, Redevelopment, and Construction Sites (Special Condition S5.C.5)

Permit requirements

Pursuant to Special Conditions S5.C.5.a and S5.C.5.b, the County must adopt regulatory revisions as described in Section 1 – Legal Authority, and report on revisions related to S5.C.5.b in the 2015 annual report.

The County must conduct a watershed-scale stormwater planning project to identify a stormwater management strategy or strategies that would result in hydrologic and water quality conditions that fully support “existing uses” and designated uses” as defined in Washington Administrative Code (WAC) 173-201A-020. This project, described in detail in Special Condition S5.C.5.c of the permit, must be completed and documented by September 6, 2017.

The County must also participate in the watershed-scale stormwater planning project being performed in the Bear Creek watershed by King County.

Stormwater management program

As described in Section 1 – Legal Authority, Snohomish County adopted regulations needed to comply with Special Conditions S5.C.5.a and S5.C.5.b on January 11, 2016. Information related to compliance with S5.C.5.b is included in the 2015 annual report.

Snohomish County has elected to lead a stormwater basin planning in the portion of the Little Bear Creek watershed contained in unincorporated Snohomish County, as specifically authorized by the modified permit effective January 16, 2015.

The County is participating in the Bear Creek stormwater basin planning effort led by King County, as required by the modified permit.

6. Structural Stormwater Controls (Special Condition S5.C.6)

Permit requirements

Snohomish County must implement a Structural Stormwater Control Program to prevent or reduce impacts to waters of the state caused by discharges from the County's storm sewer system. The program shall address disturbances to watershed hydrology and stormwater pollutant discharges, and shall consider impacts caused by stormwater discharges from areas of existing development, including runoff from highways, streets and roads owned or operated by the County, and areas of new development where impacts are anticipated as development proceeds.

The County must consider projects such as:

- New flow control facilities, including LID BMPs;
- New water quality treatment or combined treatment and flow control facilities;
- retrofitting existing stormwater flow control or treatment or combined facilities;
- property acquisition for water quality and/or flow control benefits (not associated with future facilities);
- maintenance with capital construction costs equal to or greater than \$25,000.

The program should also consider other means to address impacts such as:

- riparian habitat acquisition;
- restoration of forest cover and riparian buffers;
- floodplain reconnection projects on water bodies that are not flow control exempt per Appendix 1;
- capital projects related to the MS4 which implement an Ecology-approved basin or watershed plan; and
- other actions to address stormwater runoff into or from the MS4 not otherwise required in Special Condition S5.C.

In-stream culvert replacement or channel restoration projects are not eligible to count towards compliance with this permit requirement.

The Structural Stormwater Control program may also include a program designed to implement small scale projects that are not planned in advance.

The planning process used to develop the program shall include:

- geographic scale of the planning process;
- issues and regulations addressed;
- steps in the planning process;
- types of characterization information considered;
- implementation budget;
- public involvement process; and the prioritization process, procedures, and criteria used to select the projects comprised by the program.

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Stormwater management program

The 2016 Structural Stormwater Control Program is described in a stand-alone document available on the Snohomish County NPDES Home Page at the link titled "Stormwater Management Program documents and annual reports." The NPDES Home Page is at:

<http://snohomishcountywa.gov/1180/National-Pollutant-Discharge-Elimination>

**7. Source Control Program for Existing Development
(Special Condition S5.C.7)**

Permit requirements

Snohomish County must implement a program to reduce pollutants in runoff from areas that discharge to the County storm sewer. The program as described in Special Condition S5.C.7 of the permit has three main elements. First, the County must include implementation and enforcement of Chapter 7.53 SCC – Water Pollution Control and Snohomish County Drainage Manual Volume IV – Source Control. Second, the County must develop an inventory of businesses that have the potential to generate polluted discharges to the County’s storm sewer, and must annually conduct a number of inspections equal to 20% of the number of businesses in the inventory. The County may select which businesses to include in the inspection program each year, and is not required to inspect all businesses in the inventory within the 5-year term of the permit. Third, the County must investigate all businesses and properties identified through legitimate complaints.

In addition to these basic requirements, in areas with applicable TMDLs (Stillaguamish River, Snohomish Tributaries, North Creek, Swamp Creek, and Little Bear Creek), the County must inspect all commercial animal handling areas and commercial composting facilities to ensure implementation of source control BMPs for bacteria. All such facilities must be inspected by August 1, 2016, and facilities with documented bacteria source control problems must be reinspected on a frequency not to exceed three years.

Stormwater management program

In 2013, Snohomish County adopted revisions to Chapter 7.53 SCC to contain several minor revisions required by the permit. In addition, for various administrative reasons, the County removed requirements for stormwater facility inspection and maintenance from Chapter 7.53 SCC and put them into a new stand-alone Chapter 7.54 SCC.

The County continues to implement a business inspection that complies with the permit.

**8. Illicit Connection and Illicit Discharge Detection and Elimination
(Special Condition S5.C.8)**

Permit requirement

Special Condition S5.C.8 of the permit contains the following requirements:

- The County must continue implementation of a program to prevent, detect, characterize, trace, and eliminate discharges and connections to the County storm sewer that are prohibited by County code. The program must include a “field screening” program to detect prohibited connections and discharges to the storm sewer. Field screening is the term used in the permit to mean a systematic dry-weather inspection of a location in the storm sewer, including both visual inspection of the storm sewer and chemical analysis of water if it is present. During the term of the current permit, the County must screen all storm sewer conveyances within the urban / higher density rural subbasins that were not screened between February 2007 and July 31, 2013.
- The County must continue to operate a water quality complaint phone line.
- The County must investigate a report of a prohibited connection within 21 days of the report, and must use enforcement authority in a documented effort to eliminate the prohibited connection within 6 months. All prohibited connections to the MS4 must be eliminated. In addition, the County must contact Ecology immediately upon discovering a prohibited connection that presents a severe threat to human health or the environment.
- The County must have either begun participation in a regional emergency response program, or have developed and implemented procedures to investigate and respond to spills and improper disposal into the County’s storm sewer.

In addition to these requirements, the County must perform the following TMDL-related requirements (some of which are covered by the “basic” requirements of S5.C.8):

Stillaguamish River: perform field screening for bacteria in 50% of the rural subbasins in the watershed by July 31, 2018.

Snohomish Tributaries, North Creek, and Swamp Creek: include field screening for bacteria in all field screening performed in the TMDL area.

Stormwater management program

As noted above, Snohomish County adopted revisions to Chapter 7.53 SCC to meet the requirements of the permit.

The County continues to implement its program to prevent, detect, characterize, trace, and eliminate discharges and connections to the County storm sewer. This program includes proactive field screening associated remedial actions, as well as responding to external reports of potential water quality problems or illicit connections.

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Members of the public can report potential or observed water quality problems by calling the dedicated water quality complaint phone number at 425-388-6481. In addition, the County has placed information about water quality and water pollution at:

<http://snohomishcountywa.gov/782/Water-Quality>

This web page contains an e-mail link for communicating with a staff member of Snohomish County Surface Water Management.

9. Operation and Maintenance Program (Special Condition S5.C.9)

Special Condition S5.C.9 contains requirements for operation and maintenance of stormwater facilities, roads, and properties owned and operated by Snohomish County. There are six main requirements, each discussed below in concert with the County's associated SWMP actions.

A) Adoption of stormwater facility maintenance standards

Permit requirements

By June 30, 2015, Snohomish County must implement maintenance standards equivalent to those specified in Chapter 4 of Volume V of the 2012 Stormwater Management Manual for Western Washington, as modified in 2014. For existing facilities which do not have maintenance standards, the County shall develop a maintenance standard.

Stormwater Management Program

The required revisions maintenance standards were adopted as part of the larger body of regulations adopted to comply with Special Condition S5.C.5a.

B) Maintenance of privately-owned stormwater facilities that drain to the County's storm sewer

Permit requirements

Snohomish County must inspect privately-owned stormwater flow control facilities, treatment facilities, and catch basins that discharge to the County's storm sewer, and must ensure maintenance occurs according to adopted standards. Inspections must be performed on an annual basis unless an alternate schedule is developed according to criteria set forth in the permit. The County must either perform the inspections and needed maintenance, or ensure that such work was done by means of credible documentation, provided that these responsibilities are limited to facilities to which the County can legally gain access.

The County must also implement a program to inspect all new permanent stormwater treatment and flow control facilities, including catch basins, in new residential developments every 6 months during the period of heaviest construction, and enforce compliance with maintenance standards as needed.

Stormwater Management Program

The County has implemented such a program and will continue to do so in 2016.

C) Maintenance of stormwater facilities owned or operated by Snohomish County

Permit requirements

Snohomish County must implement a program to inspect all of its permanent stormwater treatment and flow control facilities (other than catch basins), and maintain them in accordance with adopted standards and requirements set forth in the permit.

Stormwater Management Program

The County has implemented such a program and will continue to do so in 2016.

D) Maintenance of catch basins owned or operated by Snohomish County

Permit requirements

Snohomish County must implement a program to inspect catch basins and inlets owned or operated by the County in accordance with requirements set forth in the permit.

The County must dispose of “vactor decant water” (water collected from stormwater facilities by eductor or “vactor” trucks) in accordance with the requirements of Appendix 6 of the permit.

Stormwater Management Program

The County has implemented such a program and will continue to do so in 2016.

E) Operation and maintenance of County lands (roads and properties)

Permit requirements

Snohomish County must implement practices to reduce stormwater impacts associated with runoff from lands owned and maintained by the County, including but not limited to roads and road rights-of-way, parking lots, buildings, open space, maintenance yards, and stormwater facilities. The established practices must address:

- 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;
- maintenance of roadside areas, including vegetation management;
- dust control;
- pavement striping maintenance
- application of pesticides and fertilizers;
- landscape maintenance and vegetation control
- trash and pet waste management; and
- building exterior cleaning and maintenance.

The County must develop and implement a Stormwater Pollution Prevention Plan (SWPPP) for all County heavy equipment maintenance or storage yards and County

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material storage facilities located in areas subject to this permit, that are not covered under by another Ecology issued stormwater discharge permit. Implementation of non-structural BMPs shall begin immediately after the pollution prevention plan is developed. A schedule for implementation of structural BMPs shall be included in the SWPPP. Generic SWPPPs that can be applied at multiple sites may be used to comply with this requirement. The SWPPP shall include periodic visual observation of discharges from the facility to evaluate the effectiveness of BMPs.

Stormwater Management Program

The County has implemented such a program and will continue to do so in 2016.

10. Education and Outreach Program (Special Condition S5.C.10)

Permit requirements

Special Condition S5.C.10 of the permit sets forth the following requirements.

- A. The County will implement or participate in an education and outreach program that uses a variety of methods to target the audiences and topics listed below. The outreach program will be designed to educate each target audience about the stormwater problem and provide specific actions they can follow to minimize the problem.
- i. To build general awareness, the County will target the following audiences and subject areas:
 - 1) General public, school age children, and businesses, home-based businesses, and mobile business:
 - General impacts of stormwater on surface waters.
 - Impacts from impervious surfaces.
 - Impacts of illicit discharges and how to report them.
 - LID principles and LID BMPs.
 - Opportunities to become involved in stewardship activities.
 - 2) Engineers, contractors, developers, and land use planners:
 - Technical standards for stormwater site and erosion control plans.
 - LID principles and LID BMPs.
 - Stormwater treatment and flow control BMPs/facilities.
 - ii. To effect behavior change, the County will target the following audiences and BMPs:
 - 1) General public, businesses, home based businesses, and mobile businesses:
 - Use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps, and other hazardous materials.
 - Equipment maintenance.
 - Prevention of illicit discharges.
 - 2) Residents, landscapers and property managers/owners:
 - Yard care techniques protective of water quality.
 - Use and storage of pesticides and fertilizers and other household chemicals.
 - Carpet cleaning and auto repair and maintenance.
 - Vehicle, equipment, and home/building maintenance.
 - Pet waste management and disposal.
 - LID principles and LID BMPs.
 - Stormwater facility maintenance.
 - Dumpster and trash compactor maintenance.
- B. The County will create stewardship opportunities and/or partner with existing organizations to encourage residents to participate in activities such as stream teams, storm drain marking, volunteer monitoring, riparian plantings and education activities.

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- C. The County will measure the understanding and adoption of the targeted behaviors for at least one target audience in at least one subject area. No later than February 2, 2016, Permittees shall use the resulting measurements to direct education and outreach resources most effectively, as well as to evaluate changes in adoption of the targeted behaviors. Permittees may meet this requirement individually or as a member of a regional group.

In addition to these basic requirements, in areas with applicable TMDLs (Stillaguamish River, Snohomish Tributaries, North Creek, Swamp Creek, and Little Bear Creek), the County must conduct public education and outreach activities to increase awareness of bacterial pollution problems and promote proper pet waste management behavior.

Stormwater management program

During the term of the permit, Snohomish County will have awareness and behavior change programs as described above. The pet waste management and disposal actions include work in areas with related TMDL requirements.

The County will continue to create stewardship opportunities.

The County will measure the understanding and adoption of Natural Yard Care behaviors by residents and homeowners who have single family homes on parcels 1 acre or smaller. By February 2, 2016, Snohomish County will use the resulting measurements to direct education and outreach resources most effectively, as well as to evaluate changes in adoption of the targeted behaviors. Snohomish County will meet this requirement as a member of a regional group.

11. Monitoring (Permit Condition S8 and TMDL Requirements)

Permit requirements

The permit requires several kinds of stormwater monitoring in Special Condition S8, and includes the option for permittees to either perform the monitoring in-house or to pay a set annual fee that funds a regional stormwater monitoring program operated by Ecology.

Monitoring for fecal coliform bacteria in streams is also required or suggested in Appendix 2 of the permit, which pertains to TMDLs. By February 2, 2015, Snohomish County must submit Quality Assurance Project Plans (QAPPs) to Ecology for required monitoring in the Stillaguamish River, Snohomish River Tributaries, North Creek, Swamp Creek, and Little Bear Creek. The County must begin monitoring according with the QAPPs by August 1, 2015.

In addition, the Little Bear Creek TMDL requires Snohomish County to prioritize and conduct bacteria source identification and elimination in high priority MS4 subbasins that discharge to surface waters in the area where these TMDL requirements apply. This shall be done by incorporating the Little Bear Creek watershed into the County's microbial water quality assessment (MWQA) monitoring program in accordance with the schedule for QAPP development and approval required for the Snohomish River Tributaries TMDL

Stormwater management program

Monitoring under Special Condition S8

Snohomish County has elected to meet these monitoring requirements by paying into the fund for the regional stormwater monitoring program.

Monitoring pursuant to TMDL requirements

The County submitted the QAPP to Ecology in 2015 and began monitoring by August 1, 2015.

The County has incorporated the Little Bear Creek watershed into the County's MWQA program. Potential sources of bacterial contamination that are identified through this program are investigated as part of the County's IDDE and water pollution investigation program required by Special Condition S5.C.8.