



City of Camas



# STORMWATER MANAGEMENT PROGRAM (SWMP)

**As required by the:**

***2013-2018 Western  
Washington Phase II  
Municipal Stormwater  
Permit for MS4***

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## ACRONYMS

AASF	Adopt-a-Stream Foundation
AGC	the Association of General Contractors
BMPs	Best Management Practices
CESCL	Certified Erosion and Sediment Control Lead
City	City of Camas
Ecology	Washington State Department of Ecology
EPA	US Environmental Protection Agency
LID	Low Impact Development
Manual	Ecology's <i>Stormwater Management Manual for Western Washington</i>
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
Permit 2012	Western Washington Phase II Municipal Stormwater Permit
PSA	Professional Service Agreement
PSAT	Puget Sound Action Team
SWMMWW	Stormwater Management Manual for Western Washington
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
TESC	Temporary Erosion and Sediment Control
TMDL	Total Maximum Daily Load
CMC	Camas Municipal Code
WRIA	Water Resource Inventory Area

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## INTRODUCTION

The Stormwater Management Program (SWMP) is required per Section S5 of the 2013-2018 Western Washington Phase II Municipal Stormwater Permit (Permit). The SWMP is organized per the program components listed in S5.C. The SWMP will be updated annually for submittal with the City of Camas' (City) annual reports to the Department of Ecology (Ecology). The SWMP will consist of the following components:

- A detailed description of the components is discussed in S5.C.1-5 of the Permit:
  1. Public Education and Outreach
  2. Public Involvement and Participation
  3. Illicit Discharge Detection and Elimination
  4. Controlling Runoff from New Development, Redevelopment, and Construction Sites
  5. Municipal Operations and Maintenance

The SWMP is comprised of the above components and is designed to protect water quality by reducing the discharge of pollutants from the regulated small municipal separate storm sewer system (MS4) to the maximum extent practicable.

The SWMP is a planning and implementation document that can be used by the City to continue to meet permit requirements in the future. The program has three separate aims depending on the intended audience:

1. Ecology – Provide written documentation on how the City will meet the permit requirements for the SWMP.
2. The Public – Solicit input and build local support for the City's SWMP by posting it on the City website as described in the Public Involvement and Participation requirements.
3. City Staff and Officials – Build support and understanding for the SWMP.

The City will apply for renewal of the current Permit no later than February 2, 2018 (180 days before Permit expiration). Current Permit expiration date is July 31, 2018.

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# CHAPTER 1

## PUBLIC EDUCATION AND OUTREACH (S1)

Ensuring that your audience has the proper education is the best way of achieving the desired results. That being said the targeted audience is the public; which includes schools, contractors, developers, homeowners, material suppliers, and business owners (both public and private). Reaching these various audiences is the primary goal of the public education and outreach program. The program is designed to target the following audiences about the stormwater problem and provide specific actions they can follow to minimize the problem.

Building general awareness in the following:

- General Public, Schools, and Businesses (including home-based and mobile businesses):
  - General impacts of stormwater on surface waters.
  - Impacts from impervious surfaces.
  - Impacts of illicit discharges and how to report them.
  - Low impact development (LID) principles and LID BMPs.
  - Opportunities to become involved in stewardship activities.
  -
- 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.

To effect behavior change in the following:

- General Public, Schools, and Businesses (including home-based and mobile businesses):
  - Use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps, and other hazardous materials
  - Equipment maintenance.
  - Prevention of illicit discharges.
- Homeowners, Residents, Landscapers, and Property Managers/Owners
  - Yard care techniques protective of water quality.
  - Use and storage of pesticides, 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.
  -

The apparent behavior changes by the targeted audiences will be used to measure the effectiveness of the outreach programs. The resulting measurements shall be used to direct

education and outreach resources more effectively, as well as to evaluate the need to alter education practices to promote the desirable behavioral changes.

In general, pollution by the public is generated mainly due to lack of knowledge as to how some of their everyday activities help to create stormwater pollution. Thus, even a little bit of information is a step closer to alleviating the problem. The City will address this issue by a variety of methods, including but not limited to:

- Development of a stormwater webpage on the City website;
- City Tent to supply stormwater information at local events; and
- Flyers for school usage, this is a work in progress.

These methods will be updated and changed throughout the life of permit as the City evaluates how to best reach the variety of targeted audiences.

The City will implement the following BMPs to perform public education and outreach activities on stormwater impacts. These BMPs are discussed at length.

- BMP 1(A): Maintain Stormwater Website
- BMP 1(B): Update Storm Drain Stenciling Program
- BMP 1(C): Provide Opportunities for Proper Disposal of Household Hazardous Waste
- BMP 1(D): Address Illegal Dumping and Littering
- BMP 1(E): Provide Information on Lawn and Garden Care Behavior
- BMP 1(F): Create Opportunities for the Use of Low Impact Development (LID)

**Objective:** Reduce pollutants from residential and industrial runoff through increased public awareness of the impacts of stormwater runoff and encourage changes in stormwater pollution causing behavior.

## **BMP 1(A): MAINTAIN STORMWATER WEBSITE**

### **Measurable Goals**

1. Maintain stormwater website.

### **Description**

Websites continue to be a very useful tool for disseminating any information to a very broad audience. Since agency personnel, most citizens, environmental groups, and the business community use the internet regularly, the website is the most expedient tool for conveying stormwater related information. The City posts updates on meetings, policy discussions, and other stormwater issues. Specific targeted audiences continue to be:

1. Staff
2. General Public
3. Businesses
4. Homeowners Associations
5. Landscapers and Property Managers

## 6. Engineers and Developers

The website contains information pertaining to the City's stormwater program, including staff contact information, and maps of the overall storm drainage system and locations of stormwater facilities. The site also have links to the City's SWMP, the annual NPDES Phase II report, the IDDE Program Manual, and the link to the Ecology website with contains the adopted *2014 Stormwater Management Manual for Western Washington* (Manual).

### **Timeline for Completion**

- Created City website in 2008.
- Updated reports are posted to the webpage yearly.
- Pertinent topics, information, and updates are posted as necessary.

### **Activities Completed**

- The stormwater webpage was created in 2008 and is updated throughout the year with stormwater information, maps, and updated reports. The website is located at: [www.ci.camass.wa.us/index.php/engmain/stormwater](http://www.ci.camass.wa.us/index.php/engmain/stormwater)
- An addition to the stormwater webpage was the link to the 'Stormwater Partners of SW Washington' website at [www.stormwaterpartners.com](http://www.stormwaterpartners.com). This website was created as part of an interlocal agreement between several municipalities: Clark County, Battle Ground, Camas, La Center, Ridgefield, Vancouver, and Washougal.

## **BMP 1(B): UPDATE STORM DRAIN STENCILING PROGRAM**

### **Measurable Goals**

1. Availability of storm drain stencils and curb mounted medallions.
2. Contact information for Scouts and school volunteer groups.
3. Yearly refreshing of storm drain stencils and installation of missing medallions.
4. Requiring new developments to install curb medallions prior to final acceptance.
5. Work with CSD Art Students to create storm murals to be painted at site specific catch basin locations.

### **Description**

A visual reminder that the drainage structure which is located against the curb, drains to creeks and other water ways, helps to cut down on water pollution. As the public continues to be informed, and educated, the hope is that they will begin to adjust their behavior to help protect water quality. Stencils and curb medallions located in front of storm drains are the visual reminders that encourage the public to think twice before sweeping grass clippings, or allowing car washing soap, to enter the roadway, flow down the gutter, and into catch basins.

### **Timeline for Completion**

- This is an on-going activity.

### **Activities Completed**

- The City maintains a supply of storm drain stencils and paint for use by volunteer groups

- The curb mounted medallions have been incorporated as a detail and requirement for all new construction in the City’s Design Standards Manual.
- Missing curb-mounted storm drain medallions are replaced as reported.
- Working with the Camas High School art students.

## **BMP 1(C): PROVIDE OPPORTUNITIES FOR PROPER DISPOSAL OF HOUSEHOLD HAZARDOUS WASTE**

### **Measurable Goals**

1. Provide opportunities for the public to properly dispose of household hazardous waste.
2. Distribute flyers with dates, locations, and times for household hazardous disposal events.
3. Provide information on the effects of household hazardous waste on stormwater.

### **Description**

Many citizens are not aware of the impacts to the environment that is caused by the improper disposal of typical household cleaning products. Or that many of these products can be replaced with less-toxic products that are readily available and safer to dispose of without waiting for the once yearly disposal event.

### **Activities Completed**

- Information is provided to citizens about the yearly ‘Household Hazardous Waste’ dumping opportunity at the Operations Center. This information is included in the City newsletter, posted on the City website ([www.ci.camas.wa.us](http://www.ci.camas.wa.us)), and flyers are inserted in the appropriate billing cycle.
- Information has been provided about the new East County Transfer Station that takes household hazardous waste.

## **BMP 1(D): ADDRESS ILLEGAL DUMPING AND LITTERING**

### **Measurable Goals**

1. Created an informational sign for storm facilities prohibiting dumping.
2. Stormwater informational signs posted at all storm facilities.
3. The ordinance prohibiting litter was reviewed and is enforced.
4. Illegal dumping and littering education materials were created and distributed.

### **Description**

Litter has continued to be an ongoing pollutant in our roadside ditches, ponds, rivers, streams, and lakes. Litter is an eyesore, hazardous to wildlife, and costly to remove.

When developing a litter management strategy, the City will adopt the following EPA recommendations:

- Regular cleaning and maintenance is necessary to prevent the trash accumulated at control structures from being hazardous itself.

- Control strategies that will not just transport trash to another waterbody, but will reduce the quantity of trash in our waterbodies as a whole.

The EPA indicates that there are two main methods of trash control: source control (through public education) and structural control.

Source control includes community education, waste reduction, and cleanup campaigns. Community education will be part of the stormwater brochures and utility inserts. The City installs signs at storm facilities, both public and private, indicating the consequences of illegal dumping and littering; increasing the number of trash receptacles available for public use; and encourage the use of recycled products and products that contain limited amounts of packaging.

Structural control refers to the use of structures that physically filter wastes and conduct centrifugal separation of trash. Physical methods of filtering include trash racks, mesh nets, bar screens, and trash booms. Centrifugal separation is the means of separating floating trash from stormwater by increasing the settling rate of trash and particles. A number of commercial centrifugal products are available.

#### **Timeline for Completion**

- Illegal dumping and littering educational materials will be distributed throughout the life of the Permit.

#### **Activities Completed**

- Signs have been installed on all the stormwater facilities throughout the City that state ‘dumping in the stormwater facility is not allowed’. Trash bins have not, and probably will not, be installed at storm facilities as these are private and the responsibility of property owner to maintain.
- The City continues to enforce the no littering laws.
- Information on disposal sites, garbage collection, and dates are posted on the city website: [www.ci.camass.wa.us/index.php/pwgarbage](http://www.ci.camass.wa.us/index.php/pwgarbage), with additional information available in the ‘Utility Customer Info’ section.

### **BMP 1(E): PROVIDE INFORMATION ON LAWN AND GARDEN CARE BEHAVIOR**

#### **Measurable Goals**

1. Develop public education material addressing lawn and garden care practices were developed.
2. Provide a list of native vegetation for use in ‘natural’ landscaping.

#### **Description**

Lawn and garden care activities can result in contamination of stormwater through pesticide, soil, and fertilizer runoff. Proper landscape management effectively reduces water use, which reduces contaminant runoff, and enhances the aesthetics of a property.

The following topics, which are appropriate for residential, business and industrial properties, will be included in future City brochures and materials mailed with utility bills:

#### Planning and Design

It is important to emphasize the desire for property owners and landscapers to develop a landscape plan that utilizes the natural conditions of the property. The regional and climatic conditions of the site, existing vegetation, topography, and the water needs of plants are important considerations in designing landscaping that promotes natural vegetation growth while minimizing water loss and contamination.

#### Appropriate Plant Selection

The City encourages property owners and landscapers to choose local native plants to develop an environmentally friendly landscape. Native plant species are generally more water efficient and disease resistant.

#### Fertilizers

Property owners, landscapers, as well as City staff, are discouraged from using fertilizers. When they are necessary, property owners are encouraged to not over-apply them. The City recommends less-toxic alternatives, such as composted organic material.

The City obtains information from the following sources when preparing the lawn and garden brochures:

- Seattle Public Utilities, Seattle, WA  
<http://www.seattle.gov/util/EnvironmentConservation/MyLawnGarden/LawnCare/index.htm>
- Washington State University, Pesticide Education Program, WSU Urban Imp Pesticide Safety Education Program, Pullman, WA  
<http://pep.wsu.edu>

#### **Activities Completed**

- Brochures discussing lawn and garden activities and stormwater impacts are provided at city functions.
- A list of approved native plants and trees for use within the City right-of-way and suggested for private property is included in the City's *Design Standards Manual*. This is posted on the city's webpage: [www.ci.camamas.wa.us/index.php/engmain](http://www.ci.camamas.wa.us/index.php/engmain), under the 'Other Resources' information list.

### **BMP 1(F): PROVIDE INFORMATION ON THE USE OF LOW IMPACT DEVELOPMENT MEASURES**

#### **Measurable Goals**

1. Land use codes are reviewed to ensure consistency with LID principles

2. Construction related subjects for inclusion in construction and new development public education materials were identified.
3. LID education materials are distributed at city functions.
4. LID Standards were posted on the website.
5. Site plans are reviewed for incorporation of LID principles and practices.

### **Description**

The City recently revised several ordinances requiring developers to use LID principles, unless shown use is shown to be infeasible. Existing 'Development Standards' are being revised to comply with the current LID Permit requirements. The revised standards will then be posted on the City website to allow access by the public.

### **Timeline for Completion**

- The City continues to ensure that LID code requirements are met.
- Education materials, referring to LID practices, will be distributed at City Hall throughout the life of the Permit.
- The revised Development Standards will be posted on the website.

### **Activities Completed**

- The City adopted Ecology's approved LID manual.
- The revised Stormwater Control Ordinance was adopted on November 21, 2016.
- The *Stormwater Design Standards Manual* is being revised to include LID requirements and will be inserted as its own chapter into the City's Design Standards Manual. This is posted on the city's webpage: [www.ci.camamas.wa.us/index.php/engmain](http://www.ci.camamas.wa.us/index.php/engmain), under the 'Other Resources' information list.

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## CHAPTER 2

### PUBLIC INVOLVEMENT AND PARTICIPATION (S2)

Ecology has set out its requirements for the Public Involvement and Participation Program in Section S5.C.2 of the *Western Washington Phase II Municipal Stormwater Permit* (Permit). The following program is based on these requirements:

Public input is imperative to creating an effective stormwater management program. The SWMP is posted on the City's website. The SWMP is an ongoing opportunity for public involvement through advisory councils, watershed committees, participation in developing rate-structures, stewardship programs, environmental activities, or other similar activities. The City will:

- a. Provide opportunities for the public to participate in the decision-making processes involving implementation and updating of the SWMP.
- b. The SWMP, annual report, and all other submittals required by this Permit, shall be available to the public by posting it on the City's website by March 31<sup>st</sup> of each year for the life of the permit.

The City provides mechanisms whereby involvement and participation by the public are possible. This includes notifying the public of stormwater related opportunities and encouraging public comments. The following BMPs are the basis for accomplishing this requirement:

- BMP 2(A): Post Public Involvement Opportunities
- BMP 2(B): Conduct Stormwater Management Program Meetings
- BMP 2(C): Create a Year-Round Storm Drain Stenciling Program
- BMP 2(D): Explore Opportunity to Update Existing Stormwater Utility Fee
- BMP 2(E): Establish a Community Hotline

**Objective:** Provide opportunities for public involvement and participation.

#### BMP 2(A): POST PUBLIC INVOLVEMENT OPPORTUNITIES

##### Description

The City posts its public involvement opportunities on the website. Such opportunities will include workshops on the City's SWMP, storm drain stenciling program, and storm facility cleanups. Over the permitting cycle, the City will evaluate other opportunities that may be available to the public and post these as well. The City's annual report is posted on the website.

##### Timeline for Completion

- The City will continue to update the website for the duration of the Permit.

##### Activities Completed

- The City webpage is updated on a regular basis with agendas, and minutes, of all public meetings and workshops; including Council workshops & meetings, Planning, Parks Board, and Ward meetings.

## **BMP 2(B): CONDUCT STORMWATER MANAGEMENT PROGRAM MEETINGS**

### **Measurable Goals**

1. Meetings are held with a tally of attendees.
2. Meetings are held bi-monthly with stormwater group.

### **Description**

The City will conduct public meetings in order to promote public involvement and participation in the City's stormwater management program. The City will ensure that all meetings are well advertised, will follow applicable advertisement requirements for the City. Location, dates, and times for public meetings will be posted on the website and in public places, such as at City Hall and the Library. Public meetings will follow steps recommended by Ecology. The steps are as follows:

1. **Determine the Appropriate Type of Public Meeting Format.** The format chosen will be driven by the goals that the City wishes to achieve.
2. **Announce the Meetings.** The City will ensure that announcements for the public meetings will reach all stakeholders within the community by distributing the information to the local newspapers, posting in public places and on the website.
3. **Conduct Meeting and Solicit Public Input.** The City will ensure that the agenda includes plenty of time for people to ask questions and provide feedback to staff. Comments and responses will be recorded. In addition to the public meetings, the public will be provided with a means of commenting in writing and via social media.
4. **Perform Meeting Follow-up Activities.** A summary of the questions and answers discussed at the meeting will be prepared, along with a participant contact list. The information obtained from the meetings will help to determine if the meetings are in efficient method of reaching the public.

### **Activities Completed**

- A public education program was created in a joint interagency format under an Ecology Municipal Stormwater Grant. Participants included Clark County, Battle Ground, Camas, La Center, Ridgefield, Vancouver, and Washougal.
- There have been public hearings on the Stormwater Control Ordinance, Illicit Discharge Detection & Elimination Ordinance, Erosion Control Ordinance, and the Stormwater Design Standards Manual.
- Workshops were held on the functions of stormwater facilities and who is responsible for the maintenance, and on the benefits in replacing high maintenance lawns with native species plantings.

## **BMP 2(C): UPDATE STORM DRAIN STENCILING PROGRAM**

### **Measurable Goals**

1. Identify areas or streets to be included in the storm drain stenciling program were identified.
2. Update the stenciling program by working with the Camas High School arts program.
3. Develop a storm drain stencil and/or medallion
4. Identify and contact groups interested in participating in the stenciling program.
5. The number of groups participating.
6. The number of storm drains stenciled.

### **Description**

Identification of targeted areas and new streets to be included in the stenciling program will be an ongoing process. As interested groups are identified for participation in the program, the City will work with these groups, providing the stencils, paint, medallions (markers), safety equipment, and traffic control.

### **Activities Completed**

- The City identified target areas for storm drain stenciling, developed the stencils, and worked with interested groups.
- In addition to the a stenciling program, the City began installing permanent curb markers as these were found to be a more cost effective and efficient means of labeling drainage structures.
- The City continues to replace missing medallions and ensuring that new medallions are installed with each new development site.
- The installation of the permanent storm drain markers has been incorporated into the Design Standards Manual. The City will supply the markers and the Contractor and/or Developer will be required to install the markers with all new construction.

## **BMP 2(D): EXPLORE OPPORTUNITY TO UPDATE EXISTING STORMWATER UTILITY FEE**

### **Measurable Goals**

1. Periodic review of the current stormwater utility fee.

### **Description**

The City has had a stormwater utility fee in-place for development in the Fisher Basin area since 1989. In 2004 a citywide stormwater fee was adopted with a rate structure that encompasses all developed properties within the city limits of Camas.

### **Timeline for Completion**

- The City had a fee study completed in 2009 and implemented 2010.
- The City will continue to re-evaluate the existing stormwater utility fee and update the fee, as needed, throughout the life of the Permit.
- This is an ongoing project.

## **BMP 2(E): MAINTAIN COMMUNITY HOTLINE**

### **Measurable Goals**

1. A phone number and contact person was identified to receive reports on stormwater quality issues from the community.
2. The hotline number was distributed to the community.
3. The numbers of calls received are tracked, and inspections provided, in response to calls from the public.

### **Description**

In most municipalities, there is not enough time or staff to monitor all the activities that may be doing harm to our waterbodies. This is where the community can provide a great deal of help. By providing a dedicated number and contact person, any number of incidents can be reported to the City. These types of incidents can include oil/gas leaks, washing out excess concrete into the streets, or illegal dumping in and around creeks and streams.

The phone number is posted on the Engineering and Street Department's webpage. Also included on the webpages are complaint forms in electronic format for submittal.

City staff responds to the complaints and make every attempt to determine the responsible party and inform them of the environmental impacts of their actions. The responsible party will be required to stop the action. In addition, the violator will be supplied with information on cleanup, alternative disposal sites, erosion control information, and any other approved BMPs that will alleviate the situation. When warranted, enforcement actions are taken against polluters.

### **Activities Completed**

- A hotline number has been posted on the City website.
- The website has been upgraded to include a reporting form.

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## CHAPTER 3

### ILLICIT DISCHARGE DETECTION AND ELIMINATION (S3)

Ecology has set out its requirements for an Illicit Discharge Detection and Elimination Program in Section S5.C.3 of the *Western Washington Phase II Municipal Stormwater Permit* (Permit). Discharges from cities often include wastes and wastewater from sources other than stormwater. Illicit discharges are those that enter the storm system in two ways, (1) by direct connection of wastewater piping to storm lines; or (2) through indirect connections, such as infiltration from cracked wastewater piping, dumping of illicit material into storm drains, or accidental spills that result in wastewater flowing into storm drains.

As required by the Permit, the City implemented the following program:

- a. Mapping of the municipal storm sewer system (MS4) shall continue on an ongoing basis, with the maps updated and meeting the requirements of this section no later than February 2, 2018. At a minimum the maps shall include the following:
  - i. Known MS4 outfalls and Known MS4 discharge points
  - ii. Receiving waters, other than ground water.
  - iii. Stormwater treatment and flow control BMPs/facilities owned or operated by the City.
  - iv. Tributary conveyances to all known outfalls and discharge points with a 24-inch diameter or larger, or an equivalent cross-sectional area for non-pipe systems. The following to be mapped:
    - Tributary conveyances, Associated Drainage Areas, and Land Use
  - v. All connections to the MS4 authorized or allowed.
  - vi. Connections between the MS4 owned or operated by the City and other municipalities or public entities.
  - vii. Map geographic areas served by the City's MSR that do not discharge stormwater to surface waters.
  - viii. Electronic format maps shall be made available to Ecology upon request, depicting information required above.
- ix. Upon request, and to extent appropriate, provide mapping information to federally-recognized Indian Tribes, municipalities, and other Permittees.
- b. Develop and implement an Illicit Discharge Ordinance that will effectively prohibit non-stormwater, illegal discharges, and/or dumping into the City's separate storm sewer system to the maximum extent allowable under State and Federal law.
  - a. The ordinance does **not** need to prohibit the following:
    - Diverted stream flows, rising ground waters, uncontaminated ground water infiltration or pumped ground water, foundation drains, air-conditioning condensation, irrigation water from agricultural sources, springs, uncontaminated water from crawl spaces, footing drains, flow from riparian habitats or wetlands, non-stormwater discharges authorized by another NPDES or state waste discharge permit, or discharges from emergency firefighting.
  - ii. The ordinance **shall prohibit** the following:

- Discharges from potable water sources, including waterline flushing, hyperchlorinated waterline flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be dechlorinated to a concentration of 0.1 ppm or less.
  - Discharges from lawn watering and other irrigation runoff. These discharges to be minimized through public education activities and water conservation efforts.
  - Dechlorinated swimming pool discharges and swimming pool cleaning wastewater and filter backwash.
  - Street and sidewalk wash water, dust control water, and external building washdown water that does not use detergent.
  - Other non-stormwater discharges.
- iii. The SWMP will address any category in i and ii if the discharges are identified as significant sources of pollutants to waters of the State.
- iv. City's ordinance shall include escalating enforcement procedures and actions.
- v. City shall implement a compliance strategy that includes informal compliance actions, such as public education and technical assistance, as well as the enforcement provisions of the ordinance or other regulatory mechanism.
- vi. The ordinance or other regulatory mechanism shall be revised if necessary to meet the requirement of Section S5.C.3 not later than February 2, 2018.
- c. The City will develop and implement an ongoing program to detect and address non-stormwater discharges, illegal dumping, spills, and illicit connections. This program shall include the following components:
- i. Procedures for conducting investigations, including field screening and methods for identifying potential sources.  
Field screening methodology shall be documented in the relevant Annual Report.  
At least 40% of the MS4 shall have had complete field screening no later than December 31, 2017, with an average 12% each year thereafter.
  - ii. A publicly listed and publicized hotline, or other telephone number for public reporting of spills and other illicit discharges.
  - iii. An ongoing training program for all municipal field staff, who as part of their normal job responsibilities, might come into contact with or observe an illicit discharge, on the identification of and the proper procedures for reporting and responding.  
Document and maintain records of trainings and staff trained.
  - iv. The City will inform public employees, businesses, and the general public of the hazards associated with illegal discharges and improper disposal of waste.
- d. City shall implement an ongoing program designed to address illicit discharges, including spills and illicit connections. Program shall include:
- e.
- i. Procedures for characterizing the nature of, and potential public or environment threat posed by the illicit discharge, and steps for containment.
  - ii. Procedures for tracing the source of an illicit discharge.

- iii. Procedures for eliminating the discharge; including notification of appropriate authorities and property owner, technical assistance and follow-up inspections.
- iv. Compliance with the provisions noted above shall meet the following timelines:
  - Respond immediately to all illicit discharges;
  - Investigate within 7 days, on average, any complaints, reports or monitoring information;
  - Initiate an investigation within 21 days of report or discovery;
  - Upon confirmation, document use of the compliance strategy to eliminate the illicit connection within 6 months.
- e. Provide appropriate training for field staff who are responsible for the identification, investigation, termination, cleanup, and reporting of illicit discharges and spills. Follow-up training as needed to address changes in procedures, techniques, or requirements. Document and maintain records of training and staff trained.
- f. City shall track and maintain records of activities conducted to meet the above requirements.

The City will implement the following BMPs to detect and eliminate illicit connections, spills, and discharges during this Permit cycle.

- BMP 3(A): Review and Update Illicit Discharge Ordinance
- BMP 3(B): Review and Update Stormwater Ordinance
- BMP 3(C): Maintain Storm Sewer System Inventory Map
- BMP 3(D): Conduct Outfall Screening
- BMP 3(E): Provide Training on Illicit Discharges
- BMP 3(F): Maintain Community Hotline

### Objective

Establish and carry out procedures to identify and remove illicit discharges, and encourage public education and involvement in eliminating illicit discharges.

## BMP 3(A): REVIEW AND UPDATE ILLICIT DISCHARGE ORDINANCE

### Description

The City's Municipal Code (CMC) contains regulations that prohibit illicit discharges and dumping, and authorizes enforcement actions on public or private property.

As a Permittee of the *Western Washington Phase II Municipal Stormwater Permit*, the City adopted Ecology's *2014 Stormwater Management Manual for Western Washington* (Manual).

The City's illicit discharge ordinance contains the following Ecology recommended key elements:

- Prohibitions on illegal dumping or discharges to the storm drainage system;



- Prohibitions on illicit connections from sanitary sewers to the storm drainage system;
- Authority to inspect all properties for illicit discharges; and
- Penalties and enforcement options.

### Activities Completed

- The Illicit Detection and Discharge Elimination Ordinance (CMC 14.04) was adopted on August 17, 2009. The ordinance can be viewed at: [https://www.municode.com/library/wa/camas/codes/code\\_of\\_ordinances](https://www.municode.com/library/wa/camas/codes/code_of_ordinances) The hotline number (360.817.1565) , can be used for reporting violations and is available on the City webpage: [www.ci.cammas.wa.us/index.php/engmain/stormwater](http://www.ci.cammas.wa.us/index.php/engmain/stormwater) or <http://www.ci.cammas.wa.us/index.php/pwstormwater>
- An illicit discharge reporting form is also available at: <http://www.ci.cammas.wa.us/index.php/how-do-i/faq-kb>

## BMP 3(B): REVIEW AND UPDATE STORMWATER ORDINANCE

### Description

As a Permittee of the *Western Washington Phase II Municipal Stormwater Permit*, the City adopted Ecology's *2014 Stormwater Management Manual for Western Washington* (Manual).

The City ensured that the Stormwater ordinance contained the following Ecology recommended key elements:

- Prohibitions on illegal dumping or discharges to the storm drainage system;
- Prohibitions on illicit connections to the storm drainage system;
- Authority to inspect all properties for illicit discharges; and
- Penalties and enforcement options.

### Activities Completed

- The Stormwater Control Ordinance (CMC 14.02) was adopted on February 1, 2010. This ordinance was revised and adopted on November 21, 2016 in accordance with the current permit. The ordinance can be viewed at: [https://www.municode.com/library/wa/camas/codes/code\\_of\\_ordinances](https://www.municode.com/library/wa/camas/codes/code_of_ordinances)

## BMP 3(C): MAINTAIN STORM SEWER SYSTEM INVENTORY MAP

### Measurable Goals

1. The storm sewer system map is updated as the City is provided with as-built information from new development sites.

### Description

A storm sewer system map, depicting the existing storm sewer system, was developed and is maintained by the City to aid in eliminating illicit discharges. Updates occur as new

developments come on line and repairs to the existing storm system occur. The map includes the following features:

- The locations of all MS4 outfalls and receiving waters;
- The locations of all structural stormwater BMPs owned, operated, or maintained by the City;
- The tributary conveyances, associated drainage areas, and land use designations for all storm sewer outfalls with a 24-inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems;
- All connections to the municipal sewer authorized or allowed by the City after the effective date of the permit; and
- Geographic areas served by the City's MS4 that do not discharge stormwater to surface waters.

The map shows the required information shall be made available to Ecology upon their request.

The storm sewer system map is used to coordinate the removal of illicit connections and track storm sewer system maintenance.

#### **Activities Completed**

- The map is updated to include new facilities after final acceptance. The map is updated with the help of summer interns from the Camas School District Magnet program. Stormwater maps can be viewed on the City webpage:  
<http://www.ci.camasa.wa.us/index.php/engmain/stormwater>

### **BMP 3(D): CONDUCT OUTFALL SCREENING**

#### **Measurable Goals**

1. An inventory of outfall sites for inspection was created and outfalls prioritized.
2. An inventory of local businesses, that have a high probability of discharging pollutants to outfalls, is ongoing.
3. A schedule was developed for inspecting outfalls each year.
4. Priority outfalls are inspected each Permit year.

#### **Description**

The information obtained from the Storm Sewer System map identifies the outfall locations and businesses that have a high potential of contributing to an illicit discharge to these outfalls. These outfalls are monitored to identify discharges that exceed water quality standards. Visual inspections take place at outfalls located in areas that have a high potential of illicit discharges. Field notes are recorded on inspection forms and photos are taken of all inspected outfalls. If access to the outfall is a hazard, field staff will locate the nearest storm sewer manhole and attempt to identify signs of dry-weather flow, such as odor or residue. Field tests for possible contamination in dry-weather flows are as follows:

- **Odor** - Most strong odors, especially gasoline, oils, and solvents, are likely associated with high responses on the toxicity screening test.
- **Color** - the color of dry-weather discharges is an important indicator of inappropriate industrial sources. Industrial dry-weather discharges may be of any color, but dark colors, such as brown, gray, or black are most common.
- **Turbidity** - Turbidity is affected by the degree of gross contamination. Dry-weather industrial flows with moderate turbidity can be cloudy, while highly turbid flows can be opaque. High turbidity is often a characteristic of undiluted dry-weather industrial discharges.
- **Vegetation** - Vegetation surrounding an outfall may show the effects of industrial pollutants. Irregular growth of vegetation may be the result of dry-weather discharges.
- **Floatable Matter** - Contaminated flow may contain floating solids or liquids directly related to industrial or sanitary wastewater pollution. Floatables of industrial origin may include animal fats, spoiled food, oils, solvents, sawdust, foams, packing materials, or fuel.
- **Deposits and Stains** - Deposits and stains include any type of coating near the outfall, usually of a dark color.
- **Damage to Outfall Structures** - Damage to outfall structures is another visible indication of industrial contamination. Severely contaminated discharges, usually of industrial origin, can cause the peeling of surface paint and the cracking, deterioration, and spalling of concrete at an outfall.

The City inspects priority outfalls yearly. If there are signs of an illicit discharge, the Public Works Director will be alerted and steps will be followed to identify and eliminate the source of the discharge. A list of potential non-stormwater discharges that could originate from sites located within each basin will be cataloged for use in identifying the type of discharge and the potential violator.

The City will follow the EPA recommendations for detecting illicit connections including:

- Instituting building and plumbing codes to prevent connections of sources of potentially hazardous pollutants to storm drains.
- Prioritizing structures to be inspected by building age and use.
- Mapping each area to be surveyed and indicating the route of the storm sewer system and the locations of storm drains on the map.
- Surveying individual buildings to identify connections to storm drains.
- Inspecting storm sewer lines with television equipment to identify physical connections.
- Inspecting new developments or renovation projects to identify illicit connections to the storm sewer system.
- Testing sediment from the catch basins or equivalent structures.

- Using methods of identifying illicit connections such as dye testing, visual inspection, smoke testing, flow monitoring, or infrared, aerial and thermal photograph to determine whether they should be connected to the storm drain system or to the sanitary sewer.

### **Activities Completed**

- The inventory of outfalls, 24-inches and greater, was completed in 2011.
- Outfalls were prioritized and priority outfalls are inspected yearly.
- There is a means of tracking and reporting illicit discharges.
- Stormwater maps can be viewed on the City webpage:  
<http://www.ci.cammas.wa.us/index.php/engmain/stormwater>

## **BMP 3(E): PROVIDE TRAINING ON ILLICIT DISCHARGES**

### **Measurable Goals**

1. A list of personnel to be trained was developed.
2. Training materials were developed.
3. Training and the number of staff trained is tracked.

### **Description**

Targeted staff for training include: Code Enforcement Officer, Construction Inspectors from Engineering, Building Inspectors from Community Development, and Operations personnel. The training includes detection and elimination of illicit discharges, and the proper BMPs to use for mitigation. This includes various means to identify illicit connections and methods used to disconnect them from the stormwater system.

### **Activities Completed**

- Training materials have been created and staff is trained on an annual basis. The staff required to attend training are all field personnel, e.g. Engineering, Building, Streets, Water/Sewer, Mechanics, and Parks Maintenance.

## **BMP 3(F): MAINTAIN COMMUNITY HOTLINE**

### **Measurable Goals**

1. The hotline phone number is posted on the Engineering and Operations webpages. When a report is received on illicit discharge issues, the report is routed to the appropriate department.
2. The hotline number was distributed to the community.
3. Inspections are provided in response to calls from the public.

### **Description**

In most municipalities, there is not enough time or staff to monitor all the activities that may be doing harm to our waterbodies. This is where the community can provide a great deal of help. By providing a dedicated number and contact person, any number of incidents can be reported to

the City. These types of incidents can include oil/gas leaks, washing out excess concrete into the streets, or illegal dumping in and around creeks and streams.

A name and/or department including phone number are provided to the public through the City newsletter and website. Also included on the website is the complaint form in an electronic format for submittal.

City staff will respond to the complaints and make every attempt to determine the responsible party and inform them of the environmental impacts of their actions. The responsible party will be required to stop the action. In addition, the violator will be supplied with information on cleanup, alternative disposal sites, erosion control information, and any other approved BMPs that will alleviate the situation. When warranted, disciplinary action will be taken against polluters.

### **Activities Completed**

- The City tracks the number of inspections performed in response to the calls throughout the life of the Permit. The hotline number is posted on the website: [www.ci.camass.wa.us/index.php/engmain/stormwater](http://www.ci.camass.wa.us/index.php/engmain/stormwater).
- The electronic complaint form is posted on the website at: <http://www.ci.camass.wa.us/index.php/how-do-i/faq-kb>

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## CHAPTER 4

### CONTROL STORMWATER RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT, AND CONSTRUCTION SITES (S4)

The City will implement, and enforce a program to reduce pollutants in stormwater runoff from new development, redevelopment, and construction site activities. The program shall apply to private and public development, including roads.

The minimum performance measures are:

I ordinance or other enforceable mechanism that addresses runoff from new development, redevelopment, and construction site projects. The ordinance shall include, at a minimum:

- i. The Minimum Requirements, technical thresholds, and definitions in Appendix 1, or an equivalent, as approved by Ecology under the 2013 NPDES Phase 1 Permit. More stringent requirements may be used or tailored to local circumstances. Such local requirements shall provide equal protection of receiving waters and equal levels of pollutant control.
  - ii. The local requirements shall include the following requirements, limitations, and criteria that, when used to implement the minimum requirements in Appendix 1 will protect water quality, reduce the discharge of pollutants, and satisfy the State requirements under chapter 90.48 RCW to apply AKART prior to discharge:
    - Site planning requirements; BMP selection criteria; BMP design criteria; BMP infeasibility criteria, LID competing needs criteria, and BMP limitations.
  - iii. The legal authority, through the approval process for new development and redevelopment, to inspect and enforce maintenance standards for private stormwater facilities that discharge to the MS4.
- b. The program shall include a permitting process with plan review, inspection and enforcement capability to meet the standards listed in (i) through (iv) below, for both private and public projects, using qualified personnel. At a minimum, the program shall be applied to all sites that that meet the minimum thresholds adopted pursuant to S5.C.4.a.i.
- i. Review all stormwater site plans for proposed development activities.
  - ii. Inspect, prior to clearing and construction, all known development sites that have a high potential for sediment transport.
  - iii. Inspect all permitted development sites, during construction to verify proper installation and maintenance of required erosion and sediment controls and enforce as necessary based on the inspection.
  - iv. Inspect all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater controls. Verify that a maintenance plan is completed and responsibility for maintenance is assigned. Enforce as necessary based on the inspection.

- v. Compliance with the inspection requirements, as outlined in (ii), (iii), and (iv), shall be determined by the presence and records of an established inspection program designed to inspect all sites. Compliance shall be determined by achieving at least 80% of scheduled inspections.

An enforcement strategy shall be developed and implemented to respond to issues of non-compliance.

A. The program shall include provisions to verify adequate long-term operation and maintenance (O&M) of stormwater treatment and flow control facilities and BMPs that are permitted and constructed pursuant to (b) above. These provisions shall be in-place no later than December 31, 2016. These provisions shall include the following:

- i. Implementation of an ordinance or other enforceable mechanism that clearly identifies the party responsible for maintenance, requires inspection of facilities, and establishes enforcement procedures.
- ii. Establish maintenance standards that are as protective or more protective of facility function than those outlined in Chapter 4 of Volume V of the *Stormwater Management Manual for Western Washington*. For facilities which do not have maintenance standards, the City shall develop a maintenance standard.

The purpose of the maintenance standard is to determine if maintenance is required. The standard is not a measure of the facility's required condition at all times between inspections.

Exceeding the maintenance standard between the period of inspections is not a permit violation.

- .
- iii. Annual inspections of all stormwater treatment and flow control facilities (other than catch basins), that were permitted, including those permitted in accordance with the requirement adopted pursuant to the 2007-2012 permit. Unless maintenance records justify a different frequency.
- iv. Inspections of all permanent stormwater treatment and flow control BMPs/facilities, including catch basins, for new residential developments every 6 months until 90% of the lots are constructed (or when construction is stopped and the site is fully stabilized) to identify maintenance needs and enforce compliance with maintenance standards as needed.
- v. Compliance with the inspection requirements noted above shall be determined by the presence and records of an established inspection program designed to inspect all sites. Compliance shall be determined by achieving at least 80% of scheduled inspections.
- vi. Unless there are circumstances beyond the City's control, when an inspection identifies that the maintenance standard has been exceeded, maintenance shall be performed as follows:
  - Within 1 year for typical maintenance of facilities, except catch basins.
  - With 6 months for catch basins.
  - Within 2 years for maintenance that requires capital construction of less than \$25,000.00



- vii. The program shall include a procedure for keeping records of inspections and enforcement actions by staff, including reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities shall be maintained.
- d. The program shall make available copies of the "Notice of Intent for Construction Activity" and copies of the "Notice of Intent for Industrial Activity."
- e. All staff responsible for implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are to be trained to conduct these activities. Follow-up training will be as needed.
- f. Low impact development code-related requirements.
  - i. No later than December 31, 2016, the City shall review, revise, and make effective their local development-related codes, rules, standards, or other enforceable documents to incorporate and require LID principles and LID BMPs. The intent shall be to make LID the preferred and commonly-used approach to site development. The revisions shall be designed to minimize impervious surfaces, native vegetation loss, and stormwater runoff in all types of development situations.
  - ii. Submit a summary of the results of the review and revision process in the annual report due no later than March 31, 2017.

The City will implement the following BMPs to address construction site run-off control:

- BMP 4(A): Update Ordinance and Legal Authority
- BMP 4(B): Adopt Stormwater Management Manual for Western Washington
- BMP 4(C): Update Tracking Mechanism for Inspections and Enforcement
- BMP 4(D): Provide Training for Staff
- BMP 4(E): Review Site Plan Standards
- BMP 4(F): Conduct Development Inspections

**Objective:** Upgrade requirements for erosion and sediment control for new development, re-development, and construction sites per the City's adopted ordinance. This includes planning, installation, inspection, maintenance, and enforcement of development practices.

## BMP 4(A): UPDATE ORDINANCE AND LEGAL AUTHORITY

### Measurable Goals

1. Revise Stormwater Control ordinance (14.02).

### Description

The revised and adopted ordinance fully addresses the requirements as laid out by the Permit's erosion and sedimentation control BMPs.

The City will revise the ordinance to require that BMPs from Ecology's 2014 *Stormwater Management Manual for Western Washington* (Manual), and/or BMPs of the City's that are equal to or greater in protection than Ecology's, be used to reduce contaminated runoff during construction.

The ordinance incorporates an enforcement plan that protects against inadequate construction erosion and sediment control practices.

The ordinance applies to all construction activity. As part of this review, the City looks at the grading permit process to ensure that prior to a grading permit being issued, developers submit erosion and sediment control plans to implement approved BMPs.

### Activities Completed

- The 'Stormwater Control' Ordinance (CMC 14.02) was adopted on February 1, 2010 and revised on November 21, 2016 in accordance with the current permit. The ordinance can be viewed at: [https://www.municode.com/library/wa/camas/codes/code\\_of\\_ordinances](https://www.municode.com/library/wa/camas/codes/code_of_ordinances)
- The ordinance also adopted the latest version of the *Stormwater Management Manual for Western Washington, Volume IV* for erosion and sediment control measures.

## BMP 4(B): ADOPT STORMWATER MAINTENANCE MANUAL FOR WESTERN WASHINGTON

### Measurable Goals

1. Adopt the current Ecology *Stormwater Management Manual for Western Washington* (Manual), in its entirety.
2. Adopt the most current *Stormwater Management Manual for Western Washington, Volume IV* for erosion prevention and sediment control.

### Description

The City adopted the Manual in its entirety and ensures that any City specific BMPs, which are not in the Manual, meet or exceed the expectations of the Manual. BMPs are used to reduce contaminated runoff during construction and post-construction. In addition, the City describes erosion and sediment control techniques in its stormwater brochures and posts them on the website for the use of construction site managers, home builders, homeowners, and landscape companies.

### Activities Completed

- The 'Stormwater Control' Ordinance (CMC 14.02) was adopted on February 1, 2010 and revised on November 21, 2016. The ordinance can be viewed at: [https://www.municode.com/library/wa/camas/codes/code\\_of\\_ordinances](https://www.municode.com/library/wa/camas/codes/code_of_ordinances)
- The revised ordinance adopted the latest version of the *Stormwater Management Manual for Western Washington*. In its entirety.

- The City's Stormwater *Design Standards Manual* is being revised to meet the current permit requirements. Upon completion of these revisions, the manual will be incorporated into the City's *Design Standards Manual* as a separate chapter.

These manuals are available for review online to the public at:

<http://www.ci.camasa.wa.us/index.php/engmain>

## **BMP 4(C): UPDATE TRACKING MECHANISM FOR INSPECTIONS AND ENFORCEMENT**

### **Measurable Goals**

1. Develop inspection forms.
2. Ensure frequencies of inspections are in compliance with construction site temporary erosion and sediment controls (TESC) and maintenance of installed BMPs.
3. Maintain an inventory of inspection activities.
4. Revise the ordinance for site inspection requirements.
5. Track the numbers of non-compliance letters or actions issued.

### **Description**

Lack of construction site erosion prevention and sediment control is one of the largest single contributors to runoff contamination and regular inspections. Site inspections will ensure that erosion and sediment controls are properly installed and maintained and that the SWPPP reflects any changes made (e.g. changes in control types or locations). Erosion prevention and sediment control inspectors will include Building Inspectors and other staff (e.g. Engineering) under the direction of the Public Works or Community Development Directors. Frequent and consistent inspections are the key to ensuring proper installation and maintenance of BMPs.

Besides staff, the Contractor is one of the most important people on a job site to ensure that the BMPs are relevant to the situation and are installed properly. Appendix 1 of the Western Washington Phase II Municipal Stormwater Permit, Minimum Requirement #2, "Construction Stormwater Pollution Prevention Plan (SWPPP), that requires that a person with a Certified Erosion and Sediment Control Lead (CESCL) certification be on-site or on-call at all times during a construction project. The City will include this requirement in the updated ordinance.

Construction inspectors are vital to ensuring that erosion and sediment control measures are in-place, thus inspection will be prioritized based on the following:

- Construction sites on steep slopes or highly erodible areas;
- Construction sites operated by contractors with past violations;
- Construction sites disturbing more than one acre; and
- Construction sites in operation during rain events.

### **Activities Completed**

- Inspection and correction notice forms were created.
- Site inspections continue on both small and large parcel projects.
- An SOP for Erosion Prevention and Sediment Control has been created for staff guidance.

## **BMP 4(D): PROVIDE TRAINING FOR STAFF**

### **Measurable Goals**

1. All field staff are trained in ESC inspection, with the required re-certifications tracked.

### **Description**

Engineering and building inspectors, as well as operation's staff are trained in the required erosion and sediment control BMPs for stormwater runoff from construction sites that meet the requirements for CESCL certification. The required classes cover the various means to identify where and what type of erosion and sediment control BMPs are needed for each site condition.

### **Activities Completed**

- All staff was initially trained at the required two full days of erosion and sediment control in order to receive CESCL certification, with follow-ups for recertification, for the life of the Permit.

## **BMP 4(E): REVIEW SITE PLAN STANDARDS**

### **Measurable Goals**

1. A checklist for reviewers was developed.
2. The number of plans reviewed is tracked.

### **Description**

City staff reviews all pre-construction site plans, for development property greater than 1 acre, to ensure that they include the required stormwater controls, erosion and sediment controls, and post-construction controls as required by City ordinance.

Plans for sites disturbing at least one acre will be reviewed to verify the following:

- Erosion and sediment controls are consistent with City ordinances.
- Construction operators are aware of their responsibility for implementing and maintaining erosion and sediment controls and are aware of the penalties for failing to do so.
- Post-construction controls consistent with the City ordinances are clearly described in the site plan.
- The construction operator and landowner are aware of the responsibility for implementing and maintaining the post-construction controls and of the penalties for failing to do so.

Pre-construction meetings are held with all parties involved, i.e. general contractor and field staff, to ensure that all parties are aware of the site plan and its requirements.

### **Activities Completed**

- Several plan review checklists have been created.
- Training was conducted in 2011 for all staff responsible for plan review.
- The number of plans reviewed will be tracked throughout the life of the Permit.

## **BMP 4(F): CONDUCT DEVELOPMENT INSPECTIONS**

### **Measurable Goals**

1. Develop inspection forms.
2. Ensure the frequency of inspections is in compliance of installed BMPs.
3. Maintain an inventory of inspection activities.
4. Update the ordinance for site inspection requirements.
5. Track the number of compliance letters written.

### **Description**

Typically, maintenance for water quality controls (e.g. detention ponds, wet ponds, swales) are the responsibility of each of the Homeowners Association's (HOA). These HOA's are made up of citizens that, without guidance, would not know how to properly maintain the facility. Post-development inspections are important to ensure that the facilities are still working as designed. Currently, inspections are made on an as needed/emergency basis on facilities other than those maintained by the City. Whereas post-development construction site inspections, on all facilities, should occur no later than one-year following the completion of the project.

### **Activities Completed**

- Post-construction inspections are ongoing.
- Inspection forms have been created.
- CMC 14.02 'Stormwater Control' Ordinance addresses post-construction inspections.
- The Ordinance can be viewed at:  
[https://www.municode.com/library/wa/camas/codes/code\\_of\\_ordinances](https://www.municode.com/library/wa/camas/codes/code_of_ordinances)

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## CHAPTER 5

### MUNICIPAL FACILITIES OPERATIONS AND MAINTENANCE (O&M) (S5)

The City developed and implemented an O&M program, with a training component, that prevents or reduces pollutant runoff from municipal operations. Areas of municipal operations targeted include:

- Streets, parking lots, rights-of-way, vehicle maintenance areas, and storage areas;
- City maintained stormwater treatment and flow control facilities; and
- Parks and open space.

Minimum performance measures shall include:

- a. Maintenance standards that are as protective, or more, as those specified in Chapter 4 of Volume V of the *most current Stormwater Management Manual for Western Washington*.
  - i. The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facility's required condition as all times between inspections. Exceeding the maintenance standard between inspections and/or maintenance is not a permit violation.
  - ii. Unless there are circumstances beyond the City's control, when an inspection identifies an exceedence of the maintenance standards, maintenance shall be performed as follows:
    - Within 1 year for typical maintenance of facilities, except catch basins.
    - Within 6 months for catch basins.
    - Within 2 years for maintenance that requires capital construction of less than \$25,000.

Circumstance beyond the City's control include denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to perform emergency work.
- b. Annual inspection of all municipally owned or operated permanent stormwater treatment and flow control facilities, and taking appropriate maintenance actions.
- c. Spot checks of potentially damaged permanent treatment and flow control facilities after major storm events.
- d. Inspections of all catch basins and inlets owned or operated by the City at least once no later than August 1, 2017 and every two years thereafter. Clean catch basins if the inspection indicates cleaning is needed to comply with maintenance standards established in the *Stormwater Management Manual for Western Washington*.

- e. Inspection program shall achieve inspections of 95% of all sites.
- f. Implement maintenance practices, policies, and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the City. These lands include, but are not limited to, streets, parking lots, roads, highways, buildings, parks, open spaces, road right-of-ways, maintenance yards, and stormwater treatment and flow control facilities. Program shall address the following activities:
  - Pipe and culvert cleaning,
  - Ditch maintenance,
  - Street cleaning,
  - Road repair, pavement grinding and resurfacing,
  - Snow and ice control,
  - Utility installation,
  - Pavement striping maintenance,
  - Roadside areas maintenance and vegetation management, and
  - Dust control
  - Application of fertilizers, pesticides, and herbicides
  - Sediment and erosion control
  - Landscape maintenance and vegetation disposal
  - Trash and pet waste management
  - Building exterior cleaning and maintenance
- g. Implement an on-going training program for staff whose primary construction, operations, or maintenance job functions may impact stormwater quality. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staffing. Document and maintain records of training provided and staff trained.
- h. Implementation of a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards and material storage facilities owned or operated by the City.
- i. Maintain records of inspections and maintenance or repair activities conducted by the City.

As a means of addressing stormwater pollution that may be attributed to the City's operations, the following BMPs will be implemented:

- BMP 5(A): Update O&M Program and Standards
- BMP 5(B): Update Stormwater Pollution Prevention Plan (SWPPP)
- BMP 5(C): Participation in the Grounds Equipment Maintenance (GEM) Program
- BMP 5(D): Update Street Sweeping Program
- BMP 5(E): Update Catch Basin Cleaning Program
- BMP 5(F): Proper Pesticide and Herbicide Application



- BMP 5(G): Landscaping and Lawn Care
- BMP 5(H): Provide Employee Training

**Objective:** Promote pollution prevention and good housekeeping measures.

## **BMP 5(A): UPDATE O&M PROGRAM AND STANDARDS**

### **Measurable Goals**

1. Update the O&M Program and Standards.

### **Description**

The City's O&M procedures are essential to setting a good example for the community. Having an O&M program that outlines the City's good housekeeping procedures is essential to ensuring that all City activities and programs that may impact stormwater quality will work efficiently and effectively. The program includes:

- a. Training of maintenance staff on how to minimize stormwater pollution and the proper methods for disposal of solid and liquid wastes from maintenance activities;
- b. The development and implementation of a maintenance schedule; and
- c. The development of a means for measuring the program's effectiveness.

An effective means of developing components (b) and (c) will be achieved by reviewing the standards that City maintenance staff currently follows and how these activities may contribute to stormwater pollution. Specific attention will be paid to the following:

- a. Frequency of activities, including inspections;
- b. Types of substances used;
- c. Methods of material storage, handling, and disposal;
- d. Recordkeeping practices; and
- e. Type and frequency of employee training.

The City adopted a set of O&M Standards that provides for stormwater pollution protection and can be used as a means to determine when/if maintenance is needed. When these standards are exceeded, maintenance will be performed within the following timeframes:

- Within 6 months for typical maintenance.
- Within 9 months for maintenance requiring re-vegetation.
- Within 1 year for wet pool facilities and detention/retention ponds.
- Within 2 years for maintenance that requires capital construction of less than \$25,000.

### **Activities Completed**

- The City O&M Manual was created, is updated as required, and is posted on the City website:  
[www.ci.cammas.wa.us/index.php/engmain/stormwater](http://www.ci.cammas.wa.us/index.php/engmain/stormwater)

## **BMP 5(B): UPDATE STORMWATER POLLUTION PREVENTION PLAN (SWPPP)**

### **Measurable Goals**

1. Develop a SWPPP.

### **Description**

The City developed, implemented, and monitors the SWPPP for all City facilities. The SWPPP is intended to reduce the amount of pollutants carried by stormwater runoff in the storm drainage system. The SWPPP provides the guidelines for procedures and schedules for municipal activities. It consists of the following:

1. A site or project description;
2. A description of stormwater BMPs that may be appropriate for municipal operations;
3. A description of site specific BMPs and an implementation schedule;
4. A description of site inspection and monitoring activities;
5. A log book to track all construction activities or reports; and
6. Training for inspectors responsible for implementing the BMPs.

Proper and consistent use of BMPs will help to eliminate the amount of stormwater pollution that could be attributed to by the day-to-day municipal operations. Some of the potential pollutants that are a result of operations are as follows:

- Oil, Grease, Fuel, Metals, Antifreeze, Battery Acids, and Hydraulic Fluids;
- Herbicides and Pesticides;
- Paint and Solvents.

These pollutants are a constant issue for spills and require cleanup. The following BMPs should be used as a general guide for safe and effective cleanup:

- Spill containment and cleanup kits should be in numerous locations and readily available;
- Dispose of dry cleanup materials promptly after use;
- Post a facility drainage map to show areas with potential for spills, the direction of stormwater flow, and location of kits for large spill responses;
- Ensure that the phone number for the spill response team is posted in the most convenient locations;
- Distribute procedures for spill response and cleanup to applicable facilities; and
- Train employees on spill control procedures.

The SWPPP serves as a reference manual for all City employees that are in any way involved in stormwater management.

### **Activities Completed**

- The SWPPP Manual was created and is posted on the City website:  
[www.ci.camas.wa.us/index.php/engmain/stormwater](http://www.ci.camas.wa.us/index.php/engmain/stormwater)

## **BMP 5(C): PARTICIPATION IN THE GROUNDS EQUIPMENT MAINTENANCE (GEM) PROGRAM**

### **Measurable Goals**

1. The City is an active member of GEM.

### **Description**

GEM is the acronym for Northwest Interagency Cooperative. The acronym actually stands for “grounds, equipment, and maintenance”. The cooperative is comprised of government agencies including cities, counties, WSDOT, school districts, port districts, fire departments, etc. that share common goals to share equipment, innovations, manpower, and other resources to accomplish the missions of their individual agencies. The cooperative efforts are made possible through a cooperative wide inter-agency agreement. The City typically has more than one representative attending these meetings and from time to time has employees that serve as officers on the GEM executive board. The City of Camas is one of the agencies that participates in the funding and use of the shared Clark County Whatley Pit Decant Facility for street sweepings and catch basin debris.

### **Timeline for Completion**

- The City has been a member of GEM since its formation in 1994 and will continue in the GEM consortium to promote efficiency in government throughout the life of the Permit.

### **Activities Completed**

- The City continues to meet with the GEM consortium on a quarterly basis, throughout the life of the Permit, to share ideas, update resources, and share successes.

## **BMP 5(D): UPDATE A STREET SWEEPING PROGRAM**

### **Measurable Goals**

1. There is a schedule for street sweeping.
2. A citywide map outlines the daily areas of sweeping.
3. The quantity of material removed per day is tracked.

### **Description**

Street sweeping is a fairly efficient method of getting to a large number of areas, quickly and consistently. By sweeping the streets on a regular basis, the 'not so obvious' pollutants are removed from the road surface prior to pollutants entering the stormwater system and ultimately the downstream receiving waters. Records of the distances swept and the quantity of materials removed will be maintained and referenced in the annual SWMP report.

### **Activities Completed**

- Citywide the streets are swept on a quarterly basis.
- Downtown core streets are swept weekly.

- Operations Center has a tracking mechanism in place to monitor areas that may need more frequent sweeping.

## **BMP 5(E): UPDATE CATCH BASIN CLEANING PROGRAM**

### **Measurable Goals**

1. A schedule for cleaning catch basins, inlet structures, and manholes has been developed.
2. The number of catch basins, inlet structures, and manholes that have been cleaned yearly is tracked.
3. The amount of trash, sediment, and other pollutants removed during cleaning is tracked.

### **Description**

Pollutants that are missed by street sweeping naturally make their way to catch basins, inlet structures, and manholes. The pollutants that cause the biggest problems, in relation to the functionality of the structure, are litter and sediment. Thus, storm drain maintenance is important for reducing flooding and water quality impacts. A preventative maintenance program helps ensure that the storm sewer functions effectively. This BMP requires regular inspections, record keeping, cleaning, and proper disposal system waste. The City will conduct year-round cleaning during the spring and summer, with additional inspections as needed during the rainy season. The following catch basin maintenance activities will be implemented:

- Inspect catch basins and inlet structures to ensure structural stability, sumps are not more than 40% full, and catch basins and inlets are marked to prohibit dumping of waste.
- Clean catch basins, storm drain inlets, and other conveyance structures before the rainy season in order to remove accumulated sediment and debris.
- Inspect catch basins more frequently during the rainy season and clean or repair as needed.
- Keep records of maintenance activity.
- Dispose of waste material in the appropriate manner.

### **Activities Completed**

- Catch basins are cleaned out on a yearly basis. Number of catch basin maintained is based on staffing and other unforeseen circumstances, with the goal to maintain all catch basins yearly.

## **BMP 5(F): PROPER PESTICIDE AND HERBICIDE APPLICATION**

### **Measurable Goals**

1. An inventory of areas designated for herbicide and pesticide application was developed.
2. Local, state, and federal regulations, associated with pesticide applications, are followed.
3. Areas of treatment are assessed and prioritized for the potential use of alternative practices.

### **Description**

The use of insecticides, pesticides, and herbicides can be harmful to the environment. They have the potential of ending up in drinking water and other aquatic systems when not properly managed. The manufacturer's recommendations should always be reviewed and followed prior to applications. Records of the amount, date, and concentration will be required for all pesticide and herbicide application. An annual review of the types of pesticides and herbicides used, as well as the purpose of their application will be used in determining ways to reduce the amount, concentration, and frequency of use.

When appropriate, the City will implement the following BMPs:

- **Inclement Weather:** Weather conditions can adversely affect the efficacy of chemical treatments. If wind or rain is imminent, the City will reschedule pesticide application in order to avoid unnecessary contamination of stormwater runoff.
- **Runoff Control:** Storm drains potentially impacted by stormwater runoff after pesticide usage will be located, prior, and covered during treatment.
- **Drift Control:** The City will reduce the use of power sprays to reach the upper canopy of trees in order to prevent pesticide drift into buildings and water bodies. Alternative control measures, such as the injection of systemic insecticides will be promoted where feasible.
- **Preventative Applications:** Dormant oils and herbicides will only be used on shrubs and trees if justified by the existence of potential pest outbreaks. Notification and posting during application of lawn pesticides will be conducted.
- **Application of Rodenticides:** Anticoagulants, tracking powders, and other mammalian toxicants will be placed in locations that will not result in their translocation to aquatic habitats.
- **Application Termiticides into the Ground:** The application Termiticides will not be permitted near wells, streams, or other water sources.
- **Transportation of Pesticides:** Pest control vendors will be required to comply with the following provisions during transportation:
  - Containers will be kept securely sealed and fastened to the vehicle;
  - Pesticides will not be left in an unattended vehicle unless the vehicle has an enclosed storage area and is kept locked in that storage area;
  - Pesticides spray tanks that are transported will: (1) be securely sealed; (2) form part of or be permanently fixed to the vehicle using the pesticide; and (3) be prominently marked either "WARNING" or "POISON", and the name of the pesticide product.
  - Vehicles used for pest control will: (1) be designed so pesticide is separated from the driver or operator by a barrier impervious to the pesticide; (2) not be left on public land when not in use; (3) be securely housed to restrict public access when not in use; and (4) be washed down on a grassed area in such a way that no runoff is allowed into the stormwater or sewage system.
- **Pesticide Storage:** Pesticide containers will always be kept in covered storage areas that are covered or have some form of secondary containment to protect it from stormwater contamination.

- **Pesticide Spills:** A pest control operator who observes any accident or spillage of pesticide will report it to the City as soon as possible.
- **Pesticide Disposal:** Once application of the pesticide is finished, the containers will be rinsed thoroughly and the rinsate used on the intended target, so that no amount of the pesticide is unaccounted for. Empty containers will be disposed of as hazardous waste, in accordance with the manufacturer's label.

#### **Activities Completed**

- There is an inventory of pesticide and herbicide use.
- Applications are monitored on an annual basis throughout the life of the Permit.

### **BMP 5(G): LANDSCAPING AND LAWN CARE**

#### **Measurable Goals**

1. An inventory of landscaping and lawn areas that require maintenance was developed.
2. Practices for open space maintenance at all parks were implemented.
3. A method for containing or composting grass clippings was evaluated.

#### **Description**

The City implemented BMPs for landscaping and lawn care practices that will reduce the impacts of nutrient loading from stormwater. Nutrient loading generated by lawn care has the potential to cause water quality problems in streams, lakes, and estuaries and should be reduced whenever possible.

The City limits the use of fertilizers and pesticides whenever possible. The use of alternative landscape options will be implemented where practicable. These alternatives could be as simple as planting native species in all new park designs, as native species require much less fertilizer and water.

Currently, the City uses grass clippings and leaf debris for composting and use on City property.

#### **Activities Completed**

- The City developed an inventory of areas where lawn care and landscaping BMPs are needed.
- The City developed alternative maintenance practices for open space and parks.

### **BMP 5(H): PROVIDE EMPLOYEE TRAINING**

#### **Measurable Goals**

1. A training program was implemented.
2. The number of staff trained, hours trained, and retraining needs are tracked.

#### **Description**

The City ensures that employees in Streets, Water/Sewer, Parks Maintenance and other related positions are trained on the requirements of the stormwater pollution prevention and good housekeeping program. The training program incorporates the following:

- Training on proper maintenance activities, including record keeping and disposal;
- Allow only properly trained individuals to handle hazardous materials and waste;
- Train employees from all departments to recognize and report illegal dumping;
- A training mechanism to educate businesses, contractors, and the general public in the proper and consistent methods for waste disposal, and
- Training staff to recognize and report non-stormwater discharges via illicit connections.

The City will ensure that its employees have access to public education materials produced as part of this Permit so that they may implement feasible BMPs into their day-to-day work.

**Activities Completed**

- The City tracks staff trained and the training hours.

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## **CHAPTER 6 MONITORING AND ASSESSMENT (S8)**

- A. All Permittees shall provide, in each annual report, a description of any stormwater monitoring or stormwater-related studies conducted by the Permittee during the reporting period. If other stormwater monitoring or stormwater-related studies were conducted on behalf of the Permittee during the reporting period, or if stormwater-related investigations conducted by other entities were reported to the Permittee during the reporting period, a brief description of the type of information gathered or received shall be included in the annual report.

Permittees are not required to provide descriptions of any monitoring, studies, or analyses conducted as part of the *Regional Stormwater Monitoring Program* (RSMP) in annual reports. If a Permittee conducts independent monitoring in accordance with requirements in S8.B or S8.C below, annual reporting of such monitoring must follow the requirements specified in those sections.

- B. Status and trends monitoring. The City is not required to participate in either option for status and trends monitoring under the current permit cycle.
- C. Stormwater management program effectiveness studies. By December 1, 2013, each city and county Permittee listed in S1.D2.a (i) and S1.D2.a (ii) shall notify Ecology in writing which of the following two options for effectiveness studies the Permittee chooses to carry out during this permit cycle. Either option will fully satisfy the Permittee's obligations under this section (S8.C). Each Permittee shall select a single option for the duration of this permit term.

The City selected Effectiveness Studies Option #1 (S8.C.1). Permittees that choose option #1 shall pay into a collective fund to implement RSMP effectiveness studies. The payments into the collective fund are due to Ecology annually beginning August 15, 2014. The payment amount for Camas is \$7,002.00 to be paid annually.

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## CHAPTER 7

### REPORTING REQUIREMENTS (S9)

A. An annual report is required to be submitted no later than March 31st of each year of the Permit, beginning in 2015. The report covers the reporting period from January 1, 2014 through December 31, 2014. Each subsequent report will cover the previous calendar year.

Ecology requires the report to be submitted electronically using the Water Quality Permitting Portal (WQWebPortal) available on Ecology's website at:

<http://www.ecy.wa.gov/programs/wq/permits/paris/portal.html>, unless otherwise directed by Ecology.

B. The City is required to keep all records related to the Permit and the SWMP for at least five (5) years.

C. All records related to this permit and the City's SWMP shall be available to the public at reasonable times during business hours. A copy of the most recent annual report will be provided to any individual or entity, upon request.

1. A reasonable charge may be assessed for making photocopies of records.
2. City may require reasonable advance notice of intent to review records related to this permit.

D. The annual report shall include the following:

1. The current Stormwater Management Plan (SWMP);
2. Submittal of the annual report form as provided by Ecology pursuant to S9.A, describing the status of implementation of the requirements of this permit during the reporting period.
3. Attachments to the annual report form including summaries, descriptions, reports, and other information as required, or as applicable, to the requirements of this permit during the reporting period. Refer to appendix 3 for annual report questions.
4. If applicable, notice that MS4 is relying on another governmental entity to satisfy any of the obligation under this permit.
5. Certification and signature pursuant to G19.D, and notification of any changes to authorization pursuant to G19.C.
6. A notification of any annexations, incorporations or jurisdictional boundary changes resulting in an increase or decrease in the Permittee's geographic area of permit coverage during the reporting period.

As required, the City will make all records relating to the Permit and the SWMP available to the Public upon request. The annual report and the SWMP will also be available to the public via the City's webpage at <http://www.ci.camass.wa.us/index.php/engmain/stormwater>

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