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# 2016 Whatcom County Stormwater Management Program



Whatcom County  
Public Works Department



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# 1. INTRODUCTION

## 1.1. Background

Whatcom County has developed the 2016 Stormwater Management Program (SWMP) to meet the conditions of its Western Washington Phase II Municipal Stormwater Permit (Permit) under the National Pollutant Discharge and Elimination System (NPDES). The SWMP is the set of actions and activities to meet the requirements of each component of the Permit. This document is intended to be a planning and implementation document for the public, elected officials, and Whatcom County staff.

The 2016 SWMP highlights the accomplishments from 2015 permit year and activities planned for 2016.

The Permit (frequently referred to as the NPDES Phase II Permit) applies to the operators of regulated small municipal separate stormwater sewer systems (MS4s). An MS4 is the stormwater conveyance system that is:

- Owned and operated by a public entity that discharges stormwater to a surface water of Washington State;
- Designed or used to collect or convey stormwater (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains);
- Not a combined sewer; and
- Not part of a Publicly Owned Treatment Works (sewage treatment plant).

The current Permit is effective from August 1, 2013-July 31, 2018. The NPDES Phase II Permit can viewed be on the Department of Ecology's website at: [www.ecy.wa.gov/programs/wq/stormwater/municipal/phaseIIww/wwphiipermit.html](http://www.ecy.wa.gov/programs/wq/stormwater/municipal/phaseIIww/wwphiipermit.html)

Additional information on Whatcom County's NPDES Phase II Program and associated documents can be found at: <http://www.co.whatcom.wa.us/981/National-Pollutant-Discharge-Elimination>

## 1.2. Components of the SWMP

The Permit includes the following components that address MS4 management:

- Public Education & Outreach
- Public Involvement & Participation
- Illicit Discharge Detection & Elimination (IDDE)
- Controlling Runoff From New Development, Redevelopment, and Construction Sites
- Municipal Operations and Maintenance
- Monitoring and Assessment
- Compliance With Total Maximum Daily Load Requirements

### 1.3. Whatcom County Implementation Responsibilities

Whatcom County Public Works Special Programs Division is the lead in developing the SWMP, and coordinates with all County departments, neighboring jurisdictions, and appropriate agencies to administer and track Permit requirements to achieve compliance.

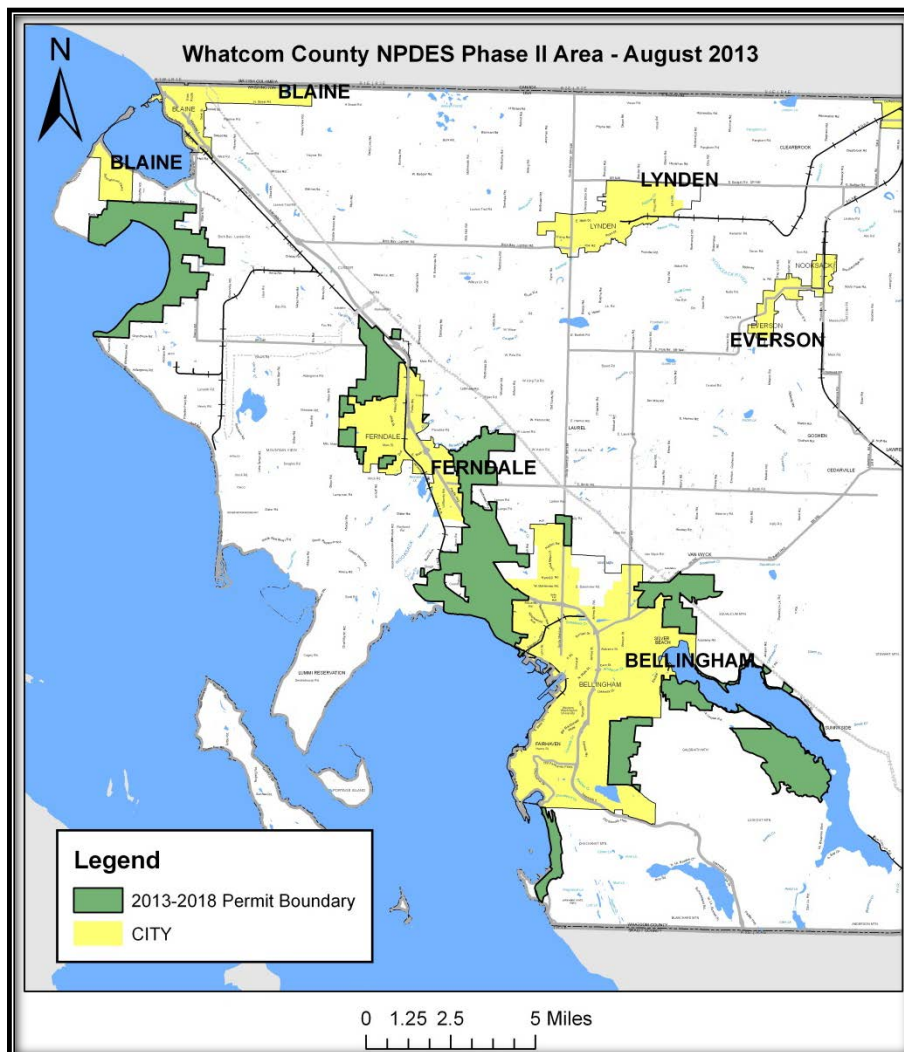
**Table 1-1 SWMP Implementation Responsibilities**

<b>Program Component</b>	<b>Contributing County Department(s)</b>	<b>County Department Responsibilities</b>
<b>Public Education and Outreach</b>	Health Planning & Development Services Public Works <ul style="list-style-type: none"> <li>▪ Natural Resources</li> <li>▪ Special Programs</li> <li>▪ Stormwater</li> </ul>	Create outreach opportunities and develop materials for the public.
<b>Public Involvement and Participation</b>	Health Planning & Development Services Public Works-Special Programs	Provide opportunities for the public to participate in the development, implementation, and update of the County's SWMP.
<b>Illicit Discharge Detection and Elimination (IDDE)</b>	Health Parks Planning & Development Services Public Works <ul style="list-style-type: none"> <li>▪ Maintenance &amp; Operations</li> <li>▪ Special Programs</li> <li>▪ Stormwater</li> </ul>	Respond and investigate illicit discharge reports.  Provide education to staff and public on IDDE.  Conduct IDDE assessments on County's MS4.
<b>Controlling Runoff from New Development, Redevelopment, and Construction Sites</b>	Planning & Development Services Public Works <ul style="list-style-type: none"> <li>▪ Engineering Services</li> <li>▪ Special Programs</li> </ul>	Provide site plan review and construction inspections for stormwater permits. Conduct/coordinate private stormwater facility inspections.
<b>Municipal Operations and Maintenance</b>	Facilities Parks Public Works <ul style="list-style-type: none"> <li>▪ Maintenance &amp; Operations</li> <li>▪ Special Programs</li> </ul>	Implement adopted maintenance standards for municipally-owned facilities. Inspect and maintain publicly-owned stormwater facilities.
<b>Monitoring</b>	Public Works <ul style="list-style-type: none"> <li>▪ Natural Resources</li> <li>▪ Special Programs</li> <li>▪ Stormwater</li> </ul>	Conduct water quality monitoring of outfalls, water bodies, and streams in Phase II area.

#### 1.4. Whatcom County Regulated Area

The NPDES Phase II Permit boundary covers approximately 15,000 acres and generally includes the following areas:

- Bellingham Urban Growth Area
- Sudden Valley
- Portions of the Hillsdale and Emerald Lake area
- Ferndale Urban Growth Area
- Portions along North Shore Drive on Lake Whatcom and Lake Whatcom Boulevard
- Portions along Chuckanut Drive and Chuckanut Bay
- Birch Bay Urban Growth Area (UGA)
- The entire Lake Whatcom watershed is subject to illicit discharge detection and elimination requirements of the Permit.



## 1.5. Document Organization

Sections of this document are organized in order by the program area components found in the Permit. The program components reference the associated Permit section in parentheses.

- **Section 2.0** addresses Stormwater Management Program Administration (S5.A & B)
- **Section 3.0** addresses Public Education and Outreach (S5.C.1)
- **Section 4.0** addresses Public Involvement (S5.C.2)
- **Section 5.0** addresses Illicit Discharge, Detection, and Elimination (S5.C.3)
- **Section 6.0** addresses Controlling Runoff from New Development, Redevelopment, and Construction Sites (S5.C.4)
- **Section 7.0** addresses Pollution Prevention and Operation of Maintenance for Municipal Operations (S5.C.5)
- **Section 8.0** addresses Compliance with Total Maximum Daily Load Requirements (S7)
- **Section 9.0** addresses Monitoring and Assessment (S8)



## **2. STORMWATER MANAGEMENT PROGRAM ADMINISTRATION**

Stormwater Management Program Administration activities include the coordination, compilation, and tracking of all tasks of the Permit, and the overall administration of the programs to meet NPDES requirements.

### **2.1. Permit Requirements**

The Permit (Section S5.A, B, & C) requires the County to perform the following tasks:

- Update the Stormwater Management Program (SWMP) annually.
- Submit SWMP and annual compliance reports by March 31<sup>st</sup> of each year.
- Track cost estimates for implementation of tasks for continued evaluation of SWMP development.
- Track the number of inspections, official enforcement actions, and types of public education activities required by the program component.
- Develop coordination mechanisms between departments of the County.
- Develop coordination mechanisms between jurisdictions with shared waterbodies covered under the respective MS4s on stormwater-related policies, programs, and projects
- Design the SWMP to achieve reduction of the discharge of pollutants from Whatcom County's MS4 to the maximum extent possible (MEP), meet all known and reasonable methods of prevention, control, and treatment (AKART) requirements of the State Water Pollution Control Act (RCW Chapter 90.48), and to protect water quality.

### **2.2. Accomplishments in 2015**

- Continued coordination mechanisms within Whatcom County departments and with other jurisdictions to achieve compliance with the Permit.
- Continued participation in NPDES Coordinator's Forum for both North and South Sound jurisdictions.
- Acquired expanded budget authority for 2016-2017 to implement and expand the NPDES Program.

### **2.3. Planned Activities for 2016**

- Continue to refine and standardize cost estimate tracking for implementation of tasks for each department.
- Convene quarterly meetings with departments on NPDES task tracking and reporting.
- Continue and update necessary process, procedures, and amendments to incorporate AKART requirements set for the by the State Water Pollution Control Act.

### **3. PUBLIC EDUCATION AND OUTREACH**

Public Education and Outreach activities focus on providing information regarding permit requirements and stormwater management to the general public, elected officials, and those working or residing in the NPDES Phase II areas.

#### **3.1. Permit Requirements**

The Permit (Section S5.C.1) requires the County to perform the following tasks:

- Provide an education and outreach program with prioritized audiences.
- Measure the understanding and adoption of target behaviors for at least one subject area.
- Track and maintain records of public education and outreach activities.

#### **3.2. Accomplishments in 2015**

- Contracted with Kulshan Services LLC to conduct 2 workshops on private stormwater facility maintenance that included inspection reports for all participants. The focus was to give technical support and guidance to assist developments in achieving compliance of the maintenance standards applicable to their development.
- Contracted with WSU Cooperative Extension for NPDES Phase II Community Outreach-Runoff/Phosphorus Reduction through Residential Landscape Practices. WSU provided a Sustainable Landscape: Green Gardening series (6 class series with 11 participants) held in the fall of 2015.
- Staff provided education and outreach materials to businesses regarding source control BMPs and stewardship actions as part of the Health Department's Local Source Control Program.
- Continued education and outreach opportunities through mailers, workshops, and website updates regarding stormwater topics.
- Continued program and permit updates to elected officials.

#### **3.3. Planned Activities for 2016**

- Continue providing the Sustainable Landscaping: Gardening Green class series focusing on Runoff/Phosphorus Reduction through Residential Landscape Practices.
- Continue with private stormwater facility education and outreach workshops in spring and fall of 2016.
- Expand education efforts through additional outreach events and programming.
- Measure the understanding and adoption of target behaviors for at least one subject area regarding stormwater impacts outlined in the Permit.

## **4. PUBLIC INVOLVEMENT AND PARTICIPATION**

Public involvement and participation activities focus on providing opportunities for the public to share input on program development and implementation of the SWMP through various committees and venues of the County.

### **4.1. Permit Requirements**

The Permit (Section S5.C.2) requires the County to perform the following tasks:

- Provide ongoing opportunities for public involvement through committees, and participation in developing rate structures, stewardship programs, environmental activities, or other similar activities and venues.
- Complete the SWMP, Annual Report, with all other related submittals, and make those documents and Permit available to the public.

### **4.2. Accomplishments in 2015**

- Provided current and past SWMP documents, Annual Compliance Reports, and all other related submittals on the Whatcom County NPDES Phase II website.
- Provided updates to the public and elected officials on the NPDES Phase II Permit at two Surface Water Work Sessions.
- Provided opportunities for the public to submit comments at Whatcom County Council meetings, and the NPDES website regarding the SWMP and/or NPDES Phase II Permit.
- Provided a form on the NPDES Phase II website for the public to submit comments on the program or permit electronically.

### **4.3. Planned Activities for 2016**

- Continue providing current and past SWMP, Annual Compliance Reports, and other related submittals on the Whatcom County NPDES Phase II website.
- Continue with public meeting announcements for opportunities to comment on the SWMP through the website and submit press releases for major updates.

## **5. ILLICIT DISCHARGE DETECTION, AND ELIMINATION (IDDE)**

The IDDE program focusses on the identification, investigation, termination, cleanup, and reporting of illicit discharges. These activities address both municipal staff and the general public.

### **5.1. Permit Requirements**

The Permit (Section S5.C.3) requires the County to perform the following tasks:

- Implement an ongoing program to detect, report, and remove illicit discharges, connections, or spills that includes storm sewer mapping, implementing ordinances, and a local hotline for reporting.
- By December 31, 2017, complete field screening of outfalls during dry weather conditions on at least 40% of the county's MS4 and average of 12% each year thereafter to detect illicit discharges during dry weather conditions.
- Provide staff and the public ongoing education on IDDE response processes and procedures.
- Track and summarize illicit discharge reporting, responses, and enforcement actions for the Annual Compliance Report and SWMP.

### **5.2. Accomplishments in 2015**

- Continued implementation of IDDE ordinance adopted from 2010.
- Coordinated on illicit discharge and spill investigation, response, and reporting with:
  - Health Department
  - Parks Department
  - Planning & Development Services Department
  - Public Works: Maintenance & Operations, Special Programs, and Stormwater Divisions
  - Washington State Department of Ecology Environmental Report Tracking System (ERTS)
- Provided ongoing pollution prevention and illicit discharge training to County staff.
- Whatcom County staff responded to 5 reported incidents of illicit discharges within the NPDES Phase II boundary.
- Whatcom County Health Local Source Control Program conducted approximately 72 visits to businesses educating on illicit discharges, spill prevention, and waste management.
- Continued maintenance and updates of mapping of MS4 outfalls, receiving waters, and structural BMPs.

- Maintained a stormwater drainage and illicit discharge hotline for the public to report spills. The number is published in the phone book and available on the NPDES website.

### **5.3. Planned Activities for 2016**

- Continue to expand and enhance educational opportunities on prevention and reporting of illicit discharges through programs, website updates, and public meeting presentations and outreach.
- Continue to provide education on illicit discharge identification, investigation, and response for all Whatcom County field staff and the public.
- Conduct field screening for illicit discharges for at least 40% of the MS4 to be completed by December 31, 2017.
- Initiate outfall inventory and inspection program.

## **6. CONTROLLING RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT AND CONSTRUCTION SITES**

Through the permitting process, stormwater runoff related to development activities can be managed through permit review, inspections, and regulatory mechanisms.

### **6.1. Permit Requirements**

The Permit (Section S5.C.4) requires the County to perform the following tasks:

- Develop, implement, and enforce a program to reduce pollutants in stormwater runoff to a regulated MS4 from new development, redevelopment, and construction site activities.
- Adopt regulations to address runoff from new development, redevelopment, and construction site projects from both public and private projects utilizing the Minimum Requirements, technical thresholds, and definitions of Appendix 1 of the Permit.
- By December 31, 2016, provide provisions to allow for non-structural preventative actions and source reduction approaches, such as Low Impact Development techniques, measures to minimize the creation of impervious surfaces, and measures to minimize the disturbance of native soils and vegetation.
- By December 31, 2016, conduct annual inspections of all stormwater treatment and flow control BMPs/facilities that discharge to the MS4.

### **6.2. Accomplishments in 2015**

- Continued implementation of regulations adopted in 2010 to address runoff from new development, redevelopment, and construction site projects from both public and private projects utilizing the Minimum Requirements, technical thresholds, and definitions in Appendix 1 of the Permit. (ORD 2010-003)
- Contracted with AHBL, Inc. to initiate land use and stormwater code amendments to incorporate and require Low Impact Development principles and best management practices. Amendments are required to be adopted by December 31, 2016.
- Continued program for annual inspections of stormwater treatment and flow control BMPs/facilities in accordance with the Permit requirements adopted per the 2007-2012 Permit.
- Continued certification and recertification of all site inspection staff to be Certified Erosion and Sediment Control Leads (CESCL).
- Continued Certified Stormwater Inspector training for NPDES crew.

- Continued refinement of inspection and enforcement process and procedures regarding the implementation of NPDES-related development regulations.

### **6.3. Planned Activities for 2016**

- Complete the adoption of Low Impact Development (LID) provisions into code by December 31, 2016.
- Continue annual inspection program for stormwater treatment and control BMPs/facilities.

## **7. Municipal Operations and Maintenance**

Pollution prevention and operation and maintenance for municipal operations include the maintenance of publicly-owned catch basins, ditches, ponds, swales, drainage systems, etc. that are part of the County's MS4.

### **7.1. Permit Requirements**

The Permit (Section S5.C.5) requires the County to perform the following tasks:

- Develop and implement an operations and maintenance (O&M) program to prevent and reduce pollutant runoff from municipal operations.
- Establish maintenance standards as, or more, protective than specified in the 2012 Stormwater Management Manual for Western Washington.
- Conduct inspections of stormwater flow control and treatment facilities (other than catch basins) on an annual basis and implement appropriate maintenance actions.
- Spot check publicly-owned permanent treatment and flow control facilities (other than catch basins) after major storm events.
- Inspect all catch basins and inlets owned and operated by Whatcom County at least once by August 1, 2017, and every two years thereafter.
- Train staff to implement appropriate standards and procedures to protect water quality for Permittee construction, operations, or maintenance activities.

### **7.2. Accomplishments in 2015**

- Cleaned and maintained publicly-owned pretreatment and flow control vaults, stormwater filter vaults, detention ponds, and bioinfiltration or treatment swales in the NPDES Phase II area. Sediment accumulation is vacuumed out in the pre-treatment and flow control vaults twice a year. The stormwater filter vaults are vacuumed out and have their filter cartridges replaced annually. Swales are mowed and maintained twice a year.
- Of the approximately 2,700 publicly-owned catch basins within the NPDES boundary, conducted 2,108 catch basin inspections. Identified 706 catch basins requiring vactoring, 192 requiring repairs, 14 requiring replacement, and 1,280 requiring no action.
- Performed 202 catch basin cleanings and 192 catch basin repairs.
- Conducted spot checks on publicly-owned permanent treatment and flow control facilities (other than catch basins) after major storm events.
- Hired Kulshan Services LLC to conduct inspections of catch basins located along South Bay in the Lake Whatcom watershed.
- Refined and updated asset management database for public and privately-owned stormwater facilities.



- Hired a Stormwater Inspector, M&O NPDES Crew Leader, and NPDES Senior Road Maintenance Worker.

### **7.3. Planned Activities for 2016**

- Continue vactoring and repairs for for the remaining catch basins identified needing maintenance.
- Schedule replacement of 14 catch basins.
- Continue inspection of remaining catch basins.
- Utilize contract with the City of Bellingham for additional catch basin cleaning as needed.

## **8. COMPLIANCE WITH TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS**

The NPDES Phase II Permit contains provisions regarding Total Maximum Daily Loads (TMDL) for water bodies listed on the State's 303(d) list of impaired water bodies within the Permit boundaries. Lake Whatcom has been listed for below accepted levels of dissolved oxygen and above accepted levels of bacteria in its tributaries.

Additional information regarding the Lake Whatcom TMDL can be found online at: <http://www.ecy.wa.gov/programs/wq/tmdl/LkWhatcom/LkWhatcomTMDL.html>

### **8.1. Status of Lake Whatcom TMDL**

In November 2015, the Washington State Department of Ecology submitted the final TMDL to the Environmental Protection Agency (EPA).

The current NPDES Permit only applies to the more urban areas in the Lake Whatcom watershed. Per Section S7 of the Permit, when the Lake Whatcom TMDL is approved Whatcom County should demonstrate reasonable assurances to manage stormwater from the county-owned and operated MS4 regulated by the Permit that discharges into Lake Whatcom.

## **9. MONITORING**

This section provides a description of the Permit requirements related to monitoring, descriptions of 2015 accomplishments, and activities planned for 2016.

### **9.1. Permit Requirements**

The Permit (Section S8) requires the County to perform the following tasks:

- Conduct water quality sampling within the NPDES Phase II areas to characterize illicit discharges.
- In the Annual Compliance Report, provide a description of any stormwater monitoring studies conducted, or contracted by, Whatcom County.
- In the Annual Compliance Report, provide an assessment of the appropriateness of BMPs identified by Whatcom County for each component of the SMWP.
- Continue participation and payment into the collective fund for Regional Stormwater Monitoring Program (RSMP) as part of a Permit requirement.

### **9.2. Accomplishments in 2015**

- Continued contract for the Lake Whatcom Tributary Monitoring Project. The County, City of Bellingham, and Lake Whatcom Water and Sewer District partner in the project for storm event sampling occurring at 28 locations on tributaries within the Lake Whatcom watershed. The data collected is utilized in Lake Whatcom TMDL modeling efforts.

### **9.3. Planned Activities for 2016**

- Continue the Lake Whatcom Tributary Monitoring Project
- Continue and expand effectiveness monitoring for projects within the NPDES Phase II boundary.
- Continued participation in the Regional Stormwater Monitoring Program (RSMP).